APPENDIX K: Private Citizen Comments (A - E)

From: "ajosborn tds.net" <ajosborn@tds.net>
To: <mstopher@dfg.ca.gov>
Date: 11/19/2009 1:26 PM
Subject: Dredging Literature
Attachments: Joseph-Greene-suction-gold-dredge-study.pdf

Geographical Scale of Small-Scale Suction Dredging

Mr. Stopher,

Here is a letter Joseph C. Greene wrote to the State Water Resources Control Board. This letter speaks specifically to the water quality aspects of suction dredging, and has a detail literature citation. I hope this is of some help to your EIR.

Sincerely,

Adam Osborn

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Anderson, CA 96007

(530)357-4981

State Water Resources Control Board
Division of Water Quality
P.O. Box 100
Sacramento, California 95812-0100
Fax: 916-341-5620
email: commentletters@waterboards.ca.gov

June 6, 2007

Subject: **SUCTION DREDGE MINING**

Dear Board Members,

Thank you for allowing me this opportunity to comment on the water quality aspects of small-scale suction dredge mining.

As I have searched the scientific literature for studies on the effects of small-scale suction dredge mining on the environment I have learned that the preponderance of the published research studies have been directed towards assessment of its effect on the biology of the streams and rivers. In nearly every instance the results have concluded that the effects were less than significant.

In water quality terms some studies have discussed turbidity, water temperature, and suspension of heavy metals into the overlying water. I will focus my water quality comments on these three areas. But first I would like to put this issue in to perspective.

GEOGRAPHICAL SCALE OF SMALL-SCALE SUCTION DREDGING

It has been observed that environmentalists opposing suction dredging use data gleaned from reports that studied effects of environmental perturbations that are occurring on a system-wide basis. For example, they would characterize the affects of turbidity from a suction dredge as if it would impact downstream organisms in a manner that system-wide high water flow events might. This approach is entirely inconsistent with the way in which suction dredges operate or generally impact their downstream environment.

The California Department of Fish and Game (1997) described typical dredging activities as follows' "An individual suction dredge operation **affects a relatively small portion of a stream or river**. A recreational suction dredger (representing 90-percent of all dredgers) may spend a total of four to eight hours per day in the water dredging an area of 1 to 10 square meters. The average number of hours is 5.6 hours per day. The remaining time is spent working on equipment and processing dredged material. The area or length of river or streambed worked by a single suction dredger, as compared to total river length, is relatively small compared to the total available area."

In the Oregon Siskiyou National Forest Dredge Study, Chapter 4, Environmental Consequences, some perspective is given to small-scale mining. "The average claim size is 20 acres. The total acreage of all analyzed claims related to the total acres of watershed is about ***0.2 percent***. The average stream width reflected in the analysis is about 20 feet or

less and the average mining claim is 1320 feet in length. The percentage of land area within riparian zones on the Siskiyou National Forest occupied by mining claims is estimated to be only ***0.1 percent***." The report goes on to say, "Over the past 10 years, approximately 200 suction dredge operators per season operate on the Siskiyou National Forest" (SNF, 2001).

A report from the U.S. Forest Service, Siskiyou National Forest (Cooley, 1995) answered the frequently asked question, "How much material is moved by annual mining suction dredge activities and how much does this figure compare with the natural movement of such materials by surface erosion and mass movement?" The answer was that suction dredges moved a total of 2,413 cubic yards for the season. Cooley (1995) used the most conservative values and estimated that the Siskiyou National Forest would move 331,000 cubic yards of material each year from natural causes. Compared to the 2413 (in-stream) cubic yards re-located by suction mining operations the **movement rate by suction dredge mining would equal *about 0.7% of natural rates***.

It has been suggested that a single operating suction dredge may not pose a problem but the operation of multiple dredges would produce a cumulative effect that could cause harm to aquatic organisms. However, "No additive effects were detected on the Yuba River from 40 active dredges on a 6.8 mile (11 km) stretch. The area most impacted was from the dredge to about 98 feet (30 meters) downstream, for most turbidity and settleable solids (Harvey, B.C., K. McCleneghan, J.D. Linn, and C.L. Langley, 1982). In another study, "Six small dredges (<6 inch dredge nozzle) on a 1.2 mile (2 km) stretch had no additive effect (Harvey, B.C., 1986). *Water quality was typically temporally and spatially restricted to the time and immediate vicinity of the dredge* (North, P.A., 1993).

A report on the water quality cumulative effects of placer mining on the Chugach National Forest, Alaska found that, "The results from water quality sampling do not indicate any strong cumulative effects from multiple placer mining operations within the sampled drainages." "Several suction dredges probably operated simultaneously on the same drainage, but did not affect water quality as evidenced by above and below water sample results. *In the recreational mining area of Resurrection Creek, five and six dredges would be operating and not produce any water quality changes* (Huber and Blanchet, 1992).

The California Department of Fish and Game stated in its Draft Environmental Impact Report that "Department regulations do not currently limit dredger densities but the activity itself is somewhat self-regulating. Suction dredge operators must space themselves apart from each other to avoid working in the turbidity plume of the next operator working upstream. *Suction Dredging requires relatively clear water to successfully harvest gold* " (CDFG, 1997).

ELEVATED TURBIDITY AND SUSPENDED

Suction dredging causes less than significant effects to water quality. The impacts include increased turbidity levels caused by re-suspended streambed sediment and pollution caused by spilling of gas and oil used to operate suction dredges (CDFG, 1997).

"Suction dredges, powered by internal combustion engines of various sizes, operate while floating on the surface of streams and rivers. As such, oil and gas may leak or spill onto the water's surface. ***There have not been any observed or reported cases of harm to plant or wildlife as a result of oil or gas spills associated with suction dredging"*** (CDFG, 1997).

The impact of turbidities on water quality caused by suction dredging can vary considerably depending on many factors. Factors which appear to influence the degree and impact of turbidity include the amount and type of fines (fine sediment) in the substrate, the size and number of suction dredges relative to stream flow and reach of stream, and background turbidities (CDFG, 1997).

Because of low ambient levels of turbidity on Butte Creek and the North Fork American River, California, Harvey (1986) easily observed increases of 4 to 5 NTU from suction dredging. Turbidity plumes created by suction dredging in Big East Fork Creek were visible in Canyon Creek 403 feet (123 meters) downstream from the dredges (Somer and Hassler, 1992).

In contrast, Thomas (1985), using a dredge with a 2.5-inch diameter nozzle on Gold Creek, Montana, found that suspended sediment levels returned to ambient levels 100 feet below the dredge. Gold Creek is a relatively undisturbed third order stream with flows of 14 cubic feet per second. A turbidity tail from a 5-inch (12.7 cm) dredge on Clear Creek, California was observable for only 200 feet downstream. Water velocity at the site was about 1 foot per second (Lewis, 1962).

Turbidity below a 2.5 inch suction dredge in two Idaho streams was nearly undetectable even though fine sediment, less than 0.5 mm in diameter, made up 13 to 18 percent, by weight, of substrate in the two streams (Griffith and Andrews, 1981).

"During a dredging test carried out by the California Department of Fish and Game on the north fork of American River, it was concluded that turbidity was greatest immediately downstream, returning to ambient levels within 100 feet. Referring to 52 dredges studied, Harvey (1982) stated "...generally rapid recovery to control levels in both turbidity and settable solids occurred below dredging activity."

Hassler (1986) noted "...during dredging, suspended sediment and turbidity were high immediately below the dredge, but diminished rapidly within distance downstream." He measured 20.5 NTU 4 meters below a 5-inch dredge that dropped off to 3.4 NTU 49 meters below the dredge. Turbidity from a 4-inch dredge dropped from 5.6 NTU 4 meters below to 2.9 NTU 49 meters below with 0.9 NTU above. He further noted "...water

quality was impacted only during the actual operation of the dredge...since a full day of mining by most Canyon Creek operators included only 2 to 4 hours of dredge running time, water quality was impacted for a short time." Also "...the water quality of Canyon Creek was very good and only affected by suction dredging near the dredge when it was operated."

The US Geological Survey and the Alaska Department of Natural Resources conducted a survey into dredging on Alaska's Fortymile River, which is a river designated as a wild and scenic corridor. The study stated, "One dredge had a 10-inch diameter intake hose and was working relatively fine sediment on a smooth but fast section of the river. The other dredge had an 8-inch intake and was working coarser sediments in a shallower reach of the river. State regulations require that suction dredges may not increase the turbidity of the river by more than 5 nephelometric turbidity units (NTU), 500 feet (=150m) downstream. In both cases, the dredges were well within compliance with this regulation."

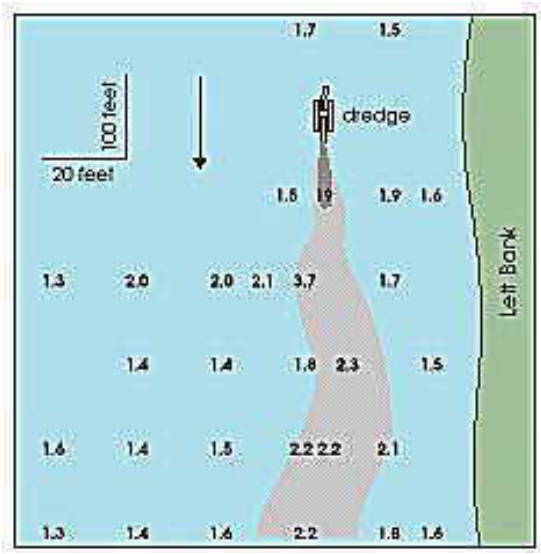

Figure 2. Results of turbidity survey behind an operating 10-inch suction dredge (site #1 on fig. 1). All numbers shown are in NTU, or nephelometric turbidity units; the standard unit of turbidity. The right bank of the river is off the edge of the figure. The approximate shape of the plume is shown in gray. Note that the figure is exaggerated 5x horizontally, so the plume is actually much narrower than it appears in the figure. To comply with State regulations, dredges may not increase the turbidity of the river by more than 5 NTU, 500 feet behind the dredge.

http://www.akmining.com/mine/usgs1.htm

Samples were collected on a grid extending downstream from the dredges as they were operating and compared to measurements made upstream of the dredges. One dredge had a 10-inch diameter intake hose and was working relatively fine sediments on a smooth but fast section of the river. The results of the turbidity survey for the 10-inch dredge are shown on figure 2. Turbidity values behind the 8-inch dredge were lower, because the smaller intake was moving less sediment material, and because the coarser sediments being worked by the 8-inch dredge settled more rapidly

The turbidity values found in the dredge studies fall within the range of turbidity values found for currently mined areas of the Fortymile River and many of its un-mined tributaries. Figure 3 shows the ranges of turbidity values observed along the horizontal axis, and the number of samples that fall within each of those ranges. For example, 25 samples had turbidity between 1.0 and 1.5 NTU, 22 of which were in a dredged area. The

highest turbidity value was from an un-mined tributary to Uhler Creek; the lowest from a number of different tributaries to the North Fork. As seen on the figure, there is no appreciable difference in the distribution of turbidity values between mined and un-mined areas.

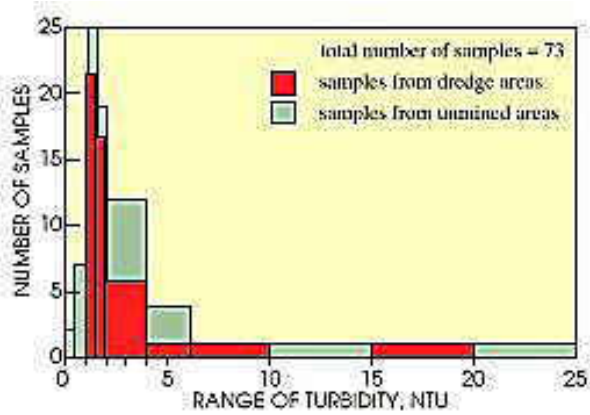

Figure 3. A comparison of turbidity values between mined and unmined areas shows that the suction dredge mining does not affect the turbidity of the Fortymile River system under the conditions studied. The highest turbidity values from the dredge areas are within 200 feet (60 m) of the back of the two operating dredges which were studied.

http://www.akmining.com/mine/usgs1.htm

In American studies, average turbidity levels have been shown to be between 5 and 15 NTU 5 meters below dredges. But even the maximum turbidity level measured in a clay pocket (51 NTU) fell below 10 NTU within 45 meters. Turbidity increases, from even large dredges on moderate sized streams, have shown to be fairly low, usually 25 NTU or less, and to return to background within 30 meters. The impact is localized and short lived; indicating minimum impact on moderate and larger waterways.

Within any waterway, sediment is primarily carried in suspension during periods of rainfall and high flow. This is an important point, as it indicates that a dredging operation has less, or at least no greater effect on sediment mobilization and mobility than a rain storm."

All of these research studies have concluded that only a local significant effect occurs, with it decreasing rapidly downstream. The studies have been wide spread, having been undertaken in Alaska, Idaho, California, Montana and Oregon.

The science supports *de minimus* status for $\leq$ 6-inch suction dredges. Turbidity is *de minimus* according to the U.S. Army Corps of Engineers.

“Effects from elevated levels of turbidity and suspended sediment normally associated with ***suction dredging as regulated in the past in California appear to be less than significant with regard to impacts to fish and other river resources*** because of the level of turbidity created and the short distance downstream of a suction dredge where turbidity levels return to normal” (CDFG, 1997).

Furthermore, individuals that have not, in fact, operated suction dredges may not realize that it is a self-limiting operation. The dredge operator must be able to see his work area to operate safely and manage the intake of the dredge nozzle. ***If high levels of turbidity***

were to flood the dredger's work area and render him "blind" he would have to move the operation to another location.

INCREASING WATER TEMPERATURE

Responsible suction dredge miners do not dredge stream banks (it is illegal). Dredging occurs only in the wetted perimeter of the stream. Therefore, it is unlikely suction dredging will cause a loss of cover adjacent to the stream.

Solar radiation is the single most important energy source for the heating of streams during daytime conditions. The loss or removal of riparian vegetation can increase solar radiation input to a stream increasing stream temperature. ***Suction dredge operations are confined to the existing stream channel and do not affect riparian vegetation or stream shade*** *(SNF, 2001).*

Suction dredging could alter pool dimensions through excavation, deposition of tailings, or by triggering adjustments in channel morphology. Excavating pools could substantially increase their depth and increase cool groundwater inflow. This could reduce pool temperature. If pools were excavated to a depth greater than three feet, salmonid pool habitat could be improved. In addition, ***if excavated pools reduce pool temperatures, they could provide important coldwater habitats for salmonids living in streams with elevated temperatures*** *(SNF, 2001).*

Dredge mining had little, if any, impact on water temperature (Hassler, T.J., W.L. Somer and G.R. Stern, 1986). In addition, the Oregon Siskiyou Dredge Study states, "***There is no evidence that suction dredging affects stream temperature***" *(SNF, 2001).*

Increases in sediment loading to a stream can result in the stream aggrading causing the width of the stream to increase. This width increase can increase the surface area of the water resulting in higher solar radiation absorption and increased stream temperatures. ***Suction dredge operations are again confined to the existing stream channel and do not affect stream width*** *(SNF, 2001).*

Stream temperature can also increase from increasing the stream's width to depth ratio. The suction dredge operation creates piles in the stream channel as the miner digs down into the streambed. The stream flow may split and flow around the pile decreasing or increasing the wetted surface for a few feet. However, within the stream reach that the miner is working in, the change is so minor that the overall wetted surface area can be assumed to be the same so the total solar radiation absorption remains unchanged. ***Suction Dredging results in no measurable increase in stream temperature*** *(SNF, 2001).*

"Small streams with low flows may be significantly affected by suction dredging, particularly when dredged by larger dredges (Larger than 6 inches) (Stern, 1988). However, the California Department of Fish and Game concluded, "current regulations *restrict the maximum nozzle size to 6 inches on most rivers and streams which, in*

conjunction with riparian habitat protective measures, results in ***a less than significant impact to channel morphology***" (CDFG, 1997).

WATER CHEMISTRY

Concern has been raised that small-scale dredge operations may increase the metal load of the surface waters. Whereas dredge operations do re-suspend the bottom sediment, the magnitude of this disturbance on stream metal loading was unknown. It was unknown what affect the dredge operations may have on the transport and redistribution of metals—some of which (for example, arsenic, copper, and zinc) have environmental importance.

The U.S. Geological Survey and the Alaska Department of Natural Resources cooperated in a project, on Fortymile River, to provide scientific data to address these questions. This river is designated a Wild and Scenic Corridor by the Alaska National Interest Lands Conservation Act. Current users of the river include placer mine operators, as well as boaters and rafters. Along the North Fork Fortymile River, and just below its confluence with the South Fork, mining is limited to a few small suction dredges which, combined, produce as much as a few hundred ounces of gold per year. In this area, some potential environmental concerns have been raised associated with the mining activities, including increased turbidity of the river water; adverse impact on the overall chemical quality of the river water; and potential additions of specific toxic elements, such as arsenic, to the river during mining operations.

Field measurements were made for pH, turbidity, electrical conductivity (a measure of the total dissolved concentrations of mineral salts), and stream discharge for the Fortymile River and many of its tributaries. Samples were collected at the same time for chemical analyses, including trace-metal analyses

Water-quality samples were collected at three points 200 feet behind each of the two operating suction dredges. One sample was collected on either side of the plume, and one in the center of the plume. The samples were passed through a filter with a nominal pore size of 0.45 micrometers and acidified to a pH less than about 2. Results are shown in the following table. Samples 1A, 1C, 2A, and 2C are from either side of the plume behind dredges 1 and 2, respectively. Samples 1B and 2B are from the center of each plume. All concentrations given are in micrograms per liter, except pH, which is expressed in standard units.

The data show similar water-quality values for samples collected within and on either side of the dredge plumes. Further, the values shown in the table are roughly equal to or lower than the regional average concentrations for each dissolved metal, based on the analyses of 25 samples collected throughout the area. Therefore, ***suction dredging appears to have no measurable effect on the chemistry of the Fortymile River*** within this study area. We have observed greater variations in the natural stream chemistry in the region than in the dredge areas (Wanty, R.B., B. Wang, and J. Vohden. 1997).

		Side 1	Dredge 1	Side 2		Side 1	Dredge 2	Side 2
		1A	**1B**	**1C**		**2A**	**2B**	**2C**
pH		7.7	7.6	7.8		7.0	7.5	7.5
Arsenic		0.3	0.3	0.3		0.3	0.3	0.3
Iron		110.	110.	110.		100	97	100
Chromium		2	2	3		3	3	3
Cadmium	all less than 0.02 micrograms per liter							
Cobalt		0.07	0.07	0.06		0.06	0.05	0.05
Zinc		0.8	0.6	0.8		1.0	1.0	1.0
Lead	all less than 0.05 micrograms per liter							

A final report from an EPA contract for analysis of the effects on mining in the Fortymile River, Alaska stated, "This report describes the results of our research during 1997 and 1998 into the effects of commercial suction dredging on the water quality, habitat, and biota of the Fortymile River…. The focus of our work on the Fortymile in 1997 was on an 8-inch suction dredge (Site 1), located on the mainstem… At Site 1, dredge operation had no discernable effect on alkalinity, hardness, or specific conductance of water in the Fortymile. Of the factors we measured, the primary effects of suction dredging on water chemistry of the Fortymile River were increased turbidity, total filterable solids, and copper and zinc concentrations downstream of the dredge. These variables returned to upstream levels within 80-160 m downstream of the dredge. The results from this sampling revealed a relatively intense, but localized, decline in water clarity during the time the dredge was operating" (Prussian, A.M., T.V. Royer and G.W. Minshall, 1999).

"The data collected for this study help establish regional background geochemical values for the waters in the Fortymile River system. As seen in the chemical and turbidity data **any variations in water quality due to the suction dredging activity fall within the natural variations in water quality**" (Prussian, A.M., T.V. Royer and G.W. Minshall, 1999).

REMOVAL OF MERCURY FROM THE ENVIRONMENT

Looking for gold in California streams and rivers is a recreational activity for thousands of state residents. As these miners remove sediments, sands, and gravel from streams and former mine sites to separate out the gold, they are also removing mercury. This mercury

is the remnant of millions of pounds of pure mercury that was added to sluice boxes used by historic mining operations between 1850 and 1890. Modern day small-scale gold suction dredgers do not use mercury to recover gold during the operation of the dredge. Therefore, any gold that would be found in their possession would be that which was extracted from the stream or river they are working.

Taking mercury out of streams benefits the environment. Efforts to collect mercury from recreational gold miners in the past, however, have been stymied due to perceived regulatory barriers. Disposal of mercury is normally subject to all regulations applicable to hazardous waste.

In 2000, EPA and California's Division of Toxic Substance Control worked in concert with other State and local agencies to find the regulatory flexibility needed to collect mercury in a simple and effective manner. In August and September, 2000 the first mercury "milk runs" collected 230 pounds of mercury. A Nevada County household waste collection event held in September 2000 collected about 10 pounds of mercury. The total amount of mercury collected was equivalent to the mercury load in 47 years worth of wastewater discharge from the city of Sacramento's sewage treatment plant or the mercury in a million mercury thermometers. This successful pilot program demonstrates how recreational gold miners and government agencies can work together to protect the environment (US EPA, 2001).

Mercury occurs in several different geochemical forms, including elemental mercury, ionic (or oxidized) mercury, and a suite of organic forms, the most important of which is methylmercury. Methylmercury is the form most readily incorporated into biological tissues and is most toxic to humans. The process of mercury removal by suction dredging does not contaminate the environment because small-scale suction dredging removes elemental mercury. Removal of elemental mercury before it can be converted, by bacteria, to methylmercury is a very important component of environmental and human health protection provided as a secondary benefit of suction dredging..

THE REAL ISSUE

The issue of localized conflict with suction dredgers and other outdoor recreational activities can be put into a more reasonable perspective using the data provided at the beginning of this report. For example, the total acreage of all analyzed claims related to the total acres of watershed is about *0.2 percent*. The percentage of land area within riparian zones on the Siskiyou National Forest occupied by mining claims is estimated to be only *0.1 percent*." The report goes on to say, "Over the past 10 years, approximately 200 suction dredge operators per season operate on the Siskiyou National Forest (SNF, 2001).

The issue against suction dredge operations in the streams of the United States appears to be less an issue of environmental protection and more of an issue of certain organized individuals and groups being unwilling to share the outdoors with others without like interests.

Management of the Fortymile River region (a beautiful, wild and scenic river in the remote part of east-central Alaska) and its resources is complex due to the many diverse land-use options. Small-scale, family-owned gold mining has been active on the Fortymile since the "gold rush" days of the late 1880's. However, in 1980, the Fortymile River and many of its tributaries received Wild and Scenic River status. Because of this status, mining along the river must compete with recreational usage such as rafting, canoeing, and fishing.

A press release from the U. S. Geological Survey stated, in part, the following, "The water quality of the Fortymile River-a beautiful, …has not been adversely impacted by gold placer mining operations according to an integrated study underway by the U.S. Geological Survey and the Alaska Department of Natural Resources.

Violation of mining discharge regulations would close down the small-scale mining operations. No data existed before this study to establish if the mining was degrading the water quality. **However, even with the absence of data, environmental groups were active to close down mining on the river citing unsubstantiated possible discharge violations.**

This study has found no violations to date to substantiate closure of the small-scale mining operations. The result is a continuance of a way of life on the last American frontier." (U.S. Geological Survey October 27, 1998). I have no doubt that this is the real issue currently facing small-scale gold suction dredgers in California.

Suction dredges do not add pollution to the aquatic environment. They merely re - suspend and re-locate the bottom materials (overburden) within the river or stream.

I hope this scientific research information I have provided will be helpful in your efforts regarding suction dredge mining and water quality. I thank you for this opportunity to submit this data.

Respectfully Yours,

Joseph C. Greene
Research Biologist, U.S. EPA **Retired**

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From: Alan Steinbach <steinbach.alan@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: Creek Hanauer <tcreek@sisqtel.net>
Date: 11/30/2009 3:37 PM
Subject: Please make moratorium on suction dredging permanent

As a sometime resident and property owner in the Salmon River drainage, I am totally opposed to ANY suction dredging of the entire drainage.
I realize that some people find it recreational to put on a wetsuit and stagger around in an otherwise peaceful creek that was placer mined over and over during the last century. Some people find it recreational to drive ATV's over cliffs and break their necks too. Some people find it recreational to drive kayaks over cliffs and break their necks...only thats called an extreme sport.
But kayakers or rafters pass over or thru salmon habitat, much as hook and line fishermen pass through fish habitat in the ocean.
Suction dredging destroys habitat, much as otter trawling destroys habitat in the ocean.
I wish people had enough common sense to realize that the age of suction dredging, or otter trawling, is over. Ignorance is not an excuse.
No suction dredging as a mining operation should be permitted in the entire Klamath River area, and I hope it can begin with the Salmon River Drainage.

Sincerely

Alan Steinbach PhD MD
Clinical Professor Emeritus, UC Berkeley.

From: Amber Shows <ambershows@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 1:28 PM
Subject: I support banning suction dredging

Hi,
I've worked on the Scott and Salmon Rivers and have seen suction dredging in action. I support DFG in banning suction dredging to stabilize the limited spawning habitat the chinook and coho have left in the Scott River. I believe that banning it elsewhere will also benefit the aquatic ecosystem, removing one of the many major disturbances on the northern California rivers.
Thank you!
Amber Shows

Andrew Getz
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December 2, 2009

Mr. Mark Stopher
Environmental Program Manager
California Department of Fish and Game
601 Locust Street
Redding, California 96001

Dear Mr. Stopher,

Thank you for the opportunity to comment regarding the scope of the proposed Supplemental Environmental Impact Report for your Department's Dredge Permitting Program.

Please advise your environmental review document preparers that neither the plain language of CEQA §15382 nor your Initial Study's description of "deleterious effect" adequately addresses the subject environmental threat, for which a much lower threshold will be required, consistent with submitted documents in Leeon Hillman et al v. California Department of Fish and Game et al. The threshold for significance must include cumulative effects in the context of previous serious environmental effects, which must adequately be analyzed.

Very truly yours,

Andrew Getz

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name:	ANDREW HALL
Mailing Address:	BOX 161 DOUGLAS CITY CA. 96024
Telephone No. (optional):	
Email (optional):	

Comments/Issues:

SB 670 IS AN ILLEGAL LAW ACCORDING TO FEDERAL LAW.

I HEREBY GIVE NOTICE TO STATE OF CA. I WILL BE SEEKING DAMAGES (TAKINGS)

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

From: "Khayat, Andy" <Andy.Khayat@Micrel.Com>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: "Andy Khayat" <andykhayat@hotmail.com>, <bradmacy@pacbell.net>
Date: 12/4/2009 12:01 AM
Subject: RE: Dredge EIR Study Comments
Attachments: EIR Study Plan Comments.doc

Hello Mark,
Please use this version. I found a typo needed correction.

Please include my comments in your Dredging EIR Study considerations.
Thank You,
Andy Khayat

To: Mark Stopher California Department of Fish and Game

Subject: Suction Dredge Permitting Program, EIR - CEQA Scoping Comments

From: Andy Khayat

Attached are my comments and recommendations for the EIR – CEQA Scoping

IV. Biological Resources:

Heavy Metal Contamination

Heavy Metals are already present in the stream sentiment. Gold Dredging does not introduce any new amount of Heavy Metals into the stream environment. These toxic metals every year get disturbed and significantly moved during Winter and Seasonal Storms. Gold Dredging can remove Lead and Mercury from the stream bed forever. **Can the study have a section that focuses on the benefits of Toxic Metal Removal for the benefit of the aquatic food chain (and any other affected food chain) and stream bed environment?**

Can the study consider Long Term effects (including potential long term reproductive mutations over many years) of leaving toxic metal laden sentiment in the stream bed to all aquatic and sentiment borne species?

Can the study compare Toxic Metal water levels during Seasonal Storms against Gold Dredging activity, and contrast that against the potential for removal of Toxic Metals from the environment altogether?

Can the study consider a DFG project for incentivizing and actively working with Dredgers to reclaim Toxic Metals from the environment in an on-going basis?

III. AIR QUALITY:

Air Quality and Greenhouse Gases in Californina environments should be considered as a whole. Thus when a person is Camping and Dredging, that same person is no longer

generating Greenhouse Gases when commuting to work and home and is not using energy in an office with Computer, Servers and Incandescent Lights Burning…**Can the study consider the Net Benefit of Dredging Activity weighted against the typical daily generation of pollutants and Greenhouse Gases in a person's non-dredging day activities?**

V. CULTURAL RESOUCES

Cultural Resources and Archeological sites are already protected by law. Dredging State wide laws should simply prevent Dredging from disturbing such sites. **Can the study review and simply observe existing state laws to the findings and recommendations rather than ban Dredging altogether state wide due to normally a localized issue?**

I. AESTHETICS

Park Rangers at the Butte Creek Recreational Area can attest that I have taken out more trash than I bring in when I gold mine. Gold miners represent a very small number of people up in the hills. **Can the study compare "Typical" or "Average" campers and fishermen to Gold Miners instead of reviewing the impact of any general population in the mountains?**

Thank you again for considering my comments. Please feel free to call me at any time.

408-474-3679 California Office

480-703-2464 Cell Phone (480 area code is correct)

Best Regards,

Andy Khayat

To: Mark Stopher California Department of Fish and Game

Subject: Suction Dredge Permitting Program, EIR - CEQA Scoping Comments

From: Andy Khayat

Subject: Attached are my comments and recommendations for the EIR - CEQA Scoping

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Andy Khayat

Windows Live(tm) Hotmail is faster and more secure than ever. Learn more.
<http://www.microsoft.com/windows/windowslive/hotmail_bl1/hotmail_bl1.aspx?ocid=PID23879::T:WLMTAGL:ON:WL:en-ww:WM_IMHM_1:092009>

From: "Khayat, Andy" <Andy.Khayat@Micrel.Com>

To: <mstopher@dfg.ca.gov>

Date: 12/3/2009 8:49 PM

Subject: Suction Dredge Impact Study - A Personal Request

Hi Mark,

I would ask that the Environmental Impact Report for Dredging make at least some consideration for the benefits of Heavy Metal Reclamation. This seems interestingly absent (rather one sided) from the planed study.

There is no mention of where "the Mercury discharge" comes from. As you know Mercury and Lead comes from the river bed where it has resided for years (in fact more Lead and other toxic metals are deposited each year by fishermen and hunters). Subterranean insects which fish consume live in this environment. Dredging is the only practical way it can be

removed.

I personally have removed pounds of Lead and ounces of Mercury from the streambeds which will now and forever be Prevented from having an impact on any life forms.

The study so far described turns a blind eye to the good things that Dredging has to offer. Things like:

1. Personal Recreation for the Dredger
2. Monetary Impacts to Northern California Economy
    a. Sale of equipment
    b. Sale of camping supplies
    c. Food bought by visitor to the small remote towns
    d. Gold value mined and spent in the California Economy

The study also make no mention of what is the impact size of Dredging versus other human activities like Overfishing, Diversion of Waterways, Dams, Camping, Hunting etc...Aren't some of these much bigger dangers to aquatic life?

Everything I read on the study being proposed seems horribly one sided

by not considering these other things. I am saddened that my son and I,

and my friends can no longer enjoy something I looked forward to each

and every year....A two week vacation in Gold Country.

I hope things will be studied fairly and objectively to protect

everyone's interests and rights. After all we are part of the wonderful

California experience too!

Thank You for your time and consideration of the other side of the

equation.

Regards and Good Luck,

Andy Khayat

To: Mark Stopher California Department of Fish and Game

Subject: Suction Dredge Permitting Program, EIR - CEQA Scoping Comments

From: Andy Khayat

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Best Regards,

Andy Khayat

How can a survey be taken if there are no dredges allowed? You can't believe that one can be studied if both parts of the survey are not in the water at the same time? When we used our dredge, we have watched the fish swim behind and literally wait for the worms, .haglamites, eels and other fish food to come to them. As you should know the fish population changes from year to year, from all types of environmental reasons.

We pay our taxes on our property every year, pay our permit fees for the use of our dredge and feel that we have the right to use the dredge in our spare time, which we have little. We maintain the river and the land around. We pull out fishing tackle, lots of lead, line and other debris. It has been said that there is mercury in the river, for as long as we have been partaking in the river we have never came across any.

We have found that dredging is actually good for the river and the fish. It cleans the silt from the gravel and rocks , which is making new gravel beds for the fish to spawn. It is not moving any rocks that mother nature isn't going to. We dredge with the environment in mind.

We have read publications that state how bad dredges are, from our experience that is not the case, netting fish is much more damaging to the fish population. We also understand that the moratorium was signed due to the mighty dollar. The "SURVEYS", outcome was probably already predetermined before it has been taken. How can a survey of this type take two years without the factors in place?

Dear Sirs:

I am sending this letter and the photos as a follow up to the meeting I attended last month. The photos of the salmon were taken on or around September 28, 2009 off the bridge on Hwy 96 at the mouth of the Scott River before it join the Klamath River, after the bill had been passed to stop all suction dredging in California. These salmon were just circling in around in a hole made by a suction dredge, waiting to swim up stream. The hole was a cool resting place for them not a killing field as the Native Americans and the Environmental Groups have accused the miners of making.

The other photo is the majority of metal and lead that I have accumulated this year. I and most of the miners I've spoken with feel that we are helping the river environment by dredging up these metals and taking them with us when we finish dredging. As for the mercury, it adheres itself to the gold in the sluice box. Mercury is a heavy metal as is gold; it doesn't travel very far in the box. If anything, we are helping the river environment and its inhabitants, not harming.

I attended a meeting with the Fish and Game in Redding CA, the head speaker stated that he didn't know exactly how a suction dredge operated. He also stated they closed down the suction dredging before they could study the workings of a dredging operation. I feel if a **GOOD** study is to be done, a Fish and Game official that is involved in the study needs to join one of the miners on a mining claim to see exactly how a suction dredge operates. Any materials accumulated can be put right back into the river to stay within the law. I'm sure any dredge miner would be willing to help the Fish and Game with this study project.

The Native Americans are saying that we dredge up ancient mercury from the bottom of the rivers which is another way we are killing the fish. This is FALSE. If mercury is dredged up 98% of it stays in the suction dredge, sounds like a pretty good percentage to me. What have they done to clean up the river and waterways to save the fish?

Why hasn't a study been done on the fish caught and an autopsy study done to see the percentage of mercury inside the fish? If the Native Americans are so afraid of the mercury we are dredging up that is in the fish they net, why would you want to eat them or sell them to the public????? Since suction dredging has been closed down the Native Americans have stated that this has been a plentiful year for salmon and achieved their salmon quotes early in the season. At the mouth of the Klamath River the fishing was re-open due to the large amount of the salmon population. I've also heard that the salmon run was one of the best in the quite a few years. I guess I didn't realize that a salmon population could grow so quickly within a month or so of closing down suction dredging, I thought it might take a few years to build up a fish population??

I would be more than happy to help out in the study in anyway I can. I would be available to do a suction dredge study if needed. Any of the miners I know would be willing to assist you in your study; all you need to do is ask.

Thank you

Avery Rathburn
PO Box 721
Seiad Valley CA 96086
530-496-3371

From: Barbara Lyss <bbarly@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 6:47 PM
Subject: Dredging moratorium

The dredging moratorium should become a permanent prohibition.

I have had personal experience of dredging upstream from my house. It creates deep holes in the stream bed, changes the course of the stream, creates so much silt that the water is muddy and one is unable to see the bottom. What does this do to all the aquatic life--not just the fish? Dredging along stream banks weakens tree root systems and causes them to fall. Unlawful dredgers have spewed rocks and mud onto stream banks and there is nobody to enforce the law. The dredges create noise pollution. There is trespassing and littering of gas cans and other debris on private land. There is trespassing to move their equipment in and out of the creek/river.

Dredging is just a hobby. It is an unnecessary activity. Do those people dredging even make enough to pay for all their equipment?

Dredging should be outlawed. Let them find another hobby.

From: sam adams <benwconrad@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/17/2009 9:21 PM
Subject: Response to Public Scoping

Mark Stopher
11/17/2009
Department of Fish and Game

My Letter today is in regards to the post card I received notifying me of Public Scoping Meetings. As I am unable to attend due to the short notice I am unable to make arrangements to attend but I feel that it is crucial that I respond. I am President of the Santa Rosa Gold Diggers, a partner on two claims that are too difficult to work without a dredge, and out $47.00 for a dredge permit.

Aside from being a complete waste of time, tax payer money, violating the United States and California Constitutions and a host of other laws these proceedings are unfounded and redundant. This Legal Battle has been fought about once a decade, and that is why there are already several environmental impact reports on file. These reports have scientifically proven that dredging "has no significant effect on the environment". According to Claudia Wise a former EPA scientist of 32 years there are several environmental benefits to dredging.

First, by breaking up and sorting the gravels the dredges give trout and salmon populations refreshed spawning gravels to lay there eggs in.

Second, the dredge holes provide artificial refuge for fish to rest while traveling upstream. The deeper and colder the water is in these the better it is for the fish. By this logic we should no longer be required to fill in our dredge holes when we are done.

Last but not least, the removal of Lead and Mercury from our rivers. The sluice box on a dredge catches 98% of lead and mercury that passes through it, and miners alert the EPA of large deposits of mercury.

The old methods of hydraulic mining, bucket dredges and arsenic solution separation are long gone. These were environmental disasters. That is why they were ended, but dredging has survived because it has shown more benefits than impacts. Also, this could not have come at a worst time. We have historically high unemployment and gold prices, and dredging the most profitable method of small scale mining is outlawed. Dredging directly and indirectly is estimated to contribute almost 100 Million to the California economy. Please lift this moratorium it is unfounded and baseless. Dredging is already properly regulated and seasons are properly coordinated with the fish spawning cycles.

Benjamin W. Conrad

November 27, 2009

Attn: Mark Stopher

I attended your scooping meeting in Sacramento. One of the questions asked was whether you, your staff or your consultants have actually seen a suction dredge in operation. The answer seemed to me that you have not seen a suction dredge in operation and of course now you cannot because it is unlawful to do so.

I would like to explain my dredge operations as done on my placer claim. First of all, I have obtained a permit from the DFG for over 30 years and have followed the rules set forth by the permit. In addition, I have filed a plan of operation with the Forest Service and have followed their rules. I have never questioned the rules set forth by the DFG or the Forest Service. I thought the rules were fair and reasonable.

My operation is a one-man operation. I work my claim about 30 days a year. I only run my dredge about two hours per day. The rest of the day is devoted to moving rocks around by hand. My four-inch dredge is rated, by the manufacturer, to move four or five yards of sand and gravel an hour. If it really could moved that much per hour, I would be a rich man. If I move more than a yard or two a day, I would be surprised.

The creek I have been working for over 30 years was a dump for a hydraulic operation in the 1860's. The miners moved millions of yards of sand, gravel and clay from the top of the mountain to the creek. I do move some clay when dredging but try to keep it at a minimum. However, Mother Nature, in one rainstorm, will move many times more than I do. For example, I was at the claim one weekend in May and I rained so hard that the creek rose 6 to 8 inches do to the amount of runoff. The creek actually turned yellow because of the amount of clay moved by the rainstorm.

One thing you might look into is the amount of acreage being dredged by permit holders and compare it to the acreage of all waterways open to dredging. I do not know how many people hold a permit and a mining claim. Perhaps you should ask permit holders if they also are claim holders that way you could estimate the acreage involved, as each claim is usually 20 acres. Just a thought.

Bill Kafka
PO Box 84
Avery, CA 95224

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name:	BILL KAFKA
Mailing Address:	PO BOX 84 AVERY, CA 95224
Telephone No. (optional):	209 7951226
Email (optional):	VINOMAKER2006@YAHOO.COM

Comments/Issues:

see attached

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR – CEQA Scoping Comment Form

Billy Stanford
PO Box 911
Waterford, CA 95386
Tel. #: 209-874-2411
Email: Stihlbill@gmail.com

COMMENTS / ISSUES:

1. It appears that large scale operations, controlled by corporations and/or municipalities, are exempted from the new dredging regulations whereas the individual AMERICAN CITIZEN trying to make an HONEST living is prevented from doing so by certain special interest groups.
2. According to the water quality study done by Joseph C. Greene, Research Biologist, U.S. EPA (Retired), (http://www.icmj.com/UserFiles/file/recent-news/Joseph-Greene-suction-gold-dredge-study.pdf) "The issue against suction dredge operations in the streams of the United States appears to be less an issue of environmental protection and more of an issue of certain organized individuals and groups being unwilling to share the outdoors with others without like interests."
3. Since 1980, my experience and my own eyes have witnessed a steady decline in the number of dredges on the Salmon River in Northern California **and** a steady decline in the number of fish on Salmon River. I have witnessed a tremendous increase of recreational users such as kayakers, rafters, and marijuana growers as well as increased gill netting at the mouths of the Salmon, Klamath and Trinity rivers. COMMON SENSE indicates that the problem is **not** dredging but **is** directly related to harvest practices of the Salmon and possibly the hazardous waste left along the river banks by kayakers and recreational users. Recreational users are not required to have porta-potties or sanitary waste facilities whereas ALL miners are required to have such.
4. If dredges were deleterious to fish, then the number of fish should have increased exponentially with each years decrease in dredging.
5. Why is it that money from the general fund is not allowed to be used for administration of a federal AMERICAN RIGHT to make an honest living, but yet this same money is allocated to special interest groups giving them funding to eliminate our rights and attacking our economy this very country was founded on; the ability to make an honest living by the individual American?
6. I would like to offer the use of my mining claims on the North Fork of the Salmon River for additional on-site studies or research.

We are all AMERICANS and share this wonderful country. Special interest groups are only concerned with their individual agendas at the expense of all others affected.

Which is more important; the special interest group's agendas or the rights of American Citizens to make an honest living and share this planet with ALL species through education and respect?

Thank you,

Billy Lee Stanford 12/2/2009

From: Bob <morganhorses@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/14/2009 12:28 PM
Subject: Comment on Suction Dredge Permitting Program

November 14, 2009

To: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

From: Bob Atwood
PO Box 9561
Bakersfield, CA 93389

RE: Comment on Suction Dredge Permitting Program on the Suction Dredge Permitting Program.

Dear sir,

I believe Suction Dredge mining should be banned in California. I worked with salmonids from 2006 to 2008 in the Mid Klamath watershed. I conducted salmon spawner surveys and saw first hand the devastation caused by the dredge miners. Organizations like the New Forty Niners had a complete disregard for Salmonid fisheries. I saw many dredge miners with open five gallon cans of gas balanced on rocks in the middle of streams. I saw mounds of garbage and piles of human waste at miner camps on the Salmon river in northern california. One miner with a claim could have 6 buddies camped out with him during the summer impacting the environment. Many of these miners were from out of state and I met one from Holland and one from Switzerland.

One instance last year was of particular concern. On upper Indian Creek by Happy Camp we were to conduct a Salmon Spawner survey in Fall. The New Forty Niners had touted this section of river as having a lot of gold to its members during the summer. About a mile of prime salmon spawning habitat had been wiped out. Salmon like to spawn in the gravels in the tail outs of pools. The dredge miners had made small rock dams at the end of each pool to raise the water level so their dredge could work. Then they suctioned out all the spawning gravels and spit them out in the riffle below the pool. Afterward, the pool was deep with just large rocks in the bottom and no gravel. The gravel was in the riffles between pools now. Salmon don't spawn in riffles since their eggs would just be washed out and killed in a storm. So for 2008 this prime stretch of river had the spawning area destroyed. This is at a time when commercial fishing was banned and the population of salmon in California was in a major decline.

Sincerely,
Bob Atwood

November 16, 2009

Mr. Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Dear Mr. Stopher:

I am writing this letter after our phone call today regarding suction dredging in the waters of California. I have been involved in suction dredging since 2001. In my experience I have removed pounds of old lead, mercury and many cans and bottles from the rivers and streams. I have observed fish off all sizes moving in and around the suction nozzle and around the discharge end of the sluice box. At no time have I ever seen a fish be harmed in any way. Also note that while dredging, the miners clean up the river bottom and create pools for fish to congregate in. I believe the miners are improving the habitat for all creatures living in the waters. If preservation of the fishery is the goal, by limiting the dredging season in the small creeks from May 15 to October 1 the fish would not be affected during spawning periods. Since fish typically do not spawn in the larger rivers it makes sense to keep dredging open year round in those areas. Fishing should be monitored more closely. I believe the Indians have a right to subsistence fishing for their families but I don't believe they should be able to use modern nets to fill trucks with fish that are caught so far up the river that they taste like mud and that nobody want to eat. If a fish makes it up the river a certain distance they should be able to exist without human interference. I think they should be left alone to do what they do for the survival of the species. The fish should not be exploited for the harvesting of roe and carcasses left along the river banks.

The local economies benefit from mining activities by way of retail sales and tourism as well as the state sales tax generated and permit fees incurred. The jobs created by the mining industry are plentiful and benefit the people of this country; not those overseas, to sustain our families.

I am happy to volunteer my time to this effort in a constructive way.

Sincerely,

Bob Fish
833 Humboldt Street
Eureka, CA 95501
707-616-3845

From: "Bob Hendy" <bob@jllandscape.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 8:52 AM
Subject: suction dredging

Hi Mark,
Just wanted to give my input to the subject of dredging.
Having fished for steelhead,salmon, and trout most of my life, from the Santa Ynez river to the Rouge to the Salmon river in Idaho, and also dredged most of my life, I'm 60 I feel that I should respond.
Although human activity of any kind does have an impact on the environment, I feel that we as miners are continually singled out for other factors that affect the environment and fish in general.
First of all I think the main issues are as follows:
Water quality
The presence of mercury in the streams of the mother lode
The breeding of hatchery fish and their survivability
Stream bed disruption
The state of streams that are controlled by dams

The water quality issue is of course up to mother nature, droughts are one cause, release of water into stream beds is another. I think that most people don't have a clue as to what a natural stream or river looks like. In times of floods or rapid snow melt streams run fairly wild,cut banks,take down trees, scour the bed, deposit gravel beds for fish to spawn in, and so forth.

The mercury issue is complex,most miners hate it and try to avoid it,it covers the gold that is recovered and is hard to remove.
I have encountered pound of it in the main river stanislaus, removed it and turned it in to the hazardes waste collection site at toulumne county.
Some program needs to be set up state wide to collect it,even if it contains gold, the state, the federal government is doing virtually nothing to help solve this matter.And it is not going to go away until it is removed!

Currently most stream flows are controlled for flood protection and water retention, most of the streams that I have mined in are in poor condition due to this control, no banks are being cut,gravel redisposition is virtually nil, and places for fish to spawn in are being replaced by large cobble, not a happy place for fish or their food source. It is similar to not letting natural fires burn,controlling them and then having a big fire wipe out all the existing trees.
These beds need disruption from time to time, dredging does tis on a very small scale.
We as miners realize that dredging during spawning periods should be prohibited,and no change in that policy should change. We as miners are also fishermen!

Thanks for the opportunity to share my thoughts
Sincerely
Bob Hendy
Sonora Calif

From: Bob Madgic <bmadgic@charter.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/19/2009 11:48 AM
Subject: STOP suction dredging

Mark Stopher,
I fully support the ban on suction dredging, which injures our waterways and our fishes. Persons should not have a" livelihood" or engage in practices that damage public resources, it's that simple.
Uphold the public trust as your first priority.
Bob Madgic, author, A Guide to California Freshwater Fishes.

From: brad macy <bradmacy@pacbell.net>

To: <dfgsuctiondredge@dfg.ca.gov>

Date: 12/3/2009 11:02 PM

Subject: Input on EIR for gold dredging in California

Attachments: Dredge.doc

Mark Stopher

California Department of Fish and Game

601 Locust Street

Redding, CA 96001

I have attached my input on the environmental effects of gold dredging. Please submit my input to the EIR committee.

Thank you.

Brad Macy

To: IER Investigating Committee for Gold Dredging in California.

From: Brad Macy

I would like to give my input into the discussion of the environmental impacts of gold dredging.

1. In regards to <u>water toxicology</u>:

The investigation should look into the long term positive effects of the removal of heavy metals from the stream by gold dredgers. I remove on average over 10 pounds of lead, 10 pounds of rusty iron, and 1/2 pound of mercury from the rivers per year. Multiply this by 3500. This equals 35,000 pounds of lead and iron, and 1750 pounds of mercury removed from the rivers each year! There is speculation that gold dredging is the cause of increased mercury levels in fish. The investigators should question this. I recommend asking these questions:

a. Is there, in fact, an increase in heavy metals found in river fish now compared to previous years ?

b. If so, could these metals be increasing in fish because they are slowly forming water soluble salts over the years (since being placed there in the 19th and early 20th centuries)?

c. If elemental mercury is in fact breaking down into water soluble salts, what is the future impact of this breakdown in the tributaries and do we need to remove it now?

d. Could removing these heavy metals by gold dredging actually be an economical way to rid our tributaries of heavy metals?

2. In regards to Climate change and air quality.

I think we all know that 3500 small engines running a few weeks a year are not going to affect climate change. It does not take a rocket scientist to figure that out.

3. In regards to biological resources and fisheries.

The 1997 EIR already found a positive impact on the spawning of salmon related to dredging. New reports should be analyzed with care as climate change, regulatory and economic factors, and decreased water resources in general may be having much more of an impact on fish populations than gold dredging.

4. In regards to geomorphology and aesthetics.

I can only speak for myself and those who I know dredge for gold. I always take out more trash than I produce when I gold mine. Gold miners represent a very small number of people up in the hills with four wheel drives. I would ask the following questions:

a. What percentage of campers do gold dredgers represent?

b. What percentage of 4 wheel drive vehicles on the off roads do the gold dredgers represent?

c. Are other hobbies such as "off road vehicles" ei. quads, dirts bikes, etc. be causing irreprable damage to these roads.

I appreciate your consideration of my comments. I would be glad to participate in any way possible to assist in the process. Please feel free to call me at any time.

Sincerely,

Brad Macy

From: <camaro1963@aol.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/4/2009 10:17 AM
Subject: Please allow dredging

To whom it may concern,

I live on auburn revene creek and when they let water out and it stirs up the bottom of the creek it does not seem to bother the fish. I see no difference in them allowing more water to flow or nature who dumps huge amounts of water in that creek at one time as to someone stirring up the water alittle bit and have it settle. When they let the water out it takes days for the water to clear, you can't even see an inch into the water.

I personally do not own a dredge, but Bob the placer county fish man said it's better for the fish if the silt is not there for them to lay their eggs. I think the environmentalist have gone to far and are now interfering with peoples lives. Please do not restrict this at this time. Sincerely Brenda Kuffel 540 Coyote lane Lincoln CA. 95648 (916)434-0212

From: <camaro1963@aol.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/4/2009 10:21 AM
Subject: Suction Dredging Permitting Program

To whom it may concern,

Please do not cancel dredging, I do not think the little bit a dredge stirs up as much as nature and man letting water out of a dam does. I see Auburn Revene change all the time and it does not seem to bother the fish. When it rains really hard or they release more water it has to do more than what dredging does. The fish even with what nature does comes back. Please keep California gold history alive stop the environmentalist from controlling everyone's lives. Sincerely Brenda Kuffel
=

From: "Brian Hill" <bhill@igc.org>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/30/2009 6:08 PM
Subject: Input regarding mandated review of Suction Dredging

Dear Mark Stopher;

Please find below my comments and documentation regarding suction dredging. I have dredged for about 30 years, and I am quite sure that suction dredging could have little or no negative impact on waterways, and regulations could be designed so that dredgers could help restore degraded waterways as they mine. I suggest considering pilot studies which would result in regulations which are educational and that direct miners to mine in ways that not only not harm waterways but improve degraded ones. I am willing to participate in any such studies, especially if a project which would remove detrimental sediment as part of the mining process. I am a founder of the recent 'responsible mining' movement (see www.communitymining.org).

The bill passed which put a moratorium on suction dredging is based on several incorrect assumptions;

1. Mercury is not dormant on the bottom of waterways, some of it travels with what dredgers call annual flood gravel, mercury naturally oxidizes in the water and enters the food chain, and dredgers DO NOT re-introduce mercury as part of the dredging process, rather they collect 98+% of the mercury in their sluice boxes because mercury is almost as heavy as gold it stays in the sluice boxes and is not re-introduced to the river. Almost none re-enters the waterway. The exact amount could be determined with testing as I have proposed below, and as is mandated by the existing moratorium. Therefore, dredgers remove most of the mercury (native and human introduced) from waterways. Dredgers with 8 inch dredges in the Trinity River regularly recover pounds of lead from bullets and sinkers each day and ounces of mercury.

2. The Fish and Game carefully regulates where dredgers can work. Miners are never permitted to dredge in spawning area, so the charge that dredges suck up salmon and steelhead eggs is another undocumented accusation.

3. The following may be the most ignorant accusation: Dredges suck up salmon and steelhead with their suction hoses. I have dredged for 30 years, and I can assure you it is almost impossible to suck up a salmon/trout with a dredge - they feel the current from the suction and simply swim away. Rather, there are always local trout and fry that hang around the dredge and feast on the little critters loosened up by the dredging process.

Gary Stern, mid 1980's Master student at Humboldt State, completed a Master's thesis on the effects of suction dredging (Stern, G. R. 1988. Effects of suction dredge mining on anadromous salmonid habitat in Canyon Creek, Trinity County, California. M.S. Thesis, Humboldt State University, Arcata, California, 80 pp) and spent a whole summer with the dredgers on Canyon Creek (a tributary of the Trinity near Junction City). I was one of the dredgers who volunteered his operation for Gary's study. A related study was published as "Impacts of Suction Dredge Mining on Anadromous Fish, Invertebrates and Habitat in Canyon Creek, CA., by Thomas J. Hassler, William L. Somer and Gary R. Stern, California Cooperative Fishery Research Unity, U.S. Fish & Wildlife Service, Humboldt State University, Final Report 1986.

Gary's conclusion states that, "if dredge mining regulations are observed, the effects of small gold dredges on the stream and fish habitat are minimal. Most dredge miners seemed to be concerned about the fish and stream habitat, but did not know what they should or should or should not do when dredging. If we can inform more dredgers about the habitat needs of salmon and trout, they can not only avoid damage, but perhaps improve stream habitat for fish." (personal letter from Gary Stern, 8/8/1988)

Following is a list of tested and untested techniques to improve degraded waterways.

Ecological or Restoration Mining

Rivers, streams and possibly reservoirs can be mined to bedrock using appropriate size suction dredges and possibly larger equipment in major waterways like the Klamath so that valuable minerals, aggregate, clays and top soil can be collected and marketed. Simultaneously, the biotic habitat of degraded waterways can be improved/restored in the following ways:

1. In stream gravel can be loosened and cleansed so as to improve spawning habitat and intra-gravel flows so important for cooling, filtration and aeration of the water. It may be possible to replace the current practice

of putting spawning gravel into waterways by simply dredging over-sedimented spawning areas when spawning is not taking place to remove the sediment, leaving only the best spawning gravel. Specially designed suction dredges can separate gravel from sediment, and the sediment can be pumped out of the existing waterway. I have done this.

2. Removal of sediment from waterways and restoration of degraded bench areas, esp., tailing piles left by early mining. Tailing piles and sediment pumped up to the bench from the existing waterway can be combined to restore riparian zones so important for the health of waterways.

3. Construction of permanent rock weirs on bedrock.

4. Construction of in stream deflectors.

5. Pool rehabilitation and construction.

6. Establishment of optimum pool-riffle ratios.

7. Rip-rap construction of stream banks which are threatened by erosion and undercutting.

8. Rehabilitation and/or creation of spawning areas.

9. Removal of mercury and lead.

10. Creation of rock islands.

Thank you for taking the time to consider this input.

Yours truly,

Brian Hill

8760 Platina Road

Igo, CA 96047

530-396-2305

bhill@igc.org

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name: Brian Negri

Mailing Address: 3125 Copper Creek Dr
Redding CA 96002

Telephone No. (optional): 530-224-0822

Email (optional): bmnegri@msn.com

Comments/Issues:

Hi Mark. My family has had a mining claim in Plumas Co for over 45 years. We mine 3-4 days a year and I would guess we move 4-5 cubic yards of material with our dredge. Simply put, I feel a lot of the 3000 suction dredge permits are small miners like myself and as a whole, have little effect on the streams/rivers. - Especially when looking at the effects of run off from the winter.

I believe (although could be wrong) that this bill was somewhat involved with the natives in Klamath and the effect on salmon. Our claim is located at 5500 ft, and our course have no salmon there.

It seems to me that there is a much more multifactorial approach to the fish problem in California. Miners have not, and will not be so influential in this issue. Collectively we can't do as much as mother nature does in the winter, and I hope the DFG will realize that. Thank You.

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name: Brian Stevens

Mailing Address: 369 Buck Ave
Vacaville CA 95688-3844

Telephone No. (optional): 707 447 2636

Email (optional):

Comments/Issues: 1. I noticed that your SEIR does not address concerns of streams that are dammed downstream, regarding a) fish migration, b) Water fowl migration c) dams effect on turpidity d) life cycle of upstream fish insects?

2. The SEIR does not address any benifiscal aspects of Suction Dredging. eg trail maintance to prevent erosion of soil, removal of contaminents from stream and camp site, removal of dead or dying trees.?

3. Will SEIR address chemicals that migrate to stream's via gravity etc.?

4 Will SEIR address the lost of a Culturial lost of a California heritage the entrepreneural independant miner?

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

November 13, 2009

Comments on Initial Study Suction Dredge Permitting Program Subsequent EIR

Dear Mr. Stopher:

Enclosed are a few comments on the above Study.

5.1 Overview The reference to recreational dredging has to be changed. The dredging community is a prospecting community. We fall under the Federal Mining Law of 1866,1870 and 1872 .
5.58 Location Your comment about most dredging takes place on private lands or unpatented mining claims. You should include that the unpatented mining claims are on Public Lands.

I find it impossible to comment on Environmental Factors Potentially Affected that are to be a potentially significant impact. I noted that nowhere in the comments that Suction Gold Dredging is deleterious to fish. I find it interesting that there in no reference to the DFG'S reference in the Hillman et al v California Fish and Game that suction Gold Dredging IS deleterious to fish. I will comment if possible, when you determine if the Environmental Factors Potentially Affected that are to be a potentially significant impact are deleterious to fish. Also note that all studies that were used in the 1994 EIR did not indicate that Suction Gold Dredging was deleterious to fish.

For your information: An environmental impact report (EIR) must contain facts and analysis, not just the bare conclusions of the agency. Gray v County of Madera, 67 Cal. App. 4th 1099, 85 Cal. Rptr. 3d 50 (5th Dist 2008)

Thank You

Bruce Emerson
22700 Johnson Valley Rd.
Foresthill, Ca. 95631

From: "clwactivist@juno.com" <clwactivist@juno.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/30/2009 2:41 PM
Subject: Suction Dredging in Northern California

To: Mark Stopher, Environmental Program Manager and Jordon Traverso, Deputy Director for Communications, Education and Outreach

From: Carol Wright, 546 Juniper Street, Chico, CA. 95926, (530) 343-8737

Re: Public Scoping for suction dredge permitting program.

I am writing as an interested party, former thirty year resident of Siskiyou County, and frequent visitor to the many rivers and streams of Siskiyou County. I am totally opposed to permitting of suction dredging in the rivers and streams of Northern California. The extreme disturbance to habitat and stream and bank area wildlife should be of major concern to all who value the watersheds of this area. All suction dredge mining and the use of any suck equipment in any California river, stream or lake, regardless of current permit issued by DFG is under a moratorium (SB670).

California rivers, streams and lakes are under considerable stress due to warmer temperatures, human populations, resource extraction, and natural and unnatural causes that are difficult to control. Suction dredge permitting is not difficult to control and should be excluded from the mix of other causes of environmental changes. The low levels of water in Northern California and the severe decline of fish populations are evident to the most inexperienced observer.

DFG must conduct all relevant environment reviews and should conclude that the ban on dredging must continue.

Sincerely,

Carol L. Wright

From: carole eagan <caroleeagan33@hotmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/15/2009 9:57 AM

Mr. Stopher

Dredging cleans the rivers of mercury therefor it benefits the salmon habitat, I hope you will recind SB670.

Thank You

A concerned voter

Carole Eagan

Windows 7: It works the way you want. Learn more.
http://www.microsoft.com/Windows/windows-7/default.aspx?ocid=PID24727::T:WLMTAGL:ON:WL:en-US:WWL_WIN_evergreen:112009v2

Mark Stopher
CA Dept. DFG
Suction Dredging

Dear Mr. Stopher:

I have dredged on New River for 32 years. The season for dredging has been cut from approximately 6 months to the current 3 months (Jul 1 - Sept. 30th). I agree that the timing is necessary for salmon smolts to be out of the area. I ask that consideration be given to extending the season to the end of Oct. and that Quimby Creek be placed on a year round basis.

BENEFITS OF SUCTION DREDGING:

Compaction:

Compaction of gravel is broken up at no expense to taxpayers. When gravel settles and stabilizes it is ideal for spawning.

Mercury:

Hydraulicking was done on the high bar on my current mining claims. I have dredged below several hydraulic dump chutes and I have never encountered "elemental mercury" in all of my years of dredging on New River. I have recovered occasional gold flakes with mercury on them.

Lead:

I remove any lead recovered from the river. Sometimes it is several pounds.

Aquatic life:

I have started to dredge in an area I previously had worked and the aquatic life was abundant, especially worms. Some people believe that this has created an artificial environment but I believe it is highly beneficial.

Dredging holes:

While New River has a diverse amount of deep and shallow holes, steelhead use the dredging holes to rest in espescially in warmer weather on their way upstream.

POSSIBLE NEGATIVE EFFECTS:

Temporay clouding of the river downstream from worksite, entrainment of caddisfly and stonefly larvae. My experience has shown that these populations have not been affected but have flourished.

I have never observed a trout being entrained by the power of my dredge. On a rare occasion I have observed a small trout 2-3 inches go into the intake following a piece of food I stirred up (this is very rare). The more usual entrainment is the small trout that was gut hooked by a fisherman and drifts downstream into the dredge. Doubtless some people will blame the dredge.

POSSIBLE NEGATIVE EFFECTS cont.

I believe the brown trout is harmful to salmonids. It is non-indigenous to the U.S. and I think was introduced into the Trinity River system about 1877. I would like to see the brown trout included in this EIR or study.

Conclusion:

I believe the current regulations are adequate and the DFG biologists know what they are doing. The necessary regulations (3 months on New River) does preclude this from being commercial regardless of the size of the dredge. It is hard for me to understand with the current fiscal problems that this activity would be stopped by our politicians and the money required to be expended for the study of an activity that has been studied many times previously.

Please put me on a notification list of progress and scoping meetings and of the draft EIR for review..

Thank you:

Charles Picard
4775 Goodwater Ave
Redding CA 96002

e-mail
ccpicard@sbcglobal.net

To Whom it may concern:

The increase of suction dredging over the past several years has been an unregulated disaster for the Salmon and Klamath Rivers. As a business owner in Somes Bar, Volunteer Fish diver in the Salmon River, and riverside land owner in Orleans, I have seen firsthand the negative effects of the suction dredgers, most notably the club members belonging to the New 49ers of Happy Camp.

1st let me say that as a general store owner I saw no negative effect of banning the dredging this past year. In fact we had our best summer yet of our 6 years opperating. There is much more money being spent locally by swimmers, kayakers, and those seeking solitude & quiet. All off these user groups are negatively impacted by the loud motors of the suction dredge.

2nd After swimming the rivers this past fall doing salmon surveys as a volunteer for the USFS, it is shocking to see the damage caused underwater. Car sized holes in the stream-bed, often in the tailouts of pools which are the only places salmon & steelhead can spawn. I have also seen gas cans left by the side

of the river, and riparian rocks and vegitation ripped up or cut through in the search for gold. These special public lands should not be sold out to one user group at the detriment of all others.

Finally as a riverside landowner in orleans our quiet riverside home has had its tranquility shattered the past couple of summers by the full time use of a suction dredge in the river by our property. Again it seems unjust that one user group should be able to ruin the local environment at the expense of all others.

Thank you for listening to my concerns.

Chris Hatton
Somes Bar, CA
(530) 469-3350

Christopher C. K
27205. Bonny
Redding CA.
November 30

Mr. Mark Stopher
Cal. Dept. of Fish & Game
601 Locust Street
Redding CA 96001

Mark

This is to inform you of my experence
a suction dredge on the Trinety ~~Redd~~ Ri
near Big Bar Calif. and on Humbug Cree
near Yreka Calif, here I have acctuly
off and on the last four years.

Twelve years ago I work four day a
a Camp Cook on a claim on the trinety river
Near Big Bar Calif., Part of my job was
pick up beer bottels, can, and other tra
left by the "Big City Scum" that used
beaches of our Claim wile on "Vacat

These are the same people that say
are Killing fish and distroing their eggs "wi
any profe thing." I never saw any fish K
by the six inch dredge being used, but
Number of fish feeding on what was
from the rock and sand was a wonderful S

My experancess on the Humbug Creek
were even better, we removed some murr
not much, gold, Junk, and Cleaned the
of the Creek on the years that have fa

We have had to clear up the claim from hunters, campers, and just gene public. These are the same people tha say we mudy up the creeks & Rivers, the fish eggs & Kill fish, "Not True".

Dredgeing is done after all fish e have hatched, I have Never to this seen any fish Killed by our 4" dredge the 6" dredge I was around on the Tr river.

It seems that the people that complane the most are the Indeian who want our money spent in there and Not in the Towns & stations in area we are dredging.

these women that live the Bay C and complane how the dredging Killes have gotten the public up set over dre

What I would like to Know is will fish and Game of Calif. really tel the truth that Dredgeing & removel of Brush from the creek banks is better Cleaning the creeks and permoting bett fish habetat.

I'am a fisherman and I've seen the differance.

← P.S. over

Clifford Weber

Mark if you would like to talk to
Me give me a call at 530-917-3540

From: "Mining property" <noanswer@aol.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/24/2009 5:17 PM
Subject: Copper , Iron and Gold claims in Chile

From: "Craig Lindsay" <craig.lindsay@comcast.net>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: <Jerhobbs2@Verizon.net>, <pat@keeneEng.com>, "Craig Lindsay" <clindsay@c...
Date: 12/3/2009 9:08 PM
Subject: Comments on Scoping Documents - DFG Proposed SEIR

Mark and Team,

#1 Please include letter from: Joseph C. Greene, Research Biologist, U.S. EPA, Retired addressed to State Water Resources Control Board, dated June 6, 2007. I could not find it in the literature search spreadsheet nor mention of it in the Literature Review September 2009. Please add as other comment letters to SWRCB were included in literature search as mentioned under Methodology 3-1 in Literature Review. (If you need the pdf I can provide)

#2 Ref pg 19 Section 5.5.8: No mention is made of river property held by single owners. As a river property owner, it is my best interest to maintain and not contaminate what I own. Although we are possibly few in number it is an unmentioned group.

#3 Ref pg 20 Section 5.5.10: The sentence, "It is unknown whether this behavior is typical of suction dredge miners.", seems to damn by innuendo. One could easily replace suction dredge miners with campers, overnight rafters, kayakers, especially as I have observed the last two groups using the river banks on my and surrounding properties as latrines.

#4 Will the effects to the native "fish" (as defined to include benthic animals, mollusks, amphibians, etc) populations by suction dredging be judged on the basis of specific river basins and those segments of a river delimited by dams? For example, much of the surveyed research papers mentioned, specifically target anadromous fish species, the North Fork of the American upstream from Lake Clementine has not seen a migrating fish since 1936.

#5 How will the various factors that have "a potentially significant impact" in a given river system be weighted and integrated into the draft SEIR? e.g. is noise a bigger irritant to certain groups than a substantial adverse event on a scenic vista? How is the judgment call made?

#6 Also no mention is made of infrequent catastrophic river flows i.e the flood years of 1986 and 1997 as it pertains to major effects on stream bed changes, gravel deposition, damage to riverine habitat and effects on wildlife; will this be addressed or is the SEIR specific to human activities exclusively?

#7 How will the assessment of potential adverse effects be applied, as it relates to the evolution on the river system, over what time period? As an example the North Fork of the American was totally different in 1848 with no human intervention, as compared to 1868 after extensive hydraulic mining as compared to 1928 with no dams as to how it is in 2009? Are the effects of a single dredging season to based at the end of the season or after next Springs changes.

Thank you for your consideration
Craig A. Lindsay
14 Lourdes Court
Sacramento, CA 95831
cell 916-813-0104
craig.lindsay@comcast.net

PS Will you be forming groups that include private citizens during the draft SEIR period? If so, I would be greatly interested in participating.

Public Comment on California Department of Fish and Game Notice of Preparation for Suction Dredge Mining and Rule Making Process

To Mark Stopher Dec 1, 2009
California Department of Fish and Game
601 Locust
Redding Ca. 96001

Mr. Stopher

I appreciate the opportunity to participate in the rule making process for suction dredge mining in the state of California.

The purpose of this comment is to inform the DFG that in the process of doing their Environmental Impact Study (EIR) to promulgate Suction Dredge Regulations for the State of California, the DFG should consider the impact that all classes or groups of people who participate in outdoor activities have upon the environment. To do otherwise would unfairly focus on the mining community.

Truth is that members of the Mining Community are conscientious stewards of the environment. Dredging activities help in a significant way to remove trash and toxic materials that others leave behind and are less likely to harm the environment than "Any Other Group". Numerous studies show that suction dredge mining has little "If any" impact on the environment. Only when you segregate suction dredge activities from the entire equation does it appear to have any measurable impacts, but of course all human activity has some impact upon the environment. Question is to what degree? What about the forces of Nature and runoff, how does this impact the environment? What effect does the rise and fall of water flows from Dam releases have upon aquatic life? It must all be put in a proper perspective and not be taken out of context. A major limitation to the

current NOP is the non existent conceptualization and measurement of suction dredge activities compared to other outdoor activities and the balance that Nature will ultimately restore.

This oversight may very well lead to a bias conclusion.

If the DFG were to only focus on suction dredge mining activities in their SEIR and overlook all other groups of the same class (those who engage in outdoor activities) such as rafters, hikers, fishermen, campers, 4wheelers, trail riders, horse back riders, mountain-bikers, boaters ect. and the impact that their activities have upon the environment along with the other factors previously mentioned, is "Discrimination".

Discriminatory practices take many forms, they usually involve some form of exclusion or rejection of particular groups of individuals, in this case they involve the inclusion of a particular group segregated from all other groups of the same class. And since suction dredge miners are in the extreme minority of that class they have unwittingly become a target of discrimination through selective functionalization.

The above example is but one way our "Trusted Public Servants" gain acceptance for radical reforms. Radical change is often not secured through extensive inclusion, but rather through selective inclusion or exclusion of groups targeted for change. Other tactics that are often used to influence the outcome include but are not limited to, deleting stages in the process, including new stakeholders, alternating the process sequence, suppressing issues, and controlling the kind of influence exerted by reform leaders.

By consciously including and excluding target groups reform leaders can secure that the radicalness of a reform is preserved in the formulation process. The use of these tactics in essence, leads to a "Prosecution" of the targeted group. This prosecution may sound reasonable on the surface, but; as so often is the case, becomes mere "Propaganda" when other mitigating factors are introduced into the equation.

The seemingly unending and corrupting influence of money and power, both in business and politics that frequently deviate from normative expectations has activated the public consciousness about ethics. They are also well aware of how those mostly unstated pre-suppositions render the average person vulnerable to contrived interruptions of those expectations. Ordinary people simply do not expect their public servants to treat their sovereignty with a total disregard for well-established norms of civility and due course of law. Neither do ordinary persons of reasonable prudence expect those in positions of public trust to outrageously betray that trust.

In managing ethically, public servants are required to be impartial, to exercise procedural fairness, and to "Support and Defend" the rights of those to whom they serve. Having the highest ethical standards presumes more than compliance with the law, including administrative law: it requires a culture or an intuition in decision-making by administrators based on fairness, transparency and accountability and a sense of the public interest, as well as the careful exercise of the legal authorities delegated by Government. They are also expected to know the limits of that authority and honor it.

Clearly, political leaders, administrative agencies, other organizations and their employees need to improve the ethicality of their actions. This will in turn provide an important opportunity for them to once again retain the public trust by refraining from unethical behavior and decision making. The idea that a civilization could sustain itself on the basis of such a transgression is an ethical, spiritual, and metaphysical monstrosity. It means conducting the economic affairs of man as if people really did not matter at all.

Respectfully, Submitted

Craig Wise

MARK STOPHER
CALIFORNIA DEPARTMENT OF FISH AND GAME
601 LOCUST STREET
REDDING, CAL. 96001

NOVEMBER 16, 2009

RE: IMPACT REPORT FOR SUCTION DREDGE PERMITTING

I have been a gold dredger for close to 30 years and have enjoyed my second career.I am a person who is what I believe is in tune with the environment. I am very interested in fish habitat. While dredging I watch fish in my tailing pile eating worms and grubs while dredging. I believe that this is healthy. I also believe that over the years I"ve looked were I have dredged and note that fish can spawn in an area that has been dredged. Cleaned gravel helps I'am sure. My work at my claim is proof of responsible dredging. We believe that the number of fishing licences should be limited to fewer licences per year, monitoring the Indians netting processes. (should not able to stretch nets all the way across the river to catch fish). I believe that mining (dredging) is a federally mandated right and should be controlled as it has been in the past by a simple permit

The experiance that I have had over the years is extensive, and I am a reponsible dredger. I see this as another right being taken away. We the people aren't going to be taking this lying down.

I believe that the season for tributaries should be open to dredging from May 1st. to October 1st. other parts of major rivers need to be open all year around, depending apon the river and its habitat.

Also, the financial impact on the country would be quite large to companies that support the mining industry , taxes and all others that support our industry.

respectfully,

DAN KNAPEK
1314 BROADWAY
EUREKA, CA. 95501
(707)443-9534

From: Dan Miller <bonaro123@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/29/2009 8:01 PM
Subject: Suction dredging comments

To: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, Ca 96001

I am writing in support of suction dredge mining.
I will be brief as I am sure the talking point of most of what I have to say has been covered at length by others.

I have been closely involved with the struggle over gold dredging for many years. It is plainly obvious that the resistance to this activity is NOT supported by good science but instead by tribal and fisherman interests who have gathers a following of passionate yet uninformed environmentalists.

- Dredging has never been proven to kill a single fish, only presumptions exist, not one dead fish.
Salmon are in comparable decline in rivers where gold does not occur, the only common activity here is fishing.
The purpose of most fishing is to kill the fish. Logic should lead you to the fisherman if you want to control how many fish are killed.

- Dredging does not pollute. The pollution (mercury, lead fishing sinkers and bullets, iron, etc) is already in the river left by other users. Dredges capture and remove these materials wil very high efficientcy.

- Suction Dredging has alredy been legally classified as De Minimus by the federal government.

Thanks,

Dan Miller
1910 Maple Valley rd.
Olympia, WA 98512

11-15-09

To Hoom This may Concern I would Like To know Who makes up These Fony Baloney Rules in Calif Cause is / Damn Sure NOT The Tax Payers, Any Fool knows Salmon Dont Run in The Mountains And Further more Lots of Streams in The Sierras Have So Much Over Berden The Trout Dont Have Enough Pools To Survive in The Fish move in Before operation is Done, NOT To mention The Fish Hang Around The sluice Box waitin For A meal So with That The Enviromental Groups Pushin This Again Dont Have A Clue How Thing Realy work including Logging in The Sierras. Small scale Mining under six inches Does Nothing But Good For The Enviormenit And Further more I want A Free Permit When This is Resolved For Loosing Half of The 2009 season, Someone Needs To stand up For The Tax Payers in California, But I Guess People Paid By The Government Better NOT Rock The Boat, Right !! Thank you For your Time.

Dana Gordon

NOT Happy with California Enviormental Politicks !

TO:

MARK STOPHER
CALIFORNIA DEPARTMENT OF FISH & GAME
601 LOCUST STREET
REDDING, CALIF.
96001

FROM:

TOMMIE GRAVELY
POST OFFICE BOX 1641
QUINCY, CALIF.
95971

TO WHOM IT MAY CONCERN,

WHAT YOU DID BY TAKING ARE RIGHTS AWAY WAS WRONG BY TAKING THE DREDGING PERMITS AWAY. BECAUSE THE SALMON DO NOT RUN UP HERE. ENFORCING THE NO DREDGING LAW UP HERE IS ALL WRONG. THE SEASON WAS CUT IN HALF AND WE DID NOT GET ARE MONEY BACK, WHY!!! DREDGING DOSE NOT DAMAGE THE RIVERS & CREEKS & STEMS.

Tommie Gravely

11-18-2009

The Bottom Line is we need are money Back. Also we need are Right to earn Back. This is the USA not some place were we do nothing But what we are told.

A lot of familys depend on money EARN In Gold to EAT and Live.

And by the way Quincy Have NO Samen So explane to my kids I can not do x-mess B-days Because of the Samen

A Real Person. Not a Suit

From: "Dana Nichol" <dana.nichol@sbcglobal.net>
To: "DFG Suction Dredge" <DFGSUCTIONDREDGE@dfg.ca.gov>
Date: 11/23/2009 3:32 PM
Subject: Re: Question from West Sac scoping mtg

OK, thanks for the clarification Mark. Have a nice Thanksgiving!

Regards,
Dana

----- Original Message -----
From: DFG Suction Dredge
To: Dana Nichol
Sent: Monday, November 23, 2009 3:11 PM
Subject: Re: Question from West Sac scoping mtg

Dana

I believe the question pertained to whether a legislator could introduce a bill to authorize DFG to provide refunds of suction dredge fees for 2009. I don't recall that was exactly my response. I think I said that refunds would require legislation and the public is free to contact legislators to see if that is feasible. At one point I thought such legislation was going to be introduced but we have not seen it. I think I also said that as time passes it seems to me less likely that such legislation would be successful.

>>> "Dana Nichol" <dana.nichol@sbcglobal.net> 11/18/2009 9:19 AM >>>
Hello Mark: I attended the November 17 Suction Dredge scoping meeting in West Sacramento. During the comment/question card session, Michael Stevenson from Horizon was reading people's questions and you were answering them. I was trying to write everything down and was distracted by my own notetaking and missed something you said.

All I caught was that your answer was: "that would make a great piece of legislation if you could find someone to carry it...I don't know why no one has thought of that before?"

I didn't hear what the question was. Can you recall what is was?

Regards,
Dana Nichol

From: Dave Mack <dcmccra@attglobal.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 12:29 AM
Subject: Volume calculations on suction dredges
Attachments: Dennis Maria.pdf; Volume Capacity of Suction Dredges.doc

The New 49'ers
27 Davis Road, Happy Camp, CA 96039
(530) 493-2012 www.goldgold.com

2 December 2009

Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

SUBJECT: Volume calculations on suction dredges

Dear Mr. Stopher,

Our comments are attached as Volume Capacity of Suction Dredges.doc; We have also attached a supporting document from Dennis Maria, a retired Department biologist.

I'm sorry this is a little long with the links. But I feel it is some of the most important input you are going to receive at this phase.

Thank you,

Dave McCracken

State of California **The Resources Agency**

Memorandum

Date: December 3, 2009

To : Mr. Nick Villa

From :**Department of Fish and Game** - Watershed Biologist, Siskiyou County

Subject: Suction Dredge Activity Tour, Salmon River (Sept. 15, 2003)

The purpose of this memo is to inform you of my recent tour of the mainstem Salmon River to investigate suction dredging activity in the lower Salmon by New 49er members (the New 49ers is a local mining association headquartered in Happy Camp headed by Mr. Dave McCracken). As you know, there have been a number of calls received by you, Craig Martz and myself from concerned locals related to this dredging activity. My primary purpose of setting up this tour was to get together with some of the principles involved to determine what the concern was about as it related to impacts to fish.

On Monday September 15, which also happens to be the last day of the dredging season on the Salmon River, I, accompanied by my supervisor, Senior Fishery Biologist, Bob McAllister, and seven personnel of US Forest Service (representing Six Rivers National Forest and the Klamath National Forest), two members of the New 49er Mining Club of Happy Camp, California (President Dave McCracken and a work associate of his) and a representative from the Salmon River Restoration Council (Mr. Peter Brucker) toured three of the most active New 49er dredging sites in the lower approximately 15 miles of the Salmon River. The following is a summary of my observations.

At the lowermost site approximately 1-mile upstream of the Klamath River we saw three small inactive dredges. There were approximately 7 or 8 dredge holes with the largest estimated at 15 feet in diameter and approximately 4 feet deep. Below each of the dredger holes was a relatively short plume of fine sediments that had fallen out. The habitat in this reach of the river was primarily a run with little if any cover associated with the wetted channel (no cover of any kind was noted in the channel reach except limited amounts at the edges of the channel. The dredge holes created the only discernable juvenile rearing habitat (rearing & escape cover) that I could see from our high vantage point above the river. This rearing habitat consisted of "clean" unimbedded cobbles that covered the dredger pool substrate (see photo in e-mail attachment).

The substrate throughout this reach was comprised of mostly cobble which appeared to have a relatively high degree of embeddedness (estimated at 30-40%). In addition, I saw no gravel

accumulations associated with any of the dredge holes created at this location. There exist documented instances that unstable spawning gravel mounds created by dredgers below dredge holes have been used by anadromous salmonids only to be lost by high winter flows washing these gravel mounds away. My files indicate little, if any, spawning occurs in this reach of the Salmon River. Peter Brucker, who has been involved with numerous spawning surveys on the Salmon River over the past number of years (> 10 yrs.) agreed that this reach of the Salmon River is not typically used for spawning. Consequently the relatively light accumulation of fines observed at this location, the general lack of rearing habitat (cover) in this reach and the relatively high temperatures found here (usually in excess of 70-73 degrees F) makes it unlikely that the current dredging impacts will significantly or substantially harm anadromous salmonid spawning habitat or juvenile salmonids within this reach. In fact, for an area which had been dredged all summer long, I saw relatively innocuous disturbance to the existing habitat. As Mr. McCracken indicated to the group, his mining club membership age averaged 63 years, tended to use dredge intakes of 3 to 5 inches which is less than the maximum dredge intake size allowed (i.e., 6 inches) and didn't really work all that hard at dredging. In a reach consisting of mostly cobble, much of the dredging at this location required hand work in order to remove the cobble overburden and therefore dredging progress was relatively very slow. Mr. McCracken indicated that the amount of total riverbed disturbance we all observed at this location the day of our tour; which took the full 2 ½ months of the dredging season to accomplish I might add; could have been matched by Dave McCracken working alone using a 6-inch dredge intake over a two week period. Having seen Dave McCracken is past dredging operations, I believe him.

Our second stop on the Salmon River was at a large road turnout located less than ½ mile downstream of "Sixmile" a large flat located a short distance upstream of Duncan Creek. The river location at this turnout was a relatively short 200-yard river reach that the New 49ers used this summer to provide training to club members. It was the training of twenty-one New 49er members all at one time at this location during the summer that I believe really got the local Salmon River community concerned. The large influx of dredger "trainees" and their vehicles inundated a generally quiet area typically used by locals for recreating (swimming, sun bathing, etc.) on the river. As with the lower dredging location, I saw a few dredger holes that caused me little concern from a biological standpoint. It did not appear to be an anadromous spawning reach area, (i.e. it was a reach of river that has bedrock dominated streambanks with a substrate consisting predominantly of cobble-size rock. Because of the steeper gradient in this reach of the Salmon River, relatively high velocities prevented the accumulation of fines at the dredger pool tailouts. Accumulations at the tailouts consisted of cobbles too large for use by spawning anadromous salmonids.

On the day the dredger training occurred at this location, up to 6 dredges were said to have been operating pretty much simultaneously. During that training exercise Peter Brucker indicated he stopped in to check out what was going on. He indicated to our tour group on the 15th when asked about turbidity levels he saw that it appeared to him that the turbidity level was "not all that bad" in the first riffle immediately below the river reach where numerous dredges were being simultaneously operated within an approximately 200 yard stretch of the river immediately upstream. After further discussion by the group, Dave McCracken indicated that he was going to limit the number of members he would train at any one time at any one location on the Salmon River to no more than 5 or 6 people and that any group of folks larger than that would be trained in

the Klamath River.

A short stop was made at the "Sixmile campsite to discuss the problems associated with the inundation of campers "taking over" what was once a day use area that locals used to access the river. This area was being used by club members for extended overnight camping which was allowed under a "special use permit" issued by the USFS to the New 49er Mining Club. Apparently this location was a popular area for locals including a popular place for nude sunbathing. Mr. McCracken indicated that it was not his Mining Club's intention to exclude local use of this area and generally agreed to work with the Salmon River Restoration council to reduce conflict between locals and New 49er members over the use of this location.

The fourth and final stop was made approximately 4 miles below the Forks of Salmon, the most upstream reach dredged by New 49er members this year (2003) according to Mr. McCracken. One relatively fresh dredge hole located in the live stream just upstream of a large deep hole was seen at this location along with another small wetted hole that was located on a gravel bar and which was isolated by 30 feet or more from the flowing river channel. The river velocity at the location of the dredge hole in the live channel was too fast for salmon or steelhead spawning to occur. The fast current in this dredge hole reach consequently did not allow for any fine sediment deposition or gravel size bedload deposition to accumulate below the hole. It is suspected that any fines brought to the surface during dredging would end up in the large deep pool located about 50 yards downstream. This area appears to be very popular for "high-bankers". Moss growing on the rocks within the winter bankful area of the channel traps and holds flakes of gold. Dredgers scrape this moss of the rocks and wash the moss off in buckets and either pans the gold or runs it through a small sluice box onto high ground outside the live channel where it is allowed to percolate back to the river. There was no evidence that any water used in high-banking operations at this location returned directly into the river which would be a F&G violation.

In summary, although there were a number of other issues of concern brought up related to dredging (e.g., fuel spillage, waste management by overnight camping, etc.), I saw nothing that would be considered a violation or that would have a significant impact to the fishery or significantly negatively impact the overall biotic community of the Salmon River. This year's dredging activities by New 49er members was isolated to three or 4 river reach locations on the lower Salmon River. I would estimate that the amount of dredger disturbance on the mainstem Salmon River by New 49er members represents at most about 2 to 3 % of the entire mainstem Salmon. Nearly most of the disturbed areas we saw during our tour were in areas not suitable for spawning and with very limited rearing potential. Most summer steelhead and spring chinook holding that occurs during summer months is mostly restricted to the North and South forks of the Salmon and their tributaries and in Wooley Creek. Wooley Creek is currently off limits to all dredging actvities.

The remaining concerns expressed by folks on the tour was the cumulative effects of dredging in the Salmon and the possibility of gold prices continuing to increase thereby increasing the likelihood that dredging activity will spread dramatically throughout the Salmon River watershed. I suggested that perhaps a study is in order to determine the cumulative effects related to a relatively high concentration of dredgers working in a finite reach of the river. I agreed to hold a meeting in January with USFS biologists, Salmon River Restoration Council members and New

49er leadership to discuss a study proposal to help answer he cumulative effects question and to iron out past and expected future conflicts between locals and dredgers before they arise.

Dennis R. Maria
Associate Fishery Biologist
Mid-Upper Klamath River Watershed

Call me if you have any questions at 841-2552.

Dennis Maria
Associate Fishery Biologist

cc: C. Martz, B. McAllister, D. McCracken,

The New 49'ers

27 Davis Road, Happy Camp, CA 96039
(530) 493-2012 www.goldgold.com

2 December 2009

Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

SUBJECT: Calculating volume capacities correctly in the suction dredging EIR

Dear Mr. Stopher,

I have spent most of my adult life working within the suction dredge industry in California. I also was part of the industry working group which assisted in preparation of the EIR that was completed in 1994. I have extensive experience in suction dredging. I have personally developed many of the innovations within the industry. I have also developed the most productive, standardized teamwork procedures being used within the industry. I have been involved with commercial dredging projects all around the world, and am generally regarded as a leading expert in the field.

I have also owned and operated The New 49'ers Prospecting Association for the past 23+ summer mining seasons in California. As part of my duties, I have trained hundreds of people in underwater mining techniques. I have also devoted countless hours observing members of our association (dredging) in hopes of improving the amount of gold that they find. As we have more than 2,000 active members, and I have devoted much of the last 23+ summers either teaching or watching them, it would be safe to say that I have a lot of practical experience in this field. I have written the best-selling manuals and produced the best-selling video presentations (worldwide) on suction dredging. Both federal and California State courts have acknowledged me as an expert in the field of suction dredging.

Your Volume Calculations are Grossly Incorrect

In going through your Initial Study SEIR, I see that quite a lot of work was invested into projected volume capacities of the different sized dredges. I can see by the conclusions that the authors have relied largely upon the promotional materials being advertised by dredge manufacturers. This is unfortunate; because for the most part, they have completely overlooked the true nature of streambed construction. While it is not my

purpose to be confrontational here, this is to inform you that the authors' lack of understanding of what actually happens underwater with the dredging process grossly undermines other important parts of your Initial Study SEIR

With few exceptions, the conclusions within the Initial Study SEIR assume that the places where dredgers operate consist of streambeds which are almost entirely made up of classified sediment or gravel, all or most which can easily be sucked into a dredge suction nozzle. Under this theory, the authors predict that larger hose size and more horsepower will proportionately increase volume capacity.

There is a mention about some rocks and cobbles being normally stacked off to one side of the dredge excavation. But the concept is treated as some small part of the process, rather than the controlling factor of the entire process.

These conclusions, along with your volume projections, do not meet reality in the field. They also tend to demonstrate that the authors have a gross misconception of what is actually involved in the dredging process.

Since the Initial Study SEIR is entirely concerned with impacts resulting from the dredging process, in good faith, I am going to invest my best effort here into providing you with a thorough explanation.

Rather than completely rewrite the material, I am going to copy some text out of my books on the key subjects here. I am also going to provide you with some links to important articles which I have written on the different matters involved; articles which provide images which will help with visual demonstration. These are the definitive work on these subjects which have been in existence for many years. It is not something I just put together for your EIR process. This is out of the text book material being used to teach suction dredging all over the world.

For starters, because everything that happens underwater comes back to this, let's please describe the streambed material which dredgers normally have to deal with:

HARD-PACKED STREAMBED
(Chapter 3, Gold Dredger's Handbook)

> A hard-packed streambed consists of material which has been seated tightly together during a major flood storm as the water force and turbulence tapered off enough to allow a bed to form.
>
> During a large flood storm, water forces can and will rip apart existing streambeds and wash the material downriver in a flow of slurry. It is this flow of heavy material across the bedrock which cuts the channel deeper over geologic time. Once streambed material is placed into a slurry-flow during a major flood storm, most gold that is present will quickly work its way down to the bottom of the material which is in fluid motion. That gold will then be directed down the waterway along its own path, washing directly across the stationary surface of the

bedrock, or across the top of a stationary layer of hard-packed streambed that is not being moved by the storm.

Different rocks, having different sizes, weights, and shapes, have different resistances to the flow of water. By resistance, I mean holding power against the flow of water and slurry during the flood storm. Said another way, it would take more force of water to push a heavier rock than a lighter one, or a rounder one compared to a flat rock.

How a rock is positioned in the stream of water and slurry also determines its "holding power" or resistance, to the water's force. A rock positioned in one direction will have a given amount of surface area to absorb the thrust of the storm flow. The same rock, positioned in another way, will be more streamlined to the storm's thrust. So the same rock might have more or less holding power depending upon its position in the flow, as shown in Figure 3-2.

Fig. 3-2. The same rock, positioned differently along the bottom of the waterway, may have a different amount of holding power against the water's flow during a flood storm.

Therefore, as a rock is being pushed along the bottom of a waterway by the storm's flow, it has a greater chance of becoming seated if it gets into a more streamlined position, as shown in Figure 3-3.

Fig. 3-3. Most key rocks within a hard-packed streambed will be positioned in a streamlined direction against the flow.

During the peak flow period of a major flood storm, there is probably too much water force and violence for very many rocks to seat themselves permanently along the bottom of the waterway. But as the rains or snow runoff diminishes and the water forces let up, there will be a time when rocks can begin seating themselves and start building a bed. This is when hard-packed streambeds are formed.

Since we are talking about it, it is important to point out that since gold is so much heavier than streambed material, it will seat itself along the bottom of the waterway long before the streambed starts forming. First the gold deposits itself along the surface of whatever the storm flow is washing across. That could be bedrock, or it could be a stationary layer of streambed which has not been torn up by the storm. Then, when the storm flow begins to diminish, a new bed builds up over top of the gold. This is the main reason why you find most high-grade pay-streaks concentrated at the bottom of hard-packed streambed layers.

In the building of a natural streambed, rocks are usually seated as their own resistance to the thrust of the water becomes great enough that they become seated. In a rather constant stream of flow, this often occurs when the rock is positioned to the point of least resistance to the flow. Thus, streambeds are formed with most of the rocks positioned to the least resistance to the flow of water.

Actually, most of the key rocks within a streambed were seated in place because of some vacuum that was created as a result of the dynamic interplay between the rock, the underlying stationary surface and the flow of water. Rocks actually get

sucked into the vacuum and automatically position themselves to the least resistance of the flow. If a rock cannot fit into a hole well enough to resist the flow, it will get washed away, leaving room for another rock that will perhaps fit better. As such, a natural streambed will actually construct itself to withstand the greatest possible storm flow that it can hold up against.

Fig. 3-4. Several rocks seating on bottom (top view).

Once several rocks have become seated side by side, as demonstrated in Figure 4, newer places are created between them where other rocks can then seat themselves; and the bed builds itself upward, as shown in Figure 3-5, with most of the rocks positioned to the least resistance of the water's force.

Fig. 3-5. Streambeds form with most of the key rocks pointing into, and slightly downward, to the storm flow.

As the streambed is formed, smaller pockets are created between the rocks because of their different shapes. As the beds build upward, smaller-sized rocks are sucked down into the vacuums created by these new pockets, and they then become seated there. Then gravel fills the pockets between the rocks, and sand and silt fills the spaces between the gravel-sized material. Every available space within the bed is filled tightly with material, and the entire structure gets packed tight as shown in Figure 3-6.

Fig. 3-6. The bed forms with smaller-sized material becoming seated and filling in all the spaces between the larger-sized rocks.

Entire beds construct themselves along the bottom of waterways during major flood storms. Then, at some later time, another flood, causing another huge increase of water force and turbulence, can wash the entire bed away, only to have another bed form again once the storm flows taper off. In this way, riverbeds are formed and swept away again and again by various floods over geologic time.

It is vital for gold dredgers to be very familiar with what hard-packed streambeds look like in their natural state. **Because most pay-streaks will be located along the bottom edge of hard-packed streambeds.** To help you understand what hard-packed streambeds look like, sometimes you can find exposed natural streambed along the edges of an active river or stream. Please see Figures 3-7 and 3-8.

Fig. 3-7. Side view of natural streambed.

Fig. 3-8. Natural streambed left high and dry up just below the trees.

If you drive along a river road, you often can see the older streambeds right alongside the road where construction cuts have exposed the hard-packed material.

Fig. 3-9. Natural streambed exposed by road construction.

Sometimes these old streambeds can be found where ancient streams and rivers used to, but where existing waterways are not present.

The question is often asked, what is the difference between natural and virgin (I prefer to call it *original*) streambed***?*** ***Original streambed*** is a naturally-formed hard-packed layer that has never been disturbed by man. It is a place that has never been mined before. You will not find <u>any</u> man-made objects underneath or inside of original streambed, although you often find them lying on top. All of the gold that has been deposited underneath existing original streambed still remains there today. We find a lot of original streambed at the bottom of some of the deeper rivers in California where the early-timers were not able or willing to go.

Natural streambed is <u>any</u> hard-packed layer that has been formed by a major flood storm. While this includes original material, it also includes any layer of streambed that has been formed by flood storms during the time since portions of some rivers and streams were mined by earlier generations of gold miners.

It is important to understand that a major flood storm can redeposit new hard-packed streambed and entirely new placer deposits into an area which has already been gone through by earlier mining activities. Any area which formed rich pay-streaks during the past is likely to do so again if more gold is washed down into that area by a more recent flood storm (like the great flood of 1964 in most of the western states)..

As an example, the riffles within a sluice box will recover gold again and again after they are cleaned out. It is just a matter of washing new gold-bearing material over the riffles. A proven gold-bearing waterway will react in much the same way**.** Therefore, it usually makes little difference whether an area had been mined by the early-timers. A new major flood storm (since the earlier mining took place) reshuffles new and remaining gold within the waterway and can create new opportunities in the very same areas which were mined by earlier generations of miners.

Those areas which were once heavily mined by the early-timers were usually mined because they contained rich pay-streaks. Most often, those geologic conditions which formed the original pay-streaks have not changed. Those very same factors which caused gold to concentrate there once, may have caused gold to concentrate there again during any of the major storms which have occurred in the area since the earlier mining activity took place.

So it can be greatly to your advantage to know where earlier miners recovered a lot of gold. The very same areas are often paying gold dredgers just as well or better today. You do <u>not</u> have to find original streambed material to find a rich gold deposit. **Most often, though, you <u>do</u> need to find hard-packed streambed. The storm flow dynamics that created the hard-pack will also have created pay-streaks underneath the hard-pack.**

This is important: *If you are finding hard-pack, then no miner has been there before you since the major flood storm occurred that created the hard-pack and any gold deposits which may lie underneath.*

You should <u>not</u> expect to find very much gold in lose streambed material or sand. For the most part, this type of material is moved around and deposited in the river

during smaller storms which are not large enough to transport important amounts of gold within the waterway.

Remember: *Almost all of the high-grade gold deposits within the waterway were put in place by major flood storms.* Such storms almost always left a layer of hard-packed streambed covering the gold deposits. Those deposits will remain covered up and protected there until exposed again by later major flood storm, or discovered by a suction dredger who dredges a sample hole down to find the bottom of the hard-packed layer.

So your sampling target is almost always to reach the bottom of hard-packed layers.

This is important: While the authors of your Initial Study SEIR might go out into the field and find some places where sizable deposits of loose sediment or gravel could be sucked through a dredge, it is a near certainty that they will not recover any gold from that type of stream-bottom material. This is because light gravel, sand and silt within most California waterways will generally be found to have an average specific gravity of around 3.5. Deposits of these types of material generally form during lower water periods or light storm events.

Natural gold has a specific gravity of around 19. It is, with a rare exception, around five times heavier than the average streambed material found in most California waterways. It requires a major flood event to move gold down a waterway. The force must be enough to tear up hard-packed streambeds (your biologists use the term "armored"), and then lay them down again as the storm subsides. These streambeds are made up mostly of rocks that are too large to be sucked up into the (any size) suction nozzle of a dredge. So, contrary to the conclusions set forth in your Initial Study SEIR, if 80% of a streambed consists of rocks that are too large to fit into a suction nozzle, greater horsepower will not increase volume production. In fact, too much suction power makes it more difficult to control the nozzle around so many obstacles!

For you to gain a better understanding of this, I ask that you please read the following two articles:

Major Flood Storms & Pay-streaks:
http://www.goldgold.com/stories/stormspaystreaks.htm

Prospecting for Gold in Hard-packed Streambeds
http://www.goldgold.com/stories/hardpackstream.htm

Contrary to the (volume) assumptions made by the authors of your Initial Study SEIR, rather than going down to the bottom of a stream or river and just sucking up gravel or sediment, the suction dredging process mostly is about freeing (sometimes the beds are very tightly locked or glued together), moving and correctly placing cobbles and boulders that are too large to go up the suction nozzle.

Since it is vitally important that you understand what really happens during the dredging process, I ask you to please read the following two articles:

Production Gold Dredging
http://www.goldgold.com/stories/productiondredging.htm

Teamwork in Production Gold Dredging
http://www.goldgold.com/stories/teamproduction.htm

Please understand that there is a purpose to the viewpoint which I express in the two articles listed just above. The idea is that increased volume allows:

1) Sample holes to be completed more quickly so that high-grade deposits can be found more often, if at all, and;

2) Once a high-grade deposit is located, more volume of production will allow the dredgers to recover more gold.

If you read my (extensive) writings on the subject of volume capacity in suction dredging, you will never find any explanation (about volume capacity) consistent with the conclusions within your Initial Study SEIR. All of my explanations about volume are concerned with the breaking free, movement and proper placement of the rocks which are too large to be excavated through the dredge nozzle. On average, using an 8 or 10-inch dredge (nozzle opening would be 8-inches) this comprises at least 75% (maybe 85%) of the material which makes up a normal hard-packed streambed. This means that at least 75% of the material or more must be moved out of the way by hand (or a mechanical winch in the case of boulders).

If you are in good athletic condition, ask yourself how many cubic yards of rocks you can move some distance underwater while fighting the current; maybe one?

When I say *"moved out of the way,"* I am discussing a very substantial subject. This is because there are many variables. Deeper excavations require the oversized material to be moved further to the rear of the excavation. That requires more time and effort on every rock. Otherwise, as the hole is excavated deeper, there will not be room for the additional oversized material which must be removed. Sometimes, the dredger must turn around and move the rocks out of the way to make more room (or they begin sliding back into the excavation). Sometimes the rocks need to be moved out of the way several times. A slanted taper must be maintained at the back of the excavation so that some rocks which are too heavy to lift can be rolled up and out of the excavation. This all takes time and work.

It is vitally important that you understand that all of this work is straight physical labor. It consists of using pry bars to free rocks, and then lifting, packing, tossing, rolling or winching them out of the excavation. **This is the dredging process.** Only the smaller-

sized material (which can fit into the suction nozzle) is sucked up into the dredge. The suction-part comprises only a small fraction of the overall dredging process. You are only sucking the material contained between the overwhelming volume of oversized material.

Nearly every California waterway is cool enough even during the warmest months of the year that a wet-suit is required if the dredger wants to spend more than just a short time dredging. Wearing a wet-suit requires the addition of a substantial amount of lead weight so the dredger can remain heavy and stable upon the bottom of the waterway. Otherwise, you don't have footing and leverage to move things around in a current of water. While each person is different, the average amount of weight required is 60 pounds. I personally wear 75 to 100 pounds, depending upon how fast the Klamath River is flowing where I choose to dredge.

So, in addition to the effort required to move oversized material, every dredger is also laboring against the floatation of the wetsuit (which is spread out across the whole body), and the downward pressure of the heavy weight belt (which is concentrated around the waist; mostly on the person's back), and the force of the moving water (which wants to wash the person downstream); and he or she is trying to maintain balance and control while working against all of these things together along a very uneven bottom. Any experienced suction dredger will tell you that the process is 100% labor. Any beginner will tell you it is brutally difficult.

As I outlined in the articles above, success and forward-progress all depends upon how effectively a dredger is able to move the oversized streambed material out of his or her excavation. The amount of effort required to be good at suction dredging is comparable to the most competitive of physical sports. A combination of competitive wrestling and heavy weightlifting would be similar in the type of physical activity. By this, I mean getting out on the mat with someone else and trying to win.

There are many variables which will affect dredge volumes. For example, in locations where a large percentage of the streambed is made up of boulders and/or larger-sized rocks, a dredger can actually produce more volume using a smaller-sized dredge hose. This is because a smaller hose is easier to manipulate around in tight places. Smaller-size dredges can also often get more accomplished when used in fast-water areas (because it is too difficult to hold a larger-sized suction hose against a fast current). On these subjects, I ask that you please read the following two articles:

Boulders & Winching Techniques
http://www.goldgold.com/stories/boulderwinching.htm

Fast Water Dredging
http://www.goldgold.com/stories/fastwaterdredge.htm

Before the moratorium was imposed this past season, I was personally dredging in a section of fast water (Klamath River) where I devoted nearly all of my time and effort just trying to maintain a position out in the fast water (and then regaining the position when it was lost) so every once in a while, I could suck up a small amount of pay-dirt from around single cobble-sized rocks which were glued to the bedrock. Each rock needed to be broken free with a bar while I held the suction hose between my knees to keep it from being washed away. Most of my effort was just holding a position out in the river. While my gold production made the effort worthwhile, I estimate that my total volume production was less than 3-cubic feet per day. Streambeds tend to be very shallow or non-existent in fast water areas. Sometimes the gold is in exposed cracks or pockets in the bedrock with no streambed on top.

So, experience and effort does not always relate to the volume of streambed material that is sucked into a dredge.

I have also been in many situations where progress depended upon a winch, rather then the size of a dredge. Most often, when big rocks are involved, success is not related to volume production through a larger-sized dredge. I have been known to spend an entire day just trying to winch a single rock out of my way – and failed to do it!

On the subject of volume, one thing that was completely overlooked in your Initial Study SEIR is the experience of the dredge operator. As discussed above, I personally have a great deal of experience in either teaching and/or observing (thousands) of suction dredgers. Placing all the points I made above in perspective, I can tell you with certainty that volume capacity has a lot less to do with the size of the dredge, than it does with the following two factors:

1) Experience: With a rare exception, beginners spend most of their time either flailing around in the water trying to keep their balance, moving the oversized material just far enough to suck the gravel out of one small place and becoming overwhelmed with rocks so they cannot make further progress, or working on freeing plug-ups from their suction hose or venturi. Plug-ups are a very important subject here. So I ask that you please read the following article:

> **Knocking Out Plug-ups**
> http://www.goldgold.com/plugups.htm

I have spent countless hours watching beginners using up nearly all of their time and (limited) physical effort trying to free plug-ups (with 60-to-75 pounds of lead strapped on their bodies). This is because a beginner has not learned which rocks, or combination of rocks, to not suck up the nozzle. There is quite a substantial learning curve in this process! An average beginner, using a 5-inch dredge, cannot expect to process more than just a few cubic feet of material through his or her dredge in a full day of work. That's the reality. Talking about a "full day of work" brings us to the second factor:

2) **Capacity to do physical labor:** We performed an industry-wide survey of active gold miners during 2008 to our email action list of approximately 12,000 subscribers. We performed a similar survey about 10 years ago. Both surveys came out with the same average age of prospectors today -- which is 57 years old (this is also the average age of our New 49'er members).

The survey also showed that 62 % of our average New 49'er members purchased suction dredge permits during 2008. The New 49'ers have more than 2,000 active members. This means approximately 1,240 of our New 49'er members purchased California suction dredge permits during 2008. According to the graph published in your Initial Study SEIR, this is more than half of the suction dredge permits you issued during that year.

Since all or most of our New 49'er members spend time dredging or otherwise prospecting along mining properties which I personally manage along the Klamath River and its tributaries in Siskiyou County, I have a very good perception of how much dredging is taking place and what the impacts are. In fact, I am certain that I have a better perception than anyone else, since I personally am the person that goes around to see what the members are doing and how well they are recovering gold. This has been true for the last 23+ years of my life. The main reason for this is because I am the person who promotes and manages the activity. Therefore, I am also the person who many of our members hold accountable when the volume of gold they are finding does not meet their personal expectations. Disappointed members make me uncomfortable. So I do my best to go out and help when I can.

Prior to being an underwater miner, I was a navy SEAL. I passed through BUDs training class 76 right at the downturn of the Viet Nam war. Training was so difficult at that time, only 7 of the 57 pre-qualified trainees that started my class made it through the training. I was one of those 7 guys. So I have a very realistic perspective about what it takes to complete a difficult mission; especially when the task requires intense physical output.

I can tell you with absolute certainty that the reason most suction dredgers do not recover as much gold as they hope for, is that they usually are not physically fit enough to complete very much of the work that is required. I face this difficulty on a continuous basis as I try and assist our members. The physical activity is so demanding that it is on the order of placing a person (who has done no pre-fitness training) in the ring with someone else to have a wrestling contest until both persons collapse from physical exhaustion. Ask any person who has gone out dredging (with a serious intention of getting any amount of meaningful work accomplished), and that person will certainly tell you it was the hardest work he or she ever did. Now, place our average member (57 years old), who, as an American, has, for the most part, not had to perform hard physical labor for the past 30 years or so, out in the river or stream where he or she can strap on 60 pounds of lead and try to do some serious dredging – or to even get him or herself underwater to dabble at it just a bit.

The work is brutal!

Several years ago, when The New 49'ers opened up around 6 miles of the Main Stem Salmon River to our members, quite a few of our members rushed over there and placed their dredges in the water. Mr. Stopher; you will remember this, because it was your office that fielded all or most of the complaints by local residents who believed (they said) that we were harming the environment by having too many dredges on the Salmon River.

At the same time, from my side, I was receiving a lot of complaints from members that there was no gold present on the Main Stem of the Salmon River. After a while, all of the noise (from both sides) prompted me and my right-hand man (Craig Colt) to swim the entire 6-mile stretch of Salmon river with mask & snorkel to see what had actually been done by our members. From the local perspective (the people complaining to you), we expected to find the bottom of the river all torn up. The mystery we were trying to resolve is why our members were not finding any gold.

And it did not take long to figure out the mystery. The Salmon River has very clear water. You can see the entire river bottom across from one side to the other. If you are looking, it is impossible to miss any excavation made by a dredge. Through our survey of 6 miles, Craig and I only found 13 excavations in all. Only one excavation was significant. The person had been following a shelf of bedrock with shallow streambed using a 6-inch dredge; he was working hard; and he was recovering gold. In all, he had processed maybe 10 cubic yards of material in a month or 6 weeks of work**. None of the other 12 dredge excavations we found were larger than a wash tub!**

Here is the answer to the mystery and a hard reality within our field: Just because a dredge is floating on the water does not mean it is being started. Just because the dredge is started does not mean that any meaningful amount of excavation is being done.

All dredge operators are not equal. While it does not seem like it to someone without direct experience, I can tell you with authority that there is a very substantial learning curve to master before a beginner is able to make good, steady progress through a hard-packed streambed. There are many variables. Physical fitness is the starting point. Most Americans are not physically fit enough to enter a competitive wrestling match. Those few that are, still must to learn which rocks not to suck up or they will spend 50% or more of their physical effort just trying to free plug-ups from their suction hose. And that is just the beginning of the learning curve.

Those (very) few of us who actually know how to do it have kind of a running joke along the Klamath River that more dredges sit idle than run; and most that run only run a few hours per week, at most. I suggest you talk to your wardens to confirm this. Most suction dredges sit idle, providing additional shade and shelter for fish. That's it!

There is a reason I have taken so much time to explain all this to you. This is because you are attempting to perform an Environmental Impact Report on a very specialized activity that you know very little about. By the amount of work invested, I'm sure you are doing your best. But you are grossly misinterpreting the dredging process in the way

your Initial Study SEIR has attempted to project volume capacities (and, therefore potential environmental impacts) by taking the maximum volume capacities which are advertised by dredge manufacturers (which are projections based upon sucking sand at water level, at sea level) and multiplying those numbers by an average number of hours and days which were derived in a DFG survey of dredgers during 1994. This compilation suggests that there is no person involved with your EIR team that has any real experience operating a suction dredge in pursuit of gold. That's too bad. But it does not need to be fatal.

To obtain a better idea of volumes, I suggest you please have your team view my DVD presentation, **"Successful Gold Dredging Made Easy"** (http://www.promackmining.com/mining_supplies/cart.php?m=product_detail&p=12). I would like to submit this DVD at no cost as input to your process. This way, even if you have not done the activity on your own, you can watch me perform the activity at optimum speed in clear water using a 5-inch dredge excavating a dredge hole in hard-packed streambed. Please just reply back and tell me how many DVD's I should send, and to where?

When watching the underwater dredging process, please watch what I must do to make any progress (nearly all the effort requires the movement of oversized rocks). If you watch, you can directly estimate how much of the streambed material is excavated by the dredge (maximum 15%?), and how much must be moved out of the excavation by hand in a mild current which I have to fight. While the video makes the process look easier than it is, believe me when I say that the video demonstrates the process as fast as it will go using a 5-inch dredge (if anyone can do it faster than my demonstration, I have yet to meet him). Regardless of what the voice says on the video, if you look, you can gauge the amount of volume being moved. You can also gauge the percentage of volume which is being processed through the dredge (this is the part that most of the environmental concerns are about).

If you do this, you are going to come to my personal conclusion, based upon observing half of your permitted dredgers in California: **It's a drop in the bucket!**

My best estimate is that under the best of conditions using my 8-inch dredge by myself, I personally can process one-to-two cubic yards of material in a full day of dredging. Only about 15% of that material passes through the dredge. The other 80-to-85% is simply rocks being moved out of the way by hand. Once the initial excavation is established, those rocks are used to fill in the hole behind me as I move forward.

Our average dredging-member of The New 49'ers (more than half the permits the Department is issuing) uses a 3-inch, 4-inch or 5-inch dredge. Most use 4-inchers. Very few use larger dredges. While there is an occasional exception, our average member using a 5-inch dredge produces only 20% of what I can do using the very same dredge. I am an animal with 30 years experience in pursuit of high-grade gold deposits at the bottom of fast-moving rivers. Under normal circumstances, I can process a cubic yard

using a 5-inch dredge. Only about 15% of that goes up the nozzle. Cut that number in half using a 4-inch dredge.

Since the average age of prospectors outside of The New 49'ers is also 57, I suggest average production capacities in other areas will be about the same. The work is the same wherever you go!

This means that the average dredger (most who hold permits don't operate their dredges most of the time) processes less than 1/5th of a cubic yard through his or her dredge on the days that he or she operates. Yes; there are exceptions in the case of younger, more experienced, aggressive suction dredgers (like me). But these are a very small minority. You cannot use the few aggressive dredgers to characterize the figure of 2,500 dredge permits (2008). This would be grossly inaccurate. And even if you did, you would still need to downsize your projections by many times. You guys are way off the mark on this!

The last Department representative I am aware of who took a real practical interest in the actual impacts from suction dredging along the Klamath River and its tributaries (where half the State's permitees are operating) was Dennis Maria out of your office in Yreka (he's now retired). But, in response to all the complaints by locals to your office concerning New 49'er dredging along the Salmon River several years ago, Mr. Maria conducted an extensive investigation and concluded that he could establish no significant negative impact from the accumulated activity. I will attach Mr. Maria's formal report along with these comments to the same email.

In conclusion, your Initial Study SEIR needs modification to describe the suction dredging process as it actually is, along with the difficulties and many variables which are involved. It should acknowledge how physically demanding the activity is and how little the average dredger actually gets accomplished underwater. It should acknowledge that only approximately 15% of the material is small enough to be sucked up into a dredge. Nearly all of the work involves moving clean rocks around on the bottom of the waterway.

Having trained, supervised or observed thousands of suction dredgers, it is fair for me to say that the average dredge permit holder can get more accomplished and recover more gold with a pick, pan and shovel, than he or she can do with a suction dredge. I know it seems like it ought to be different. But if you have any doubts about what I have stated here after watching my DVD, I would be pleased to set an appointment with you this next season in Oregon and let you see for yourself.

That's just the way it is. I hope you are listening.

Sincerely,

Dave McCracken

Dredging is not just a matter of going down to the bottom of the waterway and sucking up some sediment as you have projected in your Initial Study SEIR. Since we are discussing the very activity which the document is concerned with, I am suggesting here that you need to go back and make some important corrections, especially where you have projected volumes.

If you would like to sign up for our free monthly newsletter, just click here: http://goldgold.com/newsletterform.htm

From: Dave Mack <dcmccra@attglobal.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 12:30 AM
Subject: Biological conclusions from 1994
Attachments: Biological conclusions from 1994 EIR.doc

The New 49'ers
27 Davis Road, Happy Camp, CA 96039
(530) 493-2012 www.goldgold.com

2 December 2009

Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

SUBJECT: Biological conclusions from 1994

Dear Mr. Stopher,

Our comments are attached as Biological conclusions from 1994 EIR.doc.

Thank you,

Dave McCracken

The New 49'ers

27 Davis Road, Happy Camp, CA 96039
(530) 493-2012 www.goldgold.com

2 December 2009

Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

SUBJECT: Retaining biological conclusions from the 1994 suction dredging EIR

Dear Mr. Stopher,

I am president of The New 49'er Prospecting Association, and have actively managed the program in Siskiyou County since 1986. We have 2,000 active members. The results

from a survey we performed last year shows that our active members comprise around half the number of suction dredge permits which you sold during 2008. This letter is a close representation of many conversations I personally have had with members of our Association. I believe it represents a full consensus of all our members.

As you may know, our organization was directly involved with the earlier EIR process which was finished in 1994. In case you didn't know, that EIR was actually attempted three times. The first two attempts failed because the Department staff members who initially worked on the process refused to be objective as required by the CEQA Process. Rather, they attempted to use the CEQA process to reach a desired outcome – which was elimination or reduction of suction dredging regardless of the real impacts.

I personally felt that the third attempt, however, was done quite well. By "quite well," I mean that the Department staff who were involved made every effort to include stakeholders, used integrity to get the bottom of all the issues, and worked out regulatory solutions which mitigated real problems while imposing regulations upon our industry that we were able to work with. The process cut through the rhetoric and worked out solutions based upon the best available science of the time.

The reason for this letter is that we see in your Initial Study Suction Dredge Permitting Program document that it appears as though you are going to completely ignore the biological discussions and conclusions which made up most of the science that supported the 1994 EIR document. Unless we are misunderstanding the nature of your Initial Study Suction Dredge Permitting Program document, it appears a though the Department intends to ignore all or most of the work that was invested in the biology during 1994. It appears as though you intend to begin the biological discussions all over again from the beginning.

There are several reasons why we are voicing strong concern over this:

1) First and foremost, an <u>exhaustive</u> amount of work has already been invested in all those biological issues by the Department and by all the stakeholders. Many of the persons involved with that process have since either passed away or retired. Although, last time I visited the Resources Department, Stephanie Coupe was still there. She personally participated in all or most of the process which resulted in the Final EIR during 1994. I strongly encourage you to call her (916 654-3830 is the number I have on file for her) on the subject of how much work it was to finally achieve some balance on the biological issues based upon best available science, and weigh those with all of the other concerns to ultimately reach a balance. Perhaps she can advise you where you might save a lot of work and trouble in this new process.

   The reason we are voicing concern is that your Study Suction Dredge Permitting Program document appears to identify every known potential impact concerning suction dredging; but to a very large extent, completely ignores other information, often within the very same studies, which placed those impacts in perspective (localized and not significant to the larger waterway). This gives us a perception that

we are going to have to start all over again from the beginning as if all the earlier work from the 1994 EIR is being deleted. That would be very unfortunate!

As we have asked our attorney to comment on our behalf concerning the legal and political history which has brought us to this point, especially concerning the baseline you have chosen, we won't repeat his material here. But we do want to express a strong concern that we believe it would be disrespectful (to all of the earlier Department staff and countless others who have already worked on this) for the Department to discard all or most of the biological discussions and conclusions included within the earlier EIR which have supported our industry since 1994. We would prefer to see these discussions and conclusions acknowledged, with only those being taken up again where new information or circumstances make it necessary. This will save the Department and the various stakeholders countless hours re-debating issues which have already been resolved.

2) Since 1994, we have built up a $60 million annual business in California, all upon the foundation of the 1994 EIR, the pillars which are mainly founded within the biological discussions and conclusions therein.

   This is probably not necessary; but as input to this process, we are hereby incorporating all of the biological discussions and conclusions which are contained within the Final EIR from 1994. We are also requesting that in any place where the Department believes the biological conclusions should come out differently in your Draft EIR, that you please take the time to explain the exact reasons why, based upon best available science and factual data (rather than speculation).

Thank you very much for your attention to this mater!

Sincerely,

Dave McCracken

From: Dave Mack <dcmccra@attglobal.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 12:30 AM
Subject: "Recreational" suction dredging
Attachments: Recreational suction dredging.doc

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(530) 493-2012 www.goldgold.com

2 December 2009

Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

SUBJECT: "Recreational" suction dredging

Dear Mr. Stopher,

Our comments are attached as Recreational suction dredging.doc;

Thank you,

Dave McCracken

The New 49'ers

27 Davis Road, Happy Camp, CA 96039
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2 December 2009

Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

SUBJECT: The term "Recreational" in the suction dredging EIR

Dear Mr. Stopher,

I am president of The New 49'er Prospecting Association. I have actively managed the program in Siskiyou County since 1986. We have 2,000 active members. The results from a survey we performed last year shows that our active members comprise around

half the number of suction dredge permits which you sold during 2008. This letter is a close representation of many conversations I personally have had with members of our Association. I believe it represents a full consensus of all our members.

As we are aware that Jerry Hobbs of Public Lands for the People (PLP) has already provided substantial input on this and related subjects, we only want to make some brief comments which we do not believe have been fully addressed.

I personally have been managing a very active mining association for 23+ years. So I have a very unique perception concerning this term "recreational mining."

I believe PLP already pointed out that the federal government has already weighed in on this matter, agreeing with our position that the federal mining law does <u>not</u> distinguish between a person who is pursuing a serious mineral discovery, and a person who is pursuing the activity as something he or she simply enjoys doing. All Americans have the right to pursue mineral discovery whether they enjoy it or not. It does not matter what term others decide to place on the activity.

I can give you many, many examples over the past 23 mining seasons where we have had members that were mainly just out enjoying the great outdoors with their families, with the hope of finding gold as a side benefit. Then, by luck or otherwise, when the person(s) discovered a valuable deposit of gold, I have <u>never</u> seen a time when the priorities did not immediately change.

Gold is <u>very</u> valuable. In all my years, I have never seen any miners (serious or otherwise) out there giving gold away. Every time someone turns up a valuable deposit, regardless of what the person's program was before, he, she or they become deadly serious about recovering the gold out of that deposit.

While it is seldom so dramatic, I have seen a 70-year old man become violent over a rich gold deposit (that he did not even know existed the day before; he was "just enjoying the outdoors"), when someone else tried to move in on his discovery. Once real gold gets into play, it no longer matters that the person believed he was "just doing it for fun," or just doing it part time.

So while it is true that some people (initially) pursue gold dredging as an outdoor adventure activity that could be classed as "recreational" in some circles, the main difference is that:

1) The federal mining law allows every American to go out and search for minerals no matter what your primary motivations are, and:

2) Regardless of the person's initial motivations (it could be a hiker who is not even looking for gold), once a valuable discovery of gold is made, the person has a vested property right to recover the value out of that deposit.

These things are what make gold prospecting and suction dredging totally different than the other types of outdoor activity and recreational programs which the Department manages or oversees in California.

The reason we raise the issue is that we see this "recreation" term tossed around a lot, especially by anti-mining activists. Sometimes the Department uses the term, as well. Sometimes, the term is mistakenly used to class us as "just recreationalists." That's a mistake.

I can tell you with authority that no matter who it is, and no matter what their initial motivations were, once someone locates a rich gold deposit, it all becomes about the gold (recreation, if any, is no longer the primary motivator).

While we understand that the Department is assigning itself "a project" for the purposes of creating a State-wide EIR that will create a set of regulations allowing a certain blanket level of activity, we request that you please be mindful that the individual dredging operations are not really the State's, and they are not really "recreational" in the same matter as you would consider other outdoor activities. **These are mineral exploration and developments.**
Make no mistake about it. As gold prices just keep going up and up, the volume of gold required to make a person (very) serious is actually quite small.

Sincerely,

Dave McCracken

From: Dave Mack <dcmccra@attglobal.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 12:53 AM
Subject: Mercury issues and suction dredging
Attachments: Dave letter, mercury.pdf; Letter from Joseph Greene.pdf; Declaration_of_Claudia_Wise.pdf; Mercury issues with suction dredging.doc

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2 December 2009

Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

SUBJECT: Mercury issues and suction dredging

Dear Mr. Stopher,

Our comments are attached as Mercury issues and suction dredging.doc. We have also attached three other documents directly related to the subject.

Thank you,

Dave McCracken

If you would like to sign up for our free monthly newsletter, just click here:
<http://goldgold.com/newsletterform.htm>http://goldgold.com/newsletterform.htm

The New 49'ers

27 Davis Road, Happy Camp, CA 96039 (530) 493-2012 dcmccra@attglobal.net

State Water Resources Control Board
Division of Water Quality
P.O. Box 100 Sacramento, California 95812-0100
Fax: 916-341-5620; email: commentletters@waterboards.ca.gov

20 June 2007

Dear Sirs:

My name is Dave McCracken. I have been active in suction dredging since 1979 and am generally considered an authority on the subject. I have consulted for companies and governments all over the world concerning suction dredging, including, Borneo, Sumatra, Cambodia, Thailand, Philippines, Papua New Guinea, Madagascar, South Africa, Guinea, Venezuela, Costa Rica and elsewhere. I have published and produced most of the authoritative books and video material on the subject of suction dredging. As I have devoted most of my adult-life to activities related to suction dredging, I am very qualified to speak on the subject. I have been recognized as an expert on the subject in the California State Courts and in Federal Court.

Suction dredging is not the only area that I am an expert. I also have extensive experience in utilizing gravity methods to recover fine gold, mercury and gemstones – especially in recovery systems used by suction dredges.

More background about my experiences concerning suction dredges and recovery systems can be found on my consulting web site at http://www.promackmining.com/. I have written extensively on the subject of recovering fine particles of heavy metals and gem stones with the use of suction dredges. One excellent article on the subject can be found at http://www.promackmining.com/differentsampling.htm.

Since some of the concerns being expressed at your June 12th workshop had to do with the Water Board's recent report named "Mercury Losses & Recovery," I have taken the time to review that report. Thank you for allowing me this opportunity to comment. Having conducted many similar testing projects myself, I would like to express some of my own concerns about the report:

1) Any sampling report should include a section which clearly defines the equipment that was used and how it was used. All suction dredges are not equal in their ability to recover fine particles of heavy metals; especially floured mercury! In addition, there should be some discussion about how the dredge was set up (slope setting of the sluice box, speed of engine operation, etc.), and how fast the raw material was fed into the nozzle (overloading reduces efficiency of recovery).

Without some explanation about how these variables were managed, it is impossible to assess the value of the final outcome.

I can see in Figure 8 that the samplers were using an old-style Keene dredge that employed the use of a header box. Those types of dredges have been out of production for about 15 years. Most modern suction dredges are now being constructed with flare-jets, rather than header boxes. There is a huge difference in the potential affect upon any liquid mercury which would be dredged up. Header boxes subject the full force of dredged material to a dramatic reverse in direction, slamming everything down onto a classification screen and subjecting all dredged material to enormous violence. This could potentially cause liquid mercury to flour. Flare jets gradually diffuse the speed of dredged material as it is washed into the recovery system. This would not be likely to flour mercury.

So while the Water Board's suction dredge testing may have caused some flouring of liquid mercury (it also may not have), a modern flare-jet suction dredge would be far less likely to cause flouring in the very same test scenario.

2) In going through the report several times, it still is not clear to me if adequate testing was completed on the raw material (before it was dredged) to see if floured mercury was present there. If that was done, there should be some clear language in the report about it.

   The reason is that the report seems to draw a conclusion that the dredge was actually causing the flouring. That is a very important assumption that must be proven by the testing!

   It is strongly possible that the suction dredging did not cause any of the flouring; that the floured mercury was present in the raw material in the first place. In fact, the report seems to suggest that it was. Figure 7 shows a pan which includes floured mercury that was panned (not dredged) from creek gravels.

   All I can do is suggest that you read my article at http://www.promackmining.com/differentsampling.htm on the subject of fine particle recovery. Mercury flouring can reduce particle-size all the way down to a micron. It is unreasonable to assume that a suction dredge, without special modification, will recover 100% of floured mercury that has been disbursed throughout streambed gravels.

   The big question is not whether a normal newer-version suction dredge will recover 100% of floured mercury. It is whether or not the dredge itself is the cause of the flouring. I believe, if you do careful testing, using a more modern suction dredge, you will discover that the dredge is not the source of the flouring.

3) Your report also suggests that mercury is migrating down California's waterways during flood events. I am certain that Mother Nature's storms (enormous

violence at the bottom of waterways) create more flouring on liquid mercury than anything else in the system.

The reason this is important, is because it suggests that we should remove as much of the liquid mercury from the river systems as possible at every opportunity. Because today's liquid mercury along the bedrock may be tomorrow's floured mercury disbursed all throughout the streambed gravels where it will become much more difficult to extract from the system.

While the Water Board will make its own conclusions in this respect, my own opinion is that is far better to have suction dredgers remove 98% of the mercury from California's river systems, than to leave all the mercury in the system so that it can continue to migrate downstream and further poison our water and food. This is especially true if the 2% loss in your tests turns out to be flouring which is already present in the gravel. Because in that case, suction dredgers are merely moving some floured mercury aside (which is already in the system) while they are in the process of removing 98% of the remaining mercury from the system.

4) I know the water board already knows this, but it still needs to be said: In a cooperative arrangement, suction dredgers are the only group in existence that can presently assist the Water Board and other authorities to locate mercury hot spots at the bottom of California's waterways. **Maybe such hot spots, once identified, should receive a special designation because of the dangers.** I would be more than happy to assist you in the development of dredging equipment that will recover 100% of the floured mercury from such locations.

It is important to note that most of the places where dredging takes place are not mercury hot spots. Up here on the Klamath watershed, the only mercury recovery that I am aware of is the occasional bit that we find attached to our gold. I'm sure we recover 100% of that, because the mercury is attached to gold, which is quite heavy.

Since most areas do not contain substantial amounts of mercury, mercury does not pose a water quality issue under the vast majority of circumstances. It would seem that the best solution is to locate the hot spots and use more sophisticated technology to clean those up. I am willing to assist the Water Board in this effort.

Thank you for considering my comments!

Dave McCracken

Greene Environmental Services
33180 Dorset Lane
Philomath, Oregon, USA 97370-9555

December 2, 2009

The Honorable Governor Arnold Schwarzenegger
State Capitol Building
Sacramento, CA 95814
Fax: 916-558-3160

Dear Governor Schwarzenegger

PLEASE VOTE NO ON BILL 670 (anti-suction dredging legislation)

I am a research biologist. I live in Philomath, Oregon. I worked for about 32 years as a research biologist for the United States Environmental Protection Agency, starting when that agency was known as the Federal Water Quality Agency, and I retired from the E.P.A. in 2002. Among other assignments, I measured and evaluated water soluble toxicants from Superfund sites. I spent about four years during my career with the E.P.A. serving as a faculty member at Oregon State University in Corvallis, Oregon on an intergovernmental exchange program and developed a program and a laboratory for the practice of ecotoxicology, the science of determining the toxicity of samples of effluents and other environmental contaminants by measuring the reaction of living organism assemblages to such samples. I have served as a chairman of testing committees for the American Society for Testing and Materials. I have chaired a number of international symposia, workshops, and congresses in my field as well as been an invited speaker to numerous national and international professional scientific meetings in my field.

Looking for gold in California streams and rivers is a recreational activity for thousands of state residents, and a part-time or full-time job for hundreds more. As these miners remove sediments, sands, and gravel from streams and former mine sites to separate out the gold, they are also removing mercury. This mercury is the remnant of millions of pounds of pure mercury that was added to California rivers by historic mining operations between 1850 and 1890. Modern day small-scale gold suction dredgers do not use mercury to recover gold during the operation of the dredge. Therefore, any mercury that would be found in their possession would be that which was extracted from the stream or river they are working.

Taking mercury out of streams benefits the environment. Efforts to collect mercury from recreational gold miners in the past, however, have been stymied due to perceived regulatory barriers. Disposal of mercury is normally subject to all regulations applicable to hazardous waste.

In 2000, EPA and California's Division of Toxic Substance Control worked in concert with other State and local agencies to find the regulatory flexibility needed to collect mercury in a simple and effective manner. In August and September 2000, the first mercury "milk runs" collected 230 pounds of mercury, most of which came from suction dredge miners. A Nevada County household waste collection event held in September 2000 collected about 10 pounds of mercury. The total amount of mercury collected was equivalent to the mercury load in 47 years worth of wastewater discharge from the city of Sacramento's sewage treatment plant or the mercury in a million mercury thermometers. This successful pilot program demonstrates how recreational gold miners and government agencies can work together to protect the environment (US EPA, 2001).

In Washington State, over the past four years, the Resources Coalition and other small- scale miners associations have turned in 127 pounds of mercury and eight pounds of lead for safe disposal. This year, Ecology staff attended miners' rallies in Oroville and Monroe, explaining the state's program for proper disposal of lead and mercury.

In a September 18, 2007 news release from the Washington State Department of Ecology Brian Dick, a manager with Ecology's hazardous waste and toxics reduction program stated, “That is 127 pounds of mercury no longer

contaminating Washington's waterways or being accidentally spilled". He continued, "The miners have responded with great enthusiasm and have worked with Ecology to get the word out to their members about our collection program." The results of this program further support the results of the 2000 EPA and California's Division of Toxic Substance Control program.

Mercury occurs in several different geochemical forms, including elemental mercury, ionic (or oxidized) mercury, and a suite of organic forms, the most important of which is methylmercury. Methylmercury is the form most readily incorporated into biological tissues and is most toxic to humans. The process of mercury removal by suction dredging does not contaminate the environment because small-scale suction dredging removes elemental mercury. Removal of elemental mercury before it can be converted, by bacteria, to methylmercury is an important component of environmental and human health protection provided as a secondary benefit of suction dredging.

A 2005 staff report published by the State Water Resources Control Board, Division of Water Quality has raised quite a stir in the environmental community. This report concluded that a 4-inch gold suction dredge captures 98% of the mercury it sucks from the environment. It further states that portions of the 2% of mercury that escapes from the suction dredge is floured (*i.e.*, in small particles), and that such mercury may travel many miles downriver where it may settle and become available for biological action by bacteria where it will be converted into methylmercury. I have reviewed this report in detail, and the parent material that was test-dredged in this study was already mercury contaminated; the researchers did not fully quantify the particle sizes of mercury in the sample. It seems obvious that the materials tested already contained floured mercury. Furthermore the site dredged was an area where mercury was accumulating or puddling. This site is not typical of areas in which gold dredges operate and does not represent what a miner would usually encounter..

This is consistent with other literature in the field. For example, a report titled "Preliminary Report on Mercury Geochemistry of Placer Gold Dredge Tailings, Sediments, Bedrock, and Waters in the Clear Creek Restoration Area, Shasta County, California" (Ashley et. el., 2002), states: "Mercury in sediment and tailings is associated with fine size fractions".

Furthermore, the suggestion that the floured mercury, regardless of the source, would remain suspended for miles below the dredging site is not supported by any evidence of which I am aware, and is refuted by indirect evidence.

A study by the U.S. Geological survey reported that "mercury concentrations in Sulphur Creek, CA water and sediments decreased rapidly downstream from hot springs and mine areas indicating that mercury is not effectively transported during low stream flow" (Rytuba, Janik and Goff, 1966).

In 1997 a study of gold dredging impacts was undertaken in the Fortymile River, Alaska. In all of the suction-mined sites studied, dredges were operated by experienced miners. This study evaluated the impact of operations from 8- and 10-inch gold suction dredges. (Each 1-inch increase in the diameter of a dredge hose results in the doubling of the volume of material moved). In relation to the 4-inch dredge used in the California State Water Resources Control Board study, the Alaska 8-inch dredge moved 4-times more volume of material.

Sampling was performed at fixed transects above and below the dredge locations. At the site using the 8-inch dredge, "the primary effects of water chemistry were increased turbidity, total filterable solids, and copper and zinc concentrations downstream of the dredge. These variables returned to upstream levels within 80-160 m downstream of the dredge. The results from this sampling revealed a relatively intense, but localized, decline in water clarity during the time the dredge was operating. The impact of suction dredging on water clarity and heavy metal concentrations may be greater or lesser than we measured, depending on the type of material the dredge is excavating". Although mercury was not measured in this study the physical/chemical facts would indicate that suspended mercury would not travel farther than the measured plumes of this study (*e.g.*, 8-inch dredge produced a plume from 80-160 m downstream of the dredge).

If we use copper and zinc as indicators of metals suspension within the water column we find that elevated concentrations fell to background concentrations 80-160 m downstream of the dredge. The density of copper and zinc are 8.94 and 7.14 g/cm^3 respectively. The density of mercury is 13.534 g/cm^3. Therefore, all other things being equal, the greater density (weight) of mercury would insure that it would fall out of suspension sooner that copper or zinc. Also, all of these water quality samples were associated with a turbidity plume.

Even if the metals were somehow associated with particulate matter or sediment within the plume the metals still returned to background concentrations within 80-160 m downstream of the dredge.

The CA State Water Resources Control Board staff report presented results from a study conducted in a well established mercury "hotspot" in the American River—that is, a place where relatively large quantities of mercury from historic gold mining operations has come to rest, at least temporarily. Such spots can persist for many years before river flows release the materials further downstream to form new hotspots. The effects of dredging into a mercury hotspot has little relevance to ordinary gold suction dredging along the many miles of rivers and streams throughout the Western States. Generally, miners occasionally find very small quantities of mercury in their collected materials. What mercury is collected is usually bound to (amalgamated with) other metals, including gold.

On balance, suction dredges provide a net environmental benefit by removing nearly all of any mercury they encounter. If not removed, such mercury will slowly but eventually migrate downstream, dredging or no dredging, to areas where it is more likely to be converted into methylmercury. To the extent that regulatory authorities would prefer to leave the mercury in place for removal by public agencies at public expense when and if such activity is a budget priority, they might require reporting of hotspots (many are already well-known) and forbid suction dredgers from operating in them. Inasmuch as public authorities have no better method to remove the mercury than suction dredges, this seems pointless.

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Sincerely, Joseph C. Greene

Research Biologist

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF ALAMEDA

LEEON HILLMAN; CRAIG TUCKER; DAVID BITTS; et al., Plaintiffs, v. CALIFORNIA DEPARTMENT OF FISH AND GAME; DONALD KOCH; and, DOES 1-100, inclusive, Defendants.	CASE NO. RG09 434444 **DECLARATION OF CLAUDIA J. WISE IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION** **Hearing:** Date: June 9, 2009 Time: 9:00 a.m. Judge: Hon. Frank Roesch Dept: 31 Trial Date: None Set Action Filed: February 5, 2009

I, CLAUDIA J. WISE, declare:

1. I have recently retired after 32 years of civil service with the United States Environmental Protection Agency as a Physical Scientist/Chemist. I have been a member of many scientific projects over the years starting my federal career in the Fish Toxicology arena and ending it with the Salmon Restoration division. I have worked on projects ranging from urban fish populations and fish avoidance testing to eelgrass habitat and global climate change. I have been and remain a strong proponent of protecting the environment. My Curriculum Vitae is attached to this Declaration.

2. I have been involved in temperature surveys on the Klamath River in California in regards to suction dredge activity and existing conditions of refugia. We have found specified natural refugia to be no better in many cases to that of dredge made refugia. I am currently, involved in preliminary planning to evaluate the effects of dredging on mercury.

3. I have studied a plethora of peer reviewed papers too numerous to list here regarding effects of suction dredging on the environment. Most have come to the same conclusion of insignificant or de minimus environmental impact that is local and temporary in its effect on the streams inhabitants.

4. It appears that although there are many peer reviewed journal articles written that support this conclusion giving the proof already at hand that the dredging community is not significantly harming the environment or the fish this issue is re-surfacing in this Court. My experience regarding suction dredge mining is that the fish are very happy to feed from the dredged spoils presented to them and rest in the dredge holes left much like in natural refugia. I have never seen or heard of any harm that has come to any fish present during suction dredging activities. California Fish and Game currently have rules and regulations that do regulate dredging out of situations that would be harmful to fish, such as, spawning seasons.

5. Suction dredges are being used by government agencies to remediate stream conditions in some cases. According to the National Oceanic and Atmospheric Administration (2006) ("NOAA"), Duck Creek, a surface water body in Alaska, is impaired by urban runoff from non-point source pollutants including, heavy metals, hydrocarbons, iron flocs and excess nutrients. This small coastal stream originates from a spring that drains runoff from Mendanhall Valley, a relatively high residential and business area. Historically there were runs of nearly 10,000 chum salmon

and Coho runs of about 500 fish in Duck Creek. Currently the chum run is extinct and the Coho run consists of only 20 fish. Restoration at Duck Creek involves the development and implementation of bioremediation methods to restore water quality and anadromous fish habitat in impaired streams. NOAA scientists attempted to correct the degraded conditions by using high-pressure jet pumps and suction dredges to remove fine sediment from the streambed.

6. I have spent much time over the last 4 years studying mercury effects on the environment in relation to suction dredging activity. Specifically, there was concern expressed regarding a paper published by the California Water Board's Water Quality Division (Humphreys, 2005) ("Board"). This paper discussed mercury losses and recovery during small-scale suction dredging.

7. The suction dredge community could provide the state with a source of help that is willing to do what they do best. Prospect for GOLD! In the event that suction dredge miners run across a hot spot of mercury, the miners would be willing to hand it over to a collection facility if such a facility existed. The Board's Water Quality Division report (Humphreys, 2005) idea of paying the miner's for their efforts would help

facilitate this plan. The cost would be much less than what is presently being spent on remediation activity that is less effective.

8. The Water Board has spent a lot of time and money on mercury remediation projects with limited success though in 2001 EPA, Region 9 located in San Francisco, California did collect mercury from miners very effectively. Collections of mercury are currently happening in Oregon and Washington through the states respective Division’s of Ecology and with even greater success at miner’s rallies.

9. During the first EPA, Region 9 mercury "milk run" in 2000 agency personnel were able to collect 230 pounds of mercury from miners. The total amount of mercury collected was equivalent to the mercury load in 47 years worth of wastewater discharge from the city of Sacramento's sewage treatment plant or the mercury in a million mercury thermometers. (US EPA, 2001.)

10. Over the past four years, the Resources Coalition and other small-scale miners associations in Washington have turned in 127 pounds of mercury and eight pounds of lead for safe disposal with the help from the Washington Department of Ecology. Ecology staff attended miners' rallies in Oroville and

Monroe, explaining the state's program for proper disposal of lead and mercury. (ENS) 2007

11. The mining community of today is, in my opinion, the only group that is in a position with the technology to help out at a very economical price to the public. Any residual mercury remaining after dredging a location is that much less to worry about in our nations waterways.

12. In reviewing Humphrey's (2005) comments regarding possible problems associated with collecting mercury via suction dredging methods, It is right to look to the suction dredge community for help locating hotspots and removing mercury from the river systems. In my opinion the data provided in the report by Humphrey's (2005) did not demonstrate any clear conclusions that would prohibit the State from allowing this activity. On the contrary, in the discussion of results it was stated that a suction dredge in the American River was able to collect 98 percent of the measured mercury processed through the dredge. The results may have been higher if the investigators had been using a dredge with the modern jet flare design. Even 98 percent is a huge plus for the environment and it would be irresponsible to not allow mercury to be removed from the rivers and streams whenever it is found.

13. In Humphreys report (2005), the author expressed concern for the loss of a small portion (2%) of the mercury from the back end of the sluice box. In the conclusions it was stated that the amount lost constituted a concentration more than ten times higher than that needed to classify it as hazardous waste. Yet 98 percent of the mercury was now secured and the process did not add any mercury to the system that was not already present. The small fraction lost, because of its density, would relocate back onto the river floor buried in the sediment close to where it was removed while dredging.

14. Mercury is continuously moved every winter in high storm events. Since the cessation of hydraulic mining, accumulated sediment from hydraulic placer mining has been transported to the Sacramento-San Joaquin Delta and San Francisco Bay by sustained remobilization (James, 1991). Providing a program to collect mercury from miners would aid the Water Board's mission of reducing mercury contamination in the deltas and bays where mercury methylation is a large concern.

15. Mercury can become floured. Alpers (2005) described this as, "gravel and cobbles that entered the sluice at high velocity caused the mercury to flour, or break into tiny particles. Flouring was aggravated by agitation, exposure of

mercury to air, and other chemical reactions". In this case he was referring to a hydraulic mining sluice that contained materials that were roaring down a mountainside and fed by giant water cannons (monitors) that were used to breakup the gold bearing deposits.

16. In the test described by Humphreys (2005) a small portion of floured mercury was collected in the sediments as they escaped the sluice box. This mercury whether floured before it entered the sluice box or not would still be in elemental form. Regardless of surface area it would be no less toxic then the other 98 percent suggested should be left in place.

17. Aside from grossly polluted environments, mercury is normally a problem only where the rate of natural formation of methyl mercury from inorganic mercury is greater than the reverse reaction. Methyl mercury is the only form of mercury that accumulates appreciably in macroinvertebrates and fish. Environments that are known to favor the production of methyl mercury include certain types of wetlands, dilute low-pH lakes in the Northeast and North central United States, parts of the Florida Everglades, newly flooded reservoirs, and coastal

wetlands, particularly along the Gulf of Mexico, Atlantic Ocean, and San Francisco Bay (USGS 2000).

18. If not collected the mercury is guaranteed to end up farther down stream, and eventually in the delta or the bay, where methylation is a real environmental problem.

19. In my opinion it would be a highly irresponsible management practice to leave a large portion of mercury in the rivers and streams because of unrealistic concerns for the lesser amount moving only a short distance away from an operating dredge. Most likely if floured the movement of fine mercury would extend no farther than 50-feet off the end of the sluice box. That would relate to the distance a turbidity plume might extend downstream from a small-scale suction dredge.

20. However, if the mercury was left in place the next storm event would surely move it downstream closer to, and eventually into, the bay and delta. In fact, according to Humphrey's study in 2005 mercury was seen moving down stream and re-deposited on bedrock already dredge cleaned. The important fact here is mercury was flowing down stream in a suction dredge free zone during lower river flows than take place under high winter river conditions.

21. It is unclear from reading the Humphrey's report whether, or not, the floured mercury was already present in the river sediments. If one were to study the picture in the report that showed the results of panning materials from a nearby creek it does appear that was the case. Because the study was conducted in a seriously contaminated area it is impossible to determine what portion of flouring of mercury was caused by the crash box design of the suction dredge in use. If indeed the crash box caused the flouring then using a more modern jet fare type suction dredge should improve mercury recovery.

22. More study is required to see if reducing the amount of floured mercury would be enhanced by utilizing the modern jet flare style suction dredge. The jet flare which is widely in use today, in the suction dredge mining community, is the best equipment available for collecting fine gold and because of this design and the density of mercury 13.53 grams per cubic centimeter (g/cm3) it would be more effective in collecting mercury particles with little disturbance that would result in further breaking the mercury particles down.

23. It is most important to reduce the total amount of mercury in the streams and rivers and its transport downstream

into the bays and deltas. This is defined as a part of Total Maximum Daily Load ("TMDL") goals.

24. We know for certain that mercury is transported downstream throughout the winter season during high water events. Therefore, anytime there is the possibility for the removal of mercury by miners it should be undertaken and supported.

25. In my opinion suction dredge mining is beneficial to the rivers and streams in California.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 15th day of May, 2009 at Albany, Oregon.

_____
CLAUDIA J. WISE

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The New 49'ers

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2 December 2009

Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

SUBJECT: Mercury issues and suction dredging

Dear Mr. Stopher,

On the chance that the Department has not yet received them, I am attaching several important files concerning mercury and suction dredging:

A) A letter from myself dated 20 June 2007 to the California State Water Resources Control Board concerning the report authored by Rick Humphries about his suction dredge recovery testing within a mercury hot spot.

B) A letter from Greene Environmental Services dated December 2 2009 to the California Governor, also on the subject of mercury.

C) A Declaration made by Claudia Wise on 9 June 2009, also very much on the subject of mercury.

As these documents speak for themselves, I will only summarize several of the important points here and make a few comments:

1) Having quite a substantial background in this area, I can tell you with certainty that the dredge Mr. Humphries used in his experiment, even though of the older design which created more turbulence in a "crash box," did not flour the very small percentage of mercury that he discovered in the dredge tailings. The period of time it takes for dredged material to pass through a dredge's sluice box is only a few seconds. While that could potentially break mercury down into smaller-sized goblets (which Mr. Humphries did not find in the dredge tailings), it requires a prolonged period of violence to succeed in breaking mercury down into particles so small as to become the size of flour.

Since Mr. Humphries neglected to test the raw material (the material that was fed into the dredge), he was not able to determine if the floured mercury already existed prior to the

dredging, and was perhaps just too small in size to receive a 100% recovery rate in the dredge's recovery system.

The very same report by Mr. Humphries showed an image of mercury (partially floured) that he panned out of a waterway without the use of a dredge, and the report also acknowledged that he returned later to the very same place where he dredged during the test and found more mercury there. In light of these two findings, a reasonable conclusion would be that mercury is continuously migrating downstream from hot spots, at least during flood events.

While we could debate over how productive it is to remove 98% of the mercury (with a suction dredge) from a mercury hot spot, anti-mining activists have tried to make a big issue that suction dredges are busy out there flouring mercury. We do not accept this. And we believe that careful testing will prove that suction dredges do not create an environment with enough extended violence to flour mercury. We would be pleased to participate in further study along this line. But until further study is done, we ask that you please refrain from accepting an incorrect, unproven theory that suction dredges contribute to mercury-flouring.

2) It has been suggested, even by some people within the scientific community who ought to know better, that because Rick Humphries was only able to recover 98% of the mercury in the dredge he was using, all suction dredging across the State should be stopped.

First of all, I want to point out that Mr. Humphries performed his dredge test in an established mercury hot spot, a location where he described seeing puddles of mercury along the bedrock!

As far as I know, there have been no studies to identify or characterize the levels of mercury within California's waterways outside of just a few identified hot spots. The vast majority of California's waterways do not contain mercury hot spots (we know, because dredgers are not finding mercury in most places).

Just because some isolated places of concern exist should not mean that the entire State should be shut down. That line of thinking will not facilitate an economic recovery in California! Make no mistake about it, there will become a point where continued economic downturn will also affect employment which requires government revenue. The time ti find reasonable balance between the need to protect the environment, and the need to create wealth-substance has arrived.

It has also been suggested that before dredgers should be allowed to dredge within an area, they should first be forced to pay for required, certified sampling in advance to make certain hazardous levels of mercury are not present. I have been involved with two such certified testing programs in concert with the USFS and US F&W agencies, and it is quite clear that the time and costs involved with this sort of testing would basically amount to a prohibition against suction dredging. That is not the answer.

We need to discuss mitigation measures during the occasional times when some dredger does turn up a mercury hot spot. We look forward to working closely with you on this issue.

3) Please take special note of the comments which Claudia Wise made (in number 17 of her Declaration) concerning the type of environments where mercury is convertible to Methyl. She points out that environments which are ripe for methyl conversion are normally very far away from the places where gold dredging is taking place. This needs further study; because if methyl conversion is not a concern within the immediate area, serious consideration should be given to the use of standard suction dredges to recover at least 98% of the mercury from known hot spots.

Please find my attached comments on this subject.

Sincerely,

Dave McCracken

From: "Dave Payne" <dapayne@sisqtel.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 5:29 PM
Subject: Suction Dredging on California Rivers

Mark Stopher
Ca Dept of Fish & Game
601 Locust St.
Redding, Ca 96001

Ca Dept of Fish & Game,

I would like to cast my vote for making the moratorium on suction dredging in California rivers permanent.

I have watched for thirty years the riparian habitats become degraded by the activities of suction dredgers. Dredging is a consumptive activity that leaves lasting scars on the landscape. Trails are cut through riparian vegetation; trash is left scattered about; ropes are left in the river; trees are girdled by cables; and unofficial campgrounds spring up where folks camp for months at a time for free on public lands.

In my town of Happy Camp; dredgers operate in Elk Creek, the town's water supply! That is criminal in my book. They also operate in the South Fork of Indian Creek fouling water quality in world class swimming holes.

To me, it seems like suction dredging in the river creates areas devoid of invertibrate aquatic life. These are the same invertibrates that feed the fish. I envision these areas like a clearcut on the bottom of the river or stream bed. How long does it take these areas to be recolonized with aquatic invertibrates?

I just do not see how the hobby of a few old timers can be allowed to reek havoc on the fisheries of California and mess with the jobs and well being of commercial fisherman up and down the west coast.

I applaud the Department for taking action and placing the moratorium in effect. I have noticed a marked difference along the Klamath River without the dredges. No lines to floating platforms, no gas containers, no oil slicks, no toilet paper fields, and no shanty towns along the river. Thanks for making that happen.

Abandoned dredge holes are another issue I have with suction dredging. Wading fisherman, rafters,and other river users have fallen into these hidden traps with sometimes disastrous results. It seems to me that the Department of Fish & Game could be held liable for serious injury or even death since you guys issue the dredge permits.

I enjoy California's rivers and creeks from a raft and or kayak. It is a literally a breath of fresh air right now to experience our rivers without the sights, sounds, and smells of the operating suction dredges. I would hope this experience will last into future.

Thank you for allowing me to comment on suction dredging in California.

Dave Payne
Happy Camp, Ca

11-30-09

My Comment's ON Dredge Permitting

TO when it may concern

Leave us alone your taking

Are jobs away from us. Let

us Dredge we Don't Hurt ~~Any~~ Anything.

We just add wealth, with out inflation

Then we put it right back into The Economy,

Buy Local and keep The money Flowing.

so Let us Dredge and keep Every Thing

cool.

Thanks — Rec. — Dredger

DAVE VANDERVIFT
HCR #2 Box 3905
Trinity Center CA,
96091

From: David Gorsuch <davidgorsuch@sbcglobal.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/7/2009 10:18 PM
Subject: Suction dredgepermit program

Dear DFG, I hope this meeting will have a good outcome for us recreational prospectors on using small suction dredges.As a resident of Calif. for 52 years I would hate to see one of our greatest history era's of the gold rush go away.I have educated my kids on the great outdoors of California. As a recreational gold dredger since 1983, we have since cleaned many areas of the American river of trash, mercury (left by the 49rs) from the river bottom and lead fishing sinkers, all removed and recylced at approved outlets.We need to keep the tradition of our State so many who come after us can enjoy the outdoors. Many families depend on the dredging season to make ends meet. And the counties need the income from the prospectors, hotels ,hardware stores,camping supply store's and diners. My kids grew up using outdoor prospecting activities. I hope we can all work together on a soulution for all to enjoy in this great state of California, The land of the
free and home of the brave. Please keep the suction dredging seasons open. Already prospectors are talking about dredging in Oregon in the next seasons, we need to keep the jobs here in California. Thank you for the chance to talk on this subject. David Gorsuch
Salida, Ca.

SUCTION DREDGE PERMITTING PROGRAM
Supplemental EIR - CEQA Scoping Comment Form

Name: David L. West

Mailing Address: 9410 Brookpark Rd Downey, CA 90240-2478

Telephone No. (optional): (562) 861-4758

Email (optional): Scotbroom@aol.com

Comments/Issues: PLEASE REFER TO WHAT DEE STRAPP HAS TO SAY ABOUT THIS NEW SUCTION DREDGE PERMITTING PROGRAM THAT OUR GOVERNOR SIGNED INTO LAW. DEE KNOWS MORE ABOUT MINING LAW THAN ANY OF THE LAWYERS THAT WRITE NEW ONES.

IN THE TIME OF STRESS PEOPLE ARE GOING TO BE PUT OUT OF WORK THAT WILL FURTHER HURT THE ECONOMIC HEALTH OF CALIFORNIA.

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

From: david quinn <dmq2u@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/17/2009 2:00 PM
Subject: Permit Program

Mr. Mark Stopher:

I was unable to attend last nights scoping meeting in W. Sacramento, however I would like to give you some input into a few ideas that I have. My partner and I have two placer claims that cover one mile of the S. Fork of the Yuba. We have mined the same general area on and off for nearly thirty years.
We would have no problem paying more $$ for a yearly permit if that will help. The moratorium was brought about by some miners and Indians behaving badly on a river that is 200 miles away from us that we had nothing to do with. Does DFG need to look at certain areas for more restrictions than others? As far as the mercury questions, our claims contain no free mercury that we have found and very little amalgamated gold. However there are deposits of free mercury that we can point out in sections of the S.Fork.
I am sure that we could be of some help in the future IF someone decides to come in and clean up problem areas. We have met with David Lawler of the USGS and discussed this same idea. I hope that the EIR is done in a timely fashion so that we may get back to doing something that we love so much. If we can be of any assistance please contact us.
530-798-0769

From: dennis wellington <djwellington@hotmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/11/2009 10:25 AM
Subject: Response to Suction dredging

Subject: Response to Notice of Preparation of a Draft Subsequent Environmental Impact Report

Prepared by:
Dennis J. Wellington
PO Box 1963
Marion NC 28752
330.518.5394

11 November 2009

I am a past resident of California, I learned to Pan and dredge for gold after observing it in the 1970's, the thought that this historic method of family fun is about to end is disturbing to me.
It is of my opinion that the initial study contains generalities and inferences detrimental to the dredging community and that this document is anti-dredging upon the reading of the document.

The substance of the first sentence of a paragraph leads the reader to gather the opinion that the "dredger or dredging" is bad for the environment and the lands of California. Even if the paragraph will and mostly does concludes the effect of dredging is minimal or even helpful to the environment the reader is left with the adverse feeling.

It has been noted for years that many readers browse the first sentence and gather their opinion from that small sampling of information. I personally learned this manner of writing in 1990 from the Federal Government.

Would not answering the courts that's based on the population involved (Percentage of population dredging) that there was NO IMPACT or negligible impact on the environment.

This regulation is meant to govern such a small percent of the total population of the state that it is similar to enforcing laws on microbes. The US Census Bureau has stated that the population of California is approximately 36.5 million. Based on that rounded number and the information in section 5.3 Number of Suction Dredgers. Based on these numbers 3400 dredgers out of a population of 36,500,000. The percentage of the population that is involved in Gold Dredging is less than .00932% of the population. Yet according to the initial study this amount of the population wrecks havoc on the environment?

Then lets say that 1% of those people are irresponsible that is a whole .0000932% of the population. Is this really a valid amount of the population to regulate? Do they really make that much of an impact on the environment?

In section VII, discussing Fire and Police it is stated that a .05% of calls affecting dredgers as Less than Significant Impact, if that is true for this section should that same scenario apply to the dredging community on whole?

Throughout this document it infers that Fish and Wildlife can not enforce current regulations, yet in this time of financial struggle it is important to regulate this population.
Canoist, Kyakers,bikers and off-roaders do more damage to the environment than a dredger, and they are a larger portion of the population. I was recently in Kern, Los Angeles and San Bernadino Counties observing the campers and the people using the outdoors. In one instance I observed motorcyclist chasing desert quail and running them over. I tried to call DFG, but no cell phone signal. This one act was more damage than the entire population of dredgers could do to the environment in one year. More than one I observed draining hose from campers discharging questionable water directly into the environment.

In section 5.5.10 the statement "While many suction miners adhere to these basic rules and responsible behavior,Department wardens have observed camps strewn with household garbage, industrialwaste, large gas barrels, dilapidated vehicles, and human waste (1994 EIR; Sierra Fund2009)", Just the use of this statement infers conjecture that this encampment was a dredger, not a miner, a motorcycle riding camp or even a boater. This regulation is supposed to be exclusive to dredging but in numerous locations in the base document "Bad campers" are described to pass a bad reflection on dredgers.

• Potential impacts of suction dredging

The impact of the .00932% of the population engaging in dredging is minimal at most, and by the content of the initial study, dredging is in effect more of a benefit that a detriment.

It has been stated that the dredgers deconcretize the gravels in streams and creeks. Thereby assisting the native species in finding food, setting up brooding areas.

The movement of rocks and trees around (not out of the stream) helps to create pools that in DFG has stated is a benefit to the species involved.

Economic enhancement of local rural businesses by the visitation of the dredging community.

The continued enforcement of dredge size benefits current and future dredgers and the community as a whole.

• Scope and range of alternatives

1. Since this regulation only effects .00932% of the population, one alternative that is financially sound, and is effective is to modify the initial study to realistically relate to the environmental effects that the dredging population actually does little damage and more good for the environment instead of the way it is currently written to suggest that the recreational dredger is wrecking havoc on the environment such as the major mining companies have done.

2. In section VII. HAZARDS AND HAZARDOUS MATERIALS; Mercury is mentioned many times. While dredgers recover a majority of mercury in the area they are dredging, no reclamation centers exist to turn in such finds. It could be possible to set up a reward for the recovery of mercury. While the author was discussing this important fact, they failed to mention that the miners moss held the mercury as it passed thru the sluice system.

3. I personally recovered 3.9 pounds of mercury during the 2009 season on the east coast

• Types or approaches to the regulatory updates

1. When a regulation affects a extremely small part of the population, it should be appropriate to recind,

revoke or modify such regulations to accurately reflect the impact of the population on the environment, and the cost benefit of regulating such minimal impact situations in the state.
2. Make the wording common to the working man. For example use harmful instead of deleterious. My degree is in IT not biology, the readers should not have to read a document with the assistance of a dictionary.

• Information regarding deleterious effects to fish

1. A regulation must be for a real identified species.

2. The use of terms to identify species that may exist, could exist, should not be used.

3. Do accurate assessments with REAL recreational dredgers, Use members of the GPAA(Gold Prospectors of America), the LDMA (Lost Dutchmen Miners Association) or the New 49ers group. To see the real effects of dredging if it needs to be done. I have watched the Federal government refuse to use subject matter experts and use individuals who just bought equipment and had no experience or training. Most dredgers learn from others before spending thousand of dollars on equipment.

• Types of activities to be regulated under the Department's suction dredge permit

1. Regulate the size of devices
2. Seasonal closing of certain creeks and streams as need for truly endangered species.
3. Maintain the permit process so that accurate records may be kept for future issues that may arise.

Dennis Wellington
Somewhere in America

From: Speedo <23kau@snowcrest.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 10:18 PM
Subject: DEAR SANTA CLAUSE

#1 SUCTION DREDGING IS 98%OF MY INCOME, I LIVE IN AN AREA WHERE ALMOST ALL JOBS HAVE EVAPORATED RECENTLY (EVEN THE SMALL TEMPORARY ONES) I INVESTED MY WHOLE WORKING ADULT LIFE INTO THE EQUIPMENT AND CLAIMS TO DO THIS AND 8 HOURS BEFORE I TURNED 62 YOUR AGENCY SHUT ME DOWN. I WANT MY CONSTITUTIONAL RIGHTS RESTORED.

#2 I WAS A VOLUNTARY FIREFIGHTER AND MEDICAL FIRST RESPONDER WITH THE DOWNRIVER VOLUNTARY FIRE CO (I HAD TO RESIGN WHEN YOU SHUT ME DOWN)

I WAS A MEMBER OF TRINITY CO GRAND JURY WHICH I WANTED TO DO AGAIN AND SUCTION DREDGING WAS THE ONLY WAY I COULD DO THEM AS I HAVE NO RETIREMENT TO SURVIVE ON AND THE FUTURE IS VERY BLEAK

#3 YOUR FIGURES ON AMOUNTS OF MATERIAL MOVED IS OUT OF ALICE IN WONDERLAND!!!!!!! IF I COULD MOVE A FRACTION OF THOSE AMOUNTS I WOULD HAVE ZERO WORRIES RIGHT NOW!!!!!! GOLD IS NOT ASSOCIATED WITH JUST SAND AND NEITHER IS MERCURY.---------- IF YOU WANT TO SOLVE THE MERCURY THING FIRST STOP THE WHOLESALE BURNING OF THE FORESTS (METHALMERCURY) AND GET THE WATER RESOURCES BOARD TO QUIT WASTING WATER WITH BIG FLUSHES IN THE SPRING AND REPLACE IT WITH 3000CFS FLUSHES FOR 3 TO 4 DAYS EVERY 5 WEEKS IN THE SUMMER MONTHS IT WILL DROP THE FLOURED MERCURY BACK UNDER THE GRAVELS AND ANY MICROSCOPIC MERCURY WILL GO TO THE OCEAN ALONG WITH THE MINERALS AND ORGANICS THE OCEAN NEEDS TO FERTILIZE THE LIFEFORMS ---------THAT FEED THE FISH.

PAY ME A CONSULTING FEE AND I CAN SOLVE YOUR FISH DECLINE PROBLEM AND YOUR LAKE ALGAE CHOKE PROBLEM. FIRST GIVE ME BACK MY CONSTITUTIONAL RIGHTS TO LIFE LIBERTY AND PURSUIT OF HAPPINESS

DENNIS ZSIGO
BOX 672
BIG BAR. CA
530-623-2630

From: Don Allan <don@nrsrcaa.org>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 1:02 PM
Subject: suction dredging

Please ban this destructive and harmful practice which is degrading water quality and fish habitat and which thoroughly destroys the benthic invertebrates that fish and amphibians feed on. At a time when gold is reaching all-time high price levels, there will be an increase in suction dredge mining unles the California Department of Fish and Game takes a strong stance and bans this practice. Our salmon fisheries are in dire straights and fisheries closures due to small run size is having a significant negative impact on coastal communities, fishing families, and support businesses. I know CDFG's mission includes recovery of endagered species and banning suction dredge mining is an important component of insuring that instream habitat and water quality conditions are not degraded by commercial activity.

Thanks for yur consideration.

Sincerely,

Don Allan
821 Second Ave., Trinidad, CA 95570

To Who it may Concern; Nov. 30, 2009

I Don Bruechle have been suction gold dredging in the sate of California sience 1979.

While dredging I have removed 1 to 5 pounds of mercury every year From the rivers.

Also 5 to 20 pound of Lead (Fishing Sinkers, Shotgun Bird Shot, Ballets From Guns, Lead From old tin can seals & Batteries.). I melt the Lead into Dive weights.

While dredging I also remove aluminum cans & Plastic Bottles which I haul to the dump. It is my expierence that dredgers Leave the river & Forest cleaner.

Years past your Redding F&G Biologists have inspected my operation on the East Fork of the New River in trinity County & Felt that my dredge tailing gravels were Better For Spawning than the Larger rocky river Bottom.

We all should Know by now the dams have changed the river Flows and how Farmers need water to Feed everyone.

The DFG has worked with dredgers on spawning seasons (open & closures) and regulations For many years.

The Indian tribes, Fishermen, and comercial Fisheries want Salmon & Steel Head to Kill, and want Someone to Blame that is what this is all about!

It is upsetting For me to hear People (Idiots) say, "Lets Stock the Klamath &

Sacrament river with northern pike & asian carp, they won't have to complain about lack of Fish no more!"

"I" hope that never happens like Lake Davis! what a mess.

Seems like everytime someone gets pushed too Far Someone does something very Stupid and everyone else suffers.

Lets not let this get Blown out of porportion!

November I Saw Fishemen lined up on the sacramento Killing Salmon, and I haven't seen the dams being removed, and, The Indian tribesare mad their not getting enough to Kill.

Lets get this solved soon so I can go Back to work making a Living as my property taxes alone are over $3,000.— a year and are due, work or no work.

Keep me informed so I can work with you and help.

also: The 1872 mining Laws give us the right to work our Federal Land held claims.

Don Bruechle

Thank you Don Bruechle
Box 362
Sierra City, Ca 96125

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name: DON LEWIS

Mailing Address: HCH BOX 916
FORKS OF SALMON, CA. 96031

Telephone No. (optional): (530) 462-4774

Email (optional): NO INTERNET SERVICE -

Comments/Issues:

I HOPE YOUR STUDY WILL BEGIN WITH THE PREMIS THAT THE WATERWAYS IN THIS STATE. ARE VERY DEVERSIFIED - EACH WITH A DIFFERENT CIRCUMSTANCE - THE KLAMATH DRAINAGE IN PERTICULAR IS AN ENTITY ALL IT'S OWN - I ATTENDED YOUR MEETING IN REDDING (11-18-09) AND SPECIFICALLY ASKED ABOUT THE IMPACT OF "TRIBAL FISHING" AND IT'S IMPACTS ON "FISH" IN THE KLAMATH WATERSHED - IN A NUTSHELL - I WAS TOLD IT'S A FEDERAL ISSUE. I CAN'T BELIEVE DFG WILL CONDUCT A STUDY OF IMPORTANCE ABOUT THE IMPACTS OF DREDGING UPSTREAM FROM AN AREA WHERE THE SLAUGHTER OF AT LEAST 30,000 SALMON IS NOT CONSIDERED AS AN IMPACT!

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name: DON LEWIS

Mailing Address: HC4 BOX 916

FORKS OF SALMON, CA. 96031

Telephone No. (optional): 530-462-4774

Email (optional): NO INTERNET SERVICE

Comments/Issues: IT APPEARS THAT YOU + DFG DON'T ~~AREL~~ PLAN ON ACTUALLY STUDYING A WORKING DREDGING OPERATION — IF THAT IS NOT THE CASE. I WOULD LOVE TO HAVE YOU OR YOUR PERSONEL FOR A DEMO — WE BELIEVE OUR OPERATION ACTUALLY HELPS THE FISH — MY CLAIMS ARE THE FIRST ONES - BEYOND THE TRINITY ALPS NORTHERN BOUNDARY ON THE SOUTH FORK OF THE SALMON RIVER ∴ AT YOUR MEETING IN REDDING ON (11-18-09) YOU COMMENTED THAT THE SALMON RIVER WAS BEING OVER DREDGED - I DON'T KNOW ABOUT THE MAIN STEM AS FAR AS USE — I CAN TELL YOU: THE 21 MILES OF CLAIMABLE RIVER ON THE SOUTH FORK - NO MORE THAN EIGHT DREDGES WERE IN USE THIS SEASON — IF YOU WOULD LIKE TO SEE A FISH FRIENDLY OPERATION — PLEASE CONTACT ME!

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

From: eman <chinadoc@pacbell.net>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: Creek Hanauer <tcreek@sisqtel.net>
Date: 12/1/2009 5:55 PM
Subject: Suction Dredging in Salmon River Watershed

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Dear Mr. Stopher,

As a resident and property owner on the Salmon River, I cannot overstate my outrage and concern over the illegal and destructive practice of suction dredging in the Salmon River watershed. Please do everything in your power to curtail this practice and appropriately remove and/or punish the perpetrators who continue to damage our environmentally vulnerable riparion resources without regard to human, animal or botanical sensitivities and requiremens. Thank you for your attention to this matter.

Efrem Korngold, OMD, LAc
Butler Flat
Somes Bar, California

From: Creek Hanauer <tcreek@sisqtel.net>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: Terry Hanauer <tcreek@sisqtel.net>
Date: 11/30/2009 4:25 PM
Subject: dredging comments

November 30, 2009

To Mark Stopher, California Department of Fish and Game,

My name is Terry Hanauer, my wife, Elizabeth, and I have been residents of the Salmon River for over forty years, twenty eight of those years on a patented piece of property in the Knownothing Township, at the mouth of Knownothing Creek on the South Fork of the Salmon River, 2.3 miles upriver from Forks of Salmon. My wife and I have raised our family here and as twenty five and thirty year employees of the Forks of Salmon School District have been active members of our Salmon River community, which includes the towns of Cecilville, on the South Fork of the Salmon River, Sawyers Bar on the North Fork of the Salmon River, Forks of Salmon at the confluence of the North and South Forks and Somes Bar at the confluence of the Salmon River and the Klamath River.

For the last twenty eight years I have been a whitewater kayak instructor and river guide on the Salmon River, mid-Klamath River region and the Colorado River in Grand Canyon. This outdoor professional career has given me a unique perspective on river issues especially in my home region.

As a private river citizen, river user and board member of the Salmon River Restoration Council, *I emphatically oppose suction dredging in the Klamath River basin, most especially on the Salmon River and its tributaries. I fully support the Karuk Tribe's stewardship efforts to stop the degradation of their salmon habitat.*

The whole history of gold mining is one of rape of landscape while pillaging and plundering the natural resources, for the benefit of very few; whether directly by the mining operations themselves or the clear-cutting of whole forests for mining timbers. Dredges and placer operations finally outlawed in the Sierra, were moved to remote places like the Klamath River (further from population centers and public notice) and then, in my lifetime on the area's rivers, to Brazil.

On the Klamath River the traditional salmon runs approach extinction due to rising river temperatures in large part caused by past logging and mining practices and currently because of the series of dams above I-5. Further fouling of an imperiled river through suction dredging is just another nail in the coffin of the spring and fall salmon runs.

On the Salmon River's pre-white man spring salmon runs of Chinook and Coho numbered a half a million; the fall run a hundred thousand fewer. Today we're lucky to see a spring run numbering above 100 SALMON TOTAL! The now bigger fall run has dropped below TWO HUNDRED in my river lifetime and we feel fortunate when the fall run gets above a couple of hundred. The Salmon River is the last and only natural river in the whole Klamath River basin.

The Salmon River drainage encompasses 750 square miles and is 98.5% federal land administered by the United States Forest Service.

The Salmon River has no major population congregations (the total population within the entire 750 sq. miles of the Salmon River drainage is around two hundred people.) There is no large agriculture or industrial operations. The Salmon River is host to the only remaining natural run of fish in the whole Klamath River basin.

In other words there is nothing to foul the river except the consequences of past mining, road construction and clear cutting.

How can we in our right minds condone an activity that pollutes the river system in any magnitude at the lowest, warmest time of the Salmon River's yearly cycle? We cannot! The salmon runs are the heart of the forest's health, this is a time for river restoration efforts such as those of the community based organizations like the Salmon River Restoration Council and Mid Klamath Watershed Council, not the further endangerment and loss of habitat.

My home is on Knownothing Creek near the mouth. The creek runs unusually flat, by local standard, for its first three miles, historically prime salmon spawning opportunity for returning spring and summer Chinook and Coho salmon. Knownothing flows into the South Fork in a way that naturally creates a yearly hole that supports the weary fish. There are spawning redds directly above and below the Knownothing Hole. Yearly fish dives have always found returning salmon and steelhead nosed into the creek's flow at the mouth. Knownothing Creek is one of only three summer creeks large enough to provide refuge to the spring and fall spawners and the only creek fed hole for the first six miles of the lower South Fork. Knownothing Creek's fresh, colder water is a major factor in the returning salmon's ability to survive summer temperatures. During the dredging season the river is at its lowest flows and Knownothing Creek flows at around two (2) or three (3) cfs; in good years. These last weather years have not been good.

Last summer, July 2009, a mining claim only two hundred yards up Knownothing Creek from its confluence with the South Fork of the Salmon River was rented out to people from southern California who placed a SIX INCH DREDGE into one of the few holes on Knownothing Creek big enough at that time of year to hold it. They were outfitted in the very latest state-of-the-art diving gear designed for deep diving. Knownothing Creek at that flow wasn't deep enough for them to have to do anything but float on top while suctioning up the creek bottom; and there were already three more smaller dredges further up the creek! The few days before the ban that they ran the dredge turned the creek black with mud. With no real flow to push the muck down creek I watched as a thick pudding like flow seemed to ooze slowly down creek to the river. It filled every nook and cranny of the creek bottom with a thick layer of silty mud. When these flows reached the river they dumped this oxygen killing muck directly into the faces of the spring salmon nosed into the creek mouth for cool temperatures and oxygenated water. This should be a crime; to participate in the killing of the last struggling representatives of a species!

After witnessing this horror in my own home neighborhood I went and

spoke to these folks about what was going on in the Salmon River drainage and where they were and the community they were invading. Nice folk. They had no knowledge of anything in the area, they were there just to “have fun together dredging in this beautiful place you have here.” The owners of the claim gave them no information and nice as they were, if it wasn’t for the ban, they would have continued destroying the Knownothing refugia.

Late history on the Salmon River system included a very few local folk doing a little plinking around and a few stalwart old-timers who returned to traditional claim every year. Not many as far as raw numbers went. Then came the invasion of “the recreational mining club.” Four or five years back a mining claim on the main stem of the Salmon River was occupied by over two dozen recreational miners from the New 49er Mining Club out of Happy Camp (the New 49ers bought up every unclaimed foot of the Salmon River). Locals noted that the family that had lived there for over a decade had been forced off the claim when denied occupancy and now we had two dozen flatlanders crowding a flat that used to support an active family in our river community. *The New 49er’s placed FOURTEEN DREDGES in the first half mile below Butler Creek!* Gas being poured into the river at refueling times (boating below the flotilla of dredges found a dirty river with hints of gas slicks in the small eddies below.) Toilet facilities were minimal and there was no concern for bathing, grey waste water or trash. This was an abomination to all local sensitivities, in particular to the Karuk Tribe. Fortunately we have fishery issues that shut that kind of travesty down. But, a pretty good example of these
“wreck-reational” miner clubs stretching the regulations so a few at the top can make a buck; without a thought to the river’s residents or communities. There oughta be a law.

Last summer when the dredging ban went into effect, there were three miners with Oregon plates on their rigs, dredging a mile up the North Fork from Forks of Salmon that thumbed their noses at the ban, F&G and the local community and kept right on dredging until a rumor that the F&G was finally going to put in a token appearance caused them to shut down. Letters to the editor in regional news papers made bold claims of not obeying the law; the prevalent statement of bravado identified the angry miner as an “outlaw.”

The Salmon River may appear to these “outlaws” to be in the middle of nowhere, but the river has a long history of being the home to many families sprinkled along its banks. The Salmon River is my home. I take it personally when someone threatens to defy the law in my home, as would anyone in any neighborhood in the state.

In the last two decades the recreational uses of the Salmon River area have skyrocketed. Rafting, Kayaking, Mountain Biking, Four-Wheeling, Hiking, Motorcycling, Road Biking have all grown enormously. These are activities that do not use up the natural resources of the Salmon River drainage while infusing recreational dollars into local businesses.

It is long past time to put a stop to all dredging within the Salmon River Drainage. The Salmon River, of all the state’s rivers and certainly as the only free-flowing river in the Klamath River basin deserves protection, not further degradation and endangerment.

Yours with Deep Concern,

Terry M. Hanauer Elizabeth Hanauer 44631 Cecilville Rd Forks of Salmon,
CA 96031 530-462-4764

5126 W. Longfellow Avenue

Tampa, FL 33629

California Department of Fish and Game

Attn: Mark Stopher

601 Locust Street

Redding, CA 96001

Dear Mr. Stopher;

This letter is in response to the Public Scoping Meeting mailer. As I won't be able to attend in person I want to provide my input by letter.

First, I have been dredging for over 15 years and for 10 years on the same claim in Yuba County. In regards to scoping I believe the scope of the study should be limited to those rivers where Salmon are present. The creek where I dredge is a feeder creek to the N. Fork of the Yuba River and is about 8 miles from the confluence with the Yuba. The Yuba is then an additional distance from an area where Salmon may be present – not to mention the rather significant dam that exists between all of the feeder rivers on the Yuba.

My second comment is I believe it is a waste of time and money to look at the effects of dredging disturbing mercury. Unless you can stop mountain streams from flood stage every year you cannot stop the mercury problem. Some of the mercury is naturally occurring; some of it is the result of mining in the 1800's. The mercury I find is always associated with gold and I don't throw it back. I know the issue is the trace mercury that is stirred up, but my point is when a river floods it disturbs the entire stream bottom. The amount of material I move in a year is miniscule compared to a river during the spring melt. Additionally, as mercury is a heavy metal it settles very quickly during the summer months when the rivers are low.

As I mentioned above I have dredged the same river for over 10 years. I can attest there is absolutely no impact from dredging. It is quite the opposite. Often I will fly fish for trout and there is a very good population of trout in the river. A more sensitive test of pollution would be amphibians. I see an abundance of Sierra Newts in the river that you would think would be very sensitive to mercury, but every year their population seems to grow – not the reverse.

These aren't the comments of just a dredger – I used to belong to the Sierra Club for many years – that is until they came out on the side of banning dredging. I think there have been sufficient environmental impact studies done with dredging and I believe the Department of Fish and Game has done a sufficient

job of regulating dredging. Apparently the representatives who claimed the Department has not done a good job at regulation have never read the Suction Dredging Regulations. As you are well aware the regulations close certain rivers during the year and this is probably an effective method.

I'm neutral on the effects of the clubs. I'm not sure if my position would change if there were multiple dredges on my river – but in the years I've been dredging I have never seen another miner on my river.

I think the existence of claims that are not within the clubs tend to protect a river as it limits the amount of dredging that occurs on the claim to the claimants (generally). In my case I have over a mile of river claimed and I've maybe sample dredged a quarter of it. There are no other dredges on that mile.

Finally, I object to the classification of dredgers as "hobbyists." My dredging is done under a corporation, Cold Canyon Mining, and I recover sufficient gold to make it worth my while. I know some people that recover more, and some that recover less. With placer mining the idea is to find the pockets so you may go years sampling until you find a pocket that pays you back. Classifying dredgers as hobbyists makes it seem that it a small thing to take away the right. I don't agree with that. Any person that goes out and makes money by the sweat of their brow should be respected – not denigrated.

My recommendations are:

1. Don't ban dredging on all rivers during the study period – limit it to the rivers with Salmon breeding areas.
2. Mercury is a bit of a red herring. The mercury will continue to be stirred up as long as rivers flow.
3. Keep in mind that claims tend to protect a river. Limiting the number of dredges per length of river could be effective.

Respectfully,

ERIC M. MAKSYMYK

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name: ERNEST HAYDEN

Mailing Address: 115 SO FORK RD
CALLAHAN, CA 96014

Telephone No. (optional): 530- 467-5695

Email (optional): HLOGGING@GMAIL.COM

Comments/Issues:

BEING A FIRST TIME MINING CLAIM OWNER I SEE NOTHING BUT BENEFITS FROM DREDGING, IT HAS LOOSENED IMPACTED GRAVEL IMPROVING SPAWNING BEDS, WE HAVE REMOVED MERCURY FROM THE STREAM BED, THE FISH LOVED US, WE STIRRED UP FOOD IN THE STREAM. MY WIFE AND I HAVE A MAIL ROUTE ON THE SALMON RIVER, WHEN THE DREDGING BAN WENT INTO EFFECT THERE WAS A MASS EXODUS FROM THE AREA, IT GREATLY IMPACTED THE LOCAL ECONOMY I.E. BUSINESSES THAT RELIED ON THE MINERS. (GREAT THING IN A BAD ECONOMY).

WE INVESTED IN A MINING CLAIM AND A DREDGING PERMIT, AND WERE BANED IN THE MIDDLE OF THE SEASON, WITH NO PROVISION TO REIMBURSE US FOR OUR FEES.

I ALSO SEE THE BAN AS AN INFRINGEMENT OF MY RIGHTS UNDER FEDERAL MINING LAWS.

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

From: "Parham, Gene (CDPH-DDWEM)" <Gene.Parham@cdph.ca.gov>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: <ttrexler@tcsconsultingservices.com>
Date: 12/2/2009 1:34 PM
Subject: FW: Information that may be pertinent to the upcoming required suction gold dredging EIR

From: Parham, Gene (CDPH-DDWEM)
Sent: Wednesday, December 02, 2009 11:25 AM
To: 'dfgsuctiondredge@dfg.ca.gov'
Cc: 'ttrexler@tcsconsultingservices.com'; 'GALE BALLENGER'; Fong, Stephen (CDPH-CFH-MCAH-PAIS-AMF); 'Linda Parham'
Subject:

To: Mark Stopher , Department of Fish and Game
December 1, 2009

From: Eugene Parham, P.E.

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retrieved the mercury data for all public water supply systems in the "mother lode" counties, from Placer County to Plumas County. Out of approximately 200 water systems, the data shows none of the water systems exceeded the MCL for mercury and only six had detected mercury above 50% of the MCL. Records show the mercury detections for these six systems were all from deep wells and as reported are not under the influence of surface water.

I have "hard copies" of mercury test data for several domestic water supply systems which have surface water sources and will send them to you. The water systems are Cal Water Service - Oroville, North Yuba Water District, and the City of Grass Valley. I chose these systems as they utilize water from sources whose watersheds have recent and historical mining activities. Note that the tests were taken through out the year, thereby testing the water for mercury during the suction dredging season as well as stream bed scour during high winter flow. The records show all results for mercury for these systems are below the detection level for reporting of 1.0 ppb. There is additional water system mercury data in counties to the south of Placer County that can be researched and provided to you; however, in talking with Dave Lancaster (916-449-5668), District Engineer for the area which regulates counties south of Placer County, he stated no water systems in his District have had a violation for mercury concentration. Based on the above as well as all the data I reviewed for mercury concentrations in streams associated with mining activities, I feel suction dredging clearly has a less than significant impact for mercury in water downstream of dredging operations.

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distributed is much less than that shown in the Initial Study.

I would also like to comment on some of the Initial Study items found to be shown as having a "Potentially Significant Impact." Many of these items such as (pg.30) "have a substantial adverse effect on a scenic vista", or (pg. 34) "impede compliance with greenhouse gas emissions", or (pg. 67) "create a significant hazard to the public through the transport, use, or disposal of hazardous materials" such as gasoline and oil apply to many other, if not all, outdoor activities involving people, vehicles, and other combustion engines. As to having "a substantial adverse affect on a scenic vista", I recognize there may be a few people who find our dredging operations have an adverse effect on their scenic view of the area; however, in my 30 years of dredging, I have NEVER had a negative comment from the public about our dredging operations. In fact, quite the opposite. We dredged the Klamath River, the Yuba River, and the Salmon River, and in full view of a highway or travel way. In all cases, people would stop and would ask questions about our operations, wanted to sit on the dredge when it was in operation, take pictures, completely enjoyed themselves, and only had positive things to say about our activities. It is my hope that when these issues are addressed, common sense and reason, combined with regulatory limits and mandates, will provide accurate determinations which can be mitigated if necessary.

In conclusion, and as stated above, I have been dredging for about 30 years. In that time frame I have met a considerable number of miners and they represent all "walks" of life, from professional engineers, college professors, and retired sheriffs, to skilled tradesman, and of course those who supplement their income or are actually subsistence miners. While a few "mavericks" may exist, the gold dredgers I have met are decent law abiding individuals and would be the first to inform authorities of activities in violation of dredging laws or other activities that are detrimental to the environment. After all, the individuals I know dredge because we love and respect the outdoors and because we do find gold. We have found placer gold tainted with mercury and feel we are doing a good deed for the environment by taking mercury out of the streams, not putting it in. We also remove from the streams lead shot, lead fishing sinkers, and lead strips from when sluice cracks were sealed with lead in the early years of gold mining. In addition, we create spawning beds as well as holes for the fish to feed in.

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If you have questions, I can be reached at (530) 524-4735 or (530) 224-4863.

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To: <dfgsuctiondredge@dfg.ca.gov>
CC: <ttrexler@tcsconsultingservices.com>, "GALE BALLENGER" <gballenger@sbcgl...
Date: 12/2/2009 11:26 AM

To: Mark Stopher , Department of Fish and Game
December 1, 2009

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To: <dfgsuctiondredge@dfg.ca.gov>
CC: <ttrexler@tcsconsultingservices.com>
Date: 12/2/2009 2:02 PM

Subject: Regulatory info

Thought you might like to have info on the California Department of Public Health Regulations for inorganic chemicals showing maximum contaminant levels. This is located in the California Code of Regulations, Title 22, Chapter 15.

Article 4. Primary Standards--Inorganic Chemicals

§64431. Maximum Contaminant Levels--Inorganic Chemicals.

(a) Public water systems shall comply with the primary MCLs in Table 64431-A as specified

in this article.

Table 64431-A

Maximum Contaminant Levels

Inorganic Chemicals

Chemical Maximum Contaminant Level, mg/L

Aluminum 1.

Antimony 0.006

Arsenic 0.010

Asbestos 7 MFL*

Barium 1.

Beryllium 0.004

Cadmium 0.005

Chromium 0.05

Cyanide 0.15

Fluoride 2.0

Mercury 0.002

Nickel 0.1

Nitrate (as NO3) 45.

Nitrate+Nitrite (sum as

nitrogen)

10.

Nitrite (as nitrogen) 1.

Perchlorate 0.006

Selenium 0.05

Thallium 0.002

* MFL=million fibers per liter; MCL for fibers exceeding 10 um in length.

§64432. Monitoring and Compliance--Inorganic Chemicals.

(a) All public water systems shall monitor to determine compliance with the nitrate and nitrite MCLs in Table 64431-A, pursuant to subsections (c) through (e) and §64432.1. All community and nontransient-noncommunity water systems shall monitor to determine compliance with the perchlorate MCL, pursuant to subsections (c), (d), (j), and Section 64432.3. All community and nontransient-noncommunity water systems shall also monitor to determine compliance with the other MCLs in Table 64431-A, pursuant to subsections (b) through (n) and, for asbestos, Section 64432.2. Monitoring shall be conducted in the year designated by the Department of each compliance period beginning with the compliance period starting January 1, 1993.

To: Mark Stopher , Department of Fish and Game December 1, 2009

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12/1/09

To: Mark Stopher, DFG

These are the calculations approximating the cubic yards per hour of material a 6-inch dredge nozzle can remove in a simi hardpack stream bed. The calculations are based on actual conditions as shown on the attached photograph. We dredged for 18 days averaging 8-hours per day. Over-burden averaged 5-feet.

Area $\approx 22.5 \times 55 \approx 1238\ ft^2$
Volume $\approx 1238 \times 5 \approx 6190\ ft^3$
Cubic Yards $\approx 6190 \div 27 \approx 230$ CY
CY/day $\approx 230 \div 18 \approx 12.8$ CY

Therefore CY/hour $\approx 12.8 \div 8 \approx 1.6$ CY

REGISTERED PROFESSIONAL ENGINEER
EUGENE W. PARHAM
19828
9/30/11
CIVIL
STATE OF CALIFORNIA

≈ 60'
≈ 10'
≈ 95'
11/27/2009

STATE OF CALIFORNIA
DRINKING WATER PROGRAM

DRINKING WATER ANALYSES RESULTS REPORT
ALL SAMPLES FOR SELECTED CONSTITUENTS - ALL RESULTS
FOR SAMPLE DATE RANGE OF 19940101 THRU 20091130
REPORT OF COUNTY: 29 NEVADA

SYSTEM NO: 2910001 NAME: City of Grass Valley COUNTY: NEVADA
SOURCE NO: 002 NAME: TREATMENT PLANT - TREATED PSCODE: 2910001-002 CLASS: CLSP STATUS: AT

GROUP IDENTIFICATION / CONSTITUENT IDENTIFICATION	SAMPLE DATE		RESULT *	MCL	DLR	TRIGGER	UNIT
IO INORGANIC							
71900 MERCURY	01/05/1994	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	01/26/1995	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	02/24/2004	<	1.0000	2.0000	1.0000	2.0000	UG/L

NOTE1: * = RESULT IS EQUAL TO OR GREATER THAN TRIGGER
NOTE2: .000 = RESULT WAS REPORTED AS NON-DETECTED EXCEPT FOR RAD

STATE OF CALIFORNIA
DRINKING WATER PROGRAM

DRINKING WATER ANALYSES RESULTS REPORT
ALL SAMPLES FOR SELECTED CONSTITUENTS - ALL RESULTS
FOR SAMPLE DATE RANGE OF 19940101 THRU 20091130
REPORT OF COUNTY: 29 NEVADA

SYSTEM NO: 2910002 NAME: City of Nevada City COUNTY: NEVADA
SOURCE NO: 002 NAME: TREATMENT PLANT - TREATED PSCODE: 2910002-002 CLASS: CLSP STATUS: AT

GROUP IDENTIFICATION / CONSTITUENT IDENTIFICATION	SAMPLE DATE		RESULT *	MCL	DLR	TRIGGER	UNIT
IO INORGANIC							
71900 MERCURY	02/28/1995	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	02/08/1996	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	12/17/1996	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	01/28/1998	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	01/21/1999	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	02/01/2000	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	12/06/2001	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	12/12/2002	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	12/13/2005	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	11/29/2007		.0000	2.0000	1.0000	2.0000	UG/L

NOTE1: * = RESULT IS EQUAL TO OR GREATER THAN TRIGGER
NOTE2: .000 = RESULT WAS REPORTED AS NON-DETECTED EXCEPT FOR RAD

STATE OF CALIFORNIA
DRINKING WATER PROGRAM

DRINKING WATER ANALYSES RESULTS REPORT
ALL SAMPLES FOR SELECTED CONSTITUENTS - ALL RESULTS
FOR SAMPLE DATE RANGE OF 19940101 THRU 20091124
REPORT OF COUNTY: 58 YUBA

SYSTEM NO: 5810006 NAME: North Yuba Water District COUNTY: YUBA
SOURCE NO: 001 NAME: FORBESTOWN DITCH INTAKE PSCODE: 5810006-001 CLASS: XCLD STATUS: AR

GROUP IDENTIFICATION / CONSTITUENT IDENTIFICATION	SAMPLE DATE		RESULT *	MCL	DLR	TRIGGER	UNIT
IO INORGANIC							
71900 MERCURY	05/06/2003	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	06/10/2003	<	1.0000	2.0000	1.0000	2.0000	UG/L

NOTE1: * = RESULT IS EQUAL TO OR GREATER THAN TRIGGER
NOTE2: .000 = RESULT WAS REPORTED AS NON-DETECTED EXCEPT FOR RAD

STATE OF CALIFORNIA
DRINKING WATER PROGRAM

DRINKING WATER ANALYSES RESULTS REPORT
ALL SAMPLES FOR SELECTED CONSTITUENTS - ALL RESULTS
FOR SAMPLE DATE RANGE OF 19940101 THRU 20091124
REPORT OF COUNTY: 58 YUBA

SYSTEM NO: 5810006 NAME: North Yuba Water District COUNTY: YUBA
SOURCE NO: 002 NAME: TREATMENT PLANT - TREATED PSCODE: 5810006-002 CLASS: CLSP STATUS: AT

GROUP IDENTIFICATION / CONSTITUENT IDENTIFICATION	SAMPLE DATE		RESULT *	MCL	DLR	TRIGGER	UNIT
IO INORGANIC							
71900 MERCURY	06/14/1994	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	03/06/2006	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	06/23/2009		.0000	2.0000	1.0000	2.0000	UG/L

NOTE1: * = RESULT IS EQUAL TO OR GREATER THAN TRIGGER
NOTE2: .000 = RESULT WAS REPORTED AS NON-DETECTED EXCEPT FOR RAD

DATE: 11/24/09
REPORT: R-040/2-3

STATE OF CALIFORNIA
DRINKING WATER PROGRAM

DRINKING WATER ANALYSES RESULTS REPORT
ALL SAMPLES FOR SELECTED CONSTITUENTS - ALL RESULTS
FOR SAMPLE DATE RANGE OF 19940101 THRU 20091124
REPORT OF COUNTY: 04 BUTTE

SYSTEM NO: 0410005 NAME: Cal-Water Service Co.-Oroville
SOURCE NO: 005 NAME: TREATMENT PLANT-TREATED

COUNTY: BUTTE
PSCODE: 0410005-005 CLASS: CLSP STATUS: AT

GROUP IDENTIFICATION / CONSTITUENT IDENTIFICATION	SAMPLE DATE		RESULT *	MCL	DLR	TRIGGER	UNIT
IO INORGANIC							
71900 MERCURY	04/25/1994	<	1.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	11/20/1995		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	09/24/1996		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	04/29/1997		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	04/07/1998		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	09/21/1999		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	04/24/2001		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	06/11/2002		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	07/15/2003		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	07/22/2004		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	08/10/2005		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	08/14/2006		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	08/16/2007		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	08/05/2008		.0000	2.0000	1.0000	2.0000	UG/L
71900 MERCURY	08/11/2009		.0000	2.0000	1.0000	2.0000	UG/L

NOTE1: * = RESULT IS EQUAL TO OR GREATER THAN TRIGGER
NOTE2: .000 = RESULT WAS REPORTED AS NON-DETECTED EXCEPT FOR RAD

STATE OF CALIFORNIA
DRINKING WATER PROGRAM

DRINKING WATER ANALYSES RESULTS REPORT
ALL SAMPLES FOR SELECTED CONSTITUENTS - ALL RESULTS
FOR SAMPLE DATE RANGE OF 19940101 THRU 20091124
REPORT OF COUNTY: 04 BUTTE

SYSTEM NO: 0410005 NAME: Cal-Water Service Co.-Oroville COUNTY: BUTTE
SOURCE NO: 014 NAME: OROVILLE TREATMENT PLANT - RAW PSCODE: 0410005-014 CLASS: XCLD STATUS: AR

GROUP IDENTIFICATION / CONSTITUENT IDENTIFICATION	SAMPLE DATE	RESULT *	MCL	DLR	TRIGGER	UNIT
IO INORGANIC						
71900 MERCURY	07/22/2004	.0000	2.0000	1.0000	2.0000	UG/L

NOTE1: * = RESULT IS EQUAL TO OR GREATER THAN TRIGGER
NOTE2: .000 = RESULT WAS REPORTED AS NON-DETECTED EXCEPT FOR RAD

STATE OF CALIFORNIA
DRINKING WATER PROGRAM

DRINKING WATER ANALYSES RESULTS REPORT
ALL SAMPLES FOR SELECTED CONSTITUENTS - ALL RESULTS
FOR SAMPLE DATE RANGE OF 19940101 THRU 20091124
REPORT OF COUNTY: 04 BUTTE

SYSTEM NO: 0410008 NAME: Thermalito Water & Sewer District COUNTY: BUTTE
SOURCE NO: 001 NAME: TREATMENT PLANT-TREATED PSCODE: 0410008-001 CLASS: CLSP STATUS: AT

GROUP IDENTIFICATION / CONSTITUENT IDENTIFICATION	SAMPLE DATE		RESULT *	MCL	DLR	TRIGGER	UNIT
IO INORGANIC							
71900 MERCURY	05/22/2001	<	1.0000	2.0000	1.0000	2.0000	UG/L

NOTE1: * = RESULT IS EQUAL TO OR GREATER THAN TRIGGER
NOTE2: .000 = RESULT WAS REPORTED AS NON-DETECTED EXCEPT FOR RAD

APPENDIX K: Private Citizen Comments (F - Jan)

From: "Foster Boone" <tfb@gotsky.com>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: "'Creek Hanauer'" <tcreek@sisqtel.net>
Date: 11/30/2009 6:02 PM
Subject: Suction dredging

I live on the North Fork of the Salmon River, an area where suction dredging is prevalent, and have observed its damaging effects: pollution (exhaust fumes, oil and gasoline in the river, noise), mud plumes downriver of the dredging operations, river banks eaten away, vegetation destroyed, trash in and along the river, etc. No doubt this is harmful to aquatic life in the river. In my opinion, this should not be permitted on a National Wild and Scenic river and I strongly support a permanent ban on suction dredging.

Thank you for considering my opinion.

Foster Boone, Architect
PO Box 1027
25200 Sawyers Bar Road
Sawyers Bar, CA 96027
tfb@gotsky.com
530-462-4722

From: "fred buschbaum" <fbusch@dslextreme.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/17/2009 8:43 AM
Subject: scoping meetings

Being a dredger, and living in so. cal., I find it a bit insulting to see that you have all these meetings in northern cal. far beyond my reach. (there are many of us down here that are on fixed incomes and can't travel). As to this new law requiring a new eir, it seems counter productive to pay for the same thing twice. Most of us out here are aware of the fight between the dfg and those indians who want to have exclusive fishing rights on "their" river. We also know about the invironmental wacko who got them the indian casino money to buy enough lawyers and polititions to get this law passed. It seems to me, that for a majority of people to suffer while a minority forces their way is a bad deal. Since I invested thousands of dollars in equipment and spending in local communities in gold country, I think at least the previous eir could have been reviewed to aliviate this problem. Especially since the claim that we dredgers cause fish decline, and the only river we are not allowed to dredge is the sacramento and that is the only river where fish are declining. Oh, yeah, if the off shore fish are declining, how are we supposed to be responsible for that? Well, consider this my comments about the subject. (not that anyone in sacramento listens to people who don't inject money into relection funds).
Fred Buschbaum, 7145 Clover Ct., Oak Hills, Ca. 92344

FYI,Your notice, mailed on 11-9, got here on 11-14, with the wrong zip code on it.

FRED L. FIFIELD
2049 Titsworth Rd.
Braawley, Calif. 92227
760-344-2279 Home
760-996-1243 Mobil

Nov 21, 2009

Mr. Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

Dear Mark Stopher:

I have two (2) mining claims on the east fork of the Trinity River and before acquiring them have been vacationing in the area for a number of years - This past year before I was blocked from dredging I stayed in Junction City for a month and a half - Years passed I have camped on the claims or stayed in motels or campgrounds - I am from Southern Calif - so when I spend time in my claims area I spend considerable money at local stores and for the first time, heard this year, local merchants

vacie concern about the money they were going to loss because of people like me were not working on claims and not going to be spending money — probably spend close to $3000.00 locally and over in years pass it has been more — of Rivers we dredgers are not a big economic boom but we are a part and from what I have seen, clean up and leave the environment in much better condition than as found the people just to get a little gold and leave.

I believe your job is thankless as you must address a legislator that want to more and more take away our individual freedoms and our access to all public lands and waterways. I think we need a dredging season(?) that is compatable with the spawning of fish and your permits now take this into consideration. I do not believe that dredging has in any way effected the number of fish but the fishing industry has been the problems for a number of years and they are trying to place the blame elsewhere —

I hope you are able to finish the impact report and let me dredge again in 2010
thank you for your consideration —
Respectfully submitted
Fred L Triplett

From: "Gail Golden" <ggoldbug@comcast.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/29/2009 10:08 AM
Subject: dredge permits

To whom it may concern;

We have been going to Roaring Camp in Pine Grove every summer for 20 years, We began dredging about 12 years ago at Roaring Camp and find it so entertaining and relaxing. We do this vacation every summer for the pure enjoyment of days gone by. Roaring Camp has very strict rules regarding the size of the nozzle used and where you may dredge as to not destroy the river. This river which runs through Roaring camp carries no salmon, but does have trout. Therefore there are some areas reserved for the fish which we can dredge. Only a 3 inch nozzle is allowed up stream and no dredging on the bank is allowed as to preserve the shore line. I agree that regulations need to be made and upheld to protect our rivers, fish, etc. But to ban dredging completely is absurd. You are taking away our way of enjoyment and entertainment as well as education for the young showing how the 49ers mined. My husband and I are senior citizens and we find this way of gold mining relaxing and very much enjoyable. We do not find a lot of gold, but enjoy the trying just the same. I beg you to please allow dredging where salmon are not endangered even if you have to add more rules and restrictions to the sport.

Thank you for your time and consideration to this matter,
Gail and Jim Golden
PO Box 706
Byron, CA 94514

From: "gl" <gearyluanne@netzero.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 8:04 AM
Subject: SUCTION DREDGING -MR.MARK STOPHER

I'AM OBJECTING TO KARUKS AND THE DEPARTMENT OF FISH AND GAME IN A SECRET CHANGE OF REGULATIONS WITHOUT A NOTICE OR EXPLANATION OR A PROVEN REASON.

FROM GEARY WILSON
12594 ave 352
VISALIA, CA. 93291

November 27, 2009
17155 Valley Oak Dr.
Sonora, CA 95370

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Subject: Public Scoping Meeting Suction Dredge Permit Program

Hello...I'm sorry that I'm not able to attend one of the designated scoping meeting dates, thus this letter. Actually I don't know what a Scoping Meeting is all about, so I'm just gonna complain about this years action of imposing a moratorium upon the recreational gold dredger. It is said that this is to allow Fish and Game make a "Fish Count" for ocean going salmon into Californias streams. We all know that this was a knee jerk decision based upon foolish people wanting to eliminate the recreational dredger from the scene. Still I don't understand how gold dredging from the recreational miner can effect the salmon stock under the existing rules. Wherever there is the possibility for salmon and gold dredging operations in the river at the same time, designated non-dredging periods are already established. If there is a claim that the muddying of the river effects the salmon, they seem to forget that they do pretty well during the spring run off or after heavy rains when the river turns brown with mud. I witnessed this in the North Fork Yuba River during the spring of 2009. During the summer I seen many rainbow trout in the river with me while I dredge. I could see no salmon simply because there aren't any ocean salmon that visits this area. I do see many landlock (Kokanee) salmon in the fall, but I stop my dredging usually by September 1st simply because its too damn cold to be in the water all day by then. It seems that a lot of people share this same view because the number of other dredgers drop right around then. I view this moratorium as a move to simply pacify a bunch of 3rd generation born again hippies. It is wrong and unjustified. In practical terms, there is room in most California rivers and streams for the fisherman, swimmer, recreational miner and tree hugger. Please gentleman, put rational thinking back into our river usage and allow the recreational miner to once again follow the 49'er heritage and dredge for gold. Thank You!

George Zay
Retired Person/old fart/voter and
Recreational gold miner

George Zay

From: <miner43@comcast.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/1/2009 10:49 AM
Subject: suction dredging

Mark Stopher,

I have been a suction dredger for 15 years. I work the smaller creeks above the dams in the higher elevations. I would like to say that at no time have I destroyed the fish environment. I have fish swimming around me when I am dredging looking for and eating river food. It feels like I am in a aquarium at times. I am replenishing the gravel beds and braking up the sediments. I am removing the mercury in the creeks left from the old mining methods. I remove lots of lead bullets, fishing weights, and old mining lead and brass parts. I believe I am one with the environment and help the fish to propagate. I dredge above the dams where the Salmon cannot travel. After the winter comes with the rain and heavy water flow the evidence of my work is gone. I do not understand how we dredgers are a danger to the fish when we are cleaning up and inproving their environments.

Thank You,

Gerald Vande Weg

506 Lanyard Ct.

Rohnert Park, Ca. 94928

707-795-9337

From: Cathy Wehrly <cwehrlybird@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/24/2009 3:25 PM
Subject: Suction dredge permit program

Gerald W. Wehrly
4840 Lobo Trail
Garden Valley, CA 95633

California Gold Mining Suction Dredging

A. Gold Mining Experience:
   1. Gold mining and sluicing for 38 years
   2. Gold dredging for 36 years
      a. Taught numerous individuals, including my kids and grandkids, gold mining

B. Environmental Experience:
   1. 33 years with the State of CA., fighting wildland fires, provides a vast knowledge of the environment.
   2. 30 years teaching hundreds of other state firefighters about the environment.
   3. 20 years with the State of CA. as a fire captain running state fire crews.
      a. 20 years improving the environment and aesthetics on work projects.
      b. 20 years working with other agencies improving the following work projects, with a 17 man fire crew: U.S.F.S projects, Fish & Game projects, state parks, stream clearing, erosion control, recreation improvements, protection of sensitive areas, wilderness area projects, trail management, hazardous materials, fuel reduction, forestry practices, improving forest, stream and lake aesthetics, public safety, wildlife safety, air quality, water quality, water shed projects.

C. Benefits of Suction Gold Dredging in CA
   1. Gold dredgers actually work in the stream with the fish.
   2. Dredging feeds the fish with dredged up bugs and worms.
   3. Stream clearance of small logs and debris
   4. Stream clearance of dead animals in the stream, such a deer, bear, rats and fish
   5. Stream clearance of liter from rafters, fishermen, hikers and horse riders
   6. Removal of small stagnant water pools
   7. Removal of lead bullets, fishing weights, fishing line, and fish hooks from the stream
   8. Removal of mercury
   9. Removal of broken glass and pieces of wire
   10. Removal of liter along the banks and around campsites from other stream users
   11. Creating spawning holes
   12. Creating holes and cavities for fish to hide and holes allow for cooler sections of the river for the fish
   13. In shallow areas, dredging exposes the beautiful bedrock for the public to enjoy
   14. Removing shallow areas of gravel in the stream for fish navigation
   15. Educating the public on not spitting or urinating in the stream
   16. Educating the public on campfires. Escape fires can devastate a stream or river
   17. Loosening up boulder locked streams so the fish have new areas to explore
   18. Creating small trails for other hikers and fishermen
   19. Educating fishermen on location of fish
   20. Aeration of the water benefits the stream
   21. Creating recreation for gold miners and their families
   22. Re-creation of CA. history by gold miners
   23. Social economics to restaurants, hotels, and mining equipment companies

24. Financial gain to the State of CA from permits

D. Negative Impacts on the Environment from other activities such as: winter rains, snow melt, release of water and debris from dams, river rafters and kayakers, have a high impact on the river environment.

1. The aesthetics of the town of Coloma have been ruined by the rafters and kayakers.
2. Rafters yelling, cussing, and screaming can be heard for a long distance.
3. Major silt damage along the banks of the river from rafters
4. Major damage to the reparian
5. Using the river for a toilet because of limited chemical toilets
6. Using the river for a trash dump which reduces water quality
7. Kayakers and rafters yelling at gold miners and throwing beer bottles

E. Vietnamese of the El Dorado National Forest and other forests:

1. Armed gangs roaming the forest, creating unsafe conditons for public employees and the general public
2. Hunting and fishing year-round without a license
3. Shooting anything in and out of season
4. Pouring bleach in the streams to catch fish and leaving the bleach bottles

F. Winter floods:

1. High debris and silt impact
2. Hazardous materials, such as propane tanks floating downstream
3. Log jams
4. Massive amounts of liter
5. Movements of large amounts of rock and gravel

G. Indians on the Klamath River:

1. High impact of the river from liter and shacks along the river
2. Running the general public off the river
3. Fishing nets strung across the river
4. Shooting sea lions and seals and leaving the carcasses
5. Burning huge driftwood piles along the river
6. Driving in the river with their 4x4's and ATV's

H. Forest Fires:

1. High impact on the stream and river environment
2. Retardant drops in the streams and rivers
3. High impact on water shed
4. Numerous landslides
5. Downed trees and logs get into the streams
6. High danger to wildlife and vegetation

I. Summary:

Gold mining, logging, and agriculture built California! It's part of our history. For some gold miners it's a way of life and their only source of income. Suction gold dredging has a minimal negative impact on the stream or river environment. According to the Joseph Green Report, a 6 inch dredge gains turbidity in the river after 50 feet. Gold dredgers live in the water with fish, so naturally, we desire good water quality. I for one, and all the people I teach about mining are out to protect the river and enjoy the wildlife and the river.

Thank you for your time,

Gerald W. Wehrly

From: "gina sterbentz" <disterbentz@adelphia.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/30/2009 6:52 PM
Subject: dredging rights

my family and i live pay alot of taxes here where there is no salmon no dredge ban !!!!!!

To the Dept of Fish and Game
Sacramento California

Re: Comments on suction dredge mining in the waters in the state of California.

First let me qualify my expertise in this field of endeavor. I have over 40 years experience in dredging for Gold primarily on my old mining claim on the East Branch of the Feather River. During thirty of those years I made a modest living from the Gold I recovered. I believe the thousands of hours spent under water has given me an insight as to any possible deleterious affect to the environment, to fish, and other aquatic species.

In all those years I have not found any bad affect to the Fish or the environs they live in.

What I have found in my studies of this perceived problem is that the so called expert environmentalists have never spent any time under water either dredging or observing an ongoing dredging operation. They might drive down a highway and see a dredge in operation, and say to themselves, { look at the hole that dredge has dug in the river, plus the tailings behind the dredge, and the pile of boulders and rocks that the dredge cannot suck up into its nozzle, isn't that terrible. We need to do something to stop that.} I have had those very words spoken to me by a prominent environmentalist in our community.
This person and her husband, who is a devout Fly fisherman have since changed their minds after I was able to show them how wrong they were in their ideas.

Here therefore is what a dredging operation does for the river and its inhabitants. First by digging a hole in the river gravel, the dredge is creating a cooler spot for the fish to hang out in. We all know that fish like cooler water. Second, the gravel that comes out of that hole is separated into a loose gravel bed that is conducive to the fish laying their eggs into. The small and large boulders that cannot be sucked up into the dredge nozzle, are usually stacked in such a way that there are nooks and crannies for the fry and fingerling fish to get into to hide from the larger fish that would eat them, therefore possibly helping the fish population to expand.
During the dredging process, the sluice box or boxes are separating out the gold from the gravels, plus Mercury, lead in the form of bird shot, but mostly lead sinkers used by fishermen who have lost them while fishing. { I have over 5 pounds of Mercury on my shelf in my shop, that has been recovered from the gravels I have processed over the years. This Mercury was obviously lost during the 1850's and later in the mining operations the original miners carried on. I have also recovered enough lead to melt down and turn into lead weights to use on my weight belts when I'm diving.}
I have also removed hundreds of pounds of rusty Iron that has been lost in the river over the years. We all know that the above materials form toxins in the water and need to be removed for the sake of Fish and Human health.
The dredging process also releases buried food for the fish. A smart fisherman will

always fish downstream from a dredge as he will be assured of catching fish that are drawn to the area by the gravel movement that has released food.

Then there is the economic boost to the country. The gold recovered is new wealth that is brought into the economy. For every ounce of new gold that is recovered, the trickle down effect brings the equivalent of ten times that amount into the economy. At today's price of gold that amounts to approximately 10,000.00. Not bad for a yellow metal that an ounce of can be held in the hand of a small child, or be hammered out so thin that it can cover an acre of ground.

It's time to question the bad science of the Enviros, that they use to cause their so called crisis's they use to stop Mining, Logging, Farming, and Ranching. The world that we know today cannot exist without the Mining industry. Everything that society has accomplished has originated with Mining. Without Mining there is nothing.

So I believe we should keep the suction dredging regulations as they are, as they are restrictive enough without any new ones being brought about by the bad science of the Enviros.

Sincerely

Gordon Wieczorek
PO Box 1517
Quincy Ca. 95971

Gold Dredger/Gold Miner since 1966

From: Greg Ford <fordgd@hotmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 1:33 PM
Subject: Comparison control studies of non-dredge rivers

Mark Stopher:

After reviewing the 122 page Subsequent Environmental Impact Report (SEIR) on the web site:

www.dfg.ca.gov/suctiondredge/ and references, there appears to be no control studies of Northern California andramadous fish of the river watersheds that do not allow suction dredging, for comparison. This should be included in the Subsequent Environmental Impact Report (SEIR) draft. I believe there are such rivers that have already been studied and salmonoids counted annually over many years in waters that do not allow suction dredging (i.e. Mendocino County, the Eel River). A comparison of such watersheds is justified in this all encompassing report that has closed all bodies of water to suction dredging in the State of California. Where are these data?

Sincerely,

Greg G. Ford

299 West Mendocino Ave.

Willits, CA. 95490

Windows 7: Unclutter your desktop. Learn more.
http://www.microsoft.com/windows/windows-7/videos-tours.aspx?h=7sec&slideid=1&media=aero-shake-7second&listid=1&stop=1&ocid=PID24727::T:WLMTAGL:ON:WL:en-US:WWL_WIN_7secdemo:122009

From: "Jim & Gretchen Diekmann" <baystore@comcast.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 3:32 PM

To Dept. of Fish and Game December 02, 2009

RE: Suction Dredge Permit Program

Dear Sirs;

We were unable to come to the meetings held regarding the Suction Dredge Permit program, however, we have very strong feelings regarding this issue.

My husband, my two grown sons and I all purchased our permits and had hopes of actually making it financially help us get through these tough economic times. We are and always have been outdoor enthusiasts and as small scale miners, we work hard but enjoy it.

When we go to places, we make sure we add to the local economy by getting groceries at the local stores, etc. I know that this ban on suction dredging has hurt many of the small towns along our rivers.

It seems to me that our Government is anxious to close people out of 'our' great outdoors and control what people do without having the true Constitutional authority to do so. I have not seen any environmental proof that what is done when suction dredging occurs is detrimental to any species whatsoever. I do know that allowing the tribes to net the fish going upriver has a direct effect on them, however.

We clean as we go, removing harmful debris and working with the elements to keep nature beautiful for the next observer

Seems to me we are actually a beneficial group, seeking only the minerals under the water, nothing more.

If I am unable to enjoy what I paid for, I want my money back!

Gretchen Diekmann
P.O. Box 157
Bodega Bay, CA 94923
(707) 875-2941

From: Guy Chetelat <bandgshasta@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/18/2009 3:05 PM
Subject: CEQA input and support for suction dredge ban

Mark Stopher
DFG

We are sending this e-mail in support of a ban on suction dredging. There is plenty of evidence that suction dredging is harmful to aquatic habitat (direct disturbance), water quality (mercury and sediment release) and aquatic organisms (disturbance, take, and potential for increased mercury levels in tissue). For those reasons we strongly support strict regulation of suction dredging and other recreation mining in streams and other water bodies. During the CEQA process it will be critical to include impacts from mercury, sediment, and direct disturbance and take of aquatic organisms in the channel. The recent drop in salmon and steelhead populations means we can no longer tolerate the damage caused by suction dredging in our streams.
Your attention to this matter is apreciated.

Guy Chetelat and Bonnie Lampley
Shasta, Ca

From: "Hal" <sharkbait0259@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/4/2009 5:46 PM
Subject: Dredge

I will be canceling my 2 week vacation that i take to prospect,to go to another state and spend my money.I know cali has lots of that. thanks for nothing Hal Clark

From: Heidi Lyss <heidilyss@mac.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 7:07 PM
Subject: My public comment on the Environmental Impact Review of Suction DredgeMining

Dear Mr. Stopher

Thank you for attending to public comment on the Environmental Impact Review of Suction Dredge Mining

Having had first-hand experience with the impact of dredging, I felt relieved by the passing of SB 670, and do urge the Department of Fish and Game and all other relevant government organizations to make the ban on suction dredging permanent.

Our family's home is on a creek in the Grass Valley/Nevada City area of Northern California. For the past 3-4 years, various dredgers have trooped in upstream, with loud motorized equipment, suctioning deep holes into the creek bottom, spewing out rock and gravel, and filling the water with clay silt that obscures the bottom for hundreds of feet downstream.
Even a motorized dredging setup that appears small, churns up significant amounts of mud, and shifts large quantities of gravel and rock. The fish population has noticeably decreased, and the creek frogs have disappeared since the dredging started in our area. The normally clear water looks like pea soup when the dredging goes on, which has been most of the time during the past 3-4 summers until SB 670 was signed recently.

In addition, hikers, fishermen, rafters and swimmers walking up the creek are in risk of injury if they step into one of the dredged holes, which are hard to spot even when the water is clear, let alone mucked up from the silt dug up and released via the dredging process. These holes usually sink 3 to 5 feet below the regular creek bed and are especially hazardous in the deeper areas (the creek's depth ranges from 1 to 8 feet, depending where you are). Someone who accidentally steps in one can easily fall underwater, and/or break an ankle or leg, and/or hit her head on one of the many large rocks in the stream. And the silt released from the dredging coats the rocks in the streambed far downstream from the actual dredging sites, making the rocks slippery to walk on for quite a distance.

The dredging in the creek has adversely impacted the fish and frog population and natural ecosystem of the water. It not only ruins the pleasure of everyone who uses the creek in a respectful, less obtrusive, way but also, because we are in a former gold-mining area, likely leads to the release of mercury and other toxins into the water where many people fish, swim, hike and raft.

Along with all this, we have experienced the dredgers, who do not live on any of the nearby property, as sometimes hostile, which concerns me greatly.

Please make this moratorium permanent. It is way overdue (the Gold Rush did end quite a long time ago!). I'm tired of the dredging and seeing the many suffer at the hands of a few hobbyists who use motorized equipment to seek a spot of luck at the expense of the rest of us: we taxpayers who try to take responsible care of California's land, ecosystems, fish and wildlife populations, and public health. There are plenty of other hobbies one can pick up. . . (including gold panning which is a more ecologically-sound way to seek gold).

Thank you for your attention to this issue.

With best regards,

Heidi Lyss

From: Hugh McGuigan <hugeibewl45@juno.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/24/2009 10:21 AM
Subject: Dredge rules

To Whom it may concern (Mark Stopher)

I am a claim owner and recreational gold miner. I have some thoughts on rules that may help some of the anti miners get off our backs, help F&G fund the administration of dredge permitting.

1. Base permit fees on size of dredge to be operated. There is of course a huge difference in the impact a 2 inch unit makes as compared to a 8 inch

2. Permit each unit with a sticker much like off road vehicle permits.

3. Have some collection points where Mercury can be turned in. Much of the fuss seems to be on this issue. If we are seen as I believe we really are as removing this toxin from the environment it would be a plus.

Thanks

Hugh Mc Guigan

From: Hugh Mc Guigan <hugeibewl45@juno.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/24/2009 10:28 AM
Subject: Dredge rules

To Whom it may concern (Mark Stopher)

I am a claim owner and recreational gold miner. I have some thoughts on rules that may help get some of the anti miners off our backs and help F&G fund the administration of dredge permitting if the ban is lifted.

1. Base permit fees on size of dredge to be operated. There is of course a huge difference in the impact a 2 inch unit makes as compared to a 8 inch

2. Permit each unit with a sticker much like off road vehicle permits.

3. Have some collection points where Mercury can be turned in. Much of the fuss seems to be on this issue. If we are seen as I believe we really are as removing this toxin from the environment it would be a plus.

Thanks

Hugh Mc Guigan

From: <messdaddy65@juno.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/23/2009 9:44 AM
Subject: Comments reference Suction dredge permit program

Mr Stopher:

I wish to preface these comments by stating that I am a conservationist as well as an active CAMC holder in Siskiyou County who dredges in the Humbug Creek.

Uneducated "conservationists" have not grasped the concept that the 1872 Mining Law gives people the right to an action involved in mining. This action is the removal of minerals from public lands. What is in question is how this right of action is used to extract minerals without affecting the environment any more than Mother Nature does during flooding.

It is true that there are dredgers who have no consideration for the environment what so ever. I feel that these individuals provide the impetus for the filing of law suits to stop dredging all together.

The present Suction Dredge Permitting laws in Section 228, Title 14 do cover all aspects relative to conserving the public's land.

HOWEVER, California was built out of Gold mining when gold was valued @ $3 an ounce or so, and within the last 10 years gold has increased almost 400%, but the permitting fees have NOT even doubled, BUT the number of "new claims" has increased by apx thousands!! The majority of these "new" prospectors have not been educated on the proper use of their right to an action, the removal of gold.

PROPOSALS:

DEPT OF FISH AND GAME FEES:

Increase the Resident dredging permit fee from $47 to $100 per dredge suction nozzle inch PER WEEK.

Increase the Nonresident permit fee from $185 to $150 per dredge suction nozzle inch PER WEEK.

Provide a copy of each permittee's application to the USDA Forestry.

Increase dredging fines to $1000 per incident, and enforcing the 3 strikes and you are out ruling.

USDA FORESTRY INVOLVEMENT:

Require all permittees to provide a Notice of Intent.

Enforce NOI rules and increase fines to $1000 per incident, with 3 strikes and you are out ruling.

BLM INVOLVEMENT AND FEES:

Increase the new claim filing fees to $100 PER ACRE.

Require all types of claim holders to file a yearly Notice of Intent to hold a claim.

Eliminate the Affidavit of Assessment work.

Increase the yearly maintenance fees from $140 to $10 AN ACRE.

SUMMATION:

Implantation of the above proposals would decrease the abuse of the environment as well as provide revenue for CA. It could be worked out with the 3 entities as far as training dredgers. The Hunters training program could be modified for dredgers, or Associations like GPAA or LDMA could be certified as trainers.

Bottom line is that the fees and time allowing permittees to gain access to Public Lands has been allowed to lag behind the value of Peace and quiet as well the value of Gold!

Sincerely,

Irvin E. Jahn

From: "Jack Chase" <jchase@sisqtel.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/17/2009 2:48 PM
Subject: Re scope meeting on suction dredge permit program:

Jack Chase

POB 9

21740 Scott River Rd

Scott Bar, CA

96085-0009 USA

530-496-3430

jchase@sisqtel.net

10\17\09

Mark Stopher

California Department of Fish & Game

601 Locust St.

Redding, CA 96001

dfgsuctiondredge@dfg.ca.gov

Jack Chase

POB 9

21740 Scott River Rd

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10\17\09

Mark Stopher

California Department of Fish & Game

601 Locust St.

Redding, CA 96001

dfgsuctiondredge@dfg.ca.gov

Re scope meeting on suction dredge permit program:

Dear Mark:

This action by the government has hurt me tremendously and I believe does not follow due process rules and regulations of our government. I own river frontage on both sides of the river, live on this area, have had and now have a gold claim, followed all rules and paid all fees, am a citizen of the United States and am a WW2 Vet and feel that the government is illegal in taking away my legal privileges without cause, evoked by hearsay that has no proof. In fact there is proof dredging actually helps the salmon. And how can government, just suddenly demand that I stop dredging immediately, without due notice and accuse me of violating the law (what law?) and sending me to prison and paying a fine if the dredge is not removed immediately.

I have put in much money and time on my claim, equipment, dredge and paying people to help me get the dredge in, as I am 85 years old and must pay for help. Will the government next state, that I am not allowed to have a garden and take potatoes out of the ground, because somebody without proof has said there might be some unproven problem? World War Two was fought to prevent Hitler from taking away our legal rights. Now our own government is "taking away" our legal privileges again. If I was a criminal and violated the law, I would be given much more consideration than my country is giving me, a loyal citizen that has obeyed the law all my life. Big government is not remembering that this is a country of freedom and of the people, by the people and for the people.

This action hurts me as the small income I get from mining is necessary for our cost of food, as I am in a low financial position. It also hurts local businesses that derive part of their income from local dredgers. Some are talking that they may have to close up, because of this loss of income. This ruling has hurt me but, also our economy and scares me what they may do next!

I am mad as hell and think my government is cheating me again!

Please add my comments to the Redding meeting as I am unable to attend.

Sincerely,

Jack Chase

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This action by the government has hurt me tremendously and I believe does not follow due process rules and regulations of our government. I own river frontage on both sides of the river, live on this area, have had and now have a gold claim, followed all rules and paid all fees, am a citizen of the United States and am a WW2 Vet and feel that the government is illegal in taking away my legal privileges without cause, evoked by hearsay that has no proof. In fact there is proof dredging actually helps the salmon. And how can government, just suddenly demand that I stop dredging immediately, without due notice and accuse me of violating the law (what law?) and sending me to prison and paying a fine if the dredge is not removed immediately.

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I am mad as hell and think my government is cheating me again!

Please add my comments to the Redding meeting as I am unable to attend.

Sincerely,

Jack Chase

12/3/09

To whom it may concern -

This is to inform you of our great unhappiness and disagreement with the impact study regarding suction dredging. Our Yuba River is damned up at Bullards Bar where there is no fish ladder, no way for Salmon to travel up our river.

Therefore no impact to Salmon.

The Yuba River should have been exempt from the impact study.

No common sence!

Please put us on your mailing list regarding all future meetings and decisions.

Thankyou -

Sincerly

Jack Steward
P.O. Box 253
Sierra City, Ca. 96125
530) 862-1268

P.S. I used to work for a Marine Biologist in Oregon.

From: Jacob Pounds <siskiyousunphlower@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 9:36 AM
Subject: Suction Dreging should be banned permanently - Jacob Pounds' comments

Dear Reader,

My name is Jacob Pounds, and I would like to share with you my thoughts and comments concerning suction dredging in California rivers and streams.

I have seen first hand the disruptive and destructive behaviors that accompany suction dredging. Suction dredging degrades already impaired and impacted habitat in many California rivers. The creation of dredge holes in sensitive stream bed habitat is unacceptable for macroinvertabrate populations, fish populations, and human safety. Suction dredges glean streambed cobbles, destroying macroinvertabrate habitat, create noise and turbidity pollution which affects all downstream users, and create conditions where unstable gravels, which may be used by spawning salmonids, can 'blow out' and destroy entire egg populations.

The use of a suction dredge disrupts downstream users, creating highly turbid conditions that affect water quality. This behavior releases toxic contamination - gasoline, oil, or diesel exhaust and spills, and reintroduces remnant toxics like mercury in addition to fine sediment into the water column. In some instances, dredge sites are nearby or upstream of a major community water source. Happy Camp, California, on the Klamath River, depends on community water sourced from Elk Creek. This watershed has been impaired by sedimentation and multiple mining claims upstream of the community water source.

The current rules governing suction dredging have also largely been ignored. I have seen firsthand on stretches of the Klamath River between Seiad Valley and Happy Camp dredge population densities that exceed 10 dredges per stream mile. I have photographs of these dredges with fuel cans on the dredges in the water, or tucked up along the bank with no catchment device for leaking fuel. Because there is inadequate enforcement of these laws, dredgers often create extremely detrimental environmental conditions without fear of recourse by agencies like California Department of Fish and Game, The United States Forest Service and The Bureau of Land Management.

Clearly, the banning of suction dredging on all California rivers is not only an issue of fish populations, habitat, and water quality, but also a matter of environmental justice. Make the right decision using sound science and reason. Ban suction dredging permanently in all California rivers and streams.

James Aubert
1009 E. Robinson Street
Carson City Nevada 89701

Mark Stopher
California DF&G
601 Locust
Redding Ca. 96001

Nov. 30, 2009

California Department of Fish and Game
Suction Dredge Mining and Rule Making Process

Constructive Notice & Comment:

Dear Mr. Stopher,

No disrespect is meant to you personally. But, I do not appreciate, and am in fact utterly outraged at being de facto forced to participate in this costly, arbitrary, error prone, unnecessary rule making process covering suction dredge mining in the state of California. I only do so, in order to adamantly defend my own, my families, and all others involved constitutionally protected private property rights.

PREFACE

The Governor of California signed SB 670 legislation into law, as an "urgency" measure August 6th 2009, lacking evidentiary support, as no "statutory" emergency existed. SB 670 took effect immediately, and mandated the issuance of small scale suction dredge gold mining permits by the Department of Fish & Game (DFG), a California Environmental Quality Act (CEQA) "project". As well as arbitrarily prohibited the issuance of permits covering all small scale suction dredge gold mining statewide, for an indeterminate period, until various contingencies of SB 670 are met. Some of which may never occur.

The application of CEQA, to all small scale suction dredge gold mining statewide, is legally challenging, faces numerous uncertainties, huge obstacles, and is not achievable in any legal or constructively meaningful way. That is so, for the long series of material facts, and profound legal reasons, in no particular order of priority, set forth as follows:

GENERAL COMMENT # 1

DFG has no legal mandate or statutory authority to perform a statewide CEQA study

SB 670 statewide suction dredge prohibition is in effect until;

(1) The department has completed the environmental review of its existing suction dredge mining regulations, as ordered by the court in the case of Karuk Tribe of California et al. v. California Department of Fish and Game et al., Alameda County Superior Court Case No. RG 05211597.

That court order in pertinent part reads; "THEREFORE, the Department is hereby ORDERED to conduct a further environmental review pursuant to CEQA of it's suction dredge mining regulations and to implement, if necessary, via rulemaking, mitigation measures to protect the Coho salmon and or other special status fish species in the watershed of the Klamath, Scott, and Salmon Rivers, listed as threatened or endangered after the 1994 EIR.".

The court order SB 670 relies on specifically covers only the three distinct watersheds, of the Klamath, Scott, and Salmon Rivers.

As such, DFG has no legislative mandate, nor statutory, or regulatory authority, to perform a statewide CEQA study of it's suction dredge mining regulations. Therefore, I "Protest" DFG illegal actions in implementing, and performing a statewide CEQA study of it's suction dredge mining regulations. And, as a "taxpayer" in the state of California, I demand DFG stop these illegal, wasteful actions. Otherwise, I have no recourse but to bring an appropriate action in law, to have it stopped.

GENERAL COMMENT #2

Enforces an unconstitutional "taking" of private property, without first paying compensation.

Almost all small scale suction dredge gold mining statewide in California occurs on valid unpatented, and patented (fee simple) mining claims spread statewide on federal public domain. Near forty five percent (45%) of California is federally owned public domain lands. Primarily managed by the U.S. forest Service (USFS), and Bureau of Land Management (BLM). Federal public domain lands, and all unpatented mining claims on it, are under express federal statutory jurisdiction of the U.S. Forest Service (USFS), or Bureau of Land Management (BLM).

Thus, express federal policy, jurisdiction, dominant governing law, land planning, mining law, and regulation are manifestly applicable to all small scale suction dredge gold mining on federal public domain lands in California. DGF as a CEQA "lead agency", if acting in "good faith" cannot arbitrarily ignore, or omit that paramount federal presence, physical circumstance, or legal fact. Unless, SB 670's intent is to foolishly cause a direct collision between dominant federal law, and subservient state law?

"Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States." (See, US Const, Art IV, § 3, cl. 2 (the "Property Clause"). This provision, combined with the Supremacy Clause of the United States Constitution (Art 6, cl 2), gives the federal government extremely broad authority to preempt the application of state laws to federal property when those state laws conflict with a federal mandate.

The General Mining Law (30 U.S.C. § 21 et seq.), in fact owes its origin to the discovery of gold in California, in 1848. The bulk of it's statutory construction resulted from local miners rules originating in California during the gold rush era. 30 U.S.C. § 21 et seq., is a direct federal mandate to all western states where federal mining claims may be initiated, worked, and held. California accepted that federal mandate, upon admission as state by legislative implementation of what is now Public Resource Code § 3900 et seq. Which, with very minor differences (not in conflict with federal law) mirrors the discovery, posting, recording, and annual work requirements for the maintenance of title of all mining claims existing in California.

The Supremacy clause of the U.S. Constitution (Art. VI, paragraph 2) mandates federal law "preempts" state law, where direct conflicts arise. No matter how meritorious the intent of CEQA is. It simply cannot preempt overriding federal law. Framers of SB 670, and CEQA obviously never contemplated direct collision, or preemption by dominant federal law. The winner in direct collision of state, and federal law is overwhelmingly obvious. Federal law is supreme.

If Congress has not entirely displaced state regulation over the matter in question, state law is still preempted to the extent it actually conflicts with federal law, that is, when it is impossible to comply with both state and federal law, or where the state law stands as an obstacle to the accomplishment of the full purposes and objectives of Congress, (See: California Coastal Comm'n v. Granite Rock Co., 480 U.S. 572, 581 (1987).

"Any state legislation which frustrates the full effectiveness of federal law is rendered invalid by the Supremacy Clause" regardless of the underlying purpose of its enactors." (See; Perez v. Campbell, 402 U.S. 637, 651-52, 91 S.Ct. 1704, 29 L.Ed.2d 233 (1971).

A conflict exists if a party cannot comply with both state law and federal law. In addition, even in the absence of a direct conflict between state and federal law, a conflict exists if the state law is an obstacle to the accomplishment and execution of the full purposes and objectives of Congress. *Crosby v. Nat'l Foreign Trade Council*, 530 U.S. 363, 372-73 (2000).

It has long been established that "a state statute is void to the extent that it actually conflicts with a valid federal statute" and that a conflict will be found either where compliance with both federal and state law is impossible or where the state law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress. (See; Edgar v. Mite Corp., 457 U.S. 624, 631 (1982), et al.).

As long as the Federal government retains title, the federal interest in providing free access to its own land in order to promote mining is sufficient to preempt any state law that fundamentally bans such use. Thus under standard preemption analysis any state legislation, or regulation that conflicts with this overriding federal purpose, must fail.

To anyone knowledgeable, it is utterly clear that, "State and local regulations which render a mine commercially impracticable cannot be enforced". (See; California Coastal Commission et al., v. Granite Rock Co., 480 U.S. 572, 592, 107 S.Ct.1419, 1425(1987).

South Dakota Mining Association Inc v. Lawrence County, 155 F.3d 1005 sets the precedent here, and reads as follows. "The ordinance's de facto ban on mining on federal land acts as a clear obstacle to the accomplishment of the Congressional purposes and objectives embodied in the Mining Act. Congress has encouraged exploration and mining of valuable mineral deposits located on federal land and has granted certain rights to those who discover such minerals. Federal law also encourages the economical extraction and use of these minerals.

The Lawrence County ordinance completely frustrates the accomplishment of these federally encouraged activities. A local government cannot prohibit a lawful use of the sovereign's land that the superior sovereign itself permits and encourages. To do so offends both the Property Clause and the Supremacy Clause of the federal Constitution. The ordinance is prohibitory, not regulatory, in its fundamental character. The district court correctly ruled that the ordinance was preempted. Accordingly, we affirm the judgment of the district court."

The California Statehood Admission Act (Sec. 3) expressly provides; "...said State of California is admitted into the Union upon the express condition that the people of said State, through their legislature or otherwise, shall never interfere with the primary disposal of the public lands within its limits, and shall pass no law and do no act whereby the title of the United States to, and right to dispose of, the same shall be impaired or questioned...".

Indisputably, the state of California, it's legislature, and all state regulatory agencies are expressly barred from impairing, or even questioning federal mining claim owners vested right to mine, and their private property rights held under federal law. Certainly, the state can "reasonably" "regulate" small scale suction dredge gold mining. But cannot make that regulation so onerous as to arbitrarily prohibit mining, even temporarily, without incurring monumental financial liability.

The U.S. Supreme Court has unwaveringly held that valid mining claims are a form of "private & real property" In ordinary English, a "claim" is merely a demand for something, or an assertion of a right where the right has not been established. The phrase "mining claim" therefore probably connotes to most laymen an unsupported assertion or demand from which no legal rights can be inferred. But that is emphatically not so.

"In law, the word "claim" in connection with the phrase "mining claim" represents a federally recognized right in real property. The Supreme Court has established that a mining "claim" is not a claim in the ordinary sense of the word--a mere assertion of a right--but rather is a property interest, which is itself real property in every sense, and not merely an assertion of a right to property." (See; Benson Mining & Smelting Co. v. Alta Mining & Smelting Co., 145 U.S.428 (1892)

Valid placer mining claims situated over California waterways grant the owners "vested" riparian water rights. The riparian owner is subject to the doctrine of reasonable use, which limits all rights to the use of water to, that quantity reasonably required for beneficial use and prohibits waste or unreasonable use or unreasonable methods of use or diversion. (See; Sec. 3, Art. XIV, Const. of Cal.; Peabody v. City of Vallejo, 2 Cal. 2d 351, 40 Pac. 2d 486; Tulare Irr. Dist. et al v. Lindsay Strathmore Irr. Dist., 3 Cal. 2d 489, 45 Pac. 2d 972; Rancho Santa Marqarita v. Vail, 11 Cal. 2d 501, 81 P. 2d 533).

Vested rights are fully protected from "taking" by the government under the fifth amendment to the Constitution. See Solicitor's Opinion M-36910 (Supp.), 88 Interior Dec. 909, 912 (Oct 5, 1981); Wyoming v. United States, 255 U.S. 489, 501-02 (1921); Appeal of Eklutna, 83 Interior Dec. 619 (Dec. 10, 1976).

Section 104(b) of the California Revenue and Taxation Code defines real property in part as "All mines, minerals, and quarries in the land, and all rights and privileges appertaining thereto." The term "land" is defined in Property Tax Rule 121 in relevant part as "the possession of, claim to, ownership of, or right to possession of land; mines, quarries, and unextracted mineral products. All real property not exempt or immune from taxation is subject to property tax.

The terms "mineral rights" and "mining rights" as described in Section 607.5 include the right to enter in or upon the land for the exploration, development, and production of minerals. The taxability of unpatented mining claims was established more than a century ago by the California Supreme Court, in the case of the State of California v. Moore 12 Cal. 56 (1859), which stated in part: "The interest of the occupant of a mining claim is property, and, under the Constitution, it is in the power of the Legislature to tax such property."

This private property right entitles the owner to "the right to extract all minerals from the claim without paying royalties to the United States." (See; Swanson v. Babbitt, 3 F.3d 1348, 1350 (9th Cir. 1990). As such, the owners vested "right" to mine, as well as the mining claim, being "real property" itself is fully protected from uncompensated "taking" by provisions of the U.S. Constitution (Amend. 5). No one can rationally refute, ownership of a mining claim, containing a valuable mineral deposit, does not include the right to mine it. As one is absolutely premised upon the other. Otherwise, all private property protections provided by the U.S Constitution would be meaningless.

The California Constitution. (Art. I, § 19 (a), provides, "... Private property may be taken or damaged for a public use and only when just compensation, ascertained by a jury unless waived, has first been paid to, or into court for, the owner...". That also, would be meaningless. United States Court of Appeals, Ninth Circuit (1980). "...prospecting, locating and developing of mineral resources in the national forests may not be prohibited nor so unreasonably circumscribed as to amount to a prohibition..."(See; Weiss, 642 F.2d at 299)

"Under our form of government, the legislature is not supreme. It is only one of the organs of that absolute sovereignty which resides in the whole body of the People. And like other bodies of government, it can only exercise such powers as have been delegated to it, and when it steps beyond that boundary, its acts are utterly void." (See; Billings v. Hall, 7 California 1.). Furthermore, "An act altering, or destroying the nature, or tenure of estates is void". (See; Dewey v. Lambier 7 Cal. 347)

SB 670 immediately inflicted an illegal compensable private property taking the day it became law. By arbitrarily prohibiting all placer mining claim owners in California, all beneficial use of their mineral estate for an indeterminate period of time. In effect "taking" everything they own. The monetary magnitude of which, is as of yet unascertainable. But, with assurance, annually could amount to fifty (50) times the 1.5 million dollar cost of funding this very CEQA.

Absurdly, the state legislature negligently failed to contemplate the compensable private property takings, SB 670 would arbitrarily inflict on private property owners statewide. DFG is wrong to assume only three thousand two hundred (3,200) individuals are involved. That being the number of dredging permits, DFG usually issues annually. When, in fact SB 670, DFG, and CEQA actions here have, and continue to punitively destroy every fundamental attribute of ownership of near one hundred fifty thousand (150,000) mining claim owners statewide have.

Anyone thinking all mining claim owners in California will stand idly by, doing nothing, while SB 670 illegally deprives them of all use, utility, benefit, value, and profit derived from their private property is wrong. As doing so is a constitutionally forbidden de facto taking without compensation. Which, all mining claim owners throughout California will certainly never allow. That silent majority will in the foreseeable future, step forward in court, en mass to demand just compensation due them. Plus interest compounding from August 6th 2009, the day SB 670 caused this compensable "taking".

GENERAL COMMENT # 3

DFG has no regulatory power over "natural resources"

CA F&G CODE Section 200
200. There is hereby delegated to the commission the power to regulate the taking or possession of birds, mammals, fish, amphibia, and reptiles to the extent and in the manner prescribed in this article.

CA F&G CODE Section 201. Nothing in this article confers upon the commission any power to regulate any natural resources or commercial or other activity connected therewith, except as specifically provided.

The protection of mineral resources in California is the responsibility of the following agencies. Which either have statutory authority or are Responsible Agencies under CEQA:

1. California Department of Conservation is the primary agency with regard to mineral resource protection. The Department is charged with conserving earth resources (Public Resources Code Sections 600-690)

2. State Mining and Geology Board, which develops policy direction regarding the development and conservation of mineral resources and reclamation of mined lands.

Without doubt, valuable minerals, particularly placer gold is a natural recourse. The Commission and Department may only act in compliance with state law. "An administrative agency must act within the powers conferred upon it by law and may not act in excess of those powers" (See; *American Federation of Labor v. Unemployment Ins. Appeals Bd.* (1996) 13 Cal.4th 1017, 1042; see *Woods v. Superior Court* (1981) 28 Cal.3d 668, 679; *Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 295; *Ferdig v. State Personnel Board* (1969) 71 Cal.2d 96, 103.)

GENERAL COMMENT # 4

Small scale suction dredge gold mining is statutorily exempt from DFG permitting

The Surface Mining and Reclamation Act of 1975, (SMARA), Public Resources Code (PRC) Section 2710 et seq., at Section 2714(d) expressly EXEMPTS "Prospecting for, or the extraction of, minerals for commercial purposes and the removal of overburden in total amounts of less than 1,000 cubic yards in any one acre or less."

All small scale suction dredge permits fit within that exemption. Given that SMARA statutory "exemption", a direct conflict in California law exists. Until such time as that conflict SB 670 created is resolved, DFG cannot legally withhold small scale suction dredge permits, nor perform this CEQA study.

GENERAL COMMENT # 5

DFG must consult with both the USFS, and BLM in this CEQA process.

SEE EXHIBIT # 1, Eight (8) page Memorandum of Understanding between CA Dept. of Conservation, State Mining & Geology Board, USFS & BLM.

GENERAL COMMENT # 6

DFG must consult with every agency or land planning entity in California.

Given this CEQA study is "statewide", every local, regional, and state agency that effects any land planning ordinance or measure must be included.

GENERAL COMMENT # 7

DFG must give actual "Notice" to every mining claim owner statewide.

In that this CEQA study directly effects the private property, and vested water rights of every mining claim owner statewide. And, that each mining claim owner is placed in the position of a CEQA "applicant". Even if made so by provisions of SB 670. Each must be given actual notice of the project, and be allowed to give written input, or comment into the process.

GENERAL COMMENT # 8

DFG must "refund" permitting fee's for all permits it canceled.

The term "vested mining right" includes both a right established by use, as well as a right established by permit. (See; TransOceanic Oil Corporation v. Santa Barbara (1948) 85 Cal.App.2d 776; Avco Community Developers, Inc. v. South Coast Regional Comm'n. (1976) 17 Cal.3d 785, 790 [a permit becomes a vested property right where the permittee has incurred substantial liabilities and performed substantial work in reliance on the permit]; Goat Hill Tavern v. City of Costa Mesa (1992) 6 Cal.App.4th 1519; Hansen Bros. Enterprises v. Board of Supervisors of Nevada County (1996) 12 Cal.4th 533 ("Hansen").)

Each suction dredge permit holder has a vested property right in their individual permit. Each permit holder is an effected party, and in the position of an CEQA "applicant". DFG must give each actual notice of this CEQA project, and make provision for refund to each, for all permits DFG cancelled.

GENERAL COMMENT # 9

Economic impacts must be included in this CEQA study

Generally, "economic impacts" need not be included within a "CEQA" study. As economic impacts are not potential, or actual physical changes to the environment. Here however, when temporary, or permanent closures of given area's statewide may be utilized to "mitigate" or "avoid" significant effects to the environment attributed to suction dredging, economic impact is relevant to measure the significance of an environmental impact.

In-so-far as this CEQA study has a direct potential to "take" compensable private property rights of all mining claim owners statewide, valued over 1 billion dollars ($1,000.000,000). DFG cannot deny that effect is "significant", and it must be included in this CEQA study.

GENERAL COMMENT # 10

Mining claims situated over California waterways own "riparian" water use rights

In 1870, Congress extended priority water rights "to all public lands affected by this act; and all patents granted, or pre-emption or homesteads allowed, shall be subject to any vested and accrued water rights, or rights to ditches and reservoirs used in connection with such water rights, as may have been acquired under or recognized by" the 1866 act (See; Act of July 9, 1870, ch. 235, ' 17, 16 Stat. 218).

RIPARIAN RIGHTS: No California statute defines riparian rights, but a modification of the common law doctrine of riparian rights has been established in this State by decisions of the courts and confirmed by the provisions of section 3, Article XIV of the California Constitution (see California Water Code sections 100, 101). Lands within the watershed of a natural watercourse, which are traversed thereby or border thereon, with the exceptions and limitations hereinafter, indicated, may be riparian. Each owner thereof may have a right, which is correlative with the right of each other riparian owner to share in the reasonable beneficial use of the natural flow of water, which passes his land.

No permit is required for such use. The State Water Resources Control Board's (SWRCB) policy is to consider natural flow as not including return flows derived from use of ground water, water seasonally stored and later released, or water diverted from another watershed. In administering the California Water Code, the SWRCB is governed by the following considerations relative to the doctrine of riparian rights as applied to this State:

The riparian right exists by reason of ownership of land abutting upon a stream or body of water and affords no basis of right to use water upon nonriparian land (See; Rancho Santa Marqarita v. Vail, 11 Cal. 2d 501, 81 P. 2d 533)

The riparian owner is subject to the doctrine of reasonable use, which limits all rights to the use of water to, that quantity reasonably required for beneficial use and prohibits waste or unreasonable use or unreasonable methods of use or diversion. (Sec. 3, Art. XIV, Const. of Cal.; Peabody v. City of Vallejo, 2 Cal. 2d 351, 40 Pac. 2d 486; Tulare Irr. Dist. et al v. Lindsay Strathmore Irr. Dist., 3 Cal. 2d 489, 45 Pac. 2d 972; Rancho Santa Marqarita v. Vail, 11 Cal. 2d 501, 81 P. 2d 533)

Riparian rights entitle the landowner to use a share of the water flowing past his or her property. While riparian rights require no permits or licenses, they apply only to the water that would naturally flow in the stream and they do not allow the user to divert water for storage or use it on land outside its watershed. Riparian rights remain with the property when it changes hands.

It is the established doctrine of this court that rights of miners ... and the rights of persons who had constructed canals and ditches to be used in mining operations and for purposes of agricultural irrigation, in the region where such artificial use of the water was an absolute necessity, are rights which the government had, by its conduct, recognized and encouraged and was bound to protect, before the passage of the act of 1866. We are of the opinion that [section 9] of the act ... was rather a voluntary *recognition of a pre-existing right of possession,* constituting a valid claim to its continued use, than the establishment of a new one (See; *Broder,* at 276. (*Broder v. Natoma Water & Mining] Co.,* [101 U.S. 274 (1879).

The right to use water is a property right and may be protected against infringement in the same manner as any other property right; i.e., by appropriate court action.

Therefore, all mining claims situated over California waterways grant the owner have right to "appropriate", and put that water there, to "beneficial use". Neither DFG, nor the State Water Resource Control Board have the regulatory authority to deny that use.

The intake, and discharge from suction dredges consists totally of stream water and bed substrate material. In other words, suction dredging adds nothing that isn't already there, to a waterway. The only thing small scale suction dredge removes by design function are small amounts of valuable heavy metals trapped in the floating sluice box recovery system. In fact, suction dredging also removes lead sinkers, bullets, mercury, and metal fishing paraphernalia. All of which are certainly deleterious to water quality.

Small scale suction dredge gold mining does not discharge any deleterious chemical substance (e.g., pesticides, insecticides, petroleum products, etc.), or deleterious organic nutrient loading substances (e.g., phosphates, nitrates, urine, fecal matter, etc.) into California waterways.

Suction dredging does cause a mild fleeting increase in turbidity, for a short distance downstream from the site. But, even cumulatively, a mild fleeting, short distance increase in turbidity only, is not significantly deleterious to local, regional, or overall statewide water quality in California. In other words, suction dredging adds no "pollutants". To set an environmental baseline consider, the combined number of swimmers, rafters, non-motorized, and motorized boating create far more turbidly than all small scale suction dredging statewide.

GENERAL COMMENT # 11

Pre-SB 670 DFG regulations adequately protect fish, and water quality.

In streams or rivers where suction dredging occurs, the most critical life stage for salmon, or any other fish is the egg stage. Current (pre-SB 670) DFG regulations prohibits all suction dredging in locations where fish are spawning or where fish eggs or alevins are known to exist. Other DFG, and water quality regulations prohibit all ways and means that small scale suction dredge gold mining might otherwise pollute California waterways. Given that fact, rather than perform another unneeded costly EIR, it would be far more prudent, and cost effective to better enforce existing DFG regulations. Rather than spend $1.5 million dollars creating more, unneeded, and arbitrary new regulation.

GENERAL COMMENT # 12

Two differing standards are required to avoid preemption by federal law

The state of California is free to regulate whatever it may. In any way the California the Statehood Admission Act, State Constitution, and Legislature legally provides. However, the state cannot intentionally defy federal law, as the U.S Constitution forbids such acts, by any state in the union, absent cessation. Given that the majority of all small scale suction dredging statewide in California is performed on mining claims, on federal lands. The state cannot preempt federal law governing such things. Consequently, because the federal government is the higher, and absolute sovereign of all it owns. Absent cessation from the Union, the state of California cannot preempt federal law.

So-as-to avoid collision and preemption by federal law, would require DFG to establish, and promulgate differing regulatory standards for small scale suction dredging on mining claims on federal lands, verses everywhere else, statewide. As, one set of regulatory standards would not suffice. Unless that single set was tailored to suit federal law, as it pertains to all mining claims statewide, besides everywhere else.

No natural mineral resource deposit exists, in tidy packages, in orderly plastic wrapped stacks, on a shipping platform, waiting to be discovered, and hauled away. They exist in nature, in whatever setting they exist in. All mineral deposits require mining, in order to extract the valuable mineral there. Given the obvious irrefutable fact, some environmental degradation must take place, in order to mine a natural mineral resource. The cornerstone of all federal regulation governing those environmental impacts, caused by mining is carefully premised on that factual foundation. Otherwise, it would be impossible to mine any natural mineral resource.

The federal standard is not "NO" degradation. Rather, it is to prevent "unnecessary or undue degradation" in mining operations on federal lands. Plainly, if a "NO" environmental degradation standard existed, for agriculture, manufacturing, commerce, and power production. Modern civilization as we know it in America, or California could not exist.

If a "NO" environmental degradation standard is established here, for small scale suction dredge gold mining in California. A "precedent" is set, for all other uses of water, land, agriculture, manufacturing, travel and commerce statewide. Perhaps, if the legislature were to go without everything that mining fundamentally provides them with. After a day of setting cold, naked, hungry, without shelter, telephones, vehicles, electricity or every other modern necessity, or convenience mined mineral resources make possible. The legislature might come to the full realization of how foolish, and arbitrary SB 670 actually is. What next, stop limestone, or aggregate mining in California, destroying the states domestic production of cement, and concrete? In turn destroying the states construction industry.

GENERAL COMMENT # 13

NEPA standards verses CEQA standards on federal lands in California

Various state agencies (including the State Water Resource Control Board) have "memorandums of understanding", or various types of similar documents providing for a workable relationship with commercial activities on federal lands within the state of California, so-as-to avoid federal preemption conflicts.

43 U.S.C. §1702(c) defines multiple use as "a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific, and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output."

The General Mining Law (30 U.S.C. §§ 21 et seq.) applies to "Federal lands". Meaning, "any lands or interest in lands owned by the United States, subject to location under the General Mining Law, including, but not limited to, those lands within forest reservations in the National Forest System and wildlife refuges in the National Wildlife Refuge System".

The Mining and Minerals Policy Act of 1970 states: "The Congress declares that it is the continuing policy of the Federal Government in the national interest to foster and encourage private enterprise in (1) the development of economically sound and stable domestic mining, minerals, metal and mineral reclamation industries, (2) the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security, and environmental needs, ...so as to lessen any adverse impact of mineral extraction and processing upon the physical environment that may result from mining or mineral activities." 30 U.S.C. 21a.

Given, both USFS, and BLM have local district ranger offices, situated throughout the state, everywhere USFS, and BLM lands exist. As well as trained, and adequate personnel, to process every single small scale suction dredge "NOI", and on a case-by-case, and "site" by "site" basis on all federal public domain lands statewide.

It would clearly reduce paperwork, duplication of effort, and administrative costs. If DFG were to simply let far better qualified, better funded, USFS, and BLM local personnel simply do their job. Rather than complicate it, by promulgation of more unneeded, and conflicting state regulations over suction dredging . Which could be accomplished by one single simple statewide "Memorandum of Understanding" between DFG, USFS, and BLM. Rather than produce tons of paper, at considerable cost, with no constructive use, as this CEQA study is doing here.

"BLM and the Forest Service are appropriately regulating these small suction dredge mining operations under current regulations as casual use or causing no significant impact, respectively" (See; NRC, *Hardrock Mining on Federal Lands* 96 (Nat'l Academy Press 1999).

GENERAL COMMENT # 14

DFG cannot use a CEQA study to promulgate conflicts in law.

It is an fundamental principle of California law that where legal activities that will be restricted by environmental laws, only be restricted to the extent required to mitigate their adverse effects on California Fish and Wildlife. Where mitigation measures are required, "the measures or alternatives required shall be roughly proportional in extent to any impact on those species that is caused by that person"(FGC § 2052.1).

The California Endangered Species Act specifically provides that agencies shall develop measures that avoid jeopardizing listed species "while at the same time maintaining the project purpose to the greatest extent possible" (FGC § 2053);

The standard of restraining restrictions to the minimal extent necessary is also fully incorporated into CEQA, and made particularly applicable to judicial relief. Court's orders "shall include only those mandates which are necessary to achieve compliance with this division and only those specific project activities in noncompliance with this division". PRC § 21168.9(b)

A public agency's discretion to find project alternatives infeasible based on the incompatibility of the alternatives with either the agency's policy considerations or the objectives of the project, has been enhanced considerably through a recent published appellate court opinion. *California Native Plant Society, et al. v. City of Santa Cruz, et al.* (H032502, September 18, 2009).

In particular, an agency shall not "take any action which gives impetus to a planned or foreseeable project in a manner that forecloses alternatives or mitigation measures that would ordinarily be part of CEQA review of that public project." CEQA Guidelines § 15004(b)(2)(B). This is especially important where, as here, a public agency is entrusted with reviewing and approving its own project. *See Laurel Heights I*, 47 Cal.3d at 395.

A new appellate decision in a CEQA case affirms a lead agency's authority to reject environmental impact report (EIR) alternatives as infeasible on policy grounds. (*California Native Plant Society et al. v. City of Santa Cruz* (6th District Court of Appeal, filed Aug. 20, 2009, pub. order Sep. 18, 2009, Case No. H032502).)

CEQA clearly provides that an agency may find that an environmentally superior alternative is infeasible on various grounds, including "[s]pecific economic, legal, social, technological, *or other considerations* . . . ." (Pub. Resources Code, § 21081(a)(3); CEQA Guidelines, § 15091(a)(3), emphasis added.)

If, as a result of this CEQA study, if DFG promulgates further in-stream restrictions, or extends existing seasonal closures, or completely closes any California waterway. That was open in pre-SB 670 DFG regulations. That would "effect" a compulsory "taking" of private property rights, over any federal mining claim situated anywhere statewide, that could occur.

CEQA Guidelines Section 15364, "feasible" (for CEQA purposes) means "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

That would effectively make the application of CEQA "infeasible" to any valid existing mining claims situated over waterways on federal public domain lands in California.

GENERAL COMMENT # 15

DFG's issuance of suction dredge mining permits is made "Ministerial" by overriding federal law, provisions of the U.S. Constitution, the California Statehood Act, and the California Constitution as they apply to mining rights, on mining claims, on federal public domain lands within California. Which comprises 45% of said state.

Title 14. California Code of Regulations. Chapter 3. Guidelines for Implementation of the California Environmental Quality Act Article 19. Categorical Exemptions 15300. Categorical Exemptions Section 21084 of the Public Resources Code requires these Guidelines to include a list of classes of projects which have been determined not to have a significant effect on the environment and which shall, therefore, be exempt from the provisions of CEQA.

In response to that mandate, the Secretary for Resources has found that the following classes of projects listed in this article do not have a significant effect on the environment, and they are declared to be categorically exempt from the requirement for the preparation of environmental documents. Note: Authority cited: Section 21083, Public Resources Code; Reference: Section 21084, Public Resources Code.

15300.1. Relation to Ministerial Projects. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which public agencies exercise only ministerial authority. Since ministerial projects are already exempt, categorical exemptions should be applied only where a project is not ministerial under a public agency's statutes and ordinances.

Both by governing federal policy, directives, statute, and governing U.S. Supreme Court case law. No state agency can make permitting regulations so onerous that it effects an outright ban on mining federal lands. Nor may any state agency de facto, or otherwise prohibit such mining. Federal laws allows no such discretion, thus as far as small scale suction dredging permits apply to federal mining claims on federal lands within California. DFG has no "discretion" to not issue such permits.

Small scale suction dredge gold mining is also categorically exempt from permitting under section 15304. Minor Alterations to Land. Class 4 consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes.

The Surface Mining and Reclamation Act of 1975, (SMARA), Public Resources Code (PRC) Section 2710 et seq., at Section 2714(d) expressly EXEMPTS "Prospecting for, or the extraction of, minerals for commercial purposes and the removal of overburden in total amounts of less than 1,000 cubic yards in any one acre or less."

Given, those combined authorities, DFG lacks discretion to refuse to issue small scale suction dredge gold mining permits. As, doing so is contrary to governing law. "An act altering, or destroying the nature, or tenure of estates is void". (See; Dewey v. Lambier 7 Cal. 347)

GENERAL COMMENT # 16

CEQA only applies to "IN" stream effects

The legislative Act SB 670 covers suction dredge gold mining "in any river, stream, or lake of this state". The clear intent, and unambiguous language of the Act specifically covers "in"-stream suction dredging activities only. DFG's regulatory authority pursuant to DFG Code section 5653 et seq., pertains to the use of vacuum and suction dredge equipment in California for "IN"-stream mining.

Related provisions of the DFG Code underscore that exact point. Recently enacted DFG Code section 5653.1 covers the use of suction dredge equipment for "in"-stream mining. The critical word in both the SB 670 law, and subsequent DFG regulation is "in"-steam". "IN"-stream clearly means in the waters of a stream, river or lake in California. In effect, anything outside the water, not in-stream in waters of California, on dry land is beyond the scope of both SB 670 law, and subsequent DFG regulations.

Given that explicit statutory, and regulatory limitation pertinent to suction dredge gold mining in California. DFG has no legal authority to regulate anything about suction dredge gold mining, not in-stream, or otherwise outside waterways in California. The legal consequence of that is that DFG has no authority to let a contract to any firm to perform a CEQA environmental study, or report concerning anything not in-stream, in any steam, river, or lake in California.

Consequently, the SB 670 CEQA initial study report performed by Horizon Water & Environment greatly exceeds the boundaries of "in"-steam environmental impact. As the initial study report, by both statutory law, and DFG regulation is expressly limited to "in"-stream environmental effects.

Thus, all matters within the initial study report relating to: "Accessing the Site" (5.5.2) "Delivering Equipment" (5.5.3) Dry land "Processing of Material" (5.5.7) "Encampments" (5.5.10) Dry land "Aesthetics" Dry land "Air Quality" Dry land "Biological Resources" Dry land "Cultural Recourses" Dry land "Geology & Soils" Dry land "Hazardous Materials" Dry land "Noise" Dry land "Public Services" Dry land "Recreation" .

Are all outside the scope of IN-stream environmental impacts this initial study report is allowed to contain. While SB 670 authorized this CEQA study. No SB 670 statutory provisions, or DFG regulations exist to authorize the inclusion of any environmental effect, or impact, direct, cumulative or otherwise anywhere other than "in"-stream", in California waterways.

General Comment # 17

Ultimately, the stance that small scale suction dredge gold mining activity could jeopardize the continued existence of any salmon, or trout species is scientifically unsustainable. During the great California gold rush, and for decades thereafter, gold miners washed entire mountain sides and millions of pounds of toxic mercury into California rivers and streams, while salmon runs continued at record levels.

In one day of any annual fishing season alone, California fisherman, or Indian tribes catching, and killing salmon, or trout manifestly "affects the species" more than all small scale suction dredge gold mining conducted statewide has since its inception fifty (50) years ago.

DFG is in the incongruous conflicting legal position of on one hand, promoting, permitting and licensing salmon, and trout fishing statewide. Which, by California Fish And Game Code Section 86 definition equates to "Take" meaning hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill....". Which promotes the "catching and killing" of fish.

On the other hand, DFG is scathingly burdened with the task of permitting small scale suction dredge gold mining statewide. Which, SB 670 mandates is now a CEQA project. Placing DFG in the <u>preposterous position</u> of implementing environmental safeguards to "protect" the same fish, that proponents of SB 670, i.e.;

Association of Tribal Governments, California Coast-keeper Alliance, California Sport-fishing Protection Alliance, California Tribal Business Alliance, California Trout, Clean Water Action, Defenders of Wildlife, Environmental Justice Coalition for Water, Friends of the North Fork, Friends of the River, Karuk Tribe, Klamath River-keeper, Pacific Coast Fed. of Fishermen's Assoc., Planning and Conservation League, Ramona Band of Cahuilla Indians, Resighini Rancheria, Rogue River-keeper, San Manuel Band of Mission Indians, Sierra Club California, Sierra Nevada Alliance, Sycuan Band of the Kumeyaay Nation, and The Sierra Fund;

<u>So they can catch, and kill them.</u> That position is morally reprehensible to anyone with common sense, mentally impossible to fathom, and manifestly untenable. <u>This is a perfect example of mutually incompatible statutory directives.</u>

General Comment # 18

The word "person" would seem to be all inclusive, unless otherwise provided for by statute, and subsequent regulation derived from that statute. Which, in the case DFG is specifically as follows:

DFG CODE 5653. (a) The use of any vacuum or suction dredge equipment by any person in any river, stream, or lake of this state is prohibited, except as authorized under a permit issued to that person by the department in compliance with the regulations adopted pursuant to Section 5653.9.

DFG CODE 5653.8. For purposes of Sections 5653 and 5653.3, "person" <u>does not include a partnership, corporation, or other type of association.</u>

Valid unpatented placer mining claim owners act in "association" with Federal Mining Law. Accepting that federal "grant" to explore for, find, initiate ownership of, and mine at their own risk, and expense applicable valuable minerals situated on or within federal lands, open to such mineral entry. In fact, any valid unpatented placer mining claim is made in "partnership" with the federal government, under grant provided for within the Federal Mining Laws, 30 U.S.C. § 21-54.

In any instance where more than one person, acting in "association" with another person, or more than one other person, to dredge on a federal unpatented placer mining claim is a "partnership". Any valid unpatented placer mining claim owned by more than one individual is a form of "partnership" amongst all co-owners.

General Comment # 19

Fish and Game Code section 5653, subdivision (d). This provision of the Fish and Game Code makes it illegal to possess a vacuum or suction dredge in areas, or in or within 100 yards of waters that are closed to the use of vacuum or suction dredges.

All waterways statewide are closed. Meaning, anyone even transporting a suction dredge is subject to citation, fine, or arrest. Even when hauling a suction dredge on any road, highway or freeway next to, or over any bridge crossing any waterway in California.

Such bizarre regulation is legally untenable, and manifestly unjust. As it prohibits the possession, movement, transport, or sale of all small scale suction gold mining dredges, almost statewide. This regulation is meant to destroy California commerce, as it will drive the manufactures of suction dredges in California, into bankruptcy.

General Comment # 20

I, and my extended family own numerous unpatented placer mining claims in California. As well as several gold mining suction dredges, trailers to haul those dredges, dedicated vehicles to pull those dredges on trailers, and all equipment necessary to profitably suction dredge mine our placer mining claims in California.

Prior to SB 670 passage, we could produce income of around ten thousand dollars ($10,000) a month, from suction dredge gold mining in California. By the recovery of a mere ten (10) ounces of placer gold in a month, at present day gold prices. Which are now approaching a twelve hundred dollars ($1,200) an ounce.

The total investment in our California mining claims, and associated suction dredge gold mining equipment approaches two hundred thousand dollars ($200,000) in value. In all SB 670, DFG, and this subsequent CEQA process has arbitrarily cut off that income. As well as reduced the value of our California suction dredge type placer mining claims to zero.

To prove that point, mid November, 2009, I offered them for sale, and received not one offer of any consequence. Because, there is no profitable way to mine them, other than by suction dredging. Which SB 670 now prohibits, until such time as various contingencies come to pass, that may never happen in the foreseeable future, if at all.

DFG regulations that arbitrarily prohibit possession of a suction dredge within one hundred (100) yards of any California waterway, make it impossible, without braking the law, to recover our suction dredges presently situated in California. As doing so, would require transporting them within 100 yards of multiple California waterways to even remove them from the state. Consequently, reducing their value to that of salvage parts, and scrap metal.

In effect, in one arbitrary swoop, SB 670, DFG, and CEQA actions here have effectively destroyed our occupation, livelihood, enjoyment, taken our income, deprived us of future income, reduced the value of our mining equipment to near zero, and made our placer claims in California worthless. Now, place yourself in that exact position, as if this bizarre circumstance had been illegally imposed to you personally. I assure you, it is difficult to contain yourself, or maintain civility in that position.

Literature Review Comments

Specific Comment # 1

2.4.1 General **"...Much of the suction dredging occurs on private lands or unpatented claims owned by mining clubs; in some cases individual club members pay a fee to use the club's claim, such as with the New 49ers (New 49ers 2009)...Many miners also own their own unpatented claims to which they have an exclusive right only to the locatable minerals under claim. ..".**

My Comment:

Here DFG intentionally perpetrates a material misrepresentation of fact. The bulk of all small scale suction dredge gold mining in California occurs on unpatented, and patented mining claims situated statewide. Only a small percentage of all mining claims in California are owned by ""mining clubs". The majority of mining claims in California are owned by private individuals.

Specific Comment # 2

4.3.2 Dredging Effects on Fish Spawning and Early Life Stages

"Overview: California has a number of threatened and critically endangered fish species that could be impacted by suction dredging. In particular, suction dredging may occur in the spawning habitat of many salmonid and non-salmonids species. As a result, dredging has potential to affect the population dynamics and ecology of the species in these watersheds (e.g., in terms of their survival and reproductive success). The following section provides a detailed discussion of these effects as they relate to the spawning and early life stages of California's fish species (particularly salmonids)."

My comment:

DFG has never been able to identify a single incident in which a small scale suction dredge gold miner has ever injured, or killed a single fish or fish egg. Beyond the absence of any site-specific adverse effects whatsoever on listed species, the record is also clear that only de minimis cumulative impact arises from the activity. In part this is because all traces of any particular summer's activity primarily vanish during high winter, and spring run-off flows, which redistribute loose stream gravels in a highly dynamic fashion.

It appears Horizons, and DFG's approach the issue by reference to vague and general factual allegations about "potential effects" of the activity of suction dredge mining in general, not tethered to any specific mining operation even in California. In particular, Horizon singles out the most highly-biased literature possible to include here, which in itself demonstrates bias.

The reality here, DGF ignores is that salmon are driven to spawn in order propagate the species. That instinct is so strong, it governs their life cycle. Salmon will overcome monumental natural obstacles, such as miles of savage white water rapids, and waterfalls, one after another they can leap to gain access to spawning sites. Any small scale suction dredge gold mining operation salmon might encounter are by their very nature, is no impediment at all, for salmon to circumvent.

Specific Comment # 3

4.3.5 Dredging Effects on Wildlife and Habitat

My Comment:

By law, a mining claim owner has the right to use, and occupy the surface of his property, regardless of any effects it may have wildlife and habitat. So long as they are within the limits of prevailing law.

"Under the mining laws a person has a statutory right, consistent with Departmental regulations, to go upon the open (unappropriated and unreserved) Federal lands for the purpose of mineral prospecting, exploration, development, extraction and other uses reasonably incident thereto." (See 30 U.S.C. § 21-54, 43 C.F.R. § 3809.3-3, 0-6).

This possessory interest entitles the claimant to "the right to extract all minerals from the claim without paying royalties to the United States." Swanson v. Babbitt, 3 F.3d 1348, 1350 (9th Cir. 1993).

30 USC § 26. Locators' rights of possession and enjoyment
The locators of all mining locations ... situated on the public domain, ...shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations".

Federal mining claims are "private property" Freese v. United States, 639 F.2d 754, 757, 226 Ct.Cl. 252 cert. denied, 454 U.S. 827, 102 S.Ct. 119, 70 L.Ed.2d 103 (1981); Oil Shale Corp. v. Morton, 370 F.Supp. 108, 124 (D.Colo. 1973).

Specific Comment # 4

4.4 Cultural Resources

My Comment:

By law, a mining claim owner has the right to use, and occupy the surface of his property, regardless of any effects it may have on cultural resources. So long as they are acting within the limits of prevailing law.

"Under the mining laws a person has a statutory right, consistent with Departmental regulations, to go upon the open (unappropriated and unreserved) Federal lands for the purpose of mineral prospecting, exploration, development, extraction and other uses reasonably incident thereto." (See 30 U.S.C. § 21-54, 43 C.F.R. § 3809.3-3, 0-6).

This possessory interest entitles the claimant to "the right to extract all minerals from the claim without paying royalties to the United States." Swanson v. Babbitt, 3 F.3d 1348, 1350 (9th Cir. 1993).

30 USC § 26. Locators' rights of possession and enjoyment.
The locators of all mining locations ... situated on the public domain, ...shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations".

Federal mining claims are "private property" Freese v. United States, 639 F.2d 754, 757, 226 Ct.Cl. 252 cert. denied, 454 U.S. 827, 102 S.Ct. 119, 70 L.Ed.2d 103 (1981); Oil Shale Corp. v. Morton, 370 F.Supp. 108, 124 (D.Colo. 1973).

Specific Comment # 5

Claims "...the majority of suction dredging takes place on unpatented placer claims...".

My Comment:

DFG admission of material fact, it misrepresents elsewhere in applicable documents.

Specific Comment # 6

Economic Impacts of Suction Dredging on Local Economies

My Comment:

Economic Impact of Suction Gold Dredging in California is Over $52 Million
by Scott Harn
Editor/Publisher
ICMJ's Prospecting and Mining Journal

The Surveys.
An Environmental Impact Report on suction gold dredging was completed by the State of California in 1994. As part of this process, the State sent out two survey questionnaires. The first questionnaire was sent to over 4,000 individuals. Nearly 2,000 were returned completed. The surveys covered dredge locations, annual spending activity, amount invested in dredging equipment, nozzle size and related questions. The second survey was sent to county Boards of Supervisors, Chambers of Commerce and mining businesses to determine the importance of suction gold dredging on local economies. A sample of 1,257 of the individual surveys was used by the State to complete a statistical analysis.

The Results.
"Suction dredging is an activity that requires a substantial investment." It was determined that each suction dredger spent approximately $9,250 per year on expenses related to suction dredging in 1994. This included motels, camp fees, food, gas, oil, equipment maintenance and repairs related to suction dredging. Suction gold dredgers are currently spending approximately $13,249 each per year when adjusted for inflation.

The expenditures cited above did not include the cost of the suction dredge and related equipment, which the survey found was approximately $6,000 in 1994, or $8,594 adjusted for inflation.

In 2008, 3,523 suction gold dredging permits were issued in California. Adjusted for inflation, the economic impact of suction gold dredging in 2008 was $46.68 million. If only one-fifth of permitted suction gold dredgers purchased a dredge during the year, another $6.06 million would have to be added to the above figures, making the total economic impact $52.74 million per year.

Conclusion
Suction dredge miners contribute substantially to the economy of California.

(Note: This estimate does not reflect the value of the recovered gold nor the expenditures of those who may be assisting or accompanying the miner, which could substantially increase the economic impact of suction dredge mining in the State.)

Sources
•California Department of Fish and Game. 1994. Final Environmental Impact Report, Adoption of Regulations for Suction Dredge Mining. April, 1994.
•United States Department of Labor Bureau of Labor Statistics. Consumer Price Index.
•California Department of Fish and Game, 2009. Licensing statistics, Special Permits. www.dfg.ca.gov/licensing/pdffiles/sp_items_10yr.pdf

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Specific Comment # 7

4.7 Recreation

My Comment:

By law, a mining claim owner has the right to use, and occupy the surface of his property, regardless of any effects it may have on recreation. So long as they are within the limits of the law.

"Under the mining laws a person has a statutory right, consistent with Departmental regulations, to go upon the open (unappropriated and unreserved) Federal lands for the purpose of mineral prospecting, exploration, development, extraction and other uses reasonably incident thereto." (See 30 U.S.C. § 21-54, 43 C.F.R. § 3809.3-3, 0-6).

This possessory interest entitles the claimant to "the right to extract all minerals from the claim without paying royalties to the United States." Swanson v. Babbitt, 3 F.3d 1348, 1350 (9th Cir. 1993).

30 USC § 26. Locators' rights of possession and enjoyment
The locators of all mining locations ... situated on the public domain, ...shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations".

Federal mining claims are "private property" Freese v. United States, 639 F.2d 754, 757, 226 Ct.Cl. 252 cert. denied, 454 U.S. 827, 102 S.Ct. 119, 70 L.Ed.2d 103 (1981); Oil Shale Corp. v. Morton, 370 F.Supp. 108, 124 (D.Colo. 1973).

Specific Comment # 8

4.8 Aesthetics

My Comment:

By law, a mining claim owner has the right to use, and occupy the surface of his property, regardless of any effects it may have on recreation. So long as they are acting within the limits of the law.

"Under the mining laws a person has a statutory right, consistent with Departmental regulations, to go upon the open (unappropriated and unreserved) Federal lands for the purpose of mineral prospecting, exploration, development, extraction and other uses reasonably incident thereto." (See 30 U.S.C. § 21-54, 43 C.F.R. § 3809.3-3, 0-6).

This possessory interest entitles the claimant to "the right to extract all minerals from the claim without paying royalties to the United States." Swanson v. Babbitt, 3 F.3d 1348, 1350 (9th Cir. 1993).

30 USC § 26. Locators' rights of possession and enjoyment
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Federal mining claims are "private property" Freese v. United States, 639 F.2d 754, 757, 226 Ct.Cl. 252 cert. denied, 454 U.S. 827, 102 S.Ct. 119, 70 L.Ed.2d 103 (1981); Oil Shale Corp. v. Morton, 370 F.Supp. 108, 124 (D.Colo. 1973).

Specific Comment # 9

4.10 Noise

My Comment:

By law, a mining claim owner has the right to use, and occupy the surface of his property, regardless of any noise. So long as any such noise is within the limits of the law.

"Under the mining laws a person has a statutory right, consistent with Departmental regulations, to go upon the open (unappropriated and unreserved) Federal lands for the purpose of mineral prospecting, exploration, development, extraction and other uses reasonably incident thereto." (See 30 U.S.C. § 21-54, 43 C.F.R. § 3809.3-3, 0-6).

This possessory interest entitles the claimant to "the right to extract all minerals from the claim without paying royalties to the United States." Swanson v. Babbitt, 3 F.3d 1348, 1350 (9th Cir. 1993).

30 USC § 26. Locators' rights of possession and enjoyment
The locators of all mining locations ... situated on the public domain, ...shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations".

Federal mining claims are "private property" Freese v. United States, 639 F.2d 754, 757, 226 Ct.Cl. 252 cert. denied, 454 U.S. 827, 102 S.Ct. 119, 70 L.Ed.2d 103 (1981); Oil Shale Corp. v. Morton, 370 F.Supp. 108, 124 (D.Colo. 1973).

Initial Study Suction Dredge Permitting Program Subsequent Environmental Impact Report (Prepared by Horizon Water and Environment, November 2009 Project No. 09.005)

Specific Comment # 10

4. Program Description 4.1 Applicability

That the Department's regulatory authority under Fish and Game Code section 5653 et seq. is limited to instream suction dredge mining is also underscored by legislative history. Fish and Game Code section 5653, for example, derives from former Fish and Game Code section 5653. (See former Fish & G. Code, § 5653, added by Stats. 1961, ch. 1816, § 1 (SB 1459 (Arnold).) Legislative history materials related to this former section specifically casts the Department's related regulatory authority in terms of instream mining.

<u>My Comment:</u>

DFG admission of material fact that it's authority is "limited to "IN"-stream " only.

Specific Comment # 11

4.3 Description of Updated Regulations

In developing any proposed updates to the existing regulations the Department is guided by, among other things, the definition of "fish" set forth in the Fish and Game Code. Section 45 of the Code defines fish to mean wild fish, mollusks, crustaceans, invertebrates, or amphibians, including any part, spawn, or ova thereof. Similarly, the Department is guided by the common sense plain meaning of the word deleterious such that deleterious effect generally means a wide-ranging or long-lasting consequence for a fish population that extends beyond the temporal or spatial context of a specific direct impact. Such deleterious effects could;

(1) Catch, capture, kill, or injure a species listed as candidate, threatened or endangered under the state or federal Endangered Species Act; (2) A substantial reduction in the range of any species, and/or extirpation of a population; (3) A fundamental change to the structure of a community or stream ecosystem, including substantial reductions in biodiversity or resiliency to disturbance, resulting in the reasonably foreseeable consequence of (1) or (2) above.

<u>My Comment:</u>

As such, DFG makes the issuance of all sports, and commercial fishing licenses statewide, unlawful.

Specific Comment # 12

5.4 Equipment 5.4.1 General

"Suction dredges are generally driven by either a gasoline or diesel engine that runs a centrifugal pump."

<u>My Comment:</u>

Less than 1/4 of 1 percent of all small scale suction dredges used in California are powered by "diesel" engines. DFG's statement here is misleading, inferring a far higher percentage of diesel powered small scale suction dredges are used, than exist.

Specific Comment # 13

5.5.8 Location

"Many miners also own their own unpatented claims to which they have an exclusive right only to the locatable minerals under claim.". Duration; A recreational suction dredger (representing 90 percent of all suction dredgers) may spend a total of four to eight hours per day in the water dredging an area from 1 to 10 square meters.

My Comment:

Valid mining claim owners also have the vested property right to use–occupy any–all of the surface of their mining claims for mining purposes, and those things reasonably incident thereto.

I object, and protest the intentional material misrepresentation of fact by DFG that; "...recreational suction dredger (representing 90 percent of all suction dredgers) ...".

Small scale suction dredge gold mining is a completely legal occupation. With profit motivation, just as any other small business has. In which considerable investment is often made in both equipment, a mining claim, or multiple mining claims are acquired to pursue that occupation. Given that fact, it is false to assert 90% of all small scale suction dredge gold mining is "Recreational".

Specific Comment # 14

5.5.10 Encampments

My Comment:

Valid mining claim owners have the vested property right to use–occupy any–all of the surface of their mining claims for mining purposes, and those things reasonably incident thereto. Consequently, they have the right (not a mere privilege) to use and occupy their property, in the pursuit of their mining activity. As well as the right to be there to protect that property, and their equipment from theft or vandalism 24 hours a day.

Specific Comment # 15

6.2 Baseline Conditions **Under CEQA, the environmental setting or "baseline" serves as a gauge to assess changes to existing physical conditions that will occur as a result of a proposed project. CEQA Guidelines section 15125 provides that, for purposes of an EIR, the environmental setting is normally the existing physical conditions in and around the vicinity of the proposed project as those conditions exist at the time the Notice of Preparation is published. As underscored by appellate case law, however, the appropriate environmental baseline for a given project may be different in certain circumstances in order to provide meaningful review and disclosure of the environmental impacts that will actually occur with the proposed project. In the present case, the Department has determined that a conservative approach to identifying the environmental baseline is appropriate.**

As described above, instream suction dredge mining is currently prohibited in California pursuant to a recently enacted state law. (Fish & G. Code, 5653.1, added by Stats. 2009, ch. 62, § 1 (SB 670 (Wiggins).) The same law and a related court order also prohibit the Department from issuing new suction dredge permits. The Department has determined, as a result, that the appropriate environmental baseline for purposes of CEQA and the analysis set forth below is one that assumes no suction dredging in California. This Initial Study and the SEIR will, as a result, provide a "fresh look" at the impacts of suction dredge mining on the environment generally.

My Comment:

DFG's position that; "...The Department has determined, as a result, that the appropriate environmental baseline for purposes of CEQA and the analysis set forth below is one that assumes no suction dredging in California. This Initial Study and the SEIR will, as a result, provide a "fresh look" at the impacts of suction dredge mining on the environment generally...", is preposterous, and utterly absurd.

Under the imposition of that manifestly bizarre, and illegal DFG environmental baseline, all human habitation, agriculture, manufacturing, mining, commerce, transportation, and power generation. As well as all else involved that serves as the fundamental infrastructure of all civilized societies needs, would be "deleterious" to the environment of California.

The imposition, and enforcement of such a utterly preposterous environmental baseline standard flies in the face of, is contrary to, and directly collides with not only CEQA guidelines, statutes, and regulation. But, also profoundly conflicts with multiple U.S. and State Constitutional provisions protecting the ownership, and use of private property. As well as numerous statutes, and all common law provisions, protecting private property rights of individuals, and all other entities in California.

The 1994 DFG suction dredging EIR, by law sets the environmental baseline here, and this subsequent EIR must be "tiered" to the initial 1994 EIR. The 1994 EIR noted many positive effects of suction dredge mining It concluded that adoption of the California regulations "will reduce . . . effects to the environment to less than significant levels and no deleterious effects on fish"

DFG's determination that such a preposterous standard is applicable here, clearly demonstrates official malfeasance. It also unmistakably demonstrates the authors (Horizon Water & Environmental) of this study report are profoundly biased towards small scale suction dredge gold mining.

It is apparent to at least all mining claim owners, and small scale suction dredge gold miners effected by SB 670 that Horizon Water & Environmental has prejudicially tailored this study report to paint a picture to the public that small scale suction dredge gold mining is utterly, and irreconcilably environmentally degrading to the point it must not be allowed to occur in any form in California.

CEQA Section 15384. Substantial Evidence

(b) Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts...."

Throughout the literature review, and initial study report both DGF, and Horizon Water & Environmental have consistently used grammatical devices such as qualifiers, and subjective terms, to introduce numerous written inferences into this CEQA proceeding which are far beyond the proof of the cited works. This use of "weasel" words time and time again throughout this initial study create an impression that something specific and meaningful has been said, which is far beyond the evidentiary facts.

It is clear to anyone well schooled in these matters that, both DGF, and Horizon Water & Environmental have prejudicially injected mere argument, bias, hypothesized speculation, unfounded opinion, narrative, and insupportable conclusions here. All of which are clearly erroneous, inaccurate, or not supported by substantial evidence.

Such intentional malfeasance by DGF, as the lead Agency in this CEQA proceeding, is blatantly prejudicial, to all mining claim owners, and small scale suction gold mining dredge operators involved. It is irreconcilable DFG, as the lead Agency here cannot act impartially. Nor legally complete this CEQA proceeding without incurring what eventually will probably result in near a one billion dollar ($1,000,000,000) liability to the states coffers from compensable "takings" they arbitrarily cause.

Specific Comment # 16

6.3 Thresholds of Significance Thresholds of significance serve as a measure under CEQA to gauge the significance of changes to the environmental baseline that will result with approval and implementation of a proposed project. For purposes of this Initial Study, the Department is using Appendix G of the CEQA Guidelines, enhanced with climate change considerations, as its thresholds of significance. These thresholds may be refined for purposes of the draft SEIR, but for now the Department has determined that Appendix G in the CEQA Guidelines along with the climate change topic provides appropriate thresholds in order to make an initial assessment of the potentially significant impacts associated with the Proposed Program that should be analyzed in detail in the draft SEIR.

My Comment:

The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the lead agency involved, based to the extent possible on scientific and factual data.

Legal facts:

1. Small scale suction dredge gold mining is categorically exempt from CEQA requirements under provisions of Title 14. California Code of Regulations Chapter 3. Guidelines for Implementation of the California Environmental Quality Act, Article 19. Categorical Exemptions, 15300. Categorical Exemptions; 15304. Minor Alterations to Land. Class 4 consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes.

2. Small scale suction dredge gold mining is also categorically exempt from CEQA requirements under provisions of California Surface Mining and Reclamation Act of 1975. Public Resources Code § 2714 (d) & (e).

2714 (d) Prospecting for, or the extraction of, minerals for commercial purposes where the removal of overburden or mineral product totals less than 1,000 cubic yards in any one location, and the total surface area disturbed is less than one acre.

2714 (e) Surface mining operations that are required by federal law in order to protect a mining claim, if those operations are conducted solely for that purpose.

Factual project area data: California contains far more than one hundred million (100,000,000) square acres. Within that massive geographical area, excluding coastal shorelines, there are about two hundred, eleven thousand, five hundred (211,500) miles of streams, and rivers.

Using the average number of small scale suction dredge gold mining permits issued annually in California, over the last decade. That would equate to a about single dredge permit being issued for each seventy (70) mile long stretch of waterways, and thirty one thousand, two hundred fifty (31,250) square acres of land in California.

Certainly, small scale suction dredge gold mining may be more concentrated in various placer gold bearing regions of California. Regardless, on a statewide basis, as this CEQA study is. Taking into account, small scale suction dredge gold mining is a sporadic, seasonal, widely spread out occurrence. Which is equivalent to, and no more significant than all residential landscaping, gardening, rototilling, lawn mowing, and motorized boating, etc., statewide.

Combined with the mean average of all existing unbiased factually straight forward peer reviewed scientific studies on small scale suction dredge gold mining, both pro, and con. The result is the "Threshold of Significance" is well established by legal categorical exclusion, or exemption, and numerous factual scientific study reports that the effects of small scale suction dredge gold mining throughout California is so negligible, or de minimus as to be perfectly in concert with existing 1994 EIR, as well as the pre-SB 670 DFG suction dredge regulations.

CEQA mandates the 2009 literature review, initial study report, and all else involved here, must be tiered to the 1994 EIR. Given those facts, with only one exception, DFG cannot go beyond that established "Threshold of Significance". That one exception being, the "listing" of Coho salmon as threatened, and/and endangered under ESA, and CESA.

DFG is also legally required to note, CESA has not implemented standards of land use planning to protect Coho salmon that preclude human occupation, settlement, agriculture, commerce, or any other existing land use, including logging, surface mining, and small scale suction dredge gold mining in the region. As doing so, would create profound immediate regional economic disaster in northern California. Neither DFG, or CEQA can legally do so now, without effecting somewhere near a billion or more dollars in financial liability to the state.

Specific Comment # 17

7.2 Scoping Meetings

My Comment:

At considerable personal travel expense, I attended the Sacramento so-called "scoping meeting". Instead of a legitimate scoping meeting, under applicable APA provisions. What occurred was a tightly controlled "workshop", where DFG, and Horizon Water And Environmental set an agenda that precluded open discussion, legitimate comments, or discourse. DFG, and Horizon Water and Environmental would not allow individuals to speak publicly to the audience.

DFG ignored pertinent "comments", as they chose to only answer the ones they themselves gleamed out, as easy to answer. These workshops were a waste of time, effort, and cost to all involved. As they served no constructive purpose above that of a highly regimented bureaucratic circus event. Obviously done in some feeble way to add some degree of legitimacy to DFG actions here. Which, backfired in the sense the majority of attendee's were offended by DFG's position, and actions there.

Specific Comment # 18

Environmental Checklist

Mineral Resources "<u>not checked</u>"

My Comment:

<u>The Chief Deputy Director of CDFG has made a knowingly deliberate, and utterly false official omission of material fact here, by not checking the "Mineral Recourse" checklist box in this official CEQA initial study report.</u> The consequence, of which might not seem readily apparent, nor even significant. However, I assure you, it is strikingly significant in several differing aspects involved here.

It is common knowledge, and utterly indisputable that gold, and other associated extremely valuable minerals are certainly "Mineral Resources". It is common knowledge, and utterly indisputable that these valuable mineral resources certainly exist as placer deposits, within waterways throughout California. It is common knowledge, and utterly indisputable that "suction dredging" is a widespread modern efficient small scale mining method throughout California.

Clearly, that is in itself is what triggered this CEQA study. It is common knowledge, and utterly indisputable that small scale suction dredging is usually profitable. Otherwise, no prudent person would invest in a suction dredge, purchase, or initiate a mining claim, nor spend time performing arduous labor to do it. It is common knowledge, and utterly indisputable that relatively significant amounts of gold, and other valuable minerals are recovered by small scale suction dredging annually in California.

Given this indisputable series of facts. It is not possible by any stretch of imagination, or reality. That the Chief Deputy Director of DFG, the very state agency that regulates all suction dredge permitting statewide throughout California, could assert small scale "suction dredging" does not involve, nor have a potentially significant impact on "Mineral Resources" within California.

DFG has no statutory authority over "mineral resources' within California. No one can rationally refute that 'mining claims" involve 'mineral resources", and their extraction. No one can credibly refute the majority of all suction dredge gold mining in California takes place on mining claims where valuable mineral resources exist.

The protection of mineral resources in California is the responsibility of the following agencies. Which either have statutory authority or are Responsible Agencies under CEQA:

1. California Department of Conservation is the primary agency with regard to mineral resource protection.

The Department is charged with conserving earth resources (Public Resources Code Sections 600-690)

2. State Mining and Geology Board, which develops policy direction regarding the development and conservation of mineral resources and reclamation of mined lands.

DFG lacks statutory authority over California's "mineral resources". Which negates their ability to make rulings governing, permitting, or prohibiting their extraction.

Furthermore, the site, or legal description of a CEQA project must be accurately identified within an EIR. Given, this EIR is "statewide". It is therefore incumbent on the lead agency to identify with certain specificity each individual site, all individual property, including each mining claim where "Mineral Resources" exist. As well as include that data in order to compile the effects on "Mineral Resources" , this CEQA project will cause.

Some existing MOUs involve the state and a single federal land management agency; others are signed by representatives of the state, BLM, and the Forest Service, or other federal agencies. Some MOUs address only a single issue, whereas others deal with a broad range of management considerations.

These MOUs frequently indicate whether the federal agency will defer to state decisions, make independent decisions, or share decision-making authority, as well as define how inspection and enforcement, and monitoring will be handled. These MOUs are critically important, as they seek to avoid duplication, and conflict while recognizing the sometimes divergent interests of federal and state regulators.

All USFS and BLM lands are under one form or another of Federal "Land Use Planning". Which encourages, provides for, allows, and neither the USFS or BLM can prohibit permitted mining on applicable federal lands. Consequently, under CEQA mandates, DFG as the lead agency in this CEQA process must invite, "consult" with, and allow those agencies to actively participate in this CEQA process. Otherwise, it is fundamentally, and fatally flawed from the onset.

Take Notice, as a direct result of the Chief Deputy Director of DFG knowingly, and deliberately omitting profound material facts here. Both the Literature Review, and Initial Study Report must be rewritten to include all aspects of "Land Use Planning", "Mineral Resources" and "Water Quality" (MOUs) issues statewide that this CEQA process covers.

Then, reissued, re-circulated, with an additional written comment period provided under APA guidelines, so that all involved, after receiving those corrected, or supplemented documents are allowed to submit comments. Otherwise this CEQA process is fatally flawed from this monument forward, and any result, or determination made within it is illegitimate, and contrary to various provisions of multiple California, and federal laws.

Specific Comment # 20

UNCONSTITUTIONAL REGULATORY "TAKING" EFFECTED BY DFG

With regard to "suction dredge gold mining", on all mining claims in California subject to this CEQA process, there are no feasible mitigating "alternatives". Other than additional onerous restrictions, and seasonal, or permanent waterway closures. To "protect" California water quality, or indigenous fish from the effects of small scale suction dredge gold mining statewide. Any type closure, seasonal, or permanent beyond pre-SB 670 DFG regulation would effect regulatory "takings" of private property interests or rights held by all affected mining claim owners throughout California.

Any seasonal restriction that closes a given area (where mining claims are situated), for example eleven (11) months of the year, "takes" the owners property right for that eleven (11) month period, effecting an annual "temporary" "taking" of very significant duration, and proportion. Temporary "takings" of private property of this nature would generally be considered "compensable", as they "take" all economic benefit for a significant period of time. Additional permanent closures of any area where any mining claims are situated, would effect a complete "taking" of all economic benefit a mining claim owner has. As he owns nothing more than the right to mine his property. Thus, rendering his property valueless.

Given the cash value of all mining claims in California, this CEQA study effects exceeds of one billion dollars ($1,000,000,000). The law requires DFG not proceed further unless supported by a California Attorney Generals written legal opinion, how to proceed in the face operating under mutually incompatibles statutory directives, and formally effecting such unlawful "takings".

Alternatively, DFG is required by law to immediately notify the State Legislature of the "takings" aspects DFG as the lead Agency in this CEQA project, would effect. Requesting the Legislative fund, and post a cash "Bond" in the amount of one billion dollars ($1,000,000,000) to cover those financial liabilities, DFG incurs, by effecting a compensable "taking" of private property of this magnitude.

NOTE:

There is no need for me to submit further comments on the " Discussion of Impacts" phase of the "Environmental Checklist", as those comments I have already included above more than adequately address those aspects.

Comments Summation:

CEQA Section 15093 requires that the agency make a <u>statement of overriding considerations,</u> supported by substantial evidence on the record, where the decision maker approves a project notwithstanding the fact that the significant impact identified in the EIR cannot be avoided or substantially reduced through adoption of mitigation or an alternative, "if the specific economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable adverse environmental effects." An agency may not directly make the statement of overriding considerations without first making the required set of findings specified in Section 15091.

Given the series of written "comments" I have officially submitted here. Which serve as both "actual" and "constructive" notice to DFG. All of which must be included in this CEQA formal record, acted upon, and answered. The most prudent course of action for DFG to take now. Is to halt expenditure of funds allocated for this CEQA project. Until such time, as DFG is on a sound legal footing to proceed.

Or, alternatively make an immediate "finding" that small scale suction dredge gold mining is "exempt" from this CEQA process, by any number of applicable statutory directives included in my comments here, that make that so. Then forward the same to the Legislature, to act upon.

Or, alternatively make an immediate CEQA "finding" that economic, legal, or other considerations DFG now has legal "Notice" of, render infeasible the mitigation of alternatives that would in any way be identified in the EIR, if completed.

In closing;

If you care, have any conscience, or innate sense of justice? Please, I plead with you to relate these facts to the Governor, the Legislature, the Attorney Generals office, and your superiors. That, SB 670 has effectuated an unconstitutional uncompensated "taking" of private property, destroying legitimate livelihood, and arbitrarily depriving thousands of sorely needed income, they otherwise might make. That is the plain simple undeniable truth here. No matter how extenuating, or convoluted the series of events here are, that bought it about.

Simply put, if the state of California wishes to "take" every practical use, all economic benefit, all utility, and all value of every unpatented placer mining claim owners private property statewide. So that the general public, sports fishermen, tribal members, swimmers, boaters, campers and all other recreational users can revel in the glory of it all, without a miners presence there. The state must simply pay for the "private property", vested mining, and water use rights it takes.

Accordingly, I demand just compensation.

Sincerely,

James Aubert

EXHIBIT

MEMORANDUM OF UNDERSTANDING

Surface mining and reclamation coordination in the State of California in accordance with California's Surface Mining and Reclamation Act (SMARA) of 1975, as amended,

by and between the

STATE OF CALIFORNIA, DEPARTMENT OF CONSERVATION AND THE STATE MINING AND GEOLOGY BOARD,

the

U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE, PACIFIC SOUTHWEST REGION,

and the

U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT, CALIFORNIA

THIS AGREEMENT is made and entered into by and between the State of California, Department of Conservation, through its Director, and the State Mining and Geology Board, through its Chairman (jointly referred to herein as "the State"), the Pacific Southwest Region of the United States Forest Service, through its Regional Forester ("the Forest Service"), and the Bureau of Land Management, through its State Director, California ("BLM"), for the purposes of: (1) assuring the application of adequate and appropriate reclamation throughout the State of California; (2) simplifying the administration of surface mining and reclamation practice requirements on Federal lands and on a combination of Federal and private lands; (3) achieving coordination of activity governing reclamation; and (4) eliminating duplication among the aforementioned agencies and counties serving as lead agencies ("lead agencies" pursuant to the Surface Mining and Reclamation Act, Public Resources Code Section 2728) in implementing State and Federal requirements.

WITNESSETH:

WHEREAS, local, State, and Federal agencies have certain legal requirements in regulating the effects of surface mining on Federal lands and on combinations of Federal and private lands, it is deemed advisable to develop an understanding between BLM, the Forest Service, and the State to serve as guidance for local agencies, BLM, the Forest Service, and the State in fulfilling their agency regulatory responsibilities in such situations.

WHEREAS, for purposes of this agreement, the following are exempt from SMARA pursuant to Public Resources Code Section 2714:

(1) Prospecting for, or the extraction of, minerals for commercial purposes and the removal of overburden in total amounts of less than 1,000 cubic yards in any one location of one acre or less;

(2) Surface mining operations that are required by federal law in order to protect a mining claim (i.e. annual assessment work), if such operations are conducted solely for that purpose; and

(3) Such other surface mining operations which the State determines to be of an infrequent nature and which involve only minor surface disturbances.

WHEREAS, a Memorandum of Understanding (MOU) between the State, the Forest Service, and BLM, governing surface mining and reclamation coordination in the State of California, was signed in 1979 and remains in effect until this new agreement is signed by each party.

WHEREAS, the 1979 MOU was completely rewritten and resigned by the Bureau of Land Management and the State of California on February 7, 1990; and, that the purpose of this updated agreement is to make minor amendments to the 1990 MOU and to add the U.S. Forest Service as signatory.

WHEREAS, several acts of Congress provide for persons to prospect and mine on Federal lands which are administered by the Forest Service and BLM, and which are open to the operation of the United States mining, mineral leasing and mineral materials laws, providing they comply with the rules and regulations covering the Federal lands involved (applicable regulations include 25 CFR 211, 36 CFR 228 et seq., 43 CFR 3802, 3809, 3500, and 3600).

WHEREAS, Federal laws and regulations require that operations authorized under Federal mining, mineral leasing, and mineral material laws shall be conducted so as to minimize adverse environmental impact, or prevent unnecessary or undue degradation caused by such operations, and that the land be reclaimed to a second productive use, where practicable.

WHEREAS, BLM and the Forest Service are authorized to work with the State for purposes of coordinating Federal, State and local regulatory activities for environmental protection [applicable regulations include 43 CFR 3809.3-1(a)-(c) and 36 CFR 228.8 and 228.46].

WHEREAS, for proposed mineral operations, the purpose of both the National Environmental Protection Act of 1969 (NEPA) and the California Environmental Quality Act (CEQA) is to assure the identification, analysis, and disclosure of significant environmental impacts associated with proposed projects and the incorporation of feasible mitigation to address significant adverse environmental impacts.

WHEREAS, the statutory requirements of the National Environmental Protection Act of 1969 (NEPA) for the Forest Service and BLM, and the California Environmental Quality Act (CEQA) for State and local agencies are largely equivalent.

WHEREAS, city and county "lead agencies" have the responsibility under the Surface Mining and Reclamation Act of 1975 (Public Resources Code Sections 2710-2795), as amended, and State policy for surface mining and reclamation practice (California Code of Regulations Sections 3500-3505), to regulate surface mining and reclamation within their jurisdictions to assure that:

(1) Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses;

(2) The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and

(3) Residual hazards to the public health and safety are eliminated.

WHEREAS, "lead agencies" are cities, counties, or other agencies designated by the Board which have the principal responsibility for approving a surface mining operation or reclamation plan (as defined by SMARA and other relevant regulations and ordinances) pursuant to the provisions of SMARA, and the use herein of the words "lead agencies" shall signify the Board's approval for lead agencies to use the guidance in this MOU to satisfy the requirements of applicable State laws and regulations for surface mining and reclamation on lands in California.

WHEREAS, lead agency surface mining and reclamation ordinances certified by the Board include and comply with applicable provisions of State laws and regulations for surface mining and reclamation practice.

NOW, THEREFORE BE IT RESOLVED that the parties to this memorandum hereby understand and agree that the following will satisfy the aforesaid requirements of the aforesaid laws and are acceptable to both the Forest Service, BLM and the State. It is agreed that in regulation of surface mining of minerals on Federal lands and on combinations of Federal and private lands that:

(1) Lead agencies and the Forest Service and/or BLM will work cooperatively to insure that conditions required of operators (as defined by Federal law, and by SMARA and any other relevant regulations and ordinances) in minimizing adverse environmental impacts conform to all applicable local, State, and Federal regulations.

(2) Lead agencies may accept as functionally equivalent documents to meet their requirements under SMARA, operating plans, reclamation plans and environmental studies that meet the requirements of Forest Service and BLM regulations [submitted pursuant to federal regulation provided such plans and studies meet or exceed lead agency requirements as included in the lead agency's State-certified surface mining and reclamation ordinance and any other applicable laws and regulations]; and alternatively, Forest Service and BLM may accept as functionally equivalent documents to meet their requirements, operating plans, reclamation plans and environmental studies [submitted to the lead agency when such plans and studies meet or exceed requirements set by the BLM] that meet SMARA requirements.

(3) Lead agencies may accept as functionally equivalent, documents prepared under NEPA (40 CFR 1500-1508) that meet the requirements of CEQA.

(4) Lead agencies may enter, and in fact are encouraged to enter, into specific area agreements (including but not limited to, joint powers agreements and MOUs) with the Forest Service and/or BLM for purposes of implementing this agreement, coordinating reviews, avoiding duplication, and facilitating participation by affected agencies. Issues that may be addressed by such agreements include, but are not limited to, the filing, review, and procedures for approval of reclamation plans, fees, public inspection and enforcement activities, and bonding requirements. Such specific area agreements shall be in conformance with the lead agency's certified surface mining and reclamation ordinance and Federal law and regulation.

(5) By written agreement BLM may delegate authority to lead agencies to be solely responsible for processing, to approval, all mining operations which are subject to federal mining law in accordance with 43 CFR 3809. A delegation agreement may provide, among other things, for lead agencies to forward copies of submitted exploration and development permit applications to the BLM; to provide a 10-day comment period to the BLM; and prior to approval, or rejection, to provide BLM 5 working days to comment on proposed reclamation and other requirements.

(6) For the purposes of this agreement, assessment work required to protect claims under federal law is defined as prospecting or exploration work completed for the purposes of discovering an ore body. It does not include development drilling or extraction of minerals for commercial purposes, which are not exempted from the provisions of SMARA.

(7) For BLM's Notices (written notification required to be provided to the BLM under 43 CFR 3809.1-3) for those operations of 5 acres in size or less, within 5 days after receipt by the BLM of an accepted Notice, the BLM will forward a copy of the Notice to the lead agency for appropriate action by the lead agency. The lead agency may correspond directly with the operator for purposes of approval in accordance with SMARA, including any and all additional conditions and requirements, and will send copies of all correspondence and requirements to the BLM.

(8) For mining operations requiring a Plan of Operations for projects solely on Federal land, that are not exempt from SMARA, BLM and the Forest Service will provide lead agencies notice and the opportunity for early participation, consultation, and submission of information and recommendations for the development of environmental documents and reclamation plans.

(9) Within 30 days of receipt of notification under paragraph (8) above and copies of relevant informational documents, lead agencies will provide comments and recommendations to the Forest Service and/or BLM so that they may be considered and incorporated, as appropriate, as part of the environmental review and proposed Forest Service and/or BLM decision.

(10) Public hearings for compliance with SMARA and the certified lead agency SMARA ordinance should be coordinated with the Forest Service and/or BLM.

(11) Forest Service and BLM will forward the environmental and decision documentation, which includes the reclamation plan requirements, to the lead agency for appropriate consideration. The lead agency will correspond directly with the applicant, and within 45 days of the date of the Forest Service or BLM decision, send copies to the BLM or the Forest Service of adopted conditions of approval which differ from conditions of BLM or Forest Service approval.

(12) Lead agencies will forward to the Forest Service and/or BLM copies of all surface mining proposals and draft reclamation plans they receive for operations located entirely on Forest Service and/or BLM lands.

(13) Implementation of measures to mitigate adverse environmental impacts to off-site, non-federal lands will be authorized, permitted, or otherwise directed by the lead agency or other responsible local or State agency.

(14) Lead agencies will notify the Forest Service and/or BLM whenever an application for approval of mining activities is received and a draft reclamtion plan is completed for an operation which comes under the purview of SMARA and lead agency requirements on areas adjacent to Forest Service and/or BLM public lands, and will give the Forest Service and/or BLM an opportunity to provide information and recommendations for such plans.

(15) Lead agencies and the Forest Service and/or BLM will review and coordinate Environmental Documents, Operating Plans, Reclamation Plans and Permits for those mining operations that include both Forest Service and/or BLM lands and private lands. The objective of the review and coordination process is to avoid conflicting and duplicative requirements in Operating Plans and Permits and to keep procedural impacts on the mining operators to a minimum necessary to meet all applicable requirements. Coordination responsibilities for operations encompassing two or more mixed private and Forest Service and/or BLM ownerships should be determined on a case-by-case basis by the parties involved.

(16) The Forest Service and/or BLM will approve the Plan of Operations when the operator agrees to the conditions and stipulations, including the appropriate measures to mitigate adverse environmental impacts, incorporated into the plan or permit to meet applicable Forest Service, BLM, State and local reclamation requirements. The operator must also comply with other applicable Federal, State, and local laws and regulations including those pertaining to hazardous substances.

(17) Where the Forest Service and BLM are the operators (i.e., for community pits), and where a Federal agency contractor will be the operator for surface mining activities on Federal lands that are not exempt from SMARA, requirements for reclamation and any other necessary environmental documentation will be prepared and approved in accordance with paragraphs 8 and 9 of this MOU.

(18) To the extent practicable, lead agencies and the Forest Service and/or BLM will coordinate their enforcement and monitoring responsibilities, and will cooperate in the correction and abatement of any violations of the conditions of operation imposed in accordance with the procedures described in this MOU.

(19) Financial assurances for reclamation are mandatory for surface mining operations that exceed the SMARA threshold. Any federally-required financial assurance may be used to satisfy local and State surety requirements.

Effective Date of this Agreement:

This agreement shall become effective upon each party by signature of that designated party and shall supersede the previously referenced 1979 and 1990 MOU's when signed by all parties.

Modification of this Agreement:

This agreement may be modified upon the initiative of any of the parties for the purpose of ensuring consistency with state or federal statutes or regulations, or for any other purpose mutually agreed upon. In order to be effective, any such modification must be in writing, subject to 30 days notice, and must be signed by all of the designated parties.

Termination of this Agreement:

This agreement shall continue in force until terminated by any party upon thirty (30) days written notice to the other parties. The parties intend to review this agreement at the end of 12 months, and periodically thereafter, as needed.

STATE OF CALIFORNIA:

Edward G. Heidig
Director,
Department of Conservation

DATE: Oct 19, 1992

BUREAU OF LAND MANAGEMENT:

Ed Hastey
Edward Hastey
State Director
California

DATE: 10/20/92

STATE OF CALIFORNIA:

James A. Anderson
Chairman,
State Mining and Geology Board

DATE: Oct 19, 1992

UNITED STATES FOREST SERVICE

Ronald E. Stewart
Ronald E. Stewart
Regional Forester,
Pacific Southwest Region

DATE: Oct. 19, 1992

From: Customer Service <filterstone@gmail.com>
To: <mstopher@dfg.ca.gov>
Date: 12/2/2009 2:59 AM
Subject: COMMENT: Suction dredge permitting under CEQA

Mark Stopher

DFG is clearly acting unlawfully in this permitting process.

By enforcement of mining prohibitions of SB 670.

TAKE NOTICE:

You are acting in contravention of Federal law.

There is NO question that the General Mining Law (30 USC § 21-54) "preempts" SB 670 state law prohibiting small scale suction dredge gold mining in California.

There are 3 ways state law may be preempted.

1. Express preemption, occurs when a federal statute explicitly confirms Congress's intention to preempt state law.

2. Conflict preemption. Under the Supremacy Clause, any state law that conflicts with a federal law is preempted.

3. Field preemption, Even without a conflict between federal and state law or an express provision for preemption, the courts will infer an intention to preempt state law if the federal regulatory scheme is so pervasive as to "occupy the field" in that area of the law.

"Shall" is a word of command & means mandatory.
30 USC § 22. Lands open
"…all valuable mineral deposits in lands belonging to the United States, … SHALL be free and open to exploration … and the lands in which they are found to occupation … by citizens of the United States … under regulations prescribed by law, and according to the local customs or rules of miners in the several mining districts, so far as the same are applicable and not inconsistent with the laws of the United States.

30 USC § 26. Locators' rights of possession and enjoyment
The locators of all mining locations … situated on the public domain, their heirs and assigns, … so long as they comply with the laws of the United States, and with State, territorial, and local regulations not in conflict with the laws of the United States governing their possessory title, SHALL have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations …".

30 USC § 35. Placer claims; entry and proceedings
Claims usually called "placers," including all forms of deposit, excepting veins of quartz, or other rock in place, SHALL be subject to entry … under like circumstances and conditions, and upon similar proceedings, as are provided for vein or lode claims…".

The word "SHALL" in the federal General Mining Law statutes above preempts

state law.

The word SHALL expressly preempts SB 670 mining prohibitions, even if they are imposed "temporarily". The word SHALL overcomes any "conflict" in state law. The word SHALL fully occupies the field of mining, over that of any conflicting state law. The word SHALL is a direct federal command.

Given this utterly unambiguous unequivocal straight forward Federal Command, no State Governor, State Legislature, State Attorney General, or State, or Federal Judge can even attempt to argue otherwise, without offending the U.S. Constitution.

That same explicit Federal Command in the General Mining Law is fully bolstered by California's Legislature accepting Section 3 of the California Statehood Admissions act. Which, expressly provides; "…said State of California is admitted into the Union upon the express condition that the people of said State, through their legislature or otherwise, shall never interfere with the primary disposal of the public lands within its limits, and shall pass no law and do no act whereby the title of the United States to, and right to dispose of, the same shall be impaired or questioned…". This statehood act provision directly applies to all locatable minerals under the General Mining Laws, on all applicable Federal public domain lands in California. As minerals are a part of that land, and the General Mining Law is how they are disposed of.

James Aubert
1009 E. Robinson St.
Carson City NV 98701

From: Customer Service <filterstone@gmail.com>
To: <mstopher@dfg.ca.gov>
Date: 11/25/2009 4:39 PM
Subject: COMMENT : Suction Dredge Mining and Rule Making Process

James Aubert
1009 E. Robinson St.
Carson City NV 889701
**
*Mark Stopher
California DF&G
601 Locust
Redding Ca. 96001

Nov. 25, 2009

California Department of Fish and Game
Suction Dredge Mining and Rule Making Process

COMMENT : ACTUAL & CONSTRUCTIVE NOTICE OF MATERIAL FACTS

Dear Mr. Stopher,

This is to give you "Actual" and "Constructive Notice" of the existence of approximately twenty four thousand (24,000) unpatented mining claims, as well as near four times that number of "patented" (fee simple) mining claims situated throughout California. All held, maintained or patented under

provisions of General Mining Law (30 U.S.C. §§ 21 et seq.).

SB 670 irrationally ignores these material facts, as though they do not exist. But, DGF as the “Lead Agency” in this CEQA process cannot. As numerous CEQA provisions mandate these material facts, ramifications, and legal consequences of their existence, as well as their constitutional, and statutory protections must be included throughout this CEQA process.

The presence of federal mining claims situated statewide throughout California, and the constitutionally protected private property rights associated with them. As well as the Congressional policy, law and regulation to encourage, foster and provide for mining on applicable federal public domain lands nation wide, severely constrain the DFG, and CEQA regulatory jurisdiction, and actions here. *
**
Sincerely, James Aubert
Affected Party

From: Customer Service <filterstone@gmail.com>
To: <mstopher@dfg.ca.gov>
Date: 12/11/2009 11:44 PM
Subject: SB 670 SUCTION DREDGE CEQA STUDY "Additional Relevant Literature"
Attachments: WA goldfish 2009.pdf

As one component of DFG’s efforts to evaluate the potential consequences of suction dredge mining we have conducted a review of the available literature. We are posting that review, with a list of the documents we reviewed, for your examination. If you are aware of additional relevant literature please advise us by emailing Mark Stopher at *mstopher@dfg.ca.gov
* <mstopher@dfg.ca.gov>

http://wdfw.wa.gov/habitat/goldfish/goldfish2009.pdf

Washington Department of Fish and Wildlife

Gold and Fish

Rules for Mineral Prospecting and Placer Mining

Washington Department of FISH and WILDLIFE

April 2009
2nd Edition

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Mineral Prospecting and Placer Mining Rules

The 2009 Gold and Fish pamphlet replaces all previous editions and will remain valid until the Washington Department of Fish and Wildlife (WDFW) publishes a new edition. The rules contained in it were developed to protect fish and their habitats. This pamphlet serves as your Hydraulic Project Approval (HPA) for the types of mineral prospecting and mining activities described in it. You must follow the rules in the pamphlet[1] when you conduct those projects in Washington. These rules do not relieve you from obtaining landowner permission and any other necessary permits before conducting any mineral prospecting activity. You must also follow the rules and regulations of tribal, local, federal, and other Washington state agencies. You may print out the Gold and Fish pamphlet from http://wdfw.wa.gov/habitat/goldfish/ or request one from a WDFW office.

If you want to conduct mineral prospecting or mining activities at different times or locations, or with different equipment than allowed in this pamphlet, you must apply for a separate, written HPA. You will receive an HPA if WDFW can determine that your proposed activity does not harm fish life.

You may request a written HPA by submitting a complete application to WDFW. The application form is titled "Joint Aquatic Resources Permit Application" (JARPA). The JARPA and instructions are available online at www.epermitting.org. You can also call the Office of Regulatory Assistance at (800) 917-0043 or (360) 407-7037, or email help@ora.wa.gov

Agencies with an Interest in Mineral Prospecting

This pamphlet gives authority to conduct mineral prospecting or placer mining operations from the WDFW only. Several other federal, state, tribal, and local government agencies have their own requirements that must be met before you can legally prospect or mine in areas under their jurisdiction. Below is a brief explanation of the interest these agencies have in mineral prospecting or placer mining. Contact them for more information and permit applications.

Federal

U.S. Army Corps of Engineers (Corps)

Seattle District
Attn: Regulatory Branch
PO Box 3755
Seattle, WA 98124-3755
(206) 764-3495 phone
(206)764-6602 fax
www.nws.usace.army.mil

The Corps is responsible for many beneficial uses of water, including transportation, navigation, recreation, and power production. Under the Federal Clean Water Act of 1977, the Corps may require suction dredge operators to obtain a Section 404 permit.

U.S. Bureau of Land Management (BLM)

Conducting placer operations and recordation of mining claims:

Spokane District Office
1103 N Fancher Rd
Spokane Valley, WA 99212-1275
(509) 536-1200 phone
(509) 536-1275 fax
www.blm.gov/or/districts/spokane

Conducting placer operations only:

Wenatchee Resource Area Office
915 Walla Walla St
Wenatchee, WA 98801-1521
(509) 665-2100 phone
(509) 665-2121 fax

Mining is authorized by several laws that apply to federal lands managed by BLM. The Mining Law of 1872, as amended (public lands), and the Mineral Leasing Act of 1947, as amended (acquired lands), are the main laws authorizing placer gold prospecting on federal mineral, fee, or split estate.

1. This pamphlet includes the mineral prospecting rules under the Washington Administrative Code (WAC) available online at http://apps.leg.wa.gov/wac/ under WACs 220-110-020, -030, -031, -200, -201, -202, and -206. The rules were adopted by the Washington Fish and Wildlife Commission on November 8, 2008 and are effective April 3, 2009. The rules will remain in effect until modified or rescinded by the Commission.

BLM manages the surface and mineral (fee) estate on some federal lands, and the mineral (split) estate on other lands where the surface is managed by other agencies or is privately owned. The entry provisions for prospecting and the degree of BLM involvement vary depending on the land ownership status and applicable laws.

Under the Mining Law, it is your responsibility to determine if there are prior existing mining claims in your area of interest. Information on existing mining claims, rules, regulations, mineral status maps, survey plats, and filing fees is available at the Spokane District Office, Wenatchee Field Office, and in Portland, Oregon, at the Oregon/Washington State Office. If you locate a mining claim, Section 314 of the Federal Land Policy and Management Act of 1976 (43 USC 1344) requires you to file a copy of the official notice or certificate of location and a map of the location boundaries with the BLM State Office within 90 days of locating the claim.

Exploration and mining activities on BLM-managed lands are also subject to BLM regulations that vary depending on the authorizing laws and land ownership. On most public lands, the regulations depend on the amount and intensity of disturbance and require you to submit either a Notice of Intent (five acres or less and greater than casual use) or a Plan of Operations (more than five acres or mechanized equipment). Plans of Operations generally take a minimum of 60 to 90 days to obtain due to required National Environmental Policy Act clearances. "Casual Use" activities causing only negligible disturbance (such as hand sample collection) are allowed on most public lands without advance notifications. Occupying public lands under the mining laws for more than 14 calendar days in any 90-day period within a 25-mile radius of the initially occupied site requires authorization from BLM.

The state generally owns the stream channel below the mean high water mark. Instream activities authorized by the Gold and Fish pamphlet are not generally regulated by BLM. However, if WDFW requires a written HPA for mining activity or if you want to conduct highbanking operations above the ordinary high water line, BLM requires a Notice of Intent or Plan of Operations. BLM requires reclamation for all surface disturbance. Abandoning a claim does not relieve you of that responsibility.

On acquired lands, you must contact BLM and any surface management agency with jurisdiction over those lands to determine if you need a permit or if other conditions are required before you enter the lands for hobby or non-commercial collecting. Under the Mineral Leasing Act, commercial activities require you to file exploration plans and obtain a permit for prospecting. If a commercial deposit is found, a lease and a BLM-approved mining and reclamation plan are required to mine.

U.S. Forest Service (Forest Service)

Region 6 Regional Office
333 SW 1st Ave
PO Box 3623
Portland, OR 97208-3623
(503) 808-2468 phone
503) 808-2210 fax
www.fs.fed.us/r6/

Olympic National Forest
1835 Black Lake Blvd SW
Olympia, WA 98512-5623
(360) 956-2402 phone
(360) 956-2330 fax
www.fs.fed.us/r6/olympic/

Gifford Pinchot National Forest
10600 NE 51st Circle
Vancouver, WA 98682
(360) 891-5000 phone
(360) 891-5045 fax
www.fs.fed.us/gpnf/

Mt. Baker-Snoqualmie National Forest
2930 Wetmore Ave, Suite 3A
Everett, Washington 98201
(425) 783-6000 or (800) 627-0062 phone
(425) 783-0212 fax
www.fs.fed.us/r6/mbs/

Colville National Forest
765 S Main
Colville, WA 99114
(509) 684-7000 phone
(509) 684-7280 fax
www.fs.fed.us/r6/colville/

Okanogan-Wenatchee National Forest
215 Melody Lane
Wenatchee, WA 98801-5933
(509) 664-9200 phone
(509) 664-9280 fax
www.fs.fed.us/r6/wenatchee/

National Forest System (NFS) lands are classified as either public domain (PD) or acquired. Most NFS lands in the western United States, including most NFS lands in Washington, are PD lands and therefore are open to entry and mining claim location under the authority of the General Mining Law of 1872, as amended. Acquired lands are not subject to the General Mining Law, but are instead subject to the Mineral Leasing Act of 1920. Prospecting is not allowed on acquired lands except by permit.

Some PD lands have been congressionally or administratively withdrawn from mineral entry and location. For example, Wildernesses, designated by the U.S. Congress and making up about 29 percent of NFS lands in Washington, are withdrawn

and closed to prospecting. With few exceptions, prospecting is prohibited in administrative withdrawals as well. The rest of PD lands are open to mineral prospecting and development. These lands may be prospected whether or not you have located a mining claim. However, you should ask for permission to prospect on someone else's properly located and maintained mining claim. You may address questions about the status of NFS lands to the Forest Service or Bureau of Land Management.

The Forest Service regulates mineral-related impacts to surface resources under the authority of 36 CFR 228, Subpart A. If your planned mineral activities might cause a significant impact to surface resources, submit a Notice of Intent to the local Forest Service District Ranger. Within 15 days, the District Ranger will either tell you that you may begin activities or require you to submit a more detailed Plan of Operations. In some cases, the District Ranger will require additional information prior to making a determination. You can help the District Ranger make a significance determination if you state in your Notice of Intent that your operations will be conducted in compliance with the Gold and Fish pamphlet or a separate, written Hydraulic Project Approval (HPA).

If activities will likely cause a significant impact, submit a Plan of Operations. In this case, Forest Service approval is required before starting mining activities and approval may depend on you agreeing to adopt any required mitigation measures or changes to the plan, submitting a reclamation performance bond if required, and providing a Clean Water Act Section 401 certification or waiver, if applicable. If you have any questions, contact the District Ranger having jurisdiction over the area where you plan to work.

Generally, activities that are limited to using vehicles on existing and open NFS roads, metal detecting, gold panning, non-motorized hand sluicing, battery-operated dry washing, collecting small mineral samples using only hand tools, and marking and monumenting mining claims, do not require a Notice of Intent before starting work. Other activities, including cutting trees or using any mechanized earthmoving equipment, including equipment such as a suction dredge or high-banker, require at least a Notice of Intent.

National Oceanic and Atmospheric Administration (NOAA) Fisheries (National Marine Fisheries Service (NMFS))

Habitat Conservation Division
Washington State Habitat Office
510 Desmond Dr SE, Suite 103
Lacey, WA 98503
(360) 753-9530 phone
(360) 753-9517 fax

Northwest Regional Office
7600 Sand Point Way NE
BIN CI5700, Building 1
Seattle, WA 98115-0070
(206) 526-6150 phone
www.nwr.noaa.gov

U.S. Fish and Wildlife Service (USFWS)

For areas west of the Cascade crest:
Washington Fish and Wildlife Office
510 Desmond Dr SE
Lacey, WA 98503
(360) 753-9440 phone

For areas east of the Cascade crest:
Upper Columbia River Basin Field Office
11103 E Montgomery Dr, Suite 2
Spokane, WA 99206
(509) 891-6839 phone
www.fws.gov/easternwashington/

NMFS has regulatory authority for anadromous fish issues and USFWS regulates issues involving resident fish and other animals and plants. Together these agencies administer the Endangered Species Act (ESA). This law requires government agencies to conserve plants and animals that are listed as threatened or endangered with extinction, and their critical habitats. In many areas of Washington, Chinook, sockeye, chum, and coho salmon, steelhead, and bull trout are listed or are proposed for listing under the ESA.

Activities may be restricted or limited in streams or sections of streams containing listed fish or their critical habitat in order to fully protect those species. Both NMFS and USFWS have the responsibility to ensure that no activity will jeopardize the continued existence of a listed species, or destroy or adversely modify its critical habitat.

National Parks Service (NPS)

Pacific West Region Office
909 First Ave
Seattle, WA 98104-1060

(206) 220-4000 phone
(206) 220-4159 fax
www.nps.gov

Mineral development including exploration, extraction, production, storage, and transportation of minerals may be allowed in National Parks only where there are existing valid mining claims, federal mineral leases, or non-federally owned minerals. In some parks, all or certain types of mineral development are specifically prohibited by law.

Everyone who conducts mineral development within National Parks must comply with applicable laws, regulations, and NPS policies. You may not use or occupy surface lands in a park to remove minerals outside the park unless provided for in law.

All National Parks are closed to locating new mining claims on federal lands under the General Mining Law of 1872. NPS may permit mineral development only on existing valid mining claims in conformance with the park's enabling legislation and the regulations for mining claims. NPS will perform a validity examination of a claim before approving a Plan of Operations. All mineral development and use of resources in connection with a claim will be confined to the boundaries of the claim itself, except for access and transport that are permitted under existing regulations.

All National Parks are closed to new federal mineral leasing except for five national recreation areas including Lake Chelan and Ross Lake, where Congress explicitly authorized federal mineral leasing in each area's enabling legislation. Portions of four of these units and all of Lake Chelan National Recreation Area have been closed to federal mineral leasing by the Secretary of the Interior. You may not explore for federal minerals in any of these areas except under an oil and gas lease, or in the case of solid materials, under a prospecting permit issued under regulations in 43 CFR 3500. Before consenting to a federal mineral lease or subsequent permit in any of these areas, the responsible regional director will determine that leasing, and the subsequent mineral development in connection with leasing, will result in no significant adverse affect on park resources or administration.

Some park areas contain leases that existed at the time the park was created or expanded. These leases are valid existing rights and will continue to exist until they expire under the regulations that govern federal mineral leasing. When such a lease expires, the minerals and lands containing such minerals cannot be leased again.

State of Washington

Washington Department of Ecology (Ecology)

300 Desmond Drive Ave SE
PO Box 47600
Olympia, WA 98504-7600
(360) 407-6000 phone
(360) 407-6989 fax
www.ecy.wa.gov

For water quality issues, ask for the Water Quality Program. For water right questions, ask for the Water Resources Program.

Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452
(425) 649-7000 phone
(425) 649-7098 fax

Central Regional Office
15 W Yakima Ave, Suite 200
Yakima, WA 98902-3452
(509) 575-2490 phone
(509) 575-2809 fax

Eastern Regional Office
N 4601 Monroe
Spokane, WA 99205-1295
(509) 329-3400 phone
(509) 329-3529 fax

Southwest Regional Office
300 Desmond Drive Ave SE
PO Box 47775
Lacey, WA 98504-7775
(360) 407-6300 phone
(360) 407-6305 fax

Ecology oversees the Shoreline Management Act which sets goals and guidelines for protection of shorelines as valuable natural resources. Ecology also administers water quality standards to prevent interference with or harm to beneficial uses of state waters in lakes, streams, rivers, and marine areas. No degradation of water quality is allowed in waters within national parks, recreation areas, wildlife refuges, scenic rivers, or areas of ecological importance. Ecology checks complaints of water quality violations and can prosecute offenders.

Ecology also administers water rights. A valid water right is required to remove any surface water from waters of the state. Because highbanking removes water from a stream, you may need a water right for this activity. Contact Ecology if you intend to remove water from any waters of the state.

Washington Department of Fish and Wildlife (WDFW)

Habitat Program
600 Capitol Way N
Olympia, WA 98501-1091
(360) 902-2534 phone
(360) 902-2946 fax
http://wdfw.wa.gov

Eastern (Region 1)
2315 N Discovery Pl
Spokane, WA 99216-1566
(509) 892-1001 phone
(509) 921-2440 fax

North Central (Region 2)
1550 Alder St NW
Ephrata, WA 98823-9651
(509) 754-4624 phone
(509) 754-5257 fax

South Central (Region 3)
1701 S 24th Ave
Yakima, WA 98902-5720
(509) 575-2740 phone
(509) 575-2474 fax

North Puget Sound (Region 4)
16018 Mill Creek Blvd
Mill Creek, WA 98012-1296
(425) 775-1311 phone
(425) 338-1066 fax

Southwest (Region 5)
2108 SE Grand Blvd
Vancouver, WA 98661
(360) 906-6700 phone
(360) 906-6776 fax

Coastal (Region 6)
48 Devonshire Rd
Montesano, WA 98563-9618
(360) 249-4628 phone
(360) 664-0689 fax

WDFW administers Chapter 77.55 RCW (Construction projects in state waters) and is therefore the lead state agency in regulating instream mining and prospecting. Chapter 77.55 RCW requires anyone wishing to use, divert, obstruct, or change the natural flow or bed of any river or stream to first obtain a Hydraulic Project Approval (HPA) so that potential harm to fish and fish habitat can be avoided or corrected.

WDFW owns and manages various lands throughout the state. You must obtain permission and a land use permit (WAC 232-12-251) from WDFW before you enter. Furthermore, a WDFW Vehicle Use Permit is required on all recreation sites owned by WDFW. Hunters, fishers, and trappers get a Vehicle Use Permit without additional cost when purchasing a hunting, fishing, or trapping license. Vehicle Use Permits may also be purchased separately for $10.

Washington Department of Natural Resources (WDNR)

Aquatic Resources Division
PO Box 47027
Olympia, WA 98504-7027
(360) 902-1100 phone
(360) 902-1786 fax
www.dnr.wa.gov

WDNR manages about 3 million acres of state-owned uplands and 2.6 million acres of state-owned aquatic lands throughout Washington. State-owned uplands managed by WDNR are identified on the map titled "Washington State Major Public Lands" that you can obtain from one of WDNR's seven regional offices or the Olympia office.

State-owned aquatic lands managed by WDNR include the shores and beds of navigable freshwater lakes and rivers lying below the ordinary high water line. WDNR also manages the beds of marine waters and state-owned tidelands, which are shores of navigable tidal waters lying between the ordinary high tide line and the extreme low tide line, and Harbor Areas established by the Harbor Line Commission. WDNR may not have legal access to all lands under its management and may limit access to or the use of an area for panning at any time. You may obtain information on WDNR requirements and land that is open for panning by visiting or sending a self-addressed stamped envelope to the regional office managing the area where you will pan.

Prospecting, mining, and metal detecting on state-owned aquatic land must comply with all existing local, state, and federal environmental regulations. The resource management concerns posed by prospecting, mining and metal detecting on state-owned aquatic lands are primarily related to protecting habitat for fish and other aquatic life, degrading water quality, and interfering with navigation and other recreational opportunities.

The requirement for anyone wishing to conduct any type of prospecting, mining and metal detecting on state-owned

aquatic lands to obtain a use authorization prior to commencing operations will be determined on a case-by-case basis after considering all proprietary interests of the state. Proponents wishing to conduct any type of prospecting, mining and metal detecting on state-owned aquatic lands must file an application with the aquatic district office responsible for the proposed location of the operations to begin the determination process. Some uses may be allowed with no restrictions, while others may be allowed only with certain conditions that ensure WDNR is fulfilling the statutory management guidelines listed in RCW 79.105.030.

Washington State Department of Archaeology and Historic Preservation

PO Box 48343
Olympia, WA 98504-8343
(360) 586-3065 phone
(360) 586-3067 fax
www.dahp.wa.gov

The preservation of Washington's rich cultural heritage is a responsibility that we all share. On federal and Indian lands, the Archaeological Resources Protection Act (16 USC 470) and the Native American Graves Protection and Repatriation Act (25 USC 3001) protect historical and Native American archaeological sites, artifacts, burial sites, and traditional cultural places that are important to contemporary tribes. On private and non-federal public lands, state laws, including the Indian Graves and Records Act (RCW 27.44) and the Archaeological Sites and Resources Act (RCW 27.53), protect these types of locations from excavation, removal, or alteration without a permit from the Department of Archaeology and Historic Preservation. Strong civil and criminal penalties apply if these laws are violated.

Washington State Parks and Recreation Commission (State Parks)

Parks Development Service Center
PO Box 42650
Olympia, WA 98504-2650
(360) 902-8500 phone
www.parks.wa.gov

Panning, sluicing, or dredging for gold or other minerals is not allowed within streams or other waterways in any state park. Such activity is also prohibited in the state Seashore Conservation Area, which lies between the line of extreme low tide and the line of ordinary high water, extending from Cape Disappointment to the south boundary of the Makah Indian Reservation on the outer Washington coast (RCW 79A.05.605), except for the areas established under the placer mining pilot study authorized by Section 1, Chapter 83, Laws of 2008. Contact WDFW for maps of the study areas.

Local Government – Cities, Counties, and Other Municipalities

Cities and counties locally administer the Shoreline Management Act through master plans for shoreline protection. The plans identify areas where activities can or cannot be conducted. City and county planning offices require permits for any shoreline use or activity valued at $2500 or more, or that materially interferes with normal public use of a waterway or shoreline area. Contact the local government planning department where you plan to prospect for information about permits they may require.

Tribal Governments

Streams and waterways on treaty Indian tribal lands or reservations are closed to all mineral mining or prospecting unless specific written permission is granted by the tribal government. The tribes are also interested in protecting treaty and other tribal fish habitat from environmental degradation and restoring damaged habitat to its full productive potential. Technical staff of individual tribes can provide background fisheries information for streams and may also provide assistance for fish habitat improvement projects.

If you find any archaeological materials or remains, do not disturb, alter, remove, or excavate them. Contact the responsible federal agency if on federal land or the Department of Archaeology and Historic Preservation if on non-federal land. If you believe you have discovered human remains, contact local law enforcement officials immediately.

Definitions of Terms

The following definitions apply to mineral prospecting activities that you conduct under authorization of the mineral prospecting rules and this pamphlet. Terms in this pamphlet that are in **bold** font are defined here.

Abandoning an excavation site – Not working an **excavation site** for 48 hours or longer.

Aggregate – A mixture of minerals separable by mechanical or physical means.

Artificial materials – Clean, inert materials that you use to construct diversion structures for **mineral prospecting**.

Bank – Any land surface above the **ordinary high water line** that adjoins a body of water and contains it except during floods. Bank also includes all land surfaces of islands above the ordinary high water line that adjoin a body of water and that are below the flood elevation of their surrounding body of water.

Bed – The land below the **ordinary high water lines** of **state waters**. This definition shall not include irrigation ditches, canals, storm water run-off devices, or other artificial **watercourses** except where they exist in a natural watercourse that has been altered by man.

Boulder – A **stream** substrate particle larger than ten inches in diameter.

Classify – To sort **aggregate** by hand or through a screen, grizzly, or similar device to remove the larger material and concentrate the remaining aggregate.

Concentrator – A device used to physically or mechanically separate the valuable mineral content from **aggregate**.

Crevicing – Removing **aggregate** from cracks and crevices using **hand-held mineral prospecting tools** or water pressure.

Dredging – Removal of **bed material** using other than **hand-held tools**.

Equipment – Any device powered by internal combustion; hydraulics; electricity, except less than one horse power; or livestock used as draft animals, except saddle horses; and the lines, cables, arms, or extensions associated with the device.

Excavation site – The pit, furrow, or hole from which you remove **aggregate** to process and recover minerals or into which wastewater is discharged to settle out sediments.

Fish life – All fish species, including but not limited to **food fish**, **shellfish**, **game fish**, and other nonclassified fish species and all stages of development of those species.

Fishway – Any facility or device that is designed to enable fish to effectively pass around or through an obstruction without undue stress or delay.

Food fish – Those species of the classes Osteichthyes, Agnatha, and Chondrichthyes that shall not be fished for except as authorized by rule of the director of WDFW.

Frequent scour zone – The area between the **wetted perimeter** and the **toe of the slope**, comprised of **aggregate**, **boulders**, or bedrock. Organic soils are not present in the frequent scour zone.

Game fish – Those species of the class Osteichthyes that shall not be fished for except as authorized by rule of the Washington Fish and Wildlife Commission.

Ganged equipment – Two or more pieces of **mineral prospecting equipment** coupled together to increase efficiency. An example is adding a second **sluice** to a **high-banker**.

Gold and Fish pamphlet ("pamphlet") – A document that details the rules for conducting small-scale and other **prospecting** and **mining** activities, and which serves as the **hydraulic project approval** for certain **mineral prospecting** and mining activities in Washington state.

Habitat improvement structures or stream channel improvements – Natural or human-made materials placed in or next to bodies of water to make existing conditions better for fish life. Rock flow deflectors, engineered logjams, and artificial riffles are examples.

Hand-held mineral prospecting tools – Tools that you hold by hand and are not powered by internal combustion, hydraulics, or pneumatics. Examples include metal detectors, shovels, picks, trowels, hammers, pry bars, hand-operated winches, and battery-operated pumps specific to **prospecting**; and **vac-pacs**.

Hand-held tools – Tools that are held by hand and are not powered by internal combustion, hydraulics, pneumatics, or electricity. Some examples of hand-held tools are shovels, rakes, hammers, pry bars, and cable winches. This definition does not apply to hand-held tools used for **mineral prospecting**. See "**hand-held mineral prospecting tools**".

Hatchery – Any water impoundment or facility used for the captive spawning, hatching, or rearing of fish and **shellfish**.

High-banker – A stationary **concentrator** that you can operate outside the **wetted perimeter** of the body of water from which the water is removed, using water supplied by hand or by pumping. A high-banker consists of a **sluice** box, hopper, and water supply. You supply **aggregate** to the high-banker by means other than **suction dredging**. This

definition excludes **rocker boxes**. See Figure 1.

High-banking – Using a **high-banker** to recover minerals.

Hydraulic project – Construction or performance of other work that will use, divert, obstruct, or change the natural flow or **bed** of any of the salt or fresh **waters of the state**.

Figure 1. High-banker

Hydraulic Project Approval (HPA) –

(a) A written approval for a **hydraulic project** signed by the director of WDFW or the director's designates; or

(b) A printed **Gold and Fish pamphlet** issued by WDFW which identifies and authorizes specific minor hydraulic project activities for **mineral prospecting** and **placer** mining.

Job site – The space of ground including and immediately adjacent to the area where work is conducted under the authority of an **HPA**. For **mineral prospecting** and **placer** mining projects, the job site includes the **excavation site**.

Joint Aquatic Resources Permit Application (JARPA) – A form provided by WDFW and other agencies which an applicant submits when requesting a written **HPA** for a **hydraulic project**.

Lake – Any natural or impounded body of standing freshwater, except impoundments of the Columbia and Snake rivers.

Large woody material – Trees or tree parts larger than four inches in diameter and longer than six feet, and rootwads, wholly or partially waterward of the **ordinary high water line**.

Mean higher high water (MHHW) – The tidal elevation obtained by averaging each day's highest tide at a particular location over a period of 19 years. It is measured from the **mean lower low water** = 0.0 tidal elevation.

Mean lower low water (MLLW) – The 0.0 tidal elevation. It is determined by averaging each day's lowest tide at a particular location over a period of 19 years. It is the tidal datum for vertical tidal references in the **saltwater area**.

Mineral prospect(-ing) – To excavate, **process**, or **classify aggregate** using **hand-held mineral prospecting tools** and **mineral prospecting equipment**.

Mineral prospecting equipment – Any natural or manufactured device, implement, or animal (other than the human body) that you use in any aspect of **prospecting** for or recovering minerals.

Mini high-banker – A **high-banker** with a **riffle** area of three square feet or less. See Figure 2.

Mini rocker box – A **rocker box** with a **riffle** area of three square feet or less. See Figure 3.

Mining – The production activity that follows **mineral prospecting**.

Figure 2. Mini high-banker

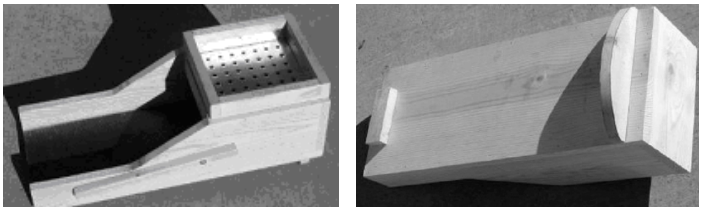

Figure 3. Mini rocker box (top view and bottom view)

Ordinary high water line (OHWL) – The mark on the shores of all waters that will be found by examining the **bed** and **banks** and ascertaining where the presence and action of waters are so common and usual and so long continued in ordinary years, as to mark upon the soil or vegetation a character distinct from that of the abutting upland, provided that in any area where the ordinary high water line cannot be found, the ordinary high water line adjoining saltwater shall be the line of **mean higher high water**, and the ordinary high water line adjoining freshwater shall be the elevation of the mean annual flood.

Pan – An open metal or plastic dish that you operate by hand to separate gold or other minerals from **aggregate** by washing the aggregate. See Figure 4.

Figure 4. Pan

Panning – Using a **pan** to wash **aggregate**.

Person – An individual or a public or private entity or organization. The term "person" includes local, state, and federal government agencies and all business organizations.

Placer – A glacial or alluvial deposit of gravel or sand containing eroded particles of minerals.

Power sluice – High-banker

Power sluice/suction dredge combination – A machine that can be used as a **power sluice**, or with minor modifications, as a **suction dredge**. See Figure 5.

Process(-ing) aggregate – The physical or mechanical separation of the valuable mineral content within **aggregate**.

Prospect(-ing) – The exploration for minerals and mineral deposits.

Redd – A nest made in gravel, consisting of a depression dug by a fish for egg deposition, and associated gravel mounds. See Figure 6.

Figure 5. Power sluice/suction dredge combination

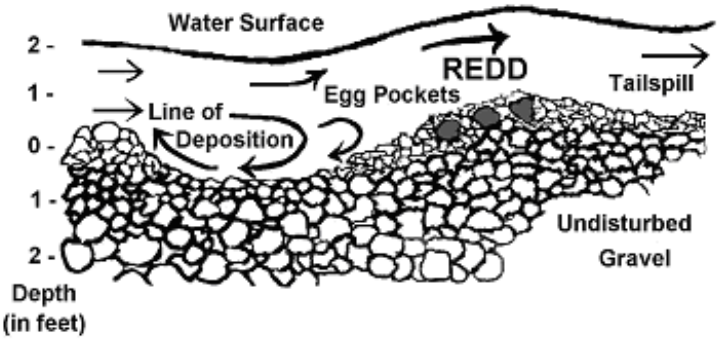

Figure 6. Cross section of a typical redd

Riffle – The bottom of a **concentrator** containing a series of interstices or grooves to catch and retain a mineral such as gold.

River or stream – See **Watercourse**.

Rocker box – A nonmotorized **concentrator** consisting of a hopper attached to a cradle and a **sluice** box that you operate with a rocking motion. See Figure 7.

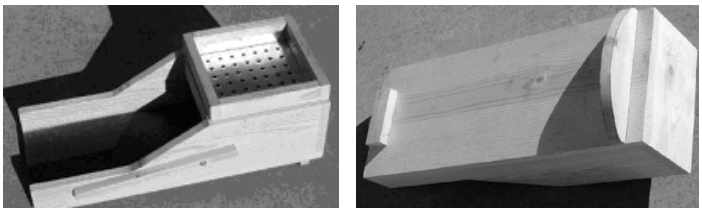

Figure 7. Rocker box (top view and bottom view)

Saltwater area – Those **state waters** and associated beds below the **ordinary high water line** and downstream of river mouths.

Shellfish – Those species of saltwater and freshwater invertebrates that shall not be taken except as authorized by rule of the director of WDFW. The term "shellfish" includes all stages of development and the bodily parts of shellfish species.

Slope – Any land surface above the **frequent scour zone** and **wetted perimeter** that adjoins a body of water. Slope also includes land surfaces of islands above the frequent scour zone that adjoin a body of water; or a stretch of ground forming a natural or artificial incline.

Sluice – A trough equipped with **riffles** across its bottom which you use to recover gold and other minerals with the use of flowing water. See Figure 8.

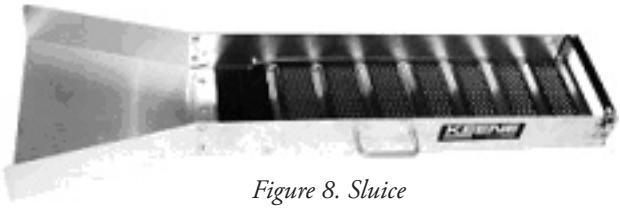

Figure 8. Sluice

Spiral wheel – A hand-operated or battery-powered rotating **pan** that you use to recover gold and minerals with the use of water. See Figure 9.

Figure 9. Spiral wheel

Stable slope – A **slope** without visible evidence of slumping, sloughing, or other movement. Stable slopes will not show evidence of landslides, uprooted or tilted trees, exposed soils, water-saturated soils, and mud, or the recent erosion of soils and sediment. **Woody vegetation** is typically present on stable slopes.

Suction dredge – A machine that you use to move submerged **aggregate** via hydraulic suction. You process the aggregate through an attached **sluice** box for the recovery of gold and other minerals. See Figure 10.

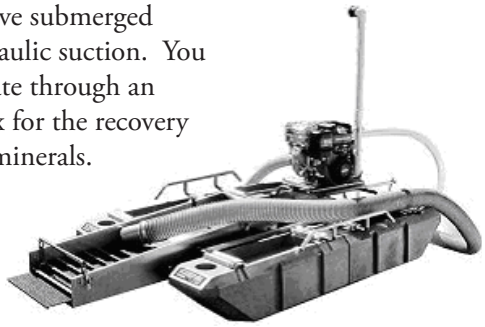

Figure 10. Suction dredge

Suction dredging – Using a **suction dredge** for the recovery of gold and other minerals.

Tailings – The waste material that remains after you process **aggregate** for minerals.

Toe of the bank – The distinct break in **slope** between the stream **bank** or shoreline and the stream bottom or marine beach or **bed**, excluding areas of sloughing. For steep banks that extend into the water, the toe may be submerged below the **ordinary high water line**. For artificial structures, such as jetties or bulkheads, the toe refers to the base of the structure, where it meets the stream bed or marine beach or bed.

Toe of the slope – The base or bottom of a **slope** at the point where the ground surface abruptly changes to a significantly flatter grade.

Unstable slope – A **slope** with visible evidence of slumping, sloughing, or other movement. Evidence of unstable slopes includes landslides, uprooted or tilted trees, exposed soils, water-saturated soils, and mud, or the recent erosion of soils and sediment. **Woody vegetation** is typically not present on unstable slopes.

Figure 11. Vac-pac

Vac-pac – A motorized, portable vacuum used for **prospecting**. See Figure 11.

Watercourse and **River or stream** – Any portion of a channel, **bed**, **bank**, or bottom waterward of the **ordinary high water line** of **waters of the state**, including areas in which fish may spawn, reside, or pass, and tributary waters with defined bed or banks, which influence the quality of fish habitat downstream. This includes watercourses which flow on an intermittent basis or which fluctuate in level during the year, and applies to the entire bed of such watercourse whether or not the water is at peak level. This definition does not include irrigation ditches, canals, storm water run-off devices, or other entirely artificial watercourses, except where they exist in a natural watercourse that has been altered by humans.

Waters of the state or **State waters** – All salt waters and fresh waters waterward of **ordinary high water lines** and within the territorial boundaries of the state.

Wetted perimeter – The areas of a **watercourse** covered with flowing or nonflowing water.

Woody vegetation – Perennial trees and shrubs having stiff stems and bark. Woody vegetation does not include grasses, forbs, or annual plants.

Mineral Prospecting Without Timing Restrictions

You may **mineral prospect** year-round in all **waters of the state**, except **lakes** or salt waters. You must follow the rules listed below, but you do not need to have the rules with you or on the **job site**.

1. You may use only **hand-held mineral prospecting tools** and the following **mineral prospecting equipment** when **mineral prospecting** without timing restrictions:
   (a) **Pans**;
   (b) **Spiral wheels**;
   (c) **Sluices**, **concentrators**, **mini rocker boxes**, and **mini high-bankers** with **riffle** areas totaling three square feet or less, including **ganged equipment**.
2. You may not use vehicle-mounted winches. You may use one hand-operated winch to move **boulders** or **large woody material** that is not embedded. You may use additional cables, chains, or ropes to stabilize boulders or large woody material that is not embedded.
3. You may work within the **wetted perimeter** only from one half hour before official sunrise to one half hour after official sunset.
4. You may not disturb **fish life** or **redds** within the **bed**. If you observe or encounter fish life or redds within the bed, or actively spawning fish when collecting or **processing aggregate**, you must relocate your operations. You must avoid areas containing live freshwater mussels. If you encounter live mussels during excavation, you must relocate your operations.
5. Rules for excavating:
   (a) You may excavate only by hand or with **hand-held mineral prospecting tools**.
   (b) You may not excavate, collect, or remove **aggregate** from within the **wetted perimeter**. See Figures 12 and 13.
   (c) Only one **excavation site** per individual is allowed. However, you may use a second excavation site as a settling pond. Multiple individuals may work within a single excavation site.
   (d) You may not stand within, or allow aggregate to enter, the wetted perimeter when collecting or excavating aggregate.

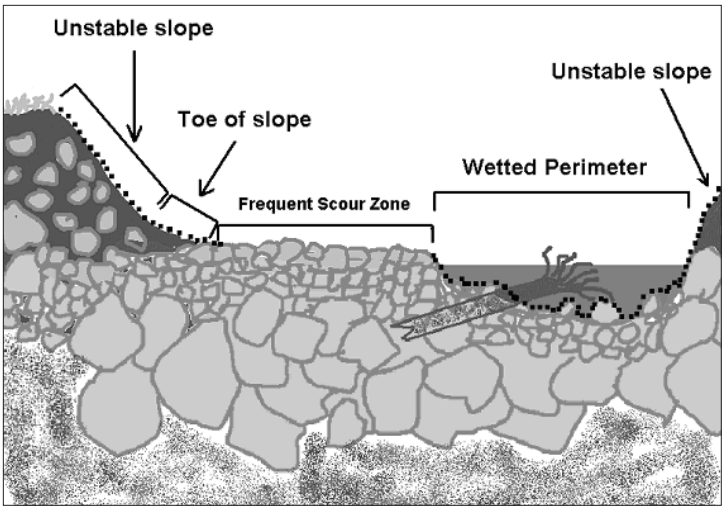

Figure 12. Cross section of a typical body of water, showing areas where excavation is not permitted under rules for mineral prospecting without timing restrictions. Dashed lines indicate areas where excavation is not permitted.

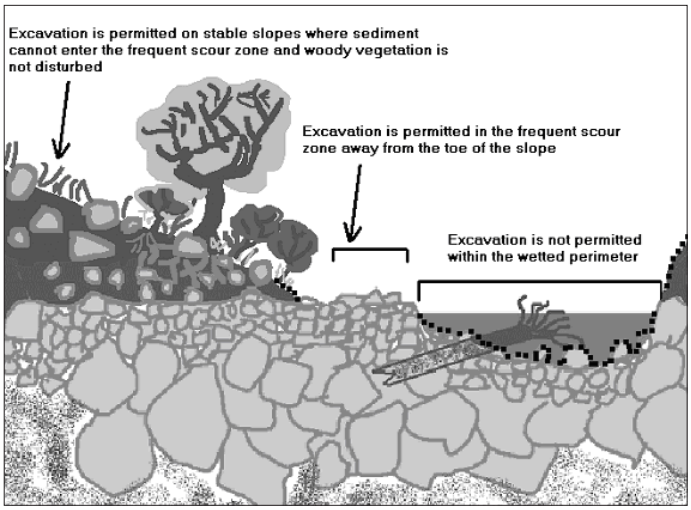

Figure 13. Permitted and prohibited excavation sites in a typical body of water under rules for mineral prospecting without timing restrictions. Dashed lines indicate areas where excavation is not permitted.

(e) You must fill all excavation sites and level all **tailing** piles prior to moving to another excavation site or **abandoning an excavation site**. If you move **boulders**, you must return them, as best as you can, to their approximate, original location.

(f) You may not undermine, move, or disturb **large woody material** embedded in the **slopes** or located wholly or partially within the wetted perimeter. You may move large woody material and boulders located entirely within the **frequent scour zone**, but you must keep them within the frequent scour zone. You may not cut large woody material. See Figure 13.

(g) You may not undermine, cut, or disturb live, rooted **woody vegetation** of any kind.

(h) You may not excavate, collect, or remove aggregate from the **toe of the slope**. You also may not excavate, collect, or remove aggregate from an **unstable slope** or any slope that delivers, or has the potential to deliver, sediment to the wetted perimeter or frequent scour zone. See Figures 14 and 15.

6. Rules for **processing aggregate**:

(a) You may stand within the **wetted perimeter** when processing aggregate with **pans**, **spiral wheels**, and **sluices**.

(b) You may not stand on or process directly on **redds** or disturb incubating **fish life**. You may not allow **tailings,** or visible sediment plumes (visibly muddy water), to enter redds or areas where fish life are located within the **bed**.

(c) You may not level or disturb tailing piles that remain within the wetted perimeter after processing aggregate.

(d) You must **classify aggregate** at the collection or **excavation site** prior to processing, if you collected or excavated it outside the **frequent scour zone**.

(e) You may process only classified aggregate within the wetted perimeter when using a sluice.

(f) The maximum width of a sluice, measured at its widest point, including attachments, shall not exceed 25 percent of the width of the wetted perimeter at the point of placement.

(g) You may process with a sluice only in areas within the wetted perimeter that are composed primarily of **boulders** and bedrock. You must separate sluice locations by at least 50 feet. You may not place structures within the wetted perimeter to check or divert the water flow.

(h) You may operate **mini high-bankers** or other **concentrators** only outside the wetted perimeter. You may only supply water to this **equipment** by hand or by a battery-operated pump with a screened intake. You may not allow visible sediment or muddy water to enter the wetted perimeter. A second excavation site may be used as a settling pond.

(i) Under RCW 77.57.010 and 77.57.070, any device you use for pumping water from fish-bearing waters must be equipped with a fish guard to prevent passage of fish into the pump intake. You must screen the pump intake with material that has openings no larger than 5/64 inch for square openings, measured side to side, or 3/32 inch diameter for round openings, and the screen must have at least one square inch of functional screen area for every gallon per minute (gpm) of water drawn through it. For example, a 100 gpm-rated pump would require at least a 100 square inch screen.

(j) You may not excavate, collect, remove, or process aggregate within 400 feet of any **fishway**, dam, or **hatchery** water intake.

(k) You may not disturb existing **habitat improvement structures or stream channel improvements**.

(l) If at any time, as a result of project activities, you observe a fish kill or fish life in distress, you must immediately cease operations and notify WDFW and the Washington Military Department Emergency Management Division (1-800-258-5990) of the problem. You may not resume work until WDFW gives approval. WDFW may require additional measures to mitigate the prospecting impacts.

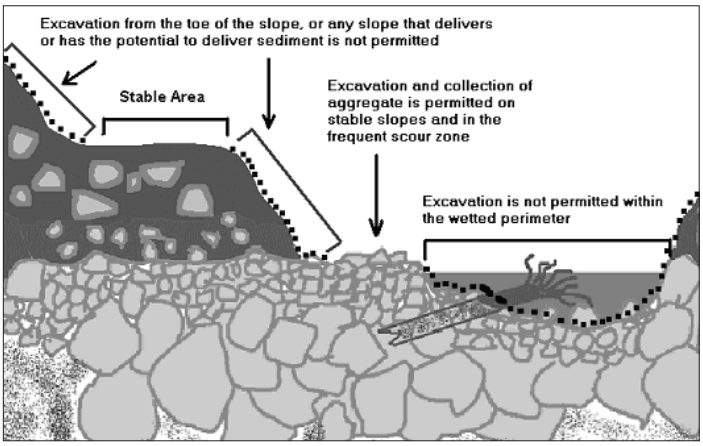

Figure 14. Cross section of a typical body of water, showing unstable slopes, stable areas, and permissible or prohibited excavation sites under rules for mineral prospecting without timing restrictions. Dashed line indicates areas where excavation is not permitted.

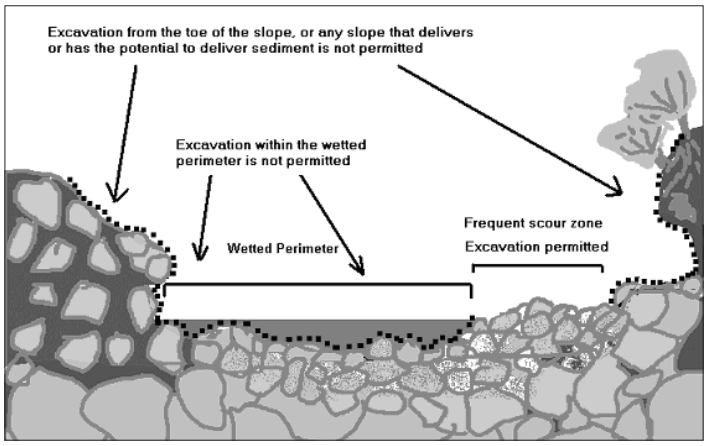

Figure 15. Cross section of a typical body of water showing unstable slopes, stable areas, and permissible or prohibited excavation sites under rules for mineral prospecting without timing restrictions. Dashed line indicates areas where excavation is not permitted.

Mineral Prospecting With Timing Restrictions

You may **mineral prospect** only in the waters, during the times, and with the **mineral prospecting equipment** limitations identified in the table of authorized work times beginning on page 17 of this pamphlet. You must follow the rules listed below, and you must have the rules with you or on the **job site**.

1. You may use only **hand-held mineral prospecting tools** and the following **mineral prospecting equipment** when **mineral prospecting** with timing restrictions:
   (a) **Pans**;
   (b) **Spiral wheels**;
   (c) **Sluices**, **concentrators**, **rocker boxes**, and **high-bankers** with **riffle** areas totaling ten square feet or less, including **ganged equipment**;
   (d) **Suction dredges** should have suction intake nozzles with inside diameters of five inches or less, but shall be no greater than 5¼ inches to account for manufacturing tolerances and possible deformation of the nozzle. The inside diameter of the dredge hose attached to the nozzle may be no greater than one inch larger than the suction intake nozzle size. See Figure 16.

Figure 16. Dredge intake nozzle

   (e) **Power sluice/suction dredge combinations** that have riffle areas totaling ten square feet or less, including ganged equipment, suction intake nozzles with inside diameters that should be five inches or less, but shall be no greater than 5¼ inches to account for manufacturing tolerances and possible deformation of the nozzle, and pump intake hoses with inside diameters of four inches or less. The inside diameter of the dredge hose attached to the suction intake nozzle may be no greater than one inch larger than the suction intake nozzle size. See Figure 16.
   (f) High-bankers and **power sluices** that have riffle areas totaling ten square feet or less, including ganged equipment, and pump intake hoses with inside diameters of four inches or less.
2. The widest point of a **sluice**, including attachments, shall not exceed 25 percent of the **wetted perimeter** at the point of placement.
3. The suction intake nozzle and hose of **suction dredges** and **power sluice/suction dredge combinations** must not exceed the diameters allowed in the listing for the stream or stream reach where you are operating, as identified in the table of authorized work times beginning on page 17 of this pamphlet.
4. You may not use vehicle-mounted winches. You may use one motorized winch and one hand-operated winch to move **boulders** and **large woody material** that is not embedded, and additional cables, chains, or ropes to stabilize them.
5. Equipment separation:
   (a) You may use **hand-held mineral prospecting tools**; **pans**; **spiral wheels**; or **sluices**, **mini rocker boxes**, or **mini high-bankers** with **riffle** areas totaling three square feet or less, including **ganged equipment**, as close to other **mineral prospecting equipment** as desired.
   (b) When operating any sluice or **rocker box** with a riffle area exceeding three square feet (including ganged equipment), **suction dredge**, **power sluice/suction dredge combination**, **high-banker**, or **power sluice** within the **wetted perimeter**, you must be at least 200 feet from all others also operating this type of equipment. This separation is measured as a radius from the equipment you are operating. You may locate this equipment closer than 200 feet if only one piece of equipment is operating within that 200 foot radius. See Figure 17.

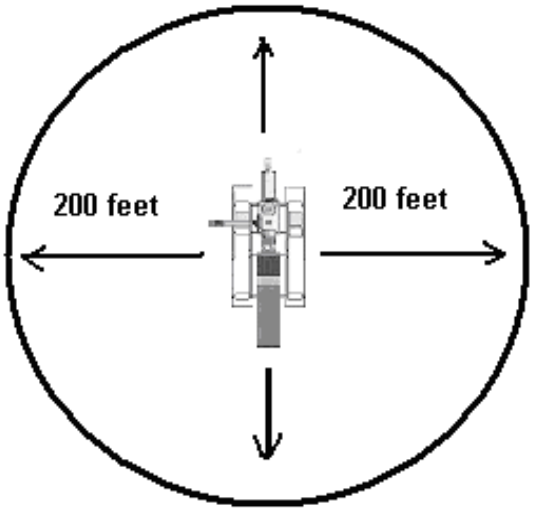

Figure 17. Equipment separation requirement

   (c) When operating any sluice or rocker box with a riffle area

exceeding three square feet (including ganged equipment), suction dredge, power sluice/suction dredge combinations, high-banker, or power sluice outside of the wetted perimeter that discharges **tailings** or wastewater to the wetted perimeter, you must be at least 200 feet from all others also operating this type of equipment. This separation is measured as a radius from the equipment you are operating. You may locate this equipment closer than 200 feet if only one piece of equipment is operating within that 200 foot radius. See Figure 17.

6. Under RCW 77.57.010 and 77.57.070, any device you use for pumping water from fish-bearing waters must be equipped with a fish guard to prevent passage of fish into the pump intake. You must screen the pump intake with material that has openings no larger than 5/64 inch for square openings, measured side to side, or 3/32 inch diameter for round openings, and the screen must have at least one square inch of functional screen area for every gallon per minute (gpm) of water drawn through it. For example, a 100 gpm-rated pump would require at least a 100 square inch screen.
7. All **equipment** fueling and servicing must be done so that petroleum products do not get into the body of water or frequent scour zone. If a petroleum sheen or spill is observed, you must contact the Washington Military Department Emergency Management Division (1-800-258-5990). You must immediately stop your activities, remove your equipment from the body of water, and correct the source of the petroleum leak. You may not return your equipment to the water until the problem is corrected. You must store fuel and lubricants outside the **frequent scour zone**, and in the shade when possible.
8. You may work within the **wetted perimeter** or **frequent scour zone** only from one half hour before official sunrise to one half hour after official sunset. If your **mineral prospecting equipment** exceeds one half the width of the wetted perimeter of the stream, you must remove the equipment from the wetted perimeter or move it so that a minimum of 50 percent of the wetted perimeter is free of equipment between one half hour after official sunset to one half hour prior to official sunrise.
9. You may not excavate, collect, remove, or process **aggregate** within 400 feet of any **fishway**, dam, or **hatchery** water intake.
10. You must not disturb existing **habitat improvement structures or stream channel improvements**.
11. You may not undermine, move, or disturb **large woody material** embedded in the **slopes** or located wholly or partially within the **wetted perimeter**. You may move large woody material and **boulders** located entirely within the **frequent scour zone**, but you must keep them within the frequent scour zone. You may not cut large woody material.
12. You may not undermine, cut, or disturb live, rooted **woody vegetation** of any kind.
13. Only one **excavation site** per individual is permitted. However, you may use a second excavation site as a settling pond. Multiple individuals may work within a single excavation site.
14. You must fill all **excavation sites** and level all **tailing** piles prior to working another excavation site or **abandoning the excavation site**.
15. You may not excavate, collect, or remove **aggregate** from the **toe of the slope**. You also may not excavate, collect, or remove aggregate from an **unstable slope** or any **slope** that delivers, or has the potential to deliver, sediment to the **wetted perimeter** or **frequent scour zone**. See Figures 18 and 19.
16. You may partially divert a body of water into **mineral prospecting equipment**. However, at no time may the diversion structure be greater than 50 percent of the width of the **wetted perimeter**, including the width of the equipment. You may not divert the body of water outside of the wetted perimeter.
17. You may use materials only from within the **wetted perimeter**, or **artificial materials** from outside the wetted perimeter, to construct the diversion structure by hand. You must remove artificial materials used in the construction of a diversion structure and restore the site to its approximate original condition prior to abandoning the site.
18. You may **process aggregate** collected from the **frequent scour zone**:
    (a) At any location if you use **pans**; **spiral wheels**; **mini rocker boxes**; **mini high-bankers**; or **sluices** or other **concentrators** with **riffle** areas totaling three square feet or less, including **ganged equipment**.
    (b) Only in the frequent scour zone or upland areas landward of the frequent scour zone if you use **power sluice/**

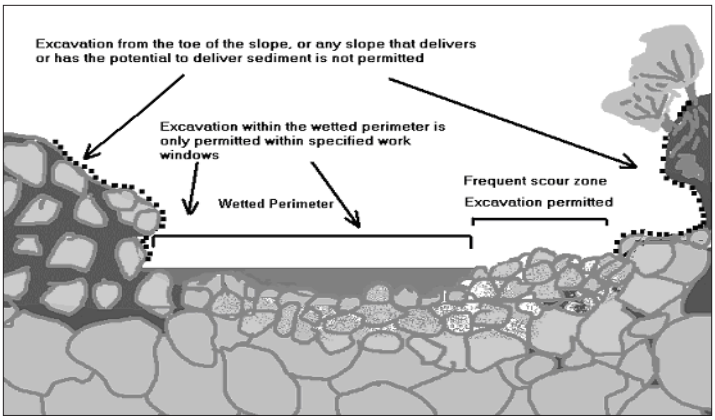

Figure 18. Cross section of a typical body of water showing unstable slopes, stable areas, and permissible or prohibited excavation sites under rules for mineral prospecting with timing restrictions. Dashed line indicates areas where excavation is not permitted.

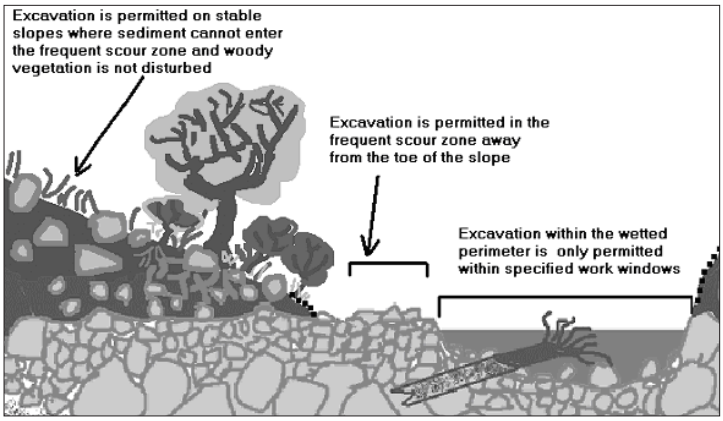

Figure 19. Permitted and prohibited excavation sites in a typical body of water under rules for mineral prospecting with timing restrictions. Dashed lines indicate areas where excavation is not permitted.

suction dredge combinations, **high-bankers**, or **power sluices** with riffle areas totaling ten square feet or less, including ganged equipment; or sluices or **rocker boxes** that have riffle areas totaling more than three but less than ten square feet, including ganged equipment. You may not discharge **tailings** to the **wetted perimeter** when using this equipment. However, you may discharge wastewater to the wetted perimeter provided its entry point into the wetted perimeter is at least 200 feet from any other wastewater discharge entry point.

19. You may **process aggregate** collected from the upland areas landward of the **frequent scour zone**:
    (a) At any location if you use **pans**; **spiral wheels**; or **sluices**, **concentrators**, **mini rocker boxes**, and **mini high-bankers** with **riffle** areas totaling three square feet or less, including **ganged equipment**. You must **classify** the **aggregate** at the **excavation site** prior to processing with this equipment within the **wetted perimeter** or frequent scour zone.
    (b) Only at an upland location landward of the frequent scour zone if you use **power sluice/suction dredge combinations**, **high-bankers**, **power sluices**, or **rocker boxes**. You may not allow **tailings** or wastewater to enter the wetted perimeter or frequent scour zone.
    (c) Within the wetted perimeter or frequent scour zone with a sluice with a riffle area greater than three square feet. You must classify the aggregate at the excavation site prior to processing with a sluice with a riffle area exceeding three square feet.
20. You may use pressurized water only for **crevicing** or for redistributing dredge **tailings** within the **wetted perimeter**. No other pressurized water use is permitted.
21. You may conduct **crevicing** in the **wetted perimeter**, in the **frequent scour zone**, or landward of the frequent scour zone. The hose connecting fittings of pressurized water tools used for crevicing may not have an inside diameter larger than ¾ inch. If you crevice landward of the frequent scour zone, you may not discharge sediment or wastewater to the wetted perimeter or the frequent scour zone.
22. You must avoid areas containing live freshwater mussels. If you encounter live mussels during excavation, you must relocate your operations.
23. You may not disturb **redds**. If you observe or encounter redds or actively spawning fish when collecting or **processing aggregate**, you must relocate your operations.
24. If at any time, as a result of project activities, you observe a fish kill or **fish life** in distress, you must immediately cease operations and notify WDFW and the Washington Military Department Emergency Management Division (1-800-258-5990) of the problem. You may not resume work until WDFW gives approval. WDFW may require additional measures to mitigate the prospecting impacts.

Authorized Work Times

You may conduct **mineral prospecting** and **placer mining** only in the **state waters**, with the **equipment** restrictions, and during the times specified in the following table.

1. The general work time for a county applies to all **state waters** within that county, unless otherwise indicated in the table.
2. The work time for a listed **state water** applies to all its tributaries, unless otherwise indicated. Some state waters occur in multiple counties. Check the listing for the county in which **mineral prospecting** or **placer mining** is to be conducted to determine the work time for that state water.
3. Where a tributary is listed as a boundary, that boundary shall be the line perpendicular to the receiving stream that is projected from the most upstream point of the tributary mouth to the opposite **bank** of the receiving stream. See Figure 20.

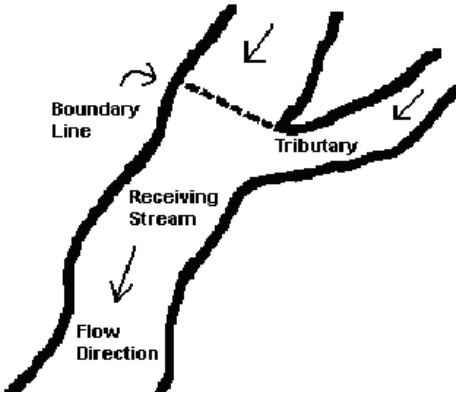

Figure 20. Stream boundary line

4. **Mineral prospecting** and **placer mining** within **state waters** listed as "Submit Application" are not authorized under the **Gold and Fish pamphlet**. A separate, written **HPA** is required for these state waters.
5. **Mineral prospecting** using **mineral prospecting equipment** that has suction intake nozzles with inside diameters that should be four inches or less, but shall be no greater than 4¼ inches to account for manufacturing tolerances and possible deformation of the nozzle is authorized only in the listed **state waters**, and any tributaries to them, unless otherwise indicated in the table. The inside diameter of the dredge hose attached to the nozzle may be no greater than one inch larger than the nozzle size.
6. **Mineral prospecting** using **mineral prospecting equipment** that has suction intake nozzles with inside diameters that should be five inches or less, but shall be no greater than 5¼ inches to account for manufacturing tolerances and possible deformation of the nozzle is authorized only in the listed **state waters** in the following table. The inside diameter of the dredge hose attached to the nozzle may be no greater than one inch larger than the nozzle size. You may use only mineral prospecting equipment with suction intake nozzle inside diameters of 4¼ inches or less in tributaries of these state waters. The inside diameter of the dredge hose attached to the nozzle may be no greater than one inch larger than the nozzle size.

Authorized Work Times and Mineral Prospecting Equipment Restrictions by Specific State Waters for Mineral Prospecting and Placer Mining Projects

Washington Counties and State Waters Water Resource Inventory Area (WRIA) in parentheses	Mineral Prospecting Is Allowed Only Between These Dates	State Waters (and tributaries, unless otherwise indicated) in Which You May Use Mineral Prospecting Equipment with a Four and One-Quarter Inch Maximum Suction Intake Nozzle Inside Diameter	State Waters (not including tributaries) in Which You May Use Mineral Prospecting Equipment with a Five and One-Quarter Inch Maximum Suction Intake Nozzle Inside Diameter
Adams County	July 1 - October 31	X	–
Crab Creek (41.0002)	July 16 - February 28	X	X
Esquatzel Creek (36.MISC)	June 1 - February 28	X	X
Palouse River (34.0003)	July 16 - February 28	X	X
Asotin County	July 16 - September 15	X	–
Snake River (35.0002)	See below	–	–
Alpowa Creek (35.1440)	July 16 - December 15	X	–
Asotin Creek (35.1716)	July 16 - August 15	X	–
Couse Creek (35.2147)	July 16 - December 15	X	–
Grande Ronde River (35.2192)	July 16 - September 15	X	X
Tenmile Creek (35.2100)	July 16 - December 15	X	–
Benton County	June 1 - September 30	X	–
Columbia River	See below	–	–
Glade Creek (31.0851)	August 1 - September 30	X	–
Yakima River (37.0002)	June 1 - September 15	X	X
Amon Creek (37.0009)	June 1 - September 30	X	–
Corral Creek (37.0002)	June 1 - September 30	X	–
Spring Creek (37.0205)	June 1 - September 30	X	–
Chelan County	July 16 - August 15	X	–
Columbia River	See below	–	–
Antoine Creek (49.0294) - Mouth to falls at river mile 1.0	July 1 - February 28	X	–
Antoine Creek (49.0294) - Upstream of falls at river mile 1.0	July 1 - March 31	X	–
Chelan River (47.0052) - Mouth to Chelan Dam	July 16 - September 30	X	X
Colockum Creek (40.0760)	July 1 - October 31	X	–
Entiat River (46.0042) - Mouth to Entiat Falls	July 16 - July 31	X	X
Entiat River (46.0042) - Upstream of Entiat Falls	July 16 - March 31	X	–
Crum Canyon (46.0107)	July 16 - March 31	X	–
Mad River (46.0125)	July 16 - July 31	X	–
Indian Creek (46.0128)	July 16 - February 28	X	–
Lake Chelan (47.0052)	Submit Application	–	–
Railroad Creek (47.0410)	July 16 - September 30	X	–
Stehekin River (47.0508)	Submit Application	–	–
Twenty-five Mile Creek (47.0195)	July 16 - September 30	X	–
Other Lake Chelan tributaries outside of North Cascades National Park	July 1 - August 15	X	–
Other Lake Chelan tributaries within North Cascades National Park	Submit Application	–	–
Number 1 Canyon (45.0011)	July 1 - February 28	X	–
Number 2 Canyon (45.0012)	July 1 - February 28	X	–
Squilchuck Creek (40.0836) - Mouth to South Wenatchee Avenue	July 1 - September 30	X	–
Squilchuck Creek (40.0836) - Upstream of South Wenatchee Avenue	July 1 - February 28	X	–
Stemilt Creek (40.0808) - Mouth to falls	July 1 - September 30	X	–

Washington Counties and State Waters Water Resource Inventory Area (WRIA) in parentheses	Mineral Prospecting Is Allowed Only Between These Dates	State Waters (and tributaries, unless otherwise indicated) in Which You May Use Mineral Prospecting Equipment with a Four and One-Quarter Inch Maximum Suction Intake Nozzle Inside Diameter	State Waters (not including tributaries) in Which You May Use Mineral Prospecting Equipment with a Five and One-Quarter Inch Maximum Suction Intake Nozzle Inside Diameter
Stemilt Creek (40.0808) - Upstream of falls	July 1 - February 28	X	–
Wenatchee River (45.0030) - Mouth to Lake Wenatchee	July 1 - July 31	X	X
Beaver Creek (45.0751)	July 1 - September 30	X	–
Chiwaukum Creek (45.0700)	July 1 - July 31	X	–
Chiwawa River (45.0759) - Mouth to Phelps Creek	July 1 - July 31	X	X
Chiwawa River (45.0759) - Upstream of Phelps Creek	July 1 - July 31	X	–
Deep Creek (45.0764)	July 1 - February 28	X	–
Phelps Creek (45.0875)	July 16 - August 15	X	–
Icicle Creek (45.0474) - Mouth to Johnny Creek	July 1 - July 31	X	X
Icicle Creek (45.0474) - Upstream of Johnny Creek	July 1 - July 31	X	–
Fourth of July Creek (45.0525)	July 1 - February 28	X	–
Lake Wenatchee (45.0030)	Submit Application	–	–
Little Wenatchee (45.0985) - Mouth to Wilderness Boundary	July 1 - July 31	X	X
Little Wenatchee (45.0985) - Upstream of Wilderness Boundary	Submit Application	–	–
White River (45.1116) - Mouth to White River Falls	July 1 - July 31	X	X
White River (45.1116) - Upstream of White River Falls	July 1 - February 28	X	–
Nason Creek (45.0888)	July 1 - July 31	X	–
Peshastin Creek (45.0232) - Mouth to Negro Creek	July 16 - August 15	X	–
Ingalls Creek (45.0273) - Mouth to Cascade Creek	Submit Application	–	–
Ingalls Creek (45.0273) - Upstream of Cascade Creek	July 16 - February 28	X	–
Negro Creek (45.0323) - Mouth to falls at stream mile 2.9	Submit Application	–	–
Negro Creek (45.0323) - Upstream of falls at stream mile 2.9	July 16 - February 28	X	–
Ruby Creek (45.0318)	July 16 - February 28	X	–
Peshastin Creek (45.0232) - Upstream of Negro Creek	August 1 - February 28	X	–
Tronson Creek (45.0346)	August 1 - February 28	X	–
Scotty Creek (45.0376)	August 1 - February 28	X	–
Shaser Creek (45.0365)	August 1 - February 28	X	–
Clallam County	July 16 - September 15	X	–
Clallam River (19.0129)	August 1 - August 15	X	–
Dungeness River (18.0018)	Submit Application	–	–
Independent Creek (18.MISC)	August 1 - August 31	X	–
Elwha River (18.0272)	August 1 - August 15	X	X
Hoko River (19.0148)	August 1 - September 15	X	–
Jimmycomelately Creek (17.0285)	August 1 - August 31	X	–
Lake Ozette (20.0046)	Submit Application	–	–
Little Quilcene River (17.0076)	July 16 - August 31	X	–
Lake Ozette tributaries	July 16 - September 15	X	–
Lyre River (19.0031)	August 1 - September 15	X	–
McDonald Creek (18.0160)	August 1 - September 15	X	–
Morse Creek (18.0185)	August 1 - August 15	X	–
Ozette River (20.0046)	July 16 - September 15	X	–
Pysht River (19.0113)	August 1 - September 15	X	–

Washington Counties and State Waters Water Resource Inventory Area (WRIA) in parentheses	Mineral Prospecting Is Allowed Only Between These Dates	State Waters (and tributaries, unless otherwise indicated) in Which You May Use Mineral Prospecting Equipment with a Four and One-Quarter Inch Maximum Suction Intake Nozzle Inside Diameter	State Waters (not including tributaries) in Which You May Use Mineral Prospecting Equipment with a Five and One-Quarter Inch Maximum Suction Intake Nozzle Inside Diameter
Quillayute River (20.0096, 20.0162, 20.0175)	August 1 - August 15	X	X
Bogachiel River (20.0162)	Submit Application	–	–
Calawah River (20.0175)	August 1 - August 15	X	X
Salmon Creek (17.0245)	July 16 - August 31	X	–
Sekiu River (19.0203)	August 1 - September 15	X	–
Snow Creek (17.0219)	July 16 - August 31	X	–
Sol Duc River (20.0096)	Submit Application	–	–
Lake Pleasant (20.0313)	Submit Application	–	–
Lake Pleasant tributaries	July 16 - September 15	X	–
Sooes River (20.0015)	July 16 - September 15	X	–
Clark County	July 16 - September 30	–	–
Columbia River	See below	–	–
Lacamas Creek (28.0160) - Mouth to dam	August 1 - August 31	X	–
Lacamas Creek (28.0160) - Upstream of dam	August 1 - September 30	X	–
Lewis River (27.0168)	August 1 - August 15	X	X
East Fork Lewis River (27.0173) - Mouth to Lucia Falls	August 1 - August 15	X	X
East Fork Lewis River (27.0173) - Lucia Falls to Sunset Falls	August 1 - February 28	X	X
East Fork Lewis River (27.0173) - Upstream of Sunset Falls	August 1 - February 28	X	–
Lake River (28.0020)	January 1 - December 31	X	X
Burnt Bridge Creek (28.0143)	August 1 - August 31	X	–
Salmon Creek (28.0059)	August 1 - August 31	X	–
Whipple Creek (28.0038)	August 1 - September 30	X	–
North Fork Lewis River (27.0334) - Confluence of East Fork to Merwin Dam	August 1 - August 15	X	X
Cedar Creek (27.0339)	August 1 - September 15	X	–
North Fork Lewis River (27.0334) - Merwin Dam to lower falls	July 16 - August 15	X	X
Canyon Creek (27.0442)	July 16 - February 28	X	–
North Fork Lewis River (27.0168) - Upstream of lower falls	July 16 - August 15	X	X
Washougal River (28.0159) - Mouth to headwaters	August 1 - August 31	X	X
Columbia County	July 16 - September 30	X	–
Touchet River (32.0097)	August 1 - August 15	X	X
Grande Ronde River tributaries (35.2192)	July 16 - August 15	X	–
North Fork Touchet/Wolf Fork (32.0761)	Submit Application	–	–
South Fork Touchet (32.0708)	Submit Application	–	–
Tucannon River (35.0009)	July 16 - August 15	X	X
Walla Walla River (32.0008) - Mouth to Oregon state line	July 16 - September 15	X	X
Mill Creek (32.1436) - Mouth to Oregon state line	August 1 - August 15	X	–
Cowlitz County	July 16 - September 30	X	–
Chehalis River (22.0190/23.0190) - South Fork Chehalis River - Mouth to Fisk Falls	August 1 - August 31	X	X
Chehalis River (22.0190/23.0190) - South Fork Chehalis River - Upstream of Fisk Falls	August 1 - August 31	X	–
Columbia River	See below	–	–
Abernathy Creek (25.0297)	July 16 - September 15	X	–
Burke Creek (27.0148)	August 1 - August 31	X	–

Washington Counties and State Waters Water Resource Inventory Area (WRIA) in parentheses	Mineral Prospecting Is Allowed Only Between These Dates	State Waters (and tributaries, unless otherwise indicated) in Which You May Use Mineral Prospecting Equipment with a Four and One-Quarter Inch Maximum Suction Intake Nozzle Inside Diameter	State Waters (not including tributaries) in Which You May Use Mineral Prospecting Equipment with a Five and One-Quarter Inch Maximum Suction Intake Nozzle Inside Diameter
Burris Creek (27.0151)	August 1 - August 31	X	–
Bybee Creek (27.0142)	August 1 - August 31	X	–
Canyon Creek (27.0147)	August 1 - August 31	X	–
Coal Creek (25.0340)	July 16 - September 15	X	–
Clark Creek (25.0371)	August 1 - August 31	X	–
Cowlitz River (26.0002) - Mouth to barrier dam at river mile 49.5	July 16 - August 15	X	X
Coweeman River (26.0003) - Mouth to Baird Creek	August 1 - August 31	X	X
Coweeman River (26.0003) - Upstream of Baird Creek	August 1 - August 31	X	–
Cowlitz River (26.0002) - Tributaries below barrier dam to mouth	July 16 - September 30	X	–
Owl Creek (26.1441)	July 16 - September 15	X	–
Toutle River (26.0227)	July 16 - August 15	X	X
North Fork Toutle River (26.0314) - Mouth to debris dam	July 16 - August 15	X	X
North Fork Toutle River (26.0314) - Upstream of debris dam	July 16 - August 15	X	–
Green River (26.0323) - Mouth to Shultz Creek	July 16 - September 30	X	X
Green River (26.0323) - Upstream of Shultz Creek	July 16 - September 30	X	–
South Fork Toutle (26.0248) - Mouth to Bear Creek	July 16 - September 15	X	X
South Fork Toutle (26.0248) - Upstream of Bear Creek	July 16 - September 15	X	–
Tributaries to Silver Lake	July 16 - September 30	X	–
Germany Creek (25.0313)	July 16 - September 15	X	–
Kalama River (27.0002) - Mouth to Kalama Falls	August 1 - August 15	X	X
Kalama River (27.0002) - Upstream of Kalama Falls	August 1 - August 15	X	–
Lewis River (27.0168) - Mouth to East Fork Lewis River	August 1 - August 15	X	X
North Fork Lewis River (27.0334) - Confluence of East Fork to Merwin Dam	August 1 - August 15	X	X
North Fork Lewis River (27.0334) - Merwin Dam to lower falls	July 16 - August 15	X	X
Mill Creek (25.0284)	July 16 - September 15	X	–
Schoolhouse Creek (27.0139)	August 1 - August 31	X	–
Douglas County	July 1 - September 30	X	–
Columbia River *	See below	–	–
Douglas Creek Canyon (44.0146)	May 16 - January 31	X	–
Foster Creek (50.0065)	August 1 - April 15	X	–
McCarteney Creek (44.0002)	July 1 - February 28	X	–
Pine/Corbaley Canyon Creek (44.0779)	September 16 - April 15	X	–
Rock Island Creek (44.0630)	July 1 - September 30	X	–
Ferry County	July 1 - August 31	X	–
Columbia River *	See below	–	–
Kettle River (60.0002)	June 16 - August 31	X	X
Boulder Creek (60.0130) - Mouth to Hodgson Road Bridge	Submit Application	–	–
Boulder Creek (60.0130) - Upstream of Hodgson Road Bridge	June 16 - February 28	X	–
Deadman Creek (60.0008) - Mouth to SR395 crossing	Submit Application	–	–
Deadman Creek (60.0008) - Upstream of SR395 crossing	June 16 - February 28	X	–
Goosmus Creek (60.0254)	June 16 - February 28	X	–
Toroda Creek (60.0410)	July 1 - September 30	X	–

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San Poil River (52.0004) *	June 16 - September 30	X	X
Granite Creek (52.0099) - Mouth to Powerhouse Dam	June 16 - September 30	X	–
Granite Creek (52.0099) - Upstream of Powerhouse Dam	June 16 - February 28	X	–
West Fork San Poil River (52.0192) - Mouth to Deep Creek *	June 16 - September 30	X	X
West Fork San Poil River (52.0192) - Upstream of Deep Creek	June 16 - September 30	X	–
Gold Creek (52.0197) *	June 16 - February 28	X	–
Franklin County	June 1 - September 30	X	–
Columbia River	See below	–	–
Snake River	See below	–	–
Palouse River (34.0003)	July 16 - February 28	X	X
North bank tributaries of the lower Snake River between Palouse River and the mouth of the Snake River	June 16 - October 31	X	–
Garfield County	July 16 - September 30	X	–
Snake River (35.0003)	See below	–	–
Alpowa Creek (35.1440)	July 16 - December 15	X	–
Asotin Creek (35.1716)	July 16 - August 15	X	–
Deadman Creek (35.0688)	July 16 - December 15	X	–
Grande Ronde River tributaries (35.2192)	July 16 - August 15	X	–
Meadow Creek (35.0689)	July 16 - December 15	X	–
Tucannon River (35.0009) - Mouth to Panjab Creek	July 16 - August 15	X	X
Tucannon River (35.0009) - Upstream of Panjab Creek	July 16 - August 15	X	–
Pataha Creek (35.0123) - Mouth to Pataha	January 1 - December 31	X	–
Pataha Creek (35.0123) - Upstream of Pataha	July 16 - December 31	X	–
Grant County	July 1 - October 31	X	–
Columbia River *	See below	–	–
Crab Creek (41.0002)	July 16 - September 15	X	X
Grays Harbor County	July 16 - October 15	X	–
Chehalis River (22.0190/23.0190) - Mouth to Porter Creek	August 1 - August 31	X	X
Chehalis River (22.0190/23.0190) - Porter Creek to Fisk Falls	August 1 - August 15	X	X
Chehalis River (22.0190/23.0190) - Upstream of Fisk Falls	August 1 - August 15	X	–
Cedar Creek (23.0570)	August 1 - September 30	X	–
Cloquallum Creek (22.0501)	August 1 - September 30	X	–
Porter Creek (23.0543)	August 1 - September 30	X	–
Satsop River (22.0360)	August 1 - August 31	X	X
Wishkah River (22.0191)	August 1 - October 15	X	X
Wynoochee River (22.0260)	August 1 - September 30	X	X
Copalis River (21.0767)	August 1 - October 15	X	X
Elk River (22.1333)	July 1 - October 31	X	X
Hoquiam River (22.0137)	August 1 - October 15	X	X
Humptulips River (22.0004) - Mouth to forks	August 1 - September 30	X	X
Humptulips River (22.0004) - Upstream of forks	August 1 - September 30	X	–
Johns River (22.1270)	August 1 - September 30	X	X
Moclips River (21.0731)	August 1 - October 15	X	X

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North River (24.0034)	August 1 - September 30	X	X
Queets River (21.0001)	August 1 - August 15	X	X
Quinault River (21.0398)	August 1 - August 15	X	X
Raft River (21.0337)	August 1 - October 15	X	X
Island County	June 16 - October 15	X	–
Cavalero Creek (06.0065)	June 16 - December 15	X	–
Chapman Creek (06.0070)	June 16 - December 15	X	–
Crescent Creek (06.0002)	June 16 - December 15	X	–
Cultus Creek (06.0026)	June 16 - March 15	X	–
Deer Creek (06.0024)	June 16 - March 15	X	–
Dugualla Creek (06.0001)	June 16 - March 15	X	–
Glendale Creek (06.0025)	June 16 - December 15	X	–
Kristoferson Creek (06.0062-06.0063)	May 1 - December 15	X	–
Maxwelton Creek (06.0029)	June 16 - December 15	X	–
North Bluff Creek (06.0006)	June 16 - March 15	X	–
Old Clinton Creek (06.0023)	June 16 - March 15	X	–
Jefferson County	July 16 - October 31	X	–
Big Quilcene River (17.0012) - Mouth to falls	July 16 - August 31	X	X
Big Quilcene River (17.0012) - Falls to forks	August 1 - February 28	X	X
Big Quilcene River (17.0012) - Upstream of forks	August 1 - February 28	X	–
Bogachiel River (20.0162)	Submit Application	–	–
Chimacum Creek (17.0203)	July 16 - September 15	X	–
Donovan Creek (17.0115)	July 1 - October 15	X	–
Dosewallips River (16.0442)	July 16 - August 15	X	–
Duckabush River (16.0351)	July 16 - August 15	X	–
Dungeness River (18.0018)	August 1 - August 15	X	–
Elwha River (18.0272)	August 1 - August 15	X	X
Goodman Creek (20.0406)	August 1 - September 15	X	–
Hoh River (20.0422)	August 1 - August 15	X	X
Little Quilcene River (17.0076)	July 16 - August 31	X	–
Queets River (21.0001)	August 1 - August 15	X	X
Matheny Creek (21.0165)	August 1 - August 15	X	–
Sams River (21.0205)	August 1 - August 15	X	X
Quinault River (21.0398)	August 1 - August 15	X	X
Salmon Creek (17.0245)	July 16 - August 31	X	–
Skokomish River (16.0001)	August 1 - August 31	X	X
Snow Creek (17.0219)	July 16 - August 31	X	–
Tarboo Creek (17.0129)	August 1 - September 30	X	–
Thorndyke Creek (17.0170)	August 1 - October 15	X	–
King County	July 16 - September 30	X	–
Cedar River (08.0299) - Mouth to forks	August 1 - August 31	X	X
Cedar River (08.0299) - Upstream of forks	August 1 - August 31	X	–

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Issaquah Creek (08.0178)	August 1 - August 31	X	–
Sammamish River (08.0057)	August 1 - August 31	X	–
Steele Creek (08.0379)	July 16 - February 28	X	–
Green River (Duwamish River) (09.0001) - Mouth to Sawmill Creek	August 1 - August 31	X	X
Green River (Duwamish River) (09.0001) - Upstream of Sawmill Creek	August 1 - August 31	X	–
Lake Washington tributaries (08.LKWA)	August 1 - August 31	X	–
Snoqualmie River (07.0219) - Mouth to Snoqualmie Falls	August 1 - August 15	X	X
Snoqualmie River (07.0219) - Snoqualmie Falls to mouth of South Fork	July 16 - February 28	X	X
Patterson Creek (07.0376)	July 16 - September 30	X	–
Middle Fork Snoqualmie River (07.0219) - Mouth to Taylor Creek	July 16 - February 28	X	X
Middle Fork Snoqualmie River (07.0219) - Upstream of Taylor Creek	July 16 - February 28	X	–
Goat Creek (07.0754)	July 16 - February 28	X	–
North Fork Snoqualmie River (07.0527) - Mouth to Lennox Creek	July 16 - February 28	X	X
North Fork Snoqualmie River (07.0527) - Upstream of Lennox Creek	July 16 - February 28	X	–
Deep Creek (07.0562)	July 16 - February 28	X	–
Illinois Creek (07.0624)	July 16 - February 28	X	–
Lennox Creek (07.0596)	July 16 - February 28	X	–
Bear Creek (07.0606)	July 16 - February 28	X	–
Raging River (07.0384)	August 1 - September 15	X	X
South Fork Skykomish River (07.0012) - Mouth to Sunset Falls	August 1 - August 15	X	X
South Fork Skykomish River (07.0012) - Upstream of Sunset Falls	August 1 - August 15	X	–
Beckler River (07.1413) - Mouth to Boulder Creek	August 1 - August 15	X	X
Beckler River (07.1413) - Upstream of Boulder Creek	July 16 - February 28	X	–
Rapid River (07.1461) - Mouth to Meadow Creek	August 1 - August 31	X	X
Rapid River (07.1461) - Upstream of Meadow Creek	August 1 - February 28	X	–
Index Creek (07.1264) - Mouth to Mud Lake Creek	August 1 - August 31	X	–
Index Creek (07.1264) - Upstream of Mud Lake Creek including Salmon Creek	July 16 - February 28	X	–
Miller River (07.1329) - Mouth to forks	August 1 - August 15	X	X
Miller River (07.1329) - Upstream of forks	August 1 - August 15	X	–
Coney Creek (07.1347)	July 16 - February 28	X	–
East Fork Miller River (07.1329) - Mouth to Great Falls Creek	July 16 - August 15	X	–
East Fork Miller River (07.1329) - Upstream of Great Falls Creek	July 16 - February 28	X	–
West Fork Miller River (07.1335)	July 16 - February 28	X	X
Foss River (07.1562) - Mouth to forks	July 16 - August 31	X	X
East Fork Foss River (07.1562) - Mouth to Burn Creek	July 16 - August 15	X	X
East Fork Foss River (07.1562) - Upstream of Burn Creek	July 16 - February 28	X	–
West Fork Foss River (07.1573) - Mouth to falls at river mile 2.0	July 16 - August 31	X	–
West Fork Foss River (07.1573) - Upstream of falls at river mile 2.0	July 16 - February 28	X	–
Money Creek (07.1300) - Mouth to 0.5 mile upstream of Kimball Creek	August 1 - August 31	X	–
Money Creek (07.1300) - Upstream of 0.5 mile upstream of Kimball Creek	August 1 - February 28	X	–
Kimball Creek (07.1301)	August 1 - August 31	X	–
Tye River (07.0012) - Mouth to Alpine Falls	August 1 - August 31	X	X

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Tye River (07.0012) - Upstream of Alpine Falls	July 16 - February 28	X	–
South Fork Snoqualmie River (07.0467)	July 16 - February 28	X	X
Denny Creek (07.0517)	July 16 - February 28	X	–
Tolt River (07.0291) - Mouth to forks	August 1 - August 31	X	X
North Fork Tolt River (07.0291) - Mouth to Yellow Creek	July 16 - September 15	X	X
North Fork Tolt River (07.0291) - Upstream of Yellow Creek	July 16 - February 28	X	–
South Fork Tolt River (07.0302) - Mouth to dam	July 16 - September 15	X	X
South Fork Tolt River (07.0302) - Upstream of Tolt Reservoir	July 16 - February 28	X	–
Yellow Creek (07.0337)	July 16 - February 28	X	–
White River (10.0031)	July 16 - August 15	X	X
Greenwater River (10.0122)	July 16 - August 15	X	X
Kittitas County	July 1 - September 30	X	–
Brushy Creek (40.0612)	July 1 - February 28	X	–
Colockum Creek (40.0760)	July 1 - October 31	X	–
Quilomene Creek (40.0613)	July 1 - October 31	X	–
Stemilt Creek (40.0808) - Upstream of falls	July 1 - February 28	X	–
Tarpiscan Creek (40.0723)	July 1 - February 28	X	–
Tekiason Creek (40.0686)	July 1 - February 28	X	–
Whisky Dick Creek (40.0591)	July 1 - February 28	X	–
Yakima River (39.0002) - Roza Dam to Teanaway River	August 1 - August 31	X	X
Naches River (38.0003) - Tieton River to Bumping River	July 1 - August 15	X	X
Little Naches River (38.0852) - Mouth to Matthew Creek	July 16 - August 15	X	X
Little Naches River (38.0852) - Upstream of Matthew Creek	July 16 - August 15	X	–
Pileup Creek (38.0932)	July 16 - August 31	X	–
Gold Creek (38.MISC)	July 16 - February 28	X	–
Swauk Creek (39.1157)	July 16 - September 30	X	–
Baker Creek (39.1157)	July 16 - September 30	X	–
First Creek (39.1157)	July 16 - September 30	X	–
Iron Creek (39.1157)	July 16 - September 30	X	–
Williams Creek (39.1157)	July 16 - September 30	X	–
Boulder Creek (39.1157)	July 16 - February 28	X	–
Cougar Gulch (39.1157)	July 16 - February 28	X	–
Lion Gulch (39.1157)	July 16 - February 28	X	–
Yakima River (39.0002) - Teanaway River to Easton Dam	August 1 - August 31	X	X
Yakima River (39.0002) - Upstream of Easton Dam	August 1 - August 31	X	X
Cle Elum River (39.1434) - Mouth to Dam	July 16 - August 31	X	X
Cle Elum River (39.1434) - Upstream of Cle Elum Dam	Submit Application	–	–
Big Boulder Creek (39.1434MISC)	August 1 - February 28	X	–
Camp Creek (39.1434MISC)	August 1 - February 28	X	–
Fortune Creek (39.1434MISC)	August 1 - August 15	X	–
South Fork Fortune Creek (39.1434MISC)	August 1 - February 28	X	–
Howson Creek (39.1434)	July 16 - February 28	X	–

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Little Salmon Le Sac Creek (39.1482)	August 1 - August 15	X	–
Paris Creek (39.1434MISC)	August 1 - February 28	X	–
Salmon Le Sac Creek (39.1520)	August 1 - February 28	X	–
Kachess River (39.1739) - Upstream of Lake Kachess	Submit Application	–	–
Kachess River (39.1739) - Below dam	July 16 - August 15	X	X
Box Canyon Creek (39.1765)	Submit Application	–	–
Mineral Creek (39.1792)	August 1 - August 15	X	–
Lake Keechelus (39.1842) tributaries	July 16 - August 15	X	–
Gold Creek (Lake Keechelus) (39.1842)	Submit Application	–	–
Manastash Creek (39.0988)	July 16 - September 30	X	–
Naneum Creek (39.0821)	July 16 - September 30	X	–
Taneum Creek (39.1081) - Mouth to I-90	July 16 - August 31	X	–
Taneum Creek (39.1157) - Upstream of I-90	July 16 - September 30	X	–
Teanaway River (39.1236)	July 16 - August 31	X	X
NF Teanaway River (39.1260)	Submit Application	–	–
Umtanum Creek (39.0553)	July 16 - September 30	X	–
Wenas Creek (39.0032) - Below dam	July 16 - October15	X	–
Wenas Creek (39.0032) - Upstream of Wenas Lake	July 16 - February 28	X	–
Other Yakima River tributaries not listed	July 16 - August 31	X	–
Kitsap County	July 16 - October 15	X	–
Anderson Creek (15.0211)	August 1 - November 15	X	–
Barker Creek (15.0255)	August 1 - September 30	X	–
Big Beef Creek (15.0389)	August 1 - August 15	X	–
Big Scandia Creek (15.0280)	August 1 - September 30	X	–
Blackjack Creek (15.0203)	August 1 - September 30	X	–
Burley Creek (15.0056)	August 1 - September 30	X	–
Chico Creek (15.0229)	August 1 - October 15	X	–
Clear Creek (15.0249)	August 1 - September 30	X	–
Curley Creek (15.0185)	August 1 - September 30	X	–
Dewatto River (15.0420)	August 1 - August 15	X	–
Dogfish Creek (15.0285)	August 1 - September 30	X	–
Gorst Creek (15.0216)	August 1 - August 31	X	–
Grovers Creek (15.0299)	August 1 - September 30	X	–
Johnson Creek (15.0387)	August 1 - October 31	X	–
Ollala Creek (15.0107)	August 1 - September 30	X	–
Ross Creek (15.0209)	August 1 - November 15	X	–
Salmonberry Creek (15.0188)	August 1 - November 30	X	–
Seabeck Creek (15.0400)	August 1 - August 15	X	–
Steele Creek (15.0273)	August 1 - September 30	X	–
Tahuya River (15.0446)	August 1 - August 31	X	X
Union River (15.0503)	August 1 - August 31	X	X
Klickitat County	July 15 - September 30	X	–

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Alder Creek (31.0459)	August 1 - September 30	X	–
Chapman Creek (31.0192)	August 1 - September 30	X	–
Glade Creek (31.0851)	August 1 - September 30	X	–
Juniper Canyon Creek (31.0378)	August 1 - September 30	X	–
Klickitat River (30.0002) - Mouth to Klickitat Hatchery	Submit Application	–	–
Klickitat River (30.0002) - Upstream of Klickitat Hatchery	Submit Application	–	–
Little White Salmon River (29.0131) - Mouth to Cabbage Creek	July 16 - January 31	X	X
Little White Salmon River (29.0131) - Upstream of Cabbage Creek	July 16 - January 31	X	–
Pine Creek (31.0354)	August 1 - September 30	X	–
Rock Creek (31.0014)	August 1 - September 30	X	–
Six Prong Creek (31.0465)	August 1 - September 30	X	–
White Salmon River (29.0160) - Mouth to Cascade Creek	July 16 - August 15	X	X
White Salmon River (29.0160) - Upstream of Cascade Creek	July 16 - August 15	X	–
Wood Gulch Creek (31.0263)	August 1 - September 30	X	–
Lewis County	August 1 - September 30	X	–
Chehalis River (22.0190/23.0190) - Mouth to South Fork Chehalis River	August 1 - August 15	X	X
Chehalis River (22.0190/23.0190) - Upstream of South Fork Chehalis River	August 1 - August 31	X	X
Newaukum River (23.0882) - Mouth to South Fork	August 1 - August 31	X	X
Newaukum River (23.0882) - Upstream of South Fork	August 1 - August 31	X	–
Skookumchuck River (23.0761)	August 1 - August 31	X	X
Cowlitz River (26.0002)	August 1 - August 15	X	X
Cispus River (26.0668) - Mouth to Squaw Creek (26.1010)	August 1 - August 15	X	X
Cispus River (26.0668) - Squaw Creek to Chambers Creek	July 16 - February 28	X	X
Cispus River (26.0668) - Upstream of Chambers Creek	July 16 - February 28	X	–
Yellowjacket Creek (26.0757)	August 1 - August 15	X	–
McCoy Creek (26.0766) - Mouth to lower falls	August 1 - August 15	X	–
McCoy Creek (26.0766) - Upstream of lower falls	July 16 - February 28	X	–
Walupt Creek (26.1010)	Submit Application	–	–
Packwood Lake tributaries	August 16 - September 15	X	–
Tilton River (26.0560) - Mouth to North Fork	August 1 - September 30	X	X
Tilton River (26.0560) - Upstream of North Fork	August 1 - September 30	X	–
Toutle River (26.0227)	August 1 - August 31	X	X
North Fork Toutle River (26.0314)	July 16 - August 15	X	X
Green River (26.0323)	July 16 - September 30	X	X
Deschutes River (13.0028)	July 16 - August 31	X	X
Little Deschutes River (13.0110)	July 16 - February 28	X	–
Nisqually River (11.0008) - Upstream of Alder Lake	July 16 - September 30	X	X
Lincoln County	June 16 - February 28	X	–
Columbia River *	See below	–	–
Hawk Creek (53.0101) - Mouth to falls	June 16 - August 31	X	–
Hawk Creek (53.0101) - Upstream of falls	June 16 - February 28	X	–
Upper Crab Creek (42.0001)	June 16 - February 28	X	–

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Wilson Creek (43.0020)	June 16 - February 28	X	–
Mason County	August 1 - October 15	X	–
Cloquallum Creek (22.0501)	August 1 - September 30	X	–
Coulter Creek (15.0002)	August 1 - August 31	X	–
Dewatto River (15.0420)	August 1 - August 31	X	–
Goldsborough Creek (14.0035)	August 1 - October 15	X	–
John Creek (16.0253)	August 1 - August 31	X	–
Hamma Hamma River (16.0251) - Mouth to falls	August 1 - August 31	X	–
Johns Creek (14.0049)	August 1 - August 15	X	–
Lilliwaup River (16.0230) - Mouth to falls	August 1 - August 31	X	X
Lilliwaup River (16.0230) - Upstream of falls	August 1 - February 28	X	–
Mill Creek (14.0029)	August 1 - August 15	X	–
Satsop River (22.0360)	August 1 - August 31	X	–
Schaerer Creek (16.0326)	August 1 - August 31	X	–
Sherwood Creek (14.0094)	August 1 - August 15	X	–
Skokomish River (16.0001) - Mouth to forks	August 1 - August 31	X	X
Skokomish River (16.0001) - Upstream of forks	August 1 - August 31	X	–
Tahuya River (15.0446)	August 1 - August 31	X	–
Twanoh Creek (14.0134)	August 1 - October 31	X	–
Union River (15.0503)	August 1 - August 31	X	X
Okanogan County	July 1 - August 15	X	–
Aneas Creek (49.0243) - Mouth to falls	July 16 - August 31	X	–
Aneas Creek (49.0243) - Upstream of falls	July 1 - March 31	X	–
Chewiliken Creek (49.0232) - Mouth to falls	July 16 - August 31	X	–
Chewiliken Creek (49.0232) - Upstream of falls	July 1 - March 31	X	–
Chiliwist Creek (49.0034) - Mouth to falls	July 16 - August 31	X	–
Chiliwist Creek (49.0034) - Upstream of falls	July 1 - March 31	X	–
Foster Creek (50.0065)	July 1 - February 28	X	–
Methow River (48.0007) - Columbia confluence to Twisp River	July 1 - July 31	X	X
Methow River tributaries between Black Canyon Creek and Gold Creek	July 1 - February 28	X	–
Black Canyon Creek (48.0015) - Mouth to Left Fork	Submit Application	–	–
Black Canyon Creek (48.0015) - Upstream of Left Fork	July 1 - February 28	X	–
Gold Creek (48.0104) - Mouth to Foggy Dew Creek	Submit Application	–	–
Foggy Dew Creek (48.0153) - Mouth to Foggy Dew Falls	Submit Application	–	–
Foggy Dew Creek (48.0153) - Upstream of Foggy Dew Falls	July 1 - February 28	X	–
Middle Fork Gold Creek (48.0139)	July 1 - February 28	X	–
North Fork Gold Creek (48.0104)	Submit Application	–	–
Crater Creek (48.0177) - Mouth to Martin Creek	Submit Application	–	–
Crater Creek (48.0177) - Upstream of Martin Creek	July 1 - February 28	X	–
Martin Creek (48.0177)	July 1 - February 28	X	–
South Fork Gold Creek (48.0105) - Mouth to Rainy Creek	Submit Application	–	–
South Fork Gold Creek (48.0105) - Upstream of Rainy Creek	July 1 - February 28	X	–

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Rainy Creek (48.0105)	July 1 - February 28	X	–
McFarland Creek (48.0090) - Mouth to Vinegar Gulch	Submit Application	–	–
McFarland Creek (48.0090) - Upstream of Vinegar Gulch	July 1 - February 28	X	–
Methow River tributaries between Libby Creek and Beaver Creek	July 1 - February 28	X	–
Beaver Creek (48.0307)	Submit Application	–	–
Frazer Creek (48.0309)	July 1 - February 28	X	–
Lightning Creek (48.0361)	July 1 - February 28	X	–
Middle Fork Beaver Creek (48.0307)	July 1 - February 28	X	–
South Fork Beaver Creek (48.0342)	July 1 - February 28	X	–
Libby Creek (48.0203) - Mouth to Hornet Draw Creek	Submit Application	–	–
Libby Creek (48.0203) - Upstream of Hornet Draw Creek	July 1 - February 28	X	–
Methow River (48.0007) - Twisp River to Goat Creek	July 1 - July 31	X	X
Methow River (48.0007) - Upstream of Goat Creek	July 1 - July 31	X	–
Chewuch River (48.0728) - Mouth to Meadow Creek	July 1 - July 31	X	X
Chewuch River (48.0728) - Upstream of Meadow Creek	July 1 - February 28	X	–
Early Winters Creek (48.1408) - Mouth to Silver Star Creek	Submit Application	–	–
Early Winters Creek (48.1408) - Upstream of Silver Star Creek	July 1 - February 28	X	–
Goat Creek (48.1364) - Mouth to 500' upstream of Montana Creek	Submit Application	–	–
Goat Creek (48.1364) - 500' upstream of Montana Creek to Roundup Creek	July 1 - February 28	X	–
Goat Creek (48.1364) - Upstream of Roundup Creek	Submit Application	–	–
Lost River (48.0592)	July 16 - August 15	X	X
Twisp River (48.0374)	July 1 - July 31	X	X
Buttermilk Creek (48.0466)	Submit Application	–	–
North Creek (48.0674)	Submit Application	–	–
North Fork Twisp River (48.0691)	July 1 - February 28	X	–
South Creek (48.0641) - Upstream of Louis Creek	July 1 - February 28	X	–
South Creek (48.0641) - Mouth to Louis Creek	Submit Application	–	–
South Fork Twisp River (48.0698)	July 1 - February 28	X	–
Wolf Creek (48.1300)	Submit Application	–	–
Myers Creek (60.0517)	July 1 - February 28	X	–
Bolster Creek (60.0517)	July 1 - February 28	X	–
Ethel Creek (60.0517)	July 1 - February 28	X	–
Gold Creek (60.0517)	July 1 - February 28	X	–
Mary Ann Creek (60.0517)	July 1 - February 28	X	–
North Fork Mary Ann Creek (60.0517)	July 1 - February 28	X	–
Okanogan River (49.0019) - Mouth to Zosel Dam *	July 1 - August 31	X	X
Antoine Creek (49.0294) - Mouth to velocity gradient at river mile 1.0	July 1 - February 28	X	–
Antoine Creek (49.0294) - Upstream of falls	July 1 - March 31	X	–
Bonaparte Creek (49.0246) - Upstream of falls	July 1 - March 31	X	–
Bonaparte Creek (49.0246) - Mouth to Bonaparte Falls at river mile 1.0	July 1 - February 28	X	–
Loup Loup Creek (49.0048) - Mouth to Loup Loup Falls at river mile 2.4	July 1 - February 28	X	–
Loup Loup Creek (49.0048) - Upstream of Loup Loup Falls at river mile 2.4	July 1 - March 31	X	–

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Mosquito Creek (49.0321) - Mouth to falls	July 1 - August 31	X	–
Mosquito Creek (49.0321) - Upstream of falls	July 1 - March 31	X	–
Nine Mile Creek (49.0516)	July 1 - February 28	X	–
Omak Creek (49.0138) - Mouth to Mission Falls at river mile 5.4 *	July 1 - February 28	X	–
Omak Creek (49.0138) - Upstream of falls *	July 1 - March 31	X	–
Salmon Creek (49.0079) - Mouth to diversion	July 1 - August 31	X	–
Salmon Creek (49.0079) - Upstream of diversion	July 1 - February 28	X	–
Similkameen River (49.0325) - Mouth to Enloe Dam	July 1 - August 31	X	X
Similkameen River (49.0325) - Upstream of Enloe Dam	July 1 - October 31	X	X
Sinlahekin Creek (49.0349) - Mouth to barrier dam at Connors Lake	July 1 - August 31	X	–
Cecile Creek (49.0447)	July 1 - February 28	X	–
Chopaka Creek (49.0357)	July 1 - February 28	X	–
Toats Coulee Creek (49.0368)	July 1 - February 28	X	–
Cougar Creek (49.0368)	July 1 - February 28	X	–
Siwash Creek (49.0284) - Falls to headwaters	July 1 - March 31	X	–
Siwash Creek (49.0284) - Mouth to falls at river mile 1.4	July 1 - February 28	X	–
Tonasket Creek (49.0501) - Mouth to Tonasket Falls at river mile 1.8	July 1 - February 28	X	–
Tonasket Creek (49.0501) - Upstream of Tonasket Falls at river mile 1.8	July 1 - March 31	X	–
Tunk Creek (49.0211) - Mouth to falls	July 1 - February 28	X	–
Tunk Creek (49.0211) - Upstream of falls	July 1 - March 31	X	–
San Poil River (52.0004) *	June 16 - September 30	X	X
West Fork San Poil River (52.0192) *	June 16 - September 30	X	X
Gold Creek (52.0197) *	June 16 - February 28	X	–
Toroda Creek (60.0410)	July 1 - September 30	X	–
Pacific County	August 1 - September 30	X	–
Bear River (24.0689)	August 1 - September 30	X	X
Bone River (24.0405)	August 1 - September 30	X	–
Chehalis River (22.0190/23.0190)	August 1 - August 15	X	X
Columbia River	See below	–	–
Chinook River (24.MISC)	August 1 - September 30	X	X
Grays River (25.0093)	July 16 - September 15	X	X
Naselle River (24.0543)	August 1 - September 15	X	X
Nemah River (24.0460)	August 1 - September 30	X	X
Niawiakum River (24.0417)	August 1 - September 30	X	–
North River (24.0034)	August 1 - September 30	X	X
Palix River (24.0426)	August 1 - September 30	X	–
Willapa River (24.0251)	August 1 - September 30	X	X
Pend Oreille County	July 1 - August 31	X	–
Little Spokane River (55.0003)	August 1 - March 15	X	–
West Branch Little Spokane River (55.0439)	August 1 - March 15	X	–
Harvey Creek (62.0310) - Mouth to Rocky Fork of Harvey Creek	August 1 - August 31	X	–
Harvey Creek (62.0310) - Upstream of Rocky Fork of Harvey Creek	July 16 - February 28	X	–

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Pend Oreille River (62.0002)	Submit Application	–	–
Big Muddy Creek (62.0279)	August 1 - March 15	X	–
Bracket Creek (62.0815)	August 1 - March 15	X	–
Calispel Creek (62.0628)	August 1 - August 31	X	–
Exposure Creek (62.0261)	August 1 - August 31	X	–
Kent Creek (62.0819)	August 1 - March 15	X	–
Le Clerc Creek (62.0415)	August 1 - August 31	X	–
Lime Creek (62.0014)	August 1 - March 15	X	–
Lodge Creek (62.0859)	August 1 - August 31	X	–
Lost Creek (62.0322)	August 1 - March 15	X	–
Marshall Creek (62.0842)	August 1 - March 15	X	–
Pee Wee Creek (62.0007) - Mouth to falls	August 1 - August 31	X	–
Pee Wee Creek (62.0007) - Upstream of falls	August 1 - March 15	X	–
Renshaw Creek (62.0310)	August 1 - March 15	X	–
Sullivan (O'Sullivan) Creek (62.0074)	August 1 - August 31	X	–
North Fork Sullivan Creek (62.0075)	August 1 - August 31	X	–
Tributaries of Deep Creek in Pend Oreille County (61.0195)	July 16 - August 15	X	–
Currant Creek (61.0249)	July 16 - August 15	X	–
Meadow Creek (61.0351)	July 16 - August 15	X	–
Rocky Creek (61.0364)	July 16 - August 15	X	–
Silver Creek (61.0195)	July 16 - August 15	X	–
Smackout Creek (61.0226)	July 16 - August 15	X	–
Pierce County	July 16 - August 31	X	–
Chambers/Clover Creek Watershed (12.MISC)	July 16 - September 30	X	–
Flett Creek (12.0009)	July 16 - October 31	X	–
Leach Creek (12.0008)	July 16 - September 30	X	–
Nisqually River (11.0008) - Mouth to Alder Lake	July 16 - August 31	X	X
Nisqually River (11.0008) - Upstream of Alder Lake	July 16 - September 30	X	X
Mashel River (11.0101) - Mouth to Busy Wild Creek	July 16 - September 30	X	X
Mashel River (11.0101) - Upstream of Busy Wild Creek	July 16 - September 30	X	–
Puyallup River (10.0021) - Mouth to PSE Electron Powerhouse outfall	July 16 - August 31	X	X
Puyallup River (10.0021) - Upstream of PSE Electron Powerhouse outfall	July 16 - August 15	X	X
Carbon River (10.0413)	July 16 - August 15	X	X
Cayada Creek (10.0525) - Mouth to falls about 800 feet upstream	July 16 - August 31	X	–
Cayada Creek (10.0525) - Upstream of the falls	January 1 - December 31	X	–
South Prairie Creek (10.0429)	July 16 - August 15	X	–
Voight Creek (10.0414) - Mouth to falls at river mile 4.0	July 16 - August 31	X	–
Voight Creek (10.0414) - Upstream of falls at river mile 4.0	July 16 - February 28	X	–
White River (10.0031)	July 16 - August 15	X	X
Clearwater River (10.0080)	July 16 - August 15	X	X
Greenwater River (10.0122)	July 16 - August 15	X	X
Huckleberry Creek (10.0253)	July 16 - August 15	X	–

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West Fork White River (10.0186)	July 16 - August 15	X	X
Sequalitchew Creek (12.0019)	July 16 - September 30	X	–
San Juan County	July 1 - August 31	X	–
Cascade Creek (02.0057), Orcas Island - Upstream of lower falls	July 1 - February 28	X	–
Cascade Creek (02.0057), Orcas Island - Buck Bay to falls located approximately 300 feet above mouth	July 1 - October 31	X	–
Doe Creek (02.MISC), San Juan Island - Westcott Bay to falls (approximately 250 feet from mouth)	June 16 - October 15	X	–
False Bay Creek (02.MISC), San Juan Island - Mouth to lake	July 1 - October 31	X	–
Glenwood Springs, Orcas Island - Direct tributary to Eastsound Bay	July 1 - October 15	X	–
Moran Creek (02.MISC), Orcas Island - From Cascade Lake delta upstream 1/4 mile	July 1 - October 15	X	–
Unnamed Creek (02.0041) , San Juan Island - Mouth to lake	July 1 - October 15	X	–
Skagit County	August 1 - September 15	X	–
Granite Creek (04.2313) - Upstream of East Creek	July 16 - February 28	X	–
North Fork Stillaguamish River (05.0135) - Mouth to Squire Creek	August 1 - August 15	X	X
North Fork Stillaguamish River (05.0135) - Squire Creek to Cascade Creek	August 1 - August 15	X	–
North Fork Stillaguamish River (05.0135) - Upstream of Cascade Creek	July 16 - February 28	X	–
Samish River (03.0005)	August 1 - September 15	X	–
Skagit River (03.0176/04.0176)	Submit Application	–	–
Baker River (04.0435) - Mouth to Baker Dam	Submit Application	–	–
Cascade River (04.1411)	Submit Application	–	–
Lookout Creek (04.1447)	July 16 - February 28	X	–
Sibley Creek (04.1481)	July 16 - February 28	X	–
Day Creek (03.1435)	July 16 - February 28	X	–
Day Creek (03.0299) - Mouth to Rocky Creek	Submit Application	–	–
Day Creek (03.0299) - Upstream of Rocky Creek	August 1 - February 28	X	–
Finney Creek (04.0392) - Mouth to Big Fir Creek	Submit Application	–	–
Finney Creek (04.0392) - Upstream of Big Fir Creek	July 16 - February 28	X	–
Illabot Creek (04.1346)	Submit Application	–	–
Sauk River (04.0673) - Mouth to forks	Submit Application	–	–
Sauk River (04.0673) - Upstream of forks	August 1 - August 15	X	–
Suiattle River (04.0710)	August 1 - August 15	X	X
Wiseman Creek (03.0280) - Mouth to SR20	Submit Application	–	–
Wiseman Creek (03.0280) - Upstream of SR20	July 16 - February 28	X	–
South Fork Nooksack River (01.0246) - Mouth to falls at river mile 30	August 1 - August 15	X	X
South Fork Nooksack River (01.0246) - Falls at river mile 30 to Wanlick Creek	July 16 - August 15	X	X
South Fork Nooksack River (01.0246) - Upstream of Wanlick Creek	July 16 - August 15	X	–
Skamania County	July 15 - September 15	X	–
Columbia River	See below	–	–
Cispus River (26.0668)	August 1 - August 15	X	X
Cispus River (26.0668) tributaries located in Skamania County	August 1 - October 31	X	–
East Fork Lewis River (27.0173) - Lucia Falls to Sunset Falls	August 1 - February 28	X	X
East Fork Lewis River (27.0173) - Upstream of Sunset Falls	August 1 - February 28	X	–

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Green River (26.0323) (Tributary of North Fork Toutle River)	July 16 - September 30	X	X
Hamilton Creek (28.0303)	August 1 - August 31	X	–
Hardy Creek (28.0303)	August 1 - August 31	X	–
Little White Salmon River (29.0131) - Mouth to hatchery	July 16 - August 15	X	X
Little White Salmon River (29.0131) - Hatchery to Cabbage Creek	July 16 - January 31	X	X
Little White Salmon River (29.0131) - Upstream of Cabbage Creek	July 16 - January 31	X	–
North Fork Lewis River (27.0168) - Merwin Dam to lower falls	July 16 - August 15	X	X
Canyon Creek (27.0442)	July 16 - February 28	X	–
North Fork Lewis River (27.0168) - Upstream of lower falls	July 16 - February 28	X	X
Washougal River (28.0159) - Mouth to Stebbins Creek	August 1 - August 31	X	X
Washougal River (28.0159) - Upstream of Stebbins Creek	August 1 - August 31	X	–
White Salmon River (29.0160) - Mouth to Cascade Creek	July 16 - August 15	X	X
White Salmon River (29.0160) - Upstream of Cascade Creek	July 16 - August 15	X	–
Wind River (29.0023)	August 1 - August 15	X	X
Woodward Creek (28.0298)	August 1 - August 31	X	–
Snohomish County	July 16 - September 15	X	–
Lake Washington tributaries	August 1 - August 15	X	–
Sauk River (04.0673) - Mouth to forks	August 1 - August 15	X	X
Sauk River (04.0673) - Upstream of forks	August 1 - August 15	X	–
Suiattle River (04.0710)	August 1 - August 15	X	X
Snohomish River (07.0012) - Mouth to Highway 9	August 1 - October 31	X	X
Snohomish River (07.0012) - Upstream of Highway 9	August 1 - August 15	X	X
Pilchuck River (07.0125) - Mouth to City of Snohomish diversion dam	August 1 - August 31	X	X
Pilchuck River (07.0125) - City of Snohomish diversion dam to Boulder Creek	August 1 - September 15	X	X
Pilchuck River (07.0125) - Upstream of Boulder Creek	August 1 - September 15	X	–
Skykomish River (07.0012) - Mouth to forks	August 1 - August 15	X	X
Deer Creek (05.0173) - Mouth to stream mile 0.5	August 1 - August 31	X	–
Deer Creek (05.0173) - Upstream of stream mile 0.5	August 1 - February 28	X	–
North Fork Skykomish River (07.0982) - Mouth to Bear Creek Falls	August 1 - August 31	X	X
North Fork Skykomish River (07.0982) - Bear Creek Falls to Deer Falls	August 1 - August 31	X	X
North Fork Skykomish River (07.0982) - Deer Falls to West Cady Creek	August 1 - February 28	X	X
North Fork Skykomish River (07.0982) - Upstream of West Cady Creek	August 1 - February 28	X	–
Howard Creek (07.1042)	July 16 - February 28	X	–
Silver Creek (07.1053) - Mouth to Lake Gulch	August 1 - August 31	X	–
Silver Creek (07.1053) - Upstream of Lake Gulch	August 1 - February 28	X	–
Troublesome Creek (07.1085)	August 1 - February 28	X	–
West Fork Troublesome Creek (07.1092)	August 1 - August 31	X	–
South Fork Skykomish River (07.0012) - Mouth to Sunset Falls	August 1 - August 15	X	X
Beckler River (07.1413) - Mouth to Boulder Creek	August 1 - August 15	X	X
Beckler River (07.1413) - Upstream of Boulder Creek	July 16 - February 28	X	–
Rapid River (07.1461) - Mouth to Meadow Creek	August 1 - August 31	X	X
Rapid River (07.1461) - Upstream of Meadow Creek	August 1 - February 28	X	X

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Sultan River (07.0881) - Mouth to diversion dam at river mile 9.4	August 1 - August 15	X	X
Sultan River (07.0881) - Diversion dam to Elk Creek	July 16 - February 28	X	X
Sultan River (07.0881) - Upstream of Elk Creek	July 16 - February 28	X	–
Wallace River (07.0940) - Mouth to Wallace Falls	August 1 - August 31	X	X
Wallace River (07.0940) - Upstream of Wallace Falls	August 1 - February 28	X	–
Olney Creek (07.0946) - Mouth to Olney Falls	August 1 - August 31	X	–
Olney Creek (07.0946) - Upstream of Olney Falls	August 1 - February 28	X	–
Snoqualmie River (07.0219) - Mouth to falls	August 1 - August 15	X	X
All other Snohomish River tributaries	August 1 - August 31	X	–
Stillaguamish River (05.0001) - Mouth to forks	August 1 - August 31	X	X
North Fork Stillaguamish River (05.0135) - Mouth to Squire Creek	August 1 - August 15	X	X
North Fork Stillaguamish River (05.0135) - Squire Creek to Cascade Creek	August 1 - August 15	X	–
North Fork Stillaguamish River (05.0135) - Upstream of Cascade Creek	July 16 - February 28	X	–
South Fork Stillaguamish River (05.0001) - Mouth to Deer Creek	August 1 - August 15	X	X
South Fork Stillaguamish River (05.0001) - Upstream of Deer Creek	August 1 - August 15	X	–
Spokane County	June 16 - August 31	X	–
Latah Creek (56.0003)	June 16 - August 31	X	–
Little Spokane River (55.0600) - Mouth to Deer Creek	June 16 - August 31	X	X
Little Spokane River (55.0600) - Upstream of Deer Creek	June 16 - August 31	X	–
Spokane River (57.0001)	June 16 - August 31	X	X
Stevens County	July 16 - August 31	X	–
Columbia River	See below	–	–
Big Sheep Creek (61.0150)	July 16 - August 15	X	–
Colville River (59.0002) - Mouth to the falls	July 16 - September 30	X	X
Colville River (59.0002) - Upstream of the falls	July 16 - September 30	X	X
Deep Creek (61.0195)	July 16 - August 15	X	–
Onion Creek (61.0098)	July 16 - August 15	X	–
Sheep Creek (59.0861)	July 16 - September 30	X	–
Lake Roosevelt tributaries from the mouth of the Spokane River to mouth of the Colville River	July 16 - February 28	X	–
Lake Roosevelt tributaries from the mouth of the Colville River north to the B.C. Border	July 16 - February 28	X	–
Tributaries of Little Spokane River (55.0600)	June 16 - August 31	X	–
Calispel Creek (62.0628)	August 1 - August 31	X	–
Other tributaries to the Pend Oreille River in Stevens County	July 1 - August 31	X	–
Thurston County	July 16 - September 15	X	–
Cedar Creek (23.0570)	August 1 - September 30	X	–
Chehalis River (22.0190/23.0190) - Upstream of Porter Creek	August 1 - August 15	X	X
Skookumchuck River (23.0761) - Mouth to Skookumchuck Reservoir	August 1 - August 31	X	X
Skookumchuck River (23.0761) - Upstream of Skookumchuck Reservoir	August 1 - August 31	X	–
Deschutes River (13.0028) - Mouth to Deschutes Falls	July 16 - August 31	X	X
Deschutes River (13.0028) - Upstream of Deschutes Falls	July 16 - August 31	X	–
Ellis Creek (13.0022)	May 16 - September 30	X	–
Little Deschutes River (13.0110)	July 16 - February 28	X	–

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McLane Creek (13.0138)	August 1 - October 31	X	–
Percival Creek (13.0029)	July 16 - August 31	X	–
Nisqually River (11.0008)	July 16 - August 31	X	X
Tributaries of Nisqually River (11.0008)	July 16 - August 31	X	–
Porter Creek (23.0543)	August 1 - September 30	X	–
Schneider Creek (14.0009)	August 1 - October 31	X	–
Waddell Creek (23.0677)	August 1 - September 30	X	–
Woodard Creek (13.0012)	July 16 - August 31	X	–
Woodland Creek (13.0006)	July 16 - September 30	X	–
Wahkiakum County	July 16 - September 15	X	–
Columbia River	See below	–	–
Abernathy Creek (25.0297)	July 16 - September 15	X	–
Deep River (25.0011)	July 16 - September 15	X	X
Elochoman River (25.0236)	July 16 - September 15	X	X
Grays River (25.0093)	July 16 - September 15	X	X
Mill Creek (25.0284)	July 16 - September 15	X	–
Naselle River (24.0543)	July 16 - September 15	X	X
Skamokowa Creek (25.0194)	July 16 - September 15	X	–
Walla Walla County	July 16 - September 30	X	–
Walla Walla River (32.0008) - Mouth to Oregon state line	July 16 - September 15	X	X
Mill Creek (32.1436) - Mouth to Oregon state line	August 1 - August 15	X	–
Touchet River (32.0097) - Mouth to forks	August 1 - August 15	X	X
North Fork Touchet/Wolf Fork (32.0761)	Submit Application	–	–
South Fork Touchet (32.0708)	Submit Application	–	–
Whatcom County	July 16 - August 15	X	–
Damfino Creek (00.0032)	July 16 - August 31	X	–
Nooksack River (01.0120)	July 16 - August 15	X	X
Cascade Creek (02.0057) - Mouth to FR 37	Submit Application	–	–
Cascade Creek (02.0057) - Upstream of FR 37	July 16 - February 28	X	–
Middle Fork Nooksack River (01.0339) - Mouth to City of Bellingham diversion dam	July 16 - August 15	X	X
Middle Fork Nooksack River (01.0339) - Upstream of City of Bellingham diversion dam	Submit Application	–	–
North Fork Nooksack River (01.0120) - Mouth to Nooksack Falls	July 16 - August 15	X	X
North Fork Nooksack River (01.0120) - Upstream of Nooksack Falls	Submit Application	–	–
Barometer Creek (01.0513)	July 16 - February 28	X	–
Ruth Creek (01.0531)	July 16 - February 28	X	–
Swamp Creek (01.0518)	July 16 - February 28	X	–
Wells Creek (02.0057)	Submit Application	–	–
Bar Creek (01.0500)	July 16 - February 28	X	–
South Fork Nooksack (01.0246) - Mouth to Wanlick Creek	August 1 - August 15	X	X
South Fork Nooksack (01.0246) - Upstream of Wanlick Creek	August 1 - August 15	X	–
Samish River (03.0005)	July 16 - August 15	X	–
Skagit River (03.0176/04.0176)	Submit Application	–	–

Washington Counties and State Waters Water Resource Inventory Area (WRIA) in parentheses	Mineral Prospecting Is Allowed Only Between These Dates	State Waters (and tributaries, unless otherwise indicated) in Which You May Use Mineral Prospecting Equipment with a Four and One-Quarter Inch Maximum Suction Intake Nozzle Inside Diameter	State Waters (not including tributaries) in Which You May Use Mineral Prospecting Equipment with a Five and One-Quarter Inch Maximum Suction Intake Nozzle Inside Diameter
Baker River (04.0435) - Mouth to Baker Lake Dam	Submit Application	–	–
Baker River (04.0435) - Baker Lake to national park boundary	Submit Application	–	–
Boulder Creek (04.0499)	July 16 - February 28	X	–
Park Creek (04.0506) - Mouth to fish passage barrier at river mile 1.6	Submit Application	–	–
Park Creek (04.0506) - Upstream of river mile 1.6	July 16 - February 28	X	–
Swift Creek (04.0509) - Mouth to Rainbow Creek	Submit Application	–	–
Swift Creek (04.0509) - Upstream of Rainbow Creek	July 16 - February 28	X	–
Ross Lake (03.0176/04.0176) tributaries	Submit Application	–	–
Ruby Creek (04.2199)	Submit Application	–	–
Canyon Creek (04.2458) - Mouth to Barron Creek	Submit Application	–	–
Canyon Creek (04.2458) - Upstream of Barron Creek and tributaries	October 1 - February 28	X	–
Barron Creek (04.2591)	October 1 - February 28	X	–
Boulder Creek (04.2478) - Mouth to 300 feet upstream	Submit Application	–	–
Boulder Creek (04.2478) - 300 feet upstream of mouth to headwaters	October 1 - February 28	X	–
Friday Creek (04.2549) - Mouth to 300 feet upstream	Submit Application	–	–
Friday Creek (04.2549) - 300 feet upstream of mouth to headwaters	October 1 - February 28	X	–
Holmes Creek (04.2473) - Mouth to 300 feet upstream	Submit Application	–	–
Holmes Creek (04.2473) - 300 feet upstream of mouth to headwaters	October 1 - February 28	X	–
Mill Creek (04.2504) - Mouth to 300 feet upstream	Submit Application	–	–
Mill Creek (04.2504) - 300 feet upstream of mouth to headwaters	October 1 - February 28	X	–
Nickol Creek (04.2476) - Mouth to 300 feet upstream	Submit Application	–	–
Nickol Creek (04.2476) - 300 feet upstream of mouth to headwaters	October 1 - February 28	X	–
North Fork Canyon Creek (04.2583) - Mouth to Elk Creek	Submit Application	–	–
Cascade Creek (04.2584)	October 1 - February 28	X	–
North Fork Canyon Creek (04.2583) - Upstream of Elk Creek	October 1 - February 28	X	–
Slate Creek (04.2557) - Mouth to falls at river mile 0.6	Submit Application	–	–
Slate Creek (04.2557) - Upstream of falls at river mile 0.6	October 1 - February 28	X	–
Granite Creek (04.2313) - Mouth to East Creek	Submit Application	–	–
Granite Creek (04.2313) - Upstream of East Creek and tributaries	October 1 - February 28	X	–
Saar Creek (00.0003)	August 1 - September 30	X	–
Silesia Creek (00.0042) - Canadian Border to Middle Fork	July 16 - August 15	X	–
Silesia Creek (00.0042) - Middle Fork to national park boundary	July 16 - February 28	X	–
Rapid Creek (00.0048)	July 16 - February 28	X	–
West Fork Silesia Creek (00.0044)	July 16 - February 28	X	–
Winchester Creek (00.0045)	July 16 - February 28	X	–
Whitman County	July 16 - December 15	X	–
Snake River (35.0002)	See below	–	–
Alkali Flats Creek (35.0570)	July 16 - December 15	X	–
Almota Creek (35.1017)	July 16 - December 15	X	–
Little Almota Creek (35.1018)	July 16 - December 15	X	–
Palouse River (34.0003) - Mouth to Palouse Falls	July 16 - September 30	X	X
Palouse River (34.0003) - Upstream of Palouse Falls	July 16 - February 28	X	X

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Penewawa Creek (35.0916)	July 16 - December 15	X	–
Wawawi Canyon Creek (35.1165)	July 16 - December 15	X	–
Yakima County	June 1 - September 15	X	–
Glade Creek (31.0851)	August 1 - September 30	X	–
Klickitat River (30.0002)	Submit Application	–	–
Yakima River (37.0002/38.0002/39.0002) - Mouth to Roza Dam	June 1 - September 15	X	X
Ahtanum Creek (37.1382)	June 16 - September 30	X	–
North Fork Ahtanum Creek (37.1382)	Submit Application	–	–
South Fork Ahtanum Creek (37.1382)	Submit Application	–	–
Naches River (38.0003) - Mouth to Tieton River	July 1 - October 15	X	X
Naches River (38.0003) - Upstream of mouth of Tieton River to Bumping River	July 1 - August 15	X	X
Bumping River (38.0998)	July 16 - August 15	X	X
American River (38.1000)	Submit Application	–	–
Gold Creek (38.MISC)	July 16 - February 28	X	–
Kettle Creek (38.1033)	Submit Application	–	–
Miner Creek (38.1027)	July 16 - February 28	X	–
Morse Creek (38.1072) - Mouth to SR410 crossing	August 1 - August 15	X	–
Morse Creek (38.1072) - Upstream of SR410 crossing	August 1 - February 28	X	–
Rock Creek (38.MISC)	July 16 - February 28	X	–
Timber Creek (38.1062)	August 1 - August 15	X	–
Union Creek (38.1045) - Upstream of 500 feet above falls	August 1 - February 28	X	–
Union Creek (38.1045) - Mouth to 500 feet above falls	Submit Application	–	–
Other American River tributaries not listed	August 1 - February 28	X	–
Deep Creek (38.MISC)	Submit Application	–	–
Copper Creek (38.MISC)	August 1 - August 15	X	–
Cowiche Creek (38.0005) - Mouth to South Fork Cowiche Creek	July 1 - September 30	X	–
North Fork Cowiche Creek (38.0008)	July 1 - February 28	X	–
South Fork Cowiche Creek (38.0031) - Mouth to Reynolds Creek	July 1 - September 30	X	–
South Fork Cowiche Creek (38.0031) - Upstream of Reynolds Creek	July 16 - October 31	X	–
Granite Creek (38.MISC)	August 1 - August 15	X	–
Little Naches River (38.0852) - Mouth to Matthews Creek	July 16 - August 15	X	X
Little Naches River (38.0852) - Upstream of Matthews Creek	July 16 - August 15	X	–
Crow Creek (38.0858)	July 16 - August 15	X	–
Nile Creek (38.0692)	July 16 - October 15	X	–
Rattlesnake Creek (38.0518)	July 16 - August 15	X	–
Tieton River (38.0166) - Mouth to Rimrock Dam	July 1 - August 31	X	X
North Fork Tieton River (38.0291) - Below Clear Lake Dam	Submit Application	–	–
North Fork Tieton River (38.0291) - Upstream of Clear Lake	July 1 - August 15	X	–
Clear Creek (38.0317)	July 16 - February 28	X	–
South Fork Tieton River (38.0374) - Below South Fork Falls	Submit Application	–	–
South Fork Tieton River (38.0374) - Upstream of South Fork Falls	July 16 - February 28	X	–
Indian Creek (38.0302)	Submit Application	–	–

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Tributaries of Tieton River below Rimrock Dam	July 16 - February 28	X	–
Umtanum Creek (39.0553)	July 16 - September 30	X	–
Wenas Creek (39.0032)	July 16 - October 15	X	–
Other Yakima River tributaries	July 16 - August 31	X	–
Columbia River	–	–	–
Mouth to the I-205 Bridge	August 1 - March 31	X	X
I-205 Bridge to Bonneville Dam	July 16 - September 15	X	X
Bonneville Dam to Snake River	July 16 - February 28	X	X
Snake River to Priest Rapids Dam	July 16 - September 30	X	X
Priest Rapids Dam to mouth of Crab Creek	July 16 - February 28	X	X
Mouth of Crab Creek to Wanapum Dam	July 16 - September 30	X	X
Wanapum Dam to the SR 285 bridge in South Wenatchee	July 16 - February 28	X	X
SR 285 bridge in South Wenatchee to the SR 2 bridge	July 16 - September 30	X	X
SR 2 bridge to one mile downstream of the Chelan River	July 16 - February 28	X	X
From one mile downstream of the Chelan River to the SR 97 bridge	July 16 - September 30	X	X
From SR 97 bridge to Chief Joseph Dam	July 16 - February 28	X	X
Chief Joseph Dam to Grand Coulee Dam	June 16 - March 31	X	X
Grand Coulee Dam to Canadian border	Submit Application	–	–
All Columbia River tributaries	See county listings	–	–
Snake River	–	X	–
Mouth to Ice Harbor Dam	July 16 - September 30	X	X
Ice Harbor Dam to mouth of Clearwater River	July 16 - March 31	X	X
Mouth of Clearwater River to State Line	August 1 - August 31	X	X
All Snake River tributaries	See county listings	–	–
Lakes	Submit Application	–	–
Salt water	Submit Application	–	–
All waters within Indian tribal reservation, national park, state park, or wilderness boundaries	Submit Application	–	–

*** Waters partially or entirely within the Colville Tribal Reservation Lands require written authorization from the Colville Tribe.**

Penalties

Under Washington state law (RCW 77.15.300), it is a gross misdemeanor to conduct mineral prospecting activities when a Hydraulic Project Approval (HPA) is required without first having obtained one from the Washington Department of Fish and Wildlife (WDFW). It is also a gross misdemeanor to violate any requirements or conditions of the HPA. The maximum penalty for a gross misdemeanor is imprisonment for one year in jail and a $5,000 fine.

Under RCW 77.55.291, failure to comply with the provisions of the Gold and Fish pamphlet or the rules it contains could result in a civil penalty of up to an additional $100 per day. WDFW will impose the civil penalty with an order in writing delivered by certified mail or personal service to the person who is penalized. The notice will describe the violation, identify the amount of the penalty and how to pay the penalty, and identify informal and formal appeal rights for the person penalized. If the violation is an ongoing violation, the penalty shall accrue for each additional day of violation. For ongoing violations, the civil penalty may continue to accrue during any appeal process unless the accrual is stayed in writing by WDFW.

The civil penalty order will be final and unappealable unless it is appealed in a timely manner as described in WAC 220-110-340 or 220-110-350. If appealed, the civil penalty becomes final upon issuance of a final order not subject to any further administrative appeal. When a civil penalty order becomes final, it is due and payable. If the civil penalty is not paid within thirty days after it becomes due and payable, WDFW may seek enforcement of the order under RCW 77.55.291 and 34.05.578.

Washington Department of Fish and Wildlife
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Phil Anderson, interim director, Washington Department of Fish and Wildlife. Miranda Wecker, chair, Washington Fish and Wildlife Commission.

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From: "James Buchal" <jbuchal@mbllp.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 2:27 PM
Subject: Suction Dredge Program Comments
Attachments: Letter Stropher 12-3-09.pdf; CEQA [Additional Comments of The New 49ers].pdf

Comments of The New 49'ers, Inc.

From: Carole Caldwell
Sent: Thursday, December 03, 2009 12:09 PM
To: James Buchal
Subject: Suction Dredge Program Comments

Attached as requested.

Carole A. Caldwell

Murphy & Buchal LLP

Attorneys at Law

2000 SW First Avenue, Suite 420

Portland, OR 97201

Tel: 503-227-1011x3

Fax: 503-227-1034

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Murphy & Buchal LLP

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fax: 503-227-1034
e-mail: jbuchal@mbllp.com

December 3, 2009

BY FIRST CLASS MAIL AND E-MAIL (dfgsuctiondredge@dfg.ca.gov)

California Department of Fish and Game
Attn: Mark Stropher
Suction Dredge Program Comments
601 Locust Street
Redding, CA 96001

Re: *Suction Dredge Program Comments*

Dear Mr. Stropher:

Enclosed please find "Additional Comments of The New 49'ers, Inc." pertaining to the scope of the SEIR. We look forward to continuing to work with you to develop a sound CEQA document and environmentally-sound suction dredging program.

Sincerely,

James L. Buchal
Counsel to The New 49'ers, Inc.

ADDITIONAL COMMENTS OF THE NEW 49'ERS, INC.

The Fundamental Nature of the Document

The entire premise of the additional CEQA review, as established in the consent decree, was that "new information" had become available as to the significance of the ongoing activities. We strongly suggest that the proper focus of the SEIS should be to assess the significance of the "new information," not to start from scratch to re-do the 1994 FEIS.

As we have previously noted, we do not believe that any full-blown supplemental EIR is required at all, insofar as the listing of coho salmon species, while arguably "new information," is not associated with any real-world changes in environmental impact beyond those previously evaluated in 1994. Moreover, there is no additional "new information" of which we are aware meeting the standards in Guideline § 15162 to justify a supplemental EIR, as opposed to an addendum. In particular, we have yet to find evidence of any significant effects which were not discussed in the previous EIR, evidence of substantially more severe effects, or newly-available mitigation measures. To us, the NOP appears as if you have decided to re-evaluate all of the information which was already settled during the earlier EIR, rather than assess the impact of new data.

The 1994 FEIR provides ample consideration of the ongoing impacts of suction dredge mining under the existing regulations; the scope of the SEIS need only consider the "new information" since 1994, and the environmental impacts of any proposed changes to the regulations. As the California courts have explained, even a supplemental EIR is "not an occasion to revisit environmental concerns laid to rest in the original analysis". *Save our Neighborhood v. Lishman* (2006) 140 Cal. App.4th 1288, 45 Cal. Rptr.3d 306.

The presence of the existing FEIR distinguishes this case from cases such as *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 51 Cal. App.4th 1165, 61 Cal. Rptr.2d 447, in which the absence of an existing EIR provided a rationale for additional environmental analyses even for existing facilities.

We do not believe that the Superior Court and Legislative Assembly's actions with respect to suction dredge mining, arising by reason of the Department's failure to complete CEQA processes sooner, have any bearing on the appropriate scope of the environmental analysis required. (*Cf.* NOP at 21.) Rather, we believe that the Department needs to tightly focus this CEQA upon genuinely new information which was not previously considered in the 1994 EIR. A $60 million industry relies upon the foundations established in the 1994 EIR, which ought not to be disturbed absent any genuine reason to revisit environmental concerns which were exhaustively ventilated in the prior CEQA process.

Issues Concerning the Environmental Baseline

Section 15125 of the CEQA Guidelines sets forth the general rule that environmental conditions existing at the time environmental analysis is commenced "normally" constitute the baseline for purposes of determining whether an impact is significant. Indeed, pursuant to Public Resources Code § 21060.5, the "environment" means "the physical conditions which exist within the area which will be affected by a proposed project".

Here the Department proposes to adopt a "conservative" approach of using an environmental baseline which assumes no suction dredging in California. We believe this is inconsistent with the definition of the proposed project: "continued implementation of the permitting program, and, if necessary, proposed amendments to the Department's existing regulations . . .". (NOP at 2.) A proper baseline approach would assume continued dredging operations at recent permit issuance levels. From that baseline, the Department might appropriately assess impacts of any alternative from no further permits (not legally feasible) to substantial increases in the number of permits.

A large body of law supports the notion that in the context of ongoing and longstanding activities such as suction dredge mining, the baseline analysis should ordinarily evaluate the significance of incremental impacts of any changes in such activity that might result from project changes, *not* the significance of the baseline level of activity. *Cf., e.g., Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal. App.4th 1170, 31 Cal. Rptr.3d 901 ("the physical impacts of established levels of a particular use have been considered part of the existing environmental baseline"); *Fat v. County of Sacramento* (2002), 97 Cal. App.4th 11270, 119 Cal. Rptr.2d 402 (affirming negative declaration with baseline of existing airport usage); *Save our Peninsula Committee v. Monterey County Board of Supervisors* (2001), 87 Cal. App.4th 99, 104 Cal. Rptr.2d 326 (appropriate to use baseline of existing water usage); *Fairview Neighbors v. County of Ventura*, 70 Cal. App.4th 238, 82 Cal. Rptr.2d 436 (using baseline traffic impacts from "ongoing mining operation"); *Committee for a Progressive Gilroy v. State Water Resources Control Board* (1987) 192 Cal. App.3d 847, 237 Cal. Rptr. 723 (applying "existing facility" categorical exemption).

Where, as here, the question concerns review of a private activity conducted pursuant to private property rights, we believe it would be much more appropriate for the Department to consider the impacts of changes to the activity and new information, not to waste public resources through a "fresh look" from the beginning. For example, in *Bloom v. McGurk* (1994) 26 Cal. App.4th 1307, 31 Cal. Rptr.2d 914, the question concerned "ongoing operation of a medical waste treatment facility under a new regulatory scheme", and the Court of Appeals rejected attempts to nullify the applicability of a categorical exemption on the basis of the absence of prior environmental documentation.

The choice of an appropriate baseline recognizing ongoing dredging is especially important because the present environmental conditions include the proven positive impacts of suction dredge mining for many years under the existing regulations, and whatever adverse impacts are imagined to arise from many years of suction dredge mining under the existing regulations. Indeed, all or substantially all of the data available to the Department will consist of studies and evaluations of the environmental conditions under ongoing suction dredge mining.

In substance, the Department is proposing to adopt an artificial baseline as to which no real-world data concerning environmental conditions is available. But "[a]n EIR must focus on impacts to the existing environment, not hypothetical situations". *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App.4th 931, 91 Cal. Rptr.2d 66; *see also Riverwatch v. County of San Diego* (1999), 76 Cal. App.4th 1428, 91 Cal. Rptr.2d 322 (trial court "abused its discretion by requiring that the EIR account for prior illegal activity by using an early baseline from which impacts could be measured").

To the extent that the Department proposes to go forward by imagining a hypothetic set of non-existent physical conditions associated with "no dredging," it will be especially important to reconstruct those conditions inimical to the salmonid species that are a focal point of the SEIR, and the listing of which provided the legal predicate for the "new information" finding in the Consent Decree. In particular, the Department will be required to assemble historical data concerning the natural, concretized state of the Lower Salmon and other California rivers prior to years of suction dredging, during which time large stretches of the Klamath and other river systems in California contained little or not suitable spawning habitat for salmon species because of the concretized nature of the river bed.[1] The Department should also consider how hypothesized global climate changes would tend to reduce the hydraulic energy available for natural reconditioning of spawning beds, making the adverse impacts of the "no project" condition even more significant.

We do understand that the Guidelines (§ 15125(a)) refer to the physical conditions "at the time the notice of preparation is published"—here October 26, 2009. But the Guidelines also recognize that "[t]his environmental setting will *normally* constitute the baseline physical conditions by which a lead agency determines whether an impact is significant" (*id.*; emphasis added), affording discretion to use common sense to adopt a baseline appropriate to the circumstances. We believe it would be unreasonable for the Department to utilize an environmental baseline premised on a single instant in time, a time of year during which many California rivers and streams are closed to suction dredging. The Department has discretion to adopt a common sense approach based on consideration of baseline suction dredging activity during the dredging season. The

[1] The Department describes suction dredge mining's impact of loosening spawning gravel only in terms of a potential initial effect of creating unstable spawning areas. There is no empirical evidence whatsoever of any incremental risk of scouring from spawning in suction dredge mining tailings, and any instability from elevated piles (not attractive to the fish in any event), would vanish after the first year, leaving behind useful spawning habitat for many years. (*Cf.* NOP at 39.)

reasonable direction would be to use a baseline which reflects recent suction dredging activity supported by the regulations which are in question.

While we doubt the Department has enough discretion to attempt to re-create imaginary conditions absent ongoing suction dredging, the Department has not articulated, and cannot articulate, any explanation that would support such a deviation. The action of the Superior Court and Legislative Assembly to impose a temporary moratorium on suction dredge mining during the CEQA analysis was plainly not intended to affect the scope of that analysis by creating an entirely distinct environmental baseline. Moreover, the positive impacts of suction dredging will clearly persist through the moratorium, as it takes many years for stream beds to become "concretized" though sedimentation.

The Miners understand that the Department believes its "baseline" approach will provide a "'fresh look' at the impacts of suction dredge mining on the environment generally," but the Department is confusing the question of the environmental baseline with the scope of the project. The Department might properly include a "no project" alternative in the SEIR, but analyze the environmental impacts of such an alternative against the real, existing environmental baseline with ongoing suction dredging.

We are concerned that adoption of an improper baseline imagining no ongoing dredging may lead to improper findings of "significant effects," which may then require the Department to issue some statement of overriding considerations to outweigh such effects (Public Resources Code § 21081). The Department will have to make special efforts to support such overriding considerations, which will presumably include invaluable assistance to distressed rural economies, with substantial evidence in the record.

We note that the Department proposes to rely upon Appendix G guidelines for ascertaining significance, and note that Appendix G ascribes significance to the "loss of availability of a known mineral resource that would be of value to the region and the residents of the state." The Department should find that restrictions on suction dredging would give rise to such significant and adverse effect that should outweigh other, lesser factors. It is troubling to see that the Department has not identified "mineral resources" as among the environmental factors potentially affected by the project decisionmaking. (NOP at 28; *see also id.* at 78 (dismissing effects as "less than significant").) Insofar as there is a very wide range of permit issuance within the scope of the broadly defined "project"—presumably all the way down to no permit issuance—the effects of the loss of ability to mine the last commercially-significant deposits of placer gold cannot be dismissed as insignificant.

Issues Concerning "Deleterious Effect"

The Department correctly recognizes "the common sense meaning of the word deleterious such that deleterious effect generally means a wide-ranging or long-lasting consequence for a fish population that extends beyond the temporal or spatial context of a

specific direct impact". (NOP at 7.) Here, however, it is important to recognize that the project involves no specific direct impact on any fish species of any practical importance, with direct impacts only upon benthic invertebrates. The Department should reject the notion that a "deleterious impact" might involve any impact whatsoever upon species listed under the state or federal Endangered Species Act, insofar as those statutes merely impose a duty upon the State to avoid jeopardizing the continued existence of the listed species. Rather, the Department should require, consistent with regulatory guidance issued under those statutes, that "deleterious effects" mean an appreciable and negative impact on populations of listed species, similar to the language proposed for non-listed fish species: "a substantial reduction in the range of any species, and/or extirpation of a population". In focusing upon population-level effects, the Department should not address effects on units of protected species which are any smaller than the management units defined for purposes of the state or federal Endangered Species Act.

Issues Concerning Land Use and Planning

Other commentators have provided the Department with substantial information concerning the federal regulatory scheme for mining on federal land, which describes most suction dredge mining in California. The Appendix G Guidelines ask, among other things, whether the project would "conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project . . .". The present claim of no conflict with such regulations (NOP at 76) does not appear to take account of federal land management agencies and their mining regulations.

Scope of Literature Reviewed

We understand that the CEQA documents at this stage might necessarily contain more speculative, subjective and qualitative information, to be refined in the course of the study. However, in assessing the significance of asserted impacts, it will be important to have a *quantitative* sense of whether or not suction dredge mining has appreciable impacts on fish populations.

The U.S. Forest Service commissioned such as study, engaging Professor Peter B. Bayley, of the Department of Fish & Wildlife at Oregon State University, to conduct a comprehensive study to assess asserted cumulative impacts on fish populations in the Siskiyou National Forest. His Final Report was issued in April 2003, and represents the only scientific study of which we are presently aware that has attempted to *measure* the asserted cumulative impacts of suction dredge mining (as opposed to merely speculating about possible effects in a qualitative manner). He concluded:

> "Localized, short-term effects of suction dredge mining have been documented in a qualitative sense. However, on the scales occupied by fish populations such local disturbances would need a strong cumulative intensity of many operations to have a measurable effect. Local information reveals that most suction dredge miners adhere more or less to guidelines that have recently been formalized by the Forest Service and generally in . . . Oregon, but there are

> individual cases where egregious mismanagement of the immediate environment has occurred, particularly with respect to damaging river banks in various ways. This analysis cannot account for individual transgressions, and a study to do so at the appropriate scale would be very expensive if feasible.
>
> *"Given that this analysis could not detect an effect averaged over good and bad miners and that a more powerful study would be very expensive, it would seem that public money would be better spent on encouraging compliance with current guidelines than on further study"*.

This study corroborated the findings of numerous prior cumulative impact studies, all of which have previously been submitted to the Department in response to its October 2007 request for information. We trust that by the time the draft SEIR is issued, the Bayley study and other submitted materials will find their place above the more speculative references presently cited by the Department. *Cf., e.g.,* NOP at 95 (referencing "invertebrate productivity in subtropical black-water rivers"), 101 (fish behavior on "tropical reef").

California Department of Fish and Game DFG 11/26,02

601 Locust Street

Redding Ca 96001

Attn: Mark Stopher

My name is James Lambert. I have been prospecting and mining for Gold since 1969. I have several mining claims in California and have prospected in the American River, Yuba River and Feather River basins.

Thank you for the opportunity to provide input to this important issue regarding the future of suction dredge mining in California.

Existing DFG regulations and permitting processes regarding suction dredge mining provide strict guidelines regarding the use of suction dredges. These guidelines describe locations, time of use, methods, dredge size limitations and other valuable information designed to protect the natural habitat. Along with the DFG dredge permitting process, the US Forest Service requires a Notice of Operation to be submitted by miners describing their operation, environmental impacts and mitigation measures for any mining operation. If the aforementioned regulations are followed it would seem there already adequate measures in place to protect the environment.

Regarding suction dredge mining impacts on the environment, I offer the following comments.

1. Having mined for 40 years primarily on one creek, I have observed firsthand the positive benefits that dredging can have:

a. Holes dredged out during the summer become refuge for trout and other aquatic life in the fall when the water is low and warm. The holes are usually dredged in compacted gravel where the water is to shallow to provide fish haven. The dredge holes provide cooler water, safe haven and a nurturing environment for the fish.

b. Dredging not only collects gold for me, it also pulls up lead, mercury, and other metals not native to the creek. Over the years I have collect in excess of 40 pounds of lead and at least a pound of mercury along with other metals. All of these items have been disposed of in an environmentally safe manner.

Thank you

c. As mining claims do not prohibit others from hiking, fishing or camping on the property, I also do the cleanup behind the people who leave their trash behind. Over the years I have removed hundreds of pounds of trash from my claims. I have also extinguished campfires that careless campers left smoldering. These instances are documented with the Forest Service.

d. On my mining claims you cannot tell that any mining was done. The creek is clean and pristine with no evidence of my footprint.

2. My comments regarding future regulations.

a. My claim is on a tributary of the Middle Fork of the American river. Downstream of my claim is Inner bay dam and reservoir then the Ox Bow reservoir behind Ralston Dam. Below these are Folsom Lake behind Folsom Dam and Nimbus Lake behind Nimbus Dam. No anadromous fish species make it past Nimbus Dam. How can suction dredging 40 miles upstream have any impact on migratory fishes below these four dams?

b. During the high water events of 2006, in excess of 100,000 cfs were flowing into Folsom lake. I had an opportunity on the day of the peak flows to drive up to my claim and see the creek. On the way I crossed the American river several times. My observations as follows: On my claim the creek was flowing approximately 15 feet above normal summer flow and the roaring of the water could be heard a half mile away. The water was chocolate brown and filled with whole trees with root balls attached. The sound of huge boulders rolling along the bottom of the creek was awe inspiring. Along the American river it was the same scene, river chocolate brown, full of trees and roaring like a freight train. In the spring when I returned to my claim the changes were astounding. Huge boulders that had been in place for years were several hundred yards downstream from their original positions. Trees were laying across the creek in a 'pickup sticks' haphazard fashion. Existing gravel bars were gone and new ones formed. As you know these high water events do not occur every year, but in my years on my claim I have witnessed similar events many, many times. How can the impact caused by a suction dredge even begin to compare with the power of Mother Nature?

c. Future regulations need to take a closer look at the nozzle size allowed on dredges, the particular creek or river being worked and the time frame in which dredging is allowed. Obviously all creeks and rivers are not the same.

d. You may want to review the study completed by the Washington Department of Ecology titled: " Effects of Small-Scale Gold Dredging on Arsenic, Copper, Lead and Zinc Concentrations in the Similkameen River. " Based on analyzing 14 effluents and 27 plume samples, it appears that small-scale gold dredges have little or no potential to cause exceedances of aquatic life criteria in the Similkameeen River."

I look forward to the opportunity to review the draft EIR.

Please send a copy to me at:

James H. Lambert

Lambert Dredge Mining Company

6215 Happy Pines Dr.

Foresthill Ca. 95631

Thank you

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name:	James M Doyle
Mailing Address:	HC4 Box 905
	Forks of Salmon, CA 96031
Telephone No. (optional):	530 462-4485
Email (optional):	n/a

Comments/Issues: We dredged 5 oz's of gold prior to the shutdown and feel we could have done better during the closed part of the season.

As we own Cecilville (Doyle's Camp) we had a dramatic loss of revenue from our Trailer park, Bar, Restaurant and Grocery store. This should have been a major part of our yearly income as we are open 6 months a year.

I have mined on and off since the early 60's in Calif. and Oregon and seeing the price of gold up, invested a substantial amount in equip. and gold claims.

I feel we are being persecuted by unknowable people persuing their own goals.

James M Doyle

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

In regards to sections and tables in the 2009 EIR **California Department of Fish and Game SUCTION DREDGE PERMITTING PROGRAM**
Literature Review on the Impacts of Suction Dredge Mining in California I have found items that need clarification.

I have been a recreational gold miner for 35 years (meaning I worked a full time job as a engineer and prospected for gold on weekends and vacations).
Currently retired, I spend my time mining, inventing, researching and educatiing in the mining arena.
I have currently read part of the way through the document and found some areas in need of work or explanation.

During the reading, I noted that in the body of the text it stated that references were made from the SWRCB workshop in 2007. I have read almost all of the roughly199 papers submitted from the workshop. Some important documentation from several of those papers are not included in this report. I will be covering those aspects with the documents originators so they may submit current information.

I wanted to break this down in small quantities of data that would be more manageable. Trying to comment on 122 pages or so of documentation would be far too extensive to digest and some important data could be lost or mixed up inadvertently.

Other recommendations will be covered later. I will keep them brief and the numbers few.

All of my dredging experience is with dredges 2" through 5". Also, as a fact check, I consulted with experienced miners who operate dredges 6" and larger. They concurred with my findings as the figures scale up in proportion to the nozzle size.

Table 2.1 and section 2.1.2 are my starting points.

Table 2.1

In regards to dredge capacity the cubic yards per hour given as specifications by the dredge manufacturer and listed on said charts were originally developed as tools to sell dredges.

If one were to dredge what would be called flow sand, where all the particles are of a uniform size, you could expect to attain close to the results listed per the manufacturer's specifications.

Flow sand would be where a very large quantity of uniform sand is deposited in an area. Paying quantities of gold is not found in flow sand.

If each grain were the size of a grain of rice, corn, or a pea, one would expect to meet the manufacturer's specifications of cubic yards per hour.

In reality, and as I stated previously, in the 1990 ERA studies the specified measurements are far from accurate.

If one were to dredge a hole 3' x 3' x 3' deep with a 2" dredgethe amount of uniform particles the size of a pea or less would only compromise a very small portion of the volume. On average there would be a wide mixture of various sized material removed from the hole, mostly larger than the recommended nozzle size.

One would expect to see about a gallon of material small enough to be consumed by the 2" dredge nozzle. Materials larger than 1 7/8" would clog the nozzle. Note all dredge nozzle's have a hose that has a taper or ring at the input that restricts material size to reduce, but not eliminate clogging.

The bulk of the material in the 3' x 3' x 3' hole would be composed of material larger than the nozzle limits. The majority of the material will be cobble 2.5 to 10" and boulders 10.1" and larger per the Phi scale.

These are all averages as one cannot perceive what is waiting in the mix of streambed materials. Occasionally larger boulders 3' to 5' in diameter are encountered requiring considerable time to remove all of the rocks that are pinning it by dredging and hand removal.

On average with my 2" dredge I spend about 20 to 35 % of the time actually dredging while the rest of the time is spent manually moving oversized materials. No matter what size dredge one is running, there are many hours spent during the day not sucking up sediment.

The averages are true of my 5" dredge. A majority of the rocks in the bed are larger than the 4" welded restriction ring. While you can move more material through this nozzle, the 2 through 10 cubic yards per hour is greatly exaggerated in real time dredging activity.

Yes, you will move a lot of material 4" and smaller, but you also end up with more hose and nozzle plug ups when 2 or more rocks wedge together blocking the flow. Clearing these blockages usually requires reducing the engine speed or shutting down the dredge to free the rocks. One may spend from 3 to 10 minutes locating and clearing a blockage before returning to dredging. With a 5 inch dredge plug ups can happen several times or more an hour. Mostly these plug ups happen because of the increased flow in the hose, cobble collides faster and jams easier. Many novice dredgers try to run their engines at full speed, this condition adds to the number of rock jams in the hose. An experienced dredger will run the engine at 60 to 70 percent capacity. This reduces the flow rate in the

suction hose but also reduces the number of plug ups. By running the engine at reduced speed production is cut down considerably from the manufacturer's specifications. Also, this dredger will consume less energy than the one running the engine at full speed.

A small portion of the cobbles will fit into the 4" ring in the dredge nozzle but once again the majority of the material will be larger cobbles and boulders which all will need to be manually moved via human exertion or winching. Due to the weight of the boulders one may spend from 20 minutes up to several hours a day moving a significant size boulder. I All of this activity takes time away from the cubic yards per hour that the dredge is rated as.

A dredge manufacturer in order to stay competitive with others utilizes flow sand or uniform particle size to show what the maximum capacity their equipment is capable of in perfect conditions.

You can compare this to the automotive industry that utilize specific road, wind and speed conditions to determine the maximum MPG of their vehicles. In real time these vehicles never encounter the exact parameters used and mileage varies to the negative side of their specs. Nor do the specifications for dredges meet real world conditions.

The 6" and larger dredges are not generally used by recreational miners due to cost, size, weight, and difficulty moving them into a dredging area.

Dredges of that size are transported into and assembled onsite in a dredging area which may take days to accomplish depending on the difficulty of access. These dredges will stay in place for extended periods of time up to an entire dredging season.

Recreational and small time professional dredgers tend to dredge from one day up to 2 weeks in an area and a 6" or greater dredge would make this venture economically impossible . Most of the miner's vacation or allotted time for dredging would be taken up by the transport, assembly, disassembly and removal of the dredge. This would limit the actual time where the dredging activity could be preformed.

Section 2.1.2 states: "The commercial availability of suction dredges makes it possible to excavate tons of sediment per hour from a river or stream in a recreational quest for gold."

This statement links back to table 2.1, dredge capacity. It might have some possibility of truth for a commercial dredging operation who utilize a 6" or larger dredge, but for the recreational miner at which that statement was directed, there is no possible way that a 5" or smaller dredge would be capable of moving TONS of sediment per hour.

As a gold miner for the last 35 years, operating dredges ranging from 2" to 5" I have never encountered a situation were I was capable of moving TONS of sediments.

I am a member of 4 mining clubs and have an association with miners in many states including Alaska. In no instance have I ever observed nor heard of someone with a 5" or smaller dredge moving TONS of sediment.

Sections 2.2 and 2.1.2 of the Draft EIR should be amended to reflect actual data from real world production figures and eliminate the manufacturers specifications as the information in their tables are bent to the high side in order to compete with other manufacturers.

And finally one additional point/

In the draft EIR hydraulic mining is talked about and data used therein. This type of mining was banned and for good reason. It should not be used to illustrate or utilize data from its operations with regard to suction dredging. The two practices stand independent of each other and no factual data pertaining to suction dredging can thereby be derived from studies on hydraulic mining.
I request that any references to hydraulic mining be eliminated from this study. The inclusion of this data confuses the reader into thinking that hydraulic mining and suction dredging are similar in nature.

James Madden
Retired engineer
James Madden
2361 Rosewood Dr.
San Bruno, CA 94066
650 589 8081

From: "Jim and Carol Mangels" <jcmangels@comcast.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/10/2009 12:36 PM
Subject: Comments to the proposal

Dear Sirs:

I wish to add my comments to the proposal on the Subsequent Environmental Impact Report as part of the legislation of SB670, involving suction dredge mining in California.

I believe it is imperative that current scientific studies are performed on the impacted stream beds as a result of suction dredge mining, prior to drafting a Subsequent Environmental Impact Report. This data should be included in the SEIR report. Unless, the SEIR includes scientific studies which assesses the impact of suction dredge mining on the stream bed, and thus, to the fishery of California, the report will be incomplete and not valid.

The SEIR should include data that measures or monitors changes in the amount of algae, changes in the amount of plant life, changes in aquatic insect life, and changes in various physical characteristics in water, ie., pH, dissolved oxygen levels, total nitrogen, total phosphorus, that may or may not occur during suction dredge mining. These are indicators of stream bed health, and to the health of the fishery.

The fishery and the health of the impacted stream beds in California depend on a accurate and valid SEIR report--not an expedient report that only uses "available" information.

Thank you,

James Mangels
2311 Tucker Court
Santa Rosa, CA 95403

For DEQ Use Only
Date Permit Issued
File No.

State of Oregon
Department of Environmental Quality
811 SW 6th Avenue, Portland, OR 97204
General Information: (503) 229-5696
Toll-free within Oregon: (800) 452-4011
Fax: (503) 229-6124

For DEQ Use Only
Date
Amount Received
Check No.

APPLICATION FORM

Oregon DEQ 700-PM General Permit

The applicant must provide all requested information for this application to be considered complete. An application that is incomplete or unsigned will be returned to the applicant to complete. Application submittal and permit issuance information is provided on page 2.

Applicant Name:

Mailing Address:

Street Address

City | State | Zip Code

Contact Information:

Telephone | Alternate Telephone/Mobile

Email Address

Suction Dredge Information:

If you have more than one dredge, list the largest inside hose diameter and horsepower rating)

Suction hose inside diameter: _____ inches

Engine rating: _____ horsepower

Signature

Signature | Date

Important!

A separate Recreational/Small Scale Placer Mining *General Authorization* or a Removal/Fill *Permit* is required from the Oregon Department of State Lands for Recreational/Small Scale Placer Mining within Essential Salmon Habitat. Please contact DSL at (503) 986-5200 or http://www.statelandsonline.com for information regarding suction dredge requirements in Essential Salmon Habitat waterbodies.

Permit Fees: SEND CHECK OR MONEY ORDER PAYABLE TO DEQ WITH SIGNED APPLICATION

Amount Enclosed: ☐ Annual Fee: $25 per year

Send Completed Application and Annual Permit Fee to:
Oregon Department of Environmental Quality
Attn: Business Office
811 SW Sixth Avenue, Portland OR 97204
(503) 229-6114 | (800) 452-4011

Print Form

GENERAL DISCHARGE PERMIT

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204
Telephone: (503) 229-5279

Issued pursuant to ORS 468B.050 and section 402 of The Federal Clean Water Act

---

ISSUED TO:

SOURCES COVERED BY THIS PERMIT:

This permit covers suction dredges not to exceed 30 horsepower with an inside diameter suction hose no greater than 6 inches that are used for recovering precious metals or minerals from stream bottom sediments.

_____ _____

Lauri Aunan, Administrator
Water Quality Division

Date

SCOPE OF PERMITTED ACTIVITIES

This 700-PM General Discharge Permit replaces 700-J issued in 1999, and the Mutual Agreement and Order Number WQ/I-ER-02-114. Until this permit expires or is modified or revoked, the registrant of this permit is authorized to operate a suction dredge in waters of the state in accordance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

Page
Schedule A - Discharge Limitations. 4
Schedule B – Monitoring Requirements. 4
Schedule C - Special Conditions 5-8
Schedule D - General Conditions 8-10

DEFINITIONS

1. *Background Turbidity* means turbidity that represents the ambient, undisturbed turbidity as measured or observed at least 10 feet upstream from the suction dredge operation at the time dredging occurs.
2. *Visible Turbidity* means turbidity that is distinctly visible when compared to background turbidity.
3. *DEQ* or *Department* means Oregon Department of Environmental Quality.
4. *Gravel Bar* means a transitional gravel deposit that lacks any rooted vegetation, located either between the stream banks and the wet perimeter of the stream or entirely within the wet perimeter of the stream..
5. *OAR* means Oregon Administrative Rule.
6. *ODFW* means Oregon Department of Fish and Wildlife.
7. *Stream bank* means a slope of land adjoining and confining a stream channel.
8. *Wet perimeter* means the area of the stream that is underwater, or is exposed as a non-vegetated dry gravel bar island surrounded on all sides by actively moving water at the time suction dredging occurs.

HOW TO APPLY FOR COVERAGE UNDER THIS GENERAL PERMIT

Persons Seeking Coverage Under This 700-PM General Permit (2005-2010)

1. Suction dredge operators can obtain coverage under this General Permit by the following steps:

   a. Obtain a DEQ application form by:
      i. Mail or in person from the DEQ regional offices provided in Schedule C, or
      ii. Downloading the application from the DEQ website.

   b. Submit a completed application to DEQ or other DEQ agent, requesting coverage under this permit at least thirty days prior to the planned activity. The Department may accept applications filed less than thirty days from the planned activity on a case by case basis.

   c. Submit all applicable fees with the application. DEQ or another DEQ agent will review the application information and will take one of the following actions:

      i. Issue written notice of approval.

      ii. Request additional information.

      iii. Deny coverage under this permit. The applicant will be notified if the applicant's operation cannot be approved for coverage under the General Permit, and that the applicant may need to obtain an individual permit.

Persons Seeking Coverage to Renew This 700-PM General Permit After 2010

1. Assignment under this General Permit is valid until the expiration date provided on the cover page (unless terminated or extended under Other Applicable Conditions below). Suction dredge operators requiring renewal of this General Permit must renew coverage by the following steps:

   a. Submit a complete renewal application form to DEQ or a DEQ agent no later than February 1, 2010, 180 days prior to the expiration date of this permit indicated on the cover page. The DEQ Director may grant permission to submit the application less than 180 days in advance but no later than the permit expiration date.

   b. Submit all applicable fees with the permit renewal application.

2. DEQ or another DEQ agent will review the application and will take one of the following actions:

   a. Issue written notice of approval.

   b. Request additional information.

   c. Deny coverage under this permit. The applicant will be notified if the applicant's operation cannot be approved for coverage under the General Permit, and that the applicant may need to obtain an individual permit.

Other Application Conditions

1. Coverage under this permit will continue for a permittee after the expiration date if the permittee submits a complete renewal application and fee as described above.

2. Any person not wishing to be covered or limited by this general permit may apply for an individual permit in accordance with the procedures in OAR 340-045-0030. The Department will review the application information and will either request additional information in writing or will notify the applicant by mail to operate under the conditions of the new individual permit.

3. During the term of this permit, the Department may make arrangements with the Oregon Department of State Lands or other state agency to assign coverage, conduct inspections, or compile information regarding this General Permit on behalf of DEQ.

SCHEDULE A

DISCHARGE LIMITATIONS

1. Suction dredge operation in Oregon is allowed for the person assigned to this General Permit. Persons assigned to this permit may only operate one dredge at a time. Other persons not assigned to this permit may operate that dredge under the supervision of the person assigned to this permit if all conditions of this permit are met.

2. Suction dredge activities covered by this permit may not discharge except in compliance with this General Permit. This permit does not authorize mining of stream banks (highbanking) or upland areas. Such out-of-stream mining requires a General Permit WPCF 600 or an individual WPCF permit from the Department of Environmental Quality.

3. Except as restricted in Oregon Scenic Waterways or Essential Salmon Habitat, dredging is allowed into gravel bars up to 10 feet outside the wet perimeter of the stream . In no case is dredging of stream banks allowed.

4. Suction dredges with suction hoses that have an inside diameter of 4 inches or greater must not create visible turbidity beyond 300 feet downstream from a working dredge.

5. A single operating suction dredge equipped with a suction hose with an inside diameter less than 4 inches has no turbidity discharge limitation.

6. Two or more dredges, each equipped with a suction hose with an inside diameter less than 4 inches that operate at the same time, must not create visible turbidity beyond 300 feet downstream from the combined dredge operations.

7. Suction dredge operation is prohibited during non-daylight hours.

8. No wastes may be discharged and no activities may be conducted that will violate Water Quality Standards as adopted in OAR Chapter 340, Division 41.

SCHEDULE B

MONITORING REQUIREMENTS

1. Suction dredges with suction hoses that have an inside diameter of 4 inches or greater must visually monitor each day of operation to assure turbidity is not visible beyond 300 feet downstream at any time.

2. Suction dredges with suction hoses that have an inside diameter less than 4 inches do not have to monitor for turbidity.

3. Visual monitoring is required during daylight hours to determine compliance with the turbidity limits in Schedule A.

SCHEDULE C

SPECIAL CONDITIONS

BEST MANAGEMENT PRACTICES

1. Harassment of fish in the stream is prohibited as required in ORS 498.006.

2. Except where the Oregon Department of Fish and Wildlife (ODFW) has given expressed written authorization, suction dredging is not allowed outside the periods set out in the attached in-water work schedule (*Timing of In-Water Work To Protect Fish and Wildlife Resources*). A copy of that written ODFW approval must be in the possession of the operator or readily available during dredging activities.

3. The permittee must provide a safe passage for fish around and through the active mining area if the stream was historically or is currently inhabited by native migratory fish .

4. Moving boulders, logs, or other natural stream infrastructure within the stream channel as described in Schedule A3 is allowed. However, in no case may this infrastructure be removed entirely from the stream channel. Removal of infrastructure that extends into the stream channel from the stream bank is also prohibited.

5. Dredging stream banks is not allowed under this permit. Undercutting or eroding stream banks and removal or disturbance of boulders, rooted vegetation, or embedded woody plants from stream banks is prohibited. Boulders include cobbles and larger rocks that protect and prevent erosion of the banks from spring run runoff and storm event stream flow. Woody plants include living or dead trees and shrubs. Vegetation includes grasses, wildflowers, weeds, and other vegetation that stabilizes the stream banks or provides cover for fish or provides shade.

6. Creating areas of pooled water is allowed within the stream boundaries provided in A3. However, construction of dams that prevent fish passage is prohibited.

7. Suction dredge activity must not result in the formation of organic or inorganic deposits that are harmful to fish or other aquatic life as required in OAR 340-041-0007(13).

8. The suction dredge equipment must be properly maintained and petroleum products managed as follows:

   a. Discharging oil, grease and fuel from suction dredge activity is prohibited.

   b. Equipment used for suction dredging must not release petroleum products. Equipment surfaces must be free of oils and grease, and must be checked for fuel and oil leaks prior to start of operation on a daily basis.

c. A polypropylene pad or other appropriate spill protection and a funnel or spill-proof spout must be used when refueling to prevent possible contamination of surface waters or groundwater.

d. All fuel and oil must be stored in an impermeable container and must be located at least 25 feet from the wet perimeter of the stream. For dredge locations where a 25 foot buffer is not possible, addition precaution must be taken to ensure that petroleum products cannot spill or otherwise enter the stream.

e. In the event a spill occurs, suction dredge operators must contain, remove and mitigate such spills immediately. All waste oil or other clean up materials contaminated with petroleum products must be disposed off-site.

CONDITIONS TO PROTECT OREGON SCENIC WATERWAYS AND ESSENTIAL SALMON HABITAT

1. Suction dredging is prohibited in the portions of the Clackamas River, McKenzie River, and North Santiam River subbasins that have been designated as Oregon Scenic Waterways, as provided in OAR 340-041-0350.

2. Suction dredging in other Oregon Scenic Waterways must follow the applicable requirements provided in ORS 390.835

3. Suction dredging in Oregon Scenic Waterways is restricted to recreational placer mining, and is not allowed outside the wet perimeter of the stream. Recreational placer mining as defined in Oregon Revised Statutes (ORS) 390.835(17)(b) includes the use of a motorized surface dredge having an intake of four inches or less and a motor no larger than sixteen horsepower.

4. Except when allowed by the applicable federal land management agency, suction dredging on Oregon Scenic Waterways that are located on federal lands is prohibited as provided in ORS 390.835.

5. Recreational placer mining in essential salmon habitat is restricted to the wet perimeter of the stream.

6. Until an agreement is made between DEQ and DSL to administer this permit through one agency, suction dredging in Oregon Scenic Waterways and Essential Salmon Habitat streams requires an additional, separate authorization from the DSL.

   a. Maps and lists of scenic waterways and essential salmon habitat streams are available at the following web sites:

   http://www.oregonstatelands.us/esshabitat.htm

   http://www.oregonstatelands.us/scenicwaterways.htm

b. This information can also be obtained from the following Division of State Lands (DSL) offices:

Division of State Lands
Salem Office
775 Summer St. NE
Salem, OR 97310
Telephone: (503) 378-3805

Division of State Lands
Bend Office
20300 Empire Avenue
Bend, OR 97701
Telephone: (541) 388-6112

CONDITIONS FOR DREDGING ON WATER QUALITY LIMITED STREAMS

1. Until a total maximum daily load (TMDL) has been completed, suction dredging is prohibited in streams that are both listed as water quality limited for sediments, turbidity or toxics on the State 303(d) list under OAR 340-041-0046, and were not placer mined under the 700-J permit after May 3, 1999.

a. Once a TMDL has been completed, mining in these streams may be authorized as indicated in the water quality management plan in the TMDL.

b. The 303(d) list of water quality limited streams is available on the DEQ website or at the following Department offices:

i. Northwest Region
2020 SW 4th Avenue, Suite 400
Portland, OR 97201
Tel. No. (503) 229-5263

ii. Western Region
750 Front Street NE, #120
Salem, OR 97301-1039
Tel. No. (503) 378-8240

iii. Eastern Region
700 SE Emigrant, #330
Pendleton, OR 97801
Tel. No. (541) 276-4063

iv. DEQ Headquarters
811 SW 6th Avenue 7th floor
Portland, OR 97204-1390
Tel No. (503) 229-5185
Tel No. (800) 452-4011 (x5029)

OTHER APPLICABLE DSL FILL AND REMOVAL REQUIREMENTS

A Removal-Fill Permit is required by DSL for any placer mining operation that alters, removes or fills more than fifty (50) cubic yards of material per year in any waterway. Furthermore, a Removal-Fill permit may be required by the DSL for operations involving less than fifty cubic yards per year. Suction dredging that meets the requirements for DSL fill and removal permit may also require coverage under an individual or other general permit from the DEQ. The permittee must contact the DSL and/or DEQ for additional information.

DETERMINING COMPLIANCE WITH THIS PERMIT

1. As allowed by state law, other Oregon state agencies may enter into agreement with DEQ to act as an agent to determine compliance with the limits, terms, and conditions of this General Permit.

2. DEQ may require information be submitted from permittees regarding the locations of the previous three years of suction dredge activities in Oregon.

3. This permit does not authorize the permit holder to prevent or restrict the legitimate use of the waterway by other persons.

4. During dredge activities, persons covered by this general permit must have a copy of the permit in their possession or readily available for inspection at the dredge location.

FEES

1. To obtain and maintain coverage under this permit, the applicable fees provided in OAR 340-045-0075 must be received by the Department.

2. Permittees may, but are not required to prepay multiple years of coverage in advance.

3. Failure to pay applicable fees may result in termination of coverage under this permit. Coverage may be restored upon payment of the fee.

SCHEDULE D

GENERAL CONDITIONS

The following General Conditions are federal requirements to inform the person assigned to this General Discharge Permit of their legally binding compliance responsibilities. In the event of an enforcement action by DEQ, the procedures outlined in Oregon Administrative Rule 340 Division 12 will be followed.

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

ORS 468.140 allows the Director to impose civil penalties up to $10,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to $25,000 imprisonment for not more than one year, or both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, a person who knowingly discharges, places, or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state is subject to a Class B felony punishable by a fine not to exceed $200,000 and up to 10 years in prison.

3. Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

Coverage under this permit may be suspended, revoked and reissued, or terminated for cause including, but not limited to, in response to any of the following:

a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;
b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or
c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
d. The permittee is identified as a Designated Management Agency or allocated a wasteload in a water quality management plan in a Total Maximum Daily Load.

6. Property Rights

Coverage under this permit does not convey any property rights of any sort, or any exclusive privilege.

SECTION B. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements must be taken as required in Schedule B.

2. Monitoring Procedures

Turbiditmeters must be calibrated prior to their use.

3. Penalties for Tampering and Falsification

Persons who falsify, tamper with, or knowingly render inaccurate a turbidimeter used to determine compliance with this permit may, upon conviction, be punished by a fine of not more than $10,000 per violation, imprisonment for not more than two years, or both.

4. Retention of Records

The permittee must retain records of all monitoring information, including all calibration and maintenance records for this permit for a period of at least 3 years from the date of the sampling or measurement

5. Inspection and Entry

The permittee must allow the Director or an authorized representative upon the presentation of credentials to:

a. Enter upon the permittee's premises where suction dredging occurs, or where records are kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION C. REPORTING REQUIREMENTS

1. Twenty-Four Hour Reporting

The permittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office must be called. Outside of normal business hours, the Department must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission must also be provided within 5 days of the time the permittee becomes aware of the circumstances. Pursuant to ORS 468.959 (3) (a), if the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days of the time the permittee becomes aware of the circumstances. The written submission must contain:

a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected;
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and

The following must be included as information that must be reported within 24 hours under this paragraph:

a. Any upset that exceeds any effluent limitation in this permit.
b. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

2. Duty to Provide Information

The permittee must furnish to the Department within a reasonable time any information that the Department may request to determine compliance with this permit. The permittee must also furnish to the Department, upon request, copies of records required to be kept by this permit.

3. Spill Reports

The permittee must notify the Department of any spills of petroleum products into waters of the State.

ATTENTION APPLICANT: YOU MUST FOLLOW THESE INSTRUCTIONS TO ENSURE THAT YOUR AUTHORIZATION REMAINS VALID.

By signature of the Department of State Lands' (DSL) authority on the front of this application, you are authorized to conduct placer mining activities throughout the State of Oregon within the terms and conditions described in the General Authorization for Recreational and Small Scale Placer Mining within Essential Salmon Habitat (OAR 141-089-0245 to 0275).

1. In order to protect aquatic resources, you may conduct placer mining only within the Oregon Department of Fish and Wildlife (ODFW) approved in-water work timelines for each waterway, as noted on the enclosed list. If you have questions about the in-water timelines, contact ODFW or access their website at http://www.dfw.state.or.us.

2. Do not conduct placer mining in those waterways that the Federal Government has closed to placer mining activities. See the enclosed memo for additional information.

3. This authorizes only the named person(s) on the application to conduct recreational placer mining activities. Immediate family members may be listed as applicants on the application if they reside at the address stated on the application and will be using the same equipment. Keep a copy of your authorization on-site at all times during operation.

4. You may conduct placer mining only within the wet perimeter of the stream or on dry gravel islands within the confines of the channel banks as provided in OAR 141-085-0010 and in accordance with 141-089-0250 (eligibility requirements) and 141-089-0265 (conditions of issuance). Work on channel side banks (sluicing, etc.) is not allowed under this authorization.

5. **Year End Report Required:** Complete a report at the end of the each in-water work period and send it to DSL prior to January 31 of each year that the General Authorization is valid. Use one of the enclosed report forms and mail it to:

   Department of State Lands
   775 Summer Street NE, Suite 100
   Salem, Oregon 97301-1279

   Send us this report even if you did not conduct placer mining at any time during the previous year---for the amount of material excavated, write "0".

NOTE: FAILURE TO COMPLY WITH ANY OF THESE CONDITIONS MAY RESULT IN CANCELLATION OF YOUR AUTHORIZATION.

Other Agency Requirements and Contact Information:
You will also need a Department of Environmental Quality 700-PM permit if you are working in any waterway. Please contact the Oregon Department of Environmental Quality at:

Department of Environmental Quality
Attn: Business Office
811 SW 6th Avenue
Portland, OR 97204
(503) 229-5696
http://www.oregon.gov/DEQ

You must comply with all applicable local, state, and federal laws and regulations. Prior to initiating recreational and small-scale placer mining, you should consult with affected local land use planning agencies and public land managing agencies.

This General Authorization permits only the activity described in the application and **will remain in effect until January 1, 2012**. If you have any questions regarding this General Authorization, please call the Department at (503) 378-3805. For copies of this form and other placer mining information, visit our website at http://www.oregon.gov/DSL and click on the Placer Mining link.

ATTENTION APPLICANT: YOU MUST FOLLOW THESE INSTRUCTIONS TO ENSURE THAT YOUR AUTHORIZATION REMAINS VALID.

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65870 E Desert Moon Dr.
Tucson, AZ 85739
November 30, 2009

Dear Mr. Stopher

I am an out-of-state prospector that spends my time (and money) in CA in the summer. I had purchased a dredge permit last year, only to have it become nullified without any refund. This is equivalent to confiscation of funds, which should be illegal. If we were to do the equivalent to state funds or resources, we would be put in jail.

I would like to state that I have never seen a fish harmed by suction dredging. In fact, it creates holes where the fish can hide and causes nutrients to be brought up from the bottom to be circulated in the water. Many fish come right up to the area where I work to eat the nutrients that are brought from the bottom.

Please reinstate CA suction dredging. Scheduled river closings are already in place to protect the fish eggs and spawning grounds. Prospectors are entitled to the same recreational rights as fisherman. Please see that our rights are protected.

Sincerely,

James W. Conklin

From: "Janis Cooke" <jcooke@waterboards.ca.gov>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: "Patrick Morris" <pmorris@waterboards.ca.gov>, "Rick Humphreys" <rhumphr...
Date: 12/3/2009 12:15 PM
Subject: Suction Dredge Program Comments
Attachments: SuctionDredgComment12_09.doc

Mr. Stopher,
Thank you for the opportunity to comment. The original of this letter will follow in US Mail.
Janis

Janis Cooke, Ph. D.
Central Valley Regional Water Quality Control Board
10200 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670
T (916) 464-4672
F (916) 464-4780
jcooke@waterboards.ca.gov

California Regional Water Quality Control Board
Central Valley Region
Karl E. Longley, ScD, P.E., Chair

Linda S. Adams
Secretary for Environmental Protection

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
http://www.waterboards.ca.gov/centralvalley

Arnold Schwarzenegger
Governor

3 December 2009

Mr. Mark Stopher
California Department of Fish and Game, Suction Dredge Program
601 Locust Street
Redding, CA 96001

SUCTION DREDGE PROGRAM COMMENTS

Thank you for providing us the opportunity to provide some comments on the suction dredge program. We strongly support the Department's decision to prepare a full Subsequent Environmental Impact Report (EIR) for permitting of suction dredge operations. We believe that the resuspension and release of mercury during suction dredging is a potentially significant adverse impact that should be thoroughly evaluated in the EIR.

The Central Valley Water Board, with the State Water Resources Control Board and the US Environmental Protection Agency, has identified at least 23 water bodies in the Central Valley portion of the Project area as impaired by mercury on the 2006 Clean Water Act Section 303(d) List. These water bodies include the Feather, Bear, and Stanislaus Rivers, and reservoirs in the gold mining area of the Sierra Nevada Mountains. The Central Valley Water Board has proposed the listing of more than 40 additional water bodies in the Project area as impaired by mercury. Other Regional Water Boards have also listed water bodies in gold mine areas as impaired by mercury, including the East Fork Trinity River.

Concentrations of mercury in fish in impaired water bodies pose a health risk to people and wildlife species that eat the fish. Mercury in the Project area comes primarily from inactive gold mines and from resuspension of contaminated material in stream beds and banks downstream of the mines. Methylmercury, the most toxic form of mercury in the environment, concentrates in successive levels of the food chain. US Geological Survey scientists have reported elevated levels of methylmercury in water and fish within reservoirs and river reaches in the Project area (data was collected in the Yuba and Bear River watersheds).

For the impaired water bodies, the Central Valley Water Board will develop control programs to reduce mercury pollution and restore the beneficial use of safe fish consumption. The control programs, commonly called Total Maximum Daily Loads (TMDLs), will determine mercury and methylmercury loads and assign reductions to sources in the watershed. We

have not yet estimated mercury loads coming from suction dredging; however, it is possible that suction dredging operations may be contributing to mercury problems in some waterways in the project area. In the development of our control program, we will need to evaluate what kinds of controls would be appropriate for suction dredging operations, such as controlling the amount of mercury that is resuspended during dredging operations. Although not specifically a topic for the EIR, the Central Valley Water Board would like to coordinate with the Department of Fish and Game regarding potential suction dredge permit requirements for mercury-impaired water bodies.

Thank you for the opportunity to comment on the Suction Dredge Permitting Program Initial Study. If you would like information about listings of mercury-impaired water bodies or have any questions, please contact Patrick Morris at 916 464-4621 or by email at pmorris@waterboards.ca.gov.

/s/

Jerrold A. Bruns
Environmental Program Manager
TMDL, Watershed Management Initiative, and CALFED Section

CC: Rick Humphreys, State Water Resources Control Board

APPENDIX K: Private Citizen Comments (Je - L)

From: Jeff McFadden <jeffmcf00@hotmail.com>
To: Mark Stopher <mstopher@dfg.ca.gov>
Date: 11/19/2009 4:40 PM
Subject: SB 670 study comments

Mark:

The EPA did a study on recreational suction dredging and the envirnoment in Alaska and concluded "In general, our results are in agreement with other studies that have found only localized reductions in macroinvertebrate abundance in relation to small-scale suction dredging." This means, according to the Environmental Protection Agency, that dredging cannot be a cause for widescale salmon population declines as aserted by the Kuruk Indian tribe. http://www.akmining.com/mine/1999epa.htm

The Washington State Depertment of Ecology studied Effects of Small-Scale Gold Dredging on Arsenic, Copper, Lead, and Zinc Concentrations in the Similkameen River and concluded "Results of this study show that the concentrations of arsenic, copper, lead, and zinc discharged from small-scale gold dredges operating in the Similkameen River are not a significant toxicity concern for aquatic life." http://www.ecy.wa.gov/pubs/0503007.pdf

The United States Geological Survey, part of the U.S. Department of the Interior issued a press release in 1998 about suction dredging and in the first line of that document stated boldly, "The water quality of the Fortymile River-a beautiful, wild and scenic river in the remote part of east-central Alaska-has not been adversely impacted by gold placer mining operations according to an integrated study underway by the U.S. Geological Survey and the Alaska Department of Natural Resources." http://www.akmining.com/mine/usgspr.htm

The United States Army Corps of Engineers did a study and concluded, "Corps finding of de minimis (i.e., inconsequential) effects on aquatic resources for suction dredges with nozzle openings of 4 inches or less. This is an official recognition of what suction dredgers have long claimed; that below a certain size, the effects of suction dredging are so small and so short-term as to not warrant the regulations being imposed in many cases. The U.S. Environmental Protection Agency (EPA), in particular, has ignored this concept, although numerous studies, including the EPA's own 1999 study of suction dredging, repeatedly and consistently support the Corps finding de minimis effects. The reports consistently find no actual impact of consequence on the environment, and so almost always fall back to the position that "potential for impact exists". However, showing potential for harm, and showing that actual harm exists are two different things, and the studies to date have not shown any actual effect on the environment by suction dredging except for those that are short-term and localized in nature. Current regulatory efforts are proceeding despite this lack of evidence showing that harm to the environment is taking place. The regulatory agencies should be consistently and continually challenged by the dredging community to produce sound, scientific evidence that support their proposed regulations. To regulate against a "potential for harm", where none has been shown to exist, is unjustifiable and must be challenged." http://www.akmining.com/mine/corp9410.htm

Gleened from: http://www.akmining.com/mine/study.htm

How many studies are they going to have to do? It would save everyone a whole lot of time and money just by reading the reports already done on the issue!

-Jeff McFadden

Bing brings you maps, menus, and reviews organized in one place.
http://www.bing.com/search?q=restaurants&form=MFESRP&publ=WLHMTAG&crea=TEXT_MFESRP_Local_MapsMenu_Resturants_1x1

From: Jeff McFadden <jeffmcf00@hotmail.com>
To: Mark Stopher <mstopher@dfg.ca.gov>
Date: 11/20/2009 8:44 PM
Subject: SB 670 observation/comment

Mark,

Isn't it ironic (some even say hypocritical) that this whole SB 670 issue is because of the big fear that dredging will put mercury into the waters (although its already there). So The Government is going to protect us from mercury they say. Yet they have no problem injecting millions of Americans with an H1N1 vaccine directly into the blood stream. But guess what? The H1N1 vaccine along with with many other vaccines contain Thimerosal - a compound that is 49.6% mercury by weight!

So mercury in the waters is bad, but injecting mercury directly into the blood stream with a hypodermic needle is ok...that's going to keep us from getting sick they tell us.

Wow. What hypocrites indeed. What's the real reason behind this ban on dredging?

-Jeff McFadden

Windows 7: It works the way you want. Learn more.
http://www.microsoft.com/Windows/windows-7/default.aspx?ocid=PID24727::T:WLMTAGL:ON:WL:en-US:WWL_WIN_evergreen:112009v2

I do not understand why Suction Dredging was shut off in California. I do know that this is about salmon, yet not all streams and rivers in the State have salmon runs. What happened? I did a bit of research before becoming involved in dredging and see no harm to fish or habitat. Thank you for the card about the Scoping meetings, I wish I could have attended. Suction Dredging should be allowed in the State.

Jeff Schultz

I have been a Dredger in CA for 15 years off and on. I have abided by every new law as it was adopted. I intend to abide by any new law adopted in this process. But there comes a time when pure logic should lead the intellect to the proper perspective. I fear that the over zealousness of the anti-dredging groups has now gone beyond logic. Let me explain.

Decline of salmon and other fisheries:

The DFG's own 2009 'decision' to open a limited season for the improved Salmon populations before dredging was even shut down in CA (SB 670) logically implies that dredging was not the cause of the problem. But rather, the annual slaughter of these fish by commercial, Indian, and individual fishermen was the cause.

New spawning beds produced by dredgers help the re-population of fisheries. Much like mother nature in her annual high water and random floods do, by creating new loose gravel beds. Why would anyone want to discourage dredgers from helping fish spawn?
I've heard the argument that the tailing piles are unstable. Well, so are natural gravel bed formations, until they are washed down by subsequent winter flooding that stabilizes them.

Mercury is a natural element:

Free mercury occurs in nature and is put into the air by coal fired power plants in the thousands of tons every year. The government in its wisdom has ordered that all incandescent bulbs be replaced with compact florescent lights (with mercury in them) by 2014. They actually are forcing Americans to bring toxic mercury into their homes.

In 15 years of dredging I have never encountered free mercury in my dredge. Only the occasional flake with mercury well stuck to it (since they have an affinity for each other).
I suspect each year I encounter no more mercury stuck to gold than what you might find in 5-6 CFL's. The difference is, I am removing the mercury from a river and water supply, and the government is adding tons of it to landfills and the water supply by act of law. So who is causing damage to the environment?

Methylated mercury occurs naturally:

Does mercury sucked into a dredge get methylated? If it does, how much is produced?

Modern dredges with a flare (vs crash box) design can catch a speck of gold so small you can barely see it with the naked eye? If it can do this it can also catch extremely small amounts of mercury. It does this because there is so little turbulence in the operation.
Mercury is thus nearly completely recovered from the river. Rather than being a hazard, dredging is actually a win win for the environment. The study that showed methylated mercury in the water downstream of a dredge surely did not test the water 1 mile, 2 miles or 10 miles downstream. If they had, do you think that they could detect any change from normal background levels for that stream? There is an EPA standard for safe mercury levels in water and fish etc. Does dredging create/surpass this? Consider that every decade or two mother nature produces a record flood that churns up the entire bottom of a river or stream with massive material movement, which must easily produce a million times or more the amount of methylated mercury than gold dredging might have over that decade or two. Thus, of what significance is this issue?

I could go on and on. But I think you understand my point.

I only request that you let logical answers trump the science being offered when the science does not address the bigger and more appropriate questions.

Jeff Smith
77 Pryde Ave.
Biggs, CA.
95917
(530)868-1799

12-1-2009

From: <SMITHSGOLD@aol.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 8:21 AM
Subject: Dredging

I have been a Dredger in CA for 15 years off and on. I have abided by every new law as it was adopted. I intend to abide by any new law adopted in this process. But there comes a time when pure logic should lead the intellect to the proper perspective. I fear that the over zealousness of the anti-dredging groups has now gone beyond logic. Let me explain.

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The DFG's own 2009 'decision' to open a limited season for the improved Salmon populations before dredging was even shut down in CA (SB 670) logically implies that dredging was not the cause of the problem. But rather, the annual slaughter of these fish by commercial, Indian, and individual fishermen was the cause.

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Mercury is thus nearly completely recovered from the river. Rather than being a hazard, dredging is actually a win win for the environment. The study that showed methylated mercury in the water downstream of a dredge surely

did not test the water 1 mile, 2 miles or 10 miles downstream. If they had, do you think that they could detect any change from normal background levels for that stream? There is an EPA standard for safe mercury levels in water and fish etc. Does dredging create/surpass this? Consider that every decade or two mother nature produces a record flood that churns up the entire bottom of a river or stream with massive material movement, which must easily produce a million times or more the amount of methylated mercury than gold dredging might have over that decade or two. Thus, of what significance is this issue?

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I only request that you let logical answers trump the science being offered when the science does not address the bigger and more appropriate questions.

Jeff Smith
77 Pryde Ave.
Biggs, CA.
95917
(530)868-1799

Nov. 9, 2009

Jerry E. Moore
P O Box 484
Cloverdale CA 95425

Mark Stopher
CA Dept of Fish & Game
601 Locust St
Redding CA 96001

Re: Suction dredging

Dear Mr. Stopher:

My wife and I, along with her cousin and her husband, recently purchased a small dredge for, more than anything, recreational use. I am and have all my 69 years been an avid fisherman.

To study the effects of dredging on the river fisheries is, I feel, appropriate. It does, however, seem that the logical method would be to do that as the dredges are in operation.

One of the reasons cited in opposition of dredging was the destruction of eels in the system. I have observed juvenile eels in and going thru our dredge on a number of occasions. None have been dead and none have any sign of injury. It must be remembered that they are subjected *only to fast moving water.*

Another point to be made is that large sums of dollars have been spent to place washed gravel in streams, exactly what comes off dredges, the finer sediments to be left on rock surfaces to be carried out with high river flows. As a lay person, the tailings I see look to be ideal spawning gravel. I make no claim to be an expert though I have been involved with Royce Gunter at the Lake Sonoma Hatchery in relocating excess steelhead spawners to other Russian River tributaries and have had some rudimentary training in identifying appropriate spawning areas as these fish were extremely "ripe", paired and spawned almost immediately.

In no way do any of us want to be detrimental to the streams. We do, however, feel that the restrictions in place prior to the moratorium sufficed. It seems the most equitable solution would be to remove the moratorium and do a study with the dredges in operation.

It is a fact that dredging is, in many cases, a family adventure of which there are already too few. To put a stop to it without evidence of some detriment to the rivers seems not only unfortunate but unnecessary.

Please allow us our favorite form of recreation and do a study with the dredges in operation.

Thank you for your time and attention to this matter.

Yours truly,

Jerry E. Moore

From: jessica hanscom <jessicahanscom@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/1/2009 5:50 PM
Subject: suction dredging on the salmon river

i live on the salmon river and for my work i do a lot of walking on the river's edge, i work for the salmon river restoration council often collaborating with the forest service and fish and game. when it comes to suction dredging it is a very complicated and delicate matter. the locals around here have had this as a way of life for a long time. recently our rivers have been swarming with dredgers, most of them are not locals. we have claim jumpers coming in and buying up every claim that they can get their hands on and then selling or renting? them to other people from out of the area. when you walk down the salmon river now it is not uncommon to find a dredge or 2, or 3, at almost every accessible spot. along with unconscious dredging practices, the environmental impact from these long term encampments is bad too. I often wonder as i have seen more algae growing every year if maybe it is coming in on the bottoms of dredges and kayaks?the other

down fall is that with out garbage service provided by the forest service, these miners along with other sorts of recreationalists often times (unaware of our public garbage service 1 day, a week(10:30-1:30,)) just toss their garbage over the side of the road, it has been more of a problem since the garbage cans have been removed 4? years back.... you dont want to see or even imagine how some of these "visitors" leave behind their feces.-it's disgusting and unsanitary. lots of soap directly into the river, we find bars of soap, bottles of dish soap, shampoo,garbage, feces,and gas cans,fishing poles, all right at the rivers edge. I found a full 1 gal. bottle of mercuric acid right at a creek mouth. the water gets so murky in the summer that it can be undesirable to even go swimming and there is sometimes a film and bubbles floating on the surface. I'm not a dredger and i dont know exactly the process or what is used when people dredge,

but it doesn't seem like when i am down river from a dredge in use that the water seems like an equally healthy nor healthier habitat for the animals that live within it. the noise alone has got to have detrimental effects on the wildlife. I'm sure that there are ways to use dredging to the river's benefit. i feel like most of the locals that i know that dredge care about the river and the animals that make their homes here, they are putting that thought into how they dredge and how they leave the river. it is their home. i dont want to see dredging rights taken away from these peoples, these local people to whom this has been a way of life, an income, not just recreation, and I'm not sure how you would allow it for just them and not others. i really dont agree with how suction dredging has been the last few years. we have large groups camping out long term with multiple dredges on just about every mile of river...it sucks... (ha! ha!) it seems to

me that the mining laws that were written in the 1800's are a bit behind the times and need to be revised. thank you for your time.... jessica hanscom

From: Jill Grbavac <jill.grbavac@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 3:47 PM
Subject: Please Ban Suction Dredging

I think our watersheds have enough to deal with without us disrupting them further. I'd like to request that the DFG ban suction dredging permanently.

Thank You,

Jill Grbavac
Eureka Resident
Former Mattole Salmon Group Staff

James D. Foley
Mining Rights Advocate
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Suction Dredging Ca. EIR NOP
California Department of Fish and Game
(Agency)
601 Locust Street
(Address)
Redding, CA 96001

- The ACT of JULY 26, 1866 or H. B. 365 declares that the mineral lands of the public domain, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and occupation by all citizens of the United States.

- In the Mineral Estate grant of 1866 the claim holder has exclusive possession of mineral land, to include the entire surface i.e. minerals, water, and timber as Congress expressly provided. How then can a claim holder not be in control of it to exclude interference by agency regulation?

- **30 USC 26.94** - Unpatented mining claims are "property" in the highest sense of such term, which may be bought, sold and conveyed and will pass by decent.

- **THE SUPREMACY CLAUSE**
  Article. VI.

  This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any thing in the Constitution or Laws of any State to the Contrary notwithstanding.

Any legislation or rule that seeks to prohibit any kind of mining will run afoul of the Federal Supremacy Clause. The preemption doctrine derives from the Supremacy Clause of the Constitution which states that the "Constitution and the laws of the United States...shall be the supreme law of the land...anything in the constitutions or laws of any State to the contrary notwithstanding." This means of course, that *any* federal law trumps *any* conflicting state law.

- **CDFG Quote:**
  "The SEIR and related review under CEQA will analyze new significant and substantially more severe environmental impacts that may be occurring under the existing permitting program that were not addressed by the Department during prior environmental review completed in 1994."

  Question:
  What are these impacts and what is the source of this information?
- Volumes of peer reviewed scientific studies have been published regarding the question of any adverse impacts due to suction dredge mining. Invariably these studies reach conclusions of;
  1. de-minimus effects, by U.S. EPA

  2. "Effects of dredging commonly appear to be minor and local." (Bret C. Harvey)

  3. "Studies to date have not shown any actual effect on the environment by suction dredging, except for those that are short-term and localized in nature. Effects were significant, but localized. Suction dredging effects could be short-lived on streams where high seasonal flows occur. The greatest potential for damage is at low flow.
  4. Many peer reviewed studies reach a conclusion of **"No significant impact."**

From: Jim Foley <jfoley@sisqtel.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 8:00 PM
Subject: Attn. Mark Stopher
Attachments: Redding Scoping Meeting2.doc; Redding Scoping Meeting.doc; Part.004

Please accept the attached files as my comments re: Suction Dredging Ca.
EIR NOP 2009

James D. Foley
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21935Highway 96
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California Department of Fish and Game
(Agency)
601 Locust Street
(Address)
Redding, CA 96001

Atten: Mark Stopher

Please accept this document and all exhibits as my comments concerning the scoping process for Suction Dredging Ca. EIR NOP

ACT of JULY 26, 1866

H. B. 365

That the mineral lands of the public domain, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and occupation by all citizens of the United States. (See exhibit 1)

30 USC 26.94 - Unpatented mining claims are "property" in the highest sense of such term, which may be bought, sold and conveyed and will pass by decent.

Anyone found in conflict with the intention of Congress as expressed in the act of 1866 will be found personally liable to the miner they harmed.

For a number of reasons no agency of the government can affect the property conveyed in the grant. Agency is called agency because it is an agent, not a principal that can make any decisions not delegated. It may be easier to understand that because Congress disposed of all valuable mineral deposits, gave them away, every subsequent land disposal legislation must have a savings clause, saving from affect the land conveyed, disposed in 1866, even in FLPMA. So even if subsequent legislation could change prior legislation, every subsequent legislation covering this subject matter must “save” the

property Congress gave away, that it could not be affected by any body. That savings condition is expressed again in 43 USC 1732, the management authority in a number of places.

In the Mineral Estate grant of 1866 the claim holder has exclusive possession of mineral land as Congress expressly provided. How then can the claim holder not be in control of it to exclude interference by agency regulation?

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Question:
What are these impacts and what is the source of this information?

Volumes of peer reviewed scientific studies have been published regarding the question of any adverse impacts due to suction dredge mining. Invariably these studies reach conclusions of;
1. de-minimus effects, by U.S. EPA (See exhibit 1.)

2. "Effects of dredging commonly appear to be minor and local." (Bret C. Harvey)

3. "Studies to date have not shown any actual effect on the environment by suction dredging, except for those that are short-term and localized in nature. Effects were significant, but localized. The size of the impact zone varies. A six-inch dredge is appropriate where substrate gravel size is large, but a large aperture may be disruptive in a small channel. Suction dredging effects could be short-lived on streams where high seasonal flows occur. The greatest potential for damage is at low flow
4. Many peer reviewed studies reach a conclusion of **"No significant impact."**

Even though cumulative effects and some other questions have not been thoroughly studied, there has been nothing to date to substantiate closure of the small-scale mining operations. Even with the absence of data, environmental groups were active to close down mining citing unsubstantiated possible discharge violations. The effects of suction dredging would appear to be less than significant and not deleterious to fish." By Joe Cornell (see exhibit 5)

"The effects of suction dredging would appear to be less than significant and not deleterious to fish" (CDFG, 1997). Nothing has been published in the scientific literature that should change the California Department of Fish and Game's position on small scale suction dredge mining.

Exhibit 1

Impact of suction dredging on water quality, benthic habitat, and biota in the Fortymile River, Resurrection Creek, and Chatanika River, Alaska

Prepared For:

US Environmental Protection Agency
Region 10
Seattle, Washington

Prepared By:

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FINAL REPORT
June 1999

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Summary

This report describes the results of our research during 1997 and 1998 into the effects of commercial suction dredging on the water quality, habitat, and biota of the Fortymile River and recreational dredging on Resurrection Creek and the Chatanika River. On the Fortymile River, water chemistry, heavy metal concentrations, riverbed morphology, algal (periphyton) standing crop, and aquatic macroinvertebrate abundance and diversity were measured in relation to commercial suction dredging for both years. The focus of

our work on the Fortymile in 1997 was on an 8-inch suction dredge (Site 1), located on the mainstem and a 10 inch dredge located on the South Fork (Site 2a). Our research in 1998 included (1) resampling the 1997 sites on the mainstem and SF Fortymile to determine recovery after one year, (2) sampling a dredge site on the South Fork to examine for possible spatial variability in the effects of large-scale suction dredging on benthic communities (3) sampling a dredge site on the North Fork Fortymile to determine whether impact and recovery differ from conditions on the South Fork and the mainstem, and (4) again sampling unmined sites on the NF and SF to better document suspected background differences between the two forks in terms of macroinvertebrate communities. In all of the suction-mined sites studied, dredges were operated by experienced miners. Sampling was performed at fixed transects above and below the dredge locations. Additional sampling above the confluence of the North and South Forks revealed differences in background conditions in these two main tributaries.

At Site 1, dredge operation had no discernable effect on alkalinity, hardness, or specific conductance of water in the Fortymile. Of the factors we measured, the primary effects of suction dredging on water chemistry of the Fortymile River were increased turbidity, total filterable solids, and copper and zinc concentrations downstream of the dredge. These variables returned to upstream levels within 80-160 m downstream of the dredge. The results from this sampling revealed a relatively intense, but localized, decline in water clarity during the time the dredge was operating. The impact of suction dredging on water clarity and heavy metal concentrations may be greater or lesser than we measured, depending on the type of material the dredge is excavating.

The cross-sectional profiles indicate that the impact of the dredge piles relative to the width of the Fortymile River was small. After one year, dredge piles at Site 1 had largely disappeared following the scouring flows that accompany snow-melt in the Fortymile drainage. However, at Site 2, dredge piles were clearly discernable after one year. Macroinvertebrate abundance and diversity were greatly reduced in the first 10 m below the dredge at Site 1 during 1997, relative to the upstream reference site. For example, macroinvertebrate abundance was reduced by 97% and the number of taxa by 88% immediately below the dredge. The abundance and diversity of macroinvertebrates returned to values seen at the reference site by 80 to 160 m downstream of the dredge. A similar decline in macroinvertebrate abundance and diversity was observed at Site 2a. One year after dredging at both Site 1 and Site 2, recovery of macroinvertebrate diversity appeared to be substantial. The cumulative effect of suction dredging on the biota of the Fortymile is a function of the number of dredges operating concurrently, the size of the dredges, the strategy and effectiveness of their operators, and the rate and extent of re-colonization on the excavated dredge piles.

We compared conditions in the North Fork versus the South Fork of the Fortymile under the hypothesis that the greater background mining activity (of all types) on the SF would result in reduced macroinvertebrate abundance and diversity. We also expected that suction dredging would be relatively less harmful at already impacted sites than at sites that were less disturbed. An increase in macroinvertebrate density was found in the NF, relative to the SF, and this we attributed to the lower variability of benthic organic matter

and greater amounts of periphyton standing crop that occurred in the NF. We could discern no natural reason for this difference and therefore attribute this result to the greater disturbance in the SF from all forms of mining, historic and current.

The second component of this project is to examine the effects of recreational suction dredging on smaller streams in Alaska. In 1997, sampling was conducted on a single site on Resurrection Creek, a designated recreational mining stream on the Kenai Peninsula. In 1998, sampling was conducted on the Chatanika River, known to be popular for recreational dredging. The Chatanika River was sampled at a location north of Fairbanks. The results from Resurrection Creek indicated that there was no difference in the macroinvertebrate community between the mining area and the locations downstream of the mining area, in terms of macroinvertebrate density, taxa richness, EPT richness, or food resources. Results from the Chatanika showed slight downstream decreases in macroinvertebrate density, but all other measures remained similar to those of the reference area. In general, our results are in agreement with other studies that have found only localized reductions in macroinvertebrate abundance in relation to small-scale suction dredging.

Part I - Suction Dredging in the Fortymile River

Introduction

This report describes the results of research performed during 1997 and 1998 to determine the possible impacts of commercial suction dredging on the water quality, benthic habitat, and biota of the Fortymile River, Alaska (hereafter, Fortymile). Also described in this report are the impacts by recreational dredging on the Chatanika River and Resurrection Creek. This is the first study of its kind to describe the effects of suction dredge mining on river ecosystems in Alaska.

In stream ecosystems, aquatic macroinvertebrates have become the primary assessment tool for resource managers (see Barbour et al. 1996, Cairns and Pratt 1993). Several characteristics of aquatic macroinvertebrates, as a group, have led to their general acceptance as reliable indicators of ecological condition: (1) they are generally immobile (relative to fish), (2) they consist of a relatively large number of species that, collectively, display a range of sensitivities and responses to various types of habitat degradation, (3) they tend to be ubiquitous throughout streams and rivers, and (4) they are relatively easy to sample and identify. For these reasons, our assessment of the effect of suction dredging on the Fortymile, Chatanika, and Resurrection focused on macroinvertebrates. In addition to aquatic macroinvertebrates, water chemistry, streambed geomorphology, algal (periphyton) standing crop, and benthic organic matter (BOM) standing crop also were measured in relation to suction dredging for both years. The latter two components form the food base for stream herbivores and detritivores and are vital to the production and recovery of aquatic macroinvertebrates. Variations in the sampling method between years are described in the Methods section.

Historically, gold mining occurred throughout the Fortymile basin and several types of operations are still active, including placer mining, hydraulic mining, and suction dredging. Large scale placer mining also occurs in some sections of the Chatanika River and historically in the lower reaches of Resurrection Creek. Our research was limited to investigations on the effects of suction dredging. We addressed two general topics: (1) the effect of relatively large (8-10 inch) commercial suction dredges on ecological conditions in the Fortymile and (2) the general effect of smaller (2-6 inch) recreational suction dredges on benthic habitat and biota in the Chatanika River and Resurrection Creek. Part I of this report presents the results from the Fortymile; Part II describes results of small-scale mining within the recreational mining sites.

Suction dredging typically involves excavating the deeper, largely uninhabited sediments and depositing them on top of the ecologically more important surface substrates. Sorting and re-deposition of substrata moved through a dredge were expected to alter the streambed geomorphology and create "dredge piles" downstream of the dredges. Our effort here was directed toward determining the size (height, width) of the dredge piles, relative to the cross-sectional width of the river. This type of physical disturbance of benthic substrata generally reduces periphyton standing crop, BOM, and macroinvertebrate density. Thus, substrata moved through the dredge were expected to support less periphyton than substrata in undisturbed areas of the river (see Peterson 1996). Abundance and diversity of macroinvertebrates also were expected to be sharply reduced in dredged areas, as physical tumbling of substrata is known to kill and/or dislodge associated organisms (see Resh et al. 1988 for review), in addition to reducing the available food base.

The impact of commercial suction dredging on benthic organisms was evaluated in 1997 on the South Fork and the mainstem Fortymile River (Fig 1.). One site was also sampled in the North Fork near the confluence of the North and South Forks. In addition to resampling the 1997 mainstem and South Fork dredge sites in 1998, we expanded our sampling to include one dredge site on the North Fork and two additional dredge sites on the South Fork. We also sampled three reference sites unaffected by mining activity on the North and South Forks, including the 1997 North Fork Confluence site. Overall, our goals for 1998 were (1) to determine the potential for recolonization of the previous year's dredge spoils, (2) to expand the spatial scale of our sampling by including sites that were dredged early (June), and late (September) in the season, and in different geomorphic settings (inside and outside of a meander bend), (3) to sample dredged sites in a less-disturbed portion of the basin (North Fork) than our other sites, and (4) to compare impact and recovery potentials of dredge mining between more disturbed (South Fork), and less disturbed (North Fork) streams in the same basin.

The research on recreational dredging was designed to assess the potential impacts on the aquatic macroinvertebrate community in streams from geographically diverse locations and streams known to have annually repeated, relatively, intense mining occur in the same location. Several potential sites were examined but most proved to be unsuitable for study because of the absence of discrete areas of concentrated suction dredging confounded by other disturbances. Resurrection Creek contains a section of stream

designated for recreational mining activity by the State Department of Fish and Game and the U.S. Forest Service and is located on the Kenai Peninsula in Southcentral Alaska. The Chatanika River has no such designation that we know of, however it appears that mining is restricted to a section of river near Milepost 60 on the Steese Highway. The Chatanika River site is known to receive a sizeable amount of suction dredge activity throughout its available mining season.

Methods

Sampling Design - The majority of our work on the Fortymile in 1997 was conducted at a single site, with an 8-inch suction dredge operated by an experienced miner (hereafter, Site 1). Site 1 was located approximately 13 kilometers (8 miles) upstream of the Taylor Highway-Fortymile River Bridge (approximately 141° 30' W, 65° 17' N; Township 7 south, Range 32 east). Sampling was performed at fixed transects above, within, and below the dredge location (Fig. 2). Work at this site occurred from 14 through 17 August 1997, under baseflow conditions. Less intensive sampling also was conducted above and below a larger (10 inch) dredge located on the South Fork Fortymile also by a veteran miner (Site 2a), and near the mouth of the North Fork Fortymile (NF, Site 4). Sampling at Site 2a and in the NF was performed from 17-18 August 1997 and was restricted to recently dredged piles and un-dredged reference areas because the dredge was not active at the time, due to elevated water levels and turbidity following an intense rainstorm over an extensive part of the basin.

During 1998, we returned to both Site 1 and Site 2a to determine the degree to which the areas dredged in 1997 had recovered relative to the reference areas. At Site 1, the previous year's dredge piles were re-sampled using the same design as in 1997. At Site 2a, the area that had been dredged in 1997 was re-sampled and another location, of different mining history and geomorphic setting, was studied for the first time (2b). During 1998, we also sampled a dredge site located on the NF Fortymile (Site 3) to increase the spatial extent of the study and to determine if the NF and SF respond differentially to effects of suction dredging. Also in 1998 the reference site near the mouth of the NF was resampled and a comparable unmined site on the SF just upstream of the confluence was added for better evaluation of potential SF/NF background differences.

The Before-After-Control-Impact (BACI) approach is a powerful and generally accepted sampling design for detecting environmental impacts (e.g., Smith et al. 1993, Stewart-Oaten et al. 1986, Green 1979). For the present study, a BACI design was used for water chemistry and turbidity sampling at Site 1. Water samples were collected prior to and during dredge operation (Before and After) as well as upstream and downstream of the dredge (Control and Impact). Single measurements' were made at each of ten transects. It was not possible to employ a BACI design for periphyton and macroinvertebrate measurements because of the logistic problems associated with using an actual dredge and the limited amount of time available for sampling under baseflow conditions. Instead, samples at Site 1 were collected upstream and downstream of the dredge while the dredge was in operation. Five macroinvertebrate and periphyton samples were collected at each

transect, except the 0 m, 5 m, and 10 m transects. Sampling the 0 m, 5 m, and 10 m transects individually was not practical due to the narrow width of the dredge piles; collection of five samples across their limited width was not possible. Therefore, ten macroinvertebrate and periphyton samples were collected from the 0-10 m area to document conditions immediately below the dredge. At Site 2a, sampling was limited to recent dredge piles located 25, 35, and 70 m below the moored dredge, and a reference transect located 250 m upstream of the dredge. Although the dredge was not in operation during sampling at Site 2a, it had been in operation during the preceding week. Finally, the samples from the reference area at Site 2a were used with similarly collected samples from the mouth of the NF to compare conditions in the two forks of the Fortymile River.

In 1998, five macroinvertebrate and periphyton samples were taken from the reference, mined, 20 m, and 40 m locations at Site 1 to determine the extent of recovery after one year. No mining occurred at Site 1 during the 1998 study period. At Site 2a, samples were taken from the reference, 35 m, and 70 m transects. At Site 2b, slightly downstream of Site 2a, samples were taken from three locations that had been dredged along the inside of a meander bend. Ten samples were taken from an "Upper" location that had been dredged in late September 1997. Five samples were taken from two dredged areas slightly downstream of the upper location that had been dredged within the preceding week. We sampled a single dredge site on the NF that had been dredged with a 10 inch dredge within the previous 10 days of our sampling. Samples were taken at locations that had been dredged, no attempt was made to document the downstream extent of mining disturbance at this site because of inconsistent (patchy) dredge operations by the Site 3 dredge operators. Ten samples were taken from a location not affected by mining in the NF, as well as from each of three transects within the mined area. In addition to the dredged locations within the Fortymile basin, ten samples were taken from unmined locations in both the SF and NF near their junction with the mainstem (Sites 4 and 6). A second NP location was sampled on request by the US Geological Survey after an upwelling of groundwater containing arsenic and other heavy metals was located on the North Fork and is described in detail below. Ten samples were taken from this location and were compared to samples taken from upstream of the upwelling.

Field and Laboratory Methods - The methods used throughout this study are standard and widely accepted techniques in stream ecology. Published reference sources provide detailed instructions regarding these methods (Hauer and Lamberti 1996, APHA 1995, Cuffney et al. 1993, Porter et al. 1993, Platts et al. 1983). These references often provide multiple methods for sampling a given variable. We selected the techniques that were most applicable to our work on the Fortymile; specific details and modifications used on the Fortymile are described below.

Turbidity, the inverse of water clarity, and specific conductance, a measure of the amount of total dissolved mineral salts in the water, were measured on location with portable meters (Hach model 2100P and Orion model 135, respectively) immediately after collection of the water samples. The meters were calibrated on a regular basis, as indicated in the manufacturer's instructions. Water samples for alkalinity and hardness were stored in insulated containers after collection to minimize chemical and biological

activity in the water. For analysis, the samples were sent to the Stream Ecology Center, Idaho State University. The alkalinity and hardness of each sample was determined in the laboratory using standard titration methods (APHA 1995).

Samples for total filterable solids were filtered on location within 3 hours of collection. The filters containing the samples were stored in insulated containers to minimize bacterial degradation of filtered organics. Upon completion of the field sampling, the samples were sent for analysis to the Stream Ecology Center, Idaho State University. These samples were analyzed by determining the amount of mass lost on combustion at 550°C for 3 hours. The amount of mass lost on combustion is equivalent to the organic mass of the sample and is referred to as ash-free dry mass (AFDM). Standard procedures were used to determine the AFDM of the samples (APHA 1995). Total settleable solids were measured on-site immediately after sample collector using Imhoff cones; settleable solids were measured only while the dredge was in operation.

Water samples from the Fortymile River were collected for determination of heavy metal concentrations using the "clean hands/dirty hands" procedure as prescribed by the US Environmental Protection Agency. All materials (sample containers, filters, coolers, etc.) and protocols used in the collection of heavy metal samples were provided by US EPA. Samples were sent for analysis to the US EPA laboratory in Manchester, WA. In 1998, macroinvertebrates were collected to examine the potential of these organisms to concentrate heavy metals within their tissues. Macroinvertebrates were collected from four locations: Alder Creek, Polly Creek, and two locations on the NP Fortymile. Alder and Polly creeks are tributaries to the mainstem of the Fortymile; Alder served as the reference site and Polly as a site that has been mined historically and currently experiences some mining activity. On the NF Fortymile, the USGS has identified an area of upwelling groundwater that potentially is a source for dissolved heavy metals in that river. One of the NF Fortymile sites from which macroinvertebrates were collected was located above this possible heavy metal source, the other downstream of it. After collection, the invertebrates were immediately frozen and kept frozen until analysis. Analysis of the metal concentrations within the invertebrate tissues was conducted by James Crock at the USGS, Mineral Resources Program, Denver. To obtain a sufficient mass of tissue for analysis, all individuals from a site were combined; thus the results are based on a single measurement per site. The invertebrates were dried, pulverized, and weighed. The material was then transferred to a Teflon™ vessel and digested in 10 mL of concentrated nitric acid. One mL of the solution was diluted to 10 mL and analyzed using the USGS standard ICP-MS method. Mercury was determined using a cold vapor-atomic fluorescence spectrometry on a separate 1 mL aliquot diluted to 10 mL in sodium dichromate/nitric acid (James Crock, personal communication).

Description of streambed morphology was accomplished by developing cross-sectional profiles (see Platts et al. 1983) of the river at the transects described above (Fig. 2). Distance out from a fixed location on the bank was measured along a (Kevlar) cable stretched taut across the river. At numerous points across the width of the river, the distance from the cable to the water surface and the total water depth were measured.

All macroinvertebrate sampling was done with a Portable Invertebrate Box (PIB) sampler that was modified for use in water deeper than the height of the sampler. The PIB sampler encompassed 0.093 m2 of streambed (the sampler was approximately 30 cm on a side). The sampler was placed into position on the streambed and held in place by one operator while the second operator disturbed the substrata enclosed by the sampler to dislodge the organisms. A removable 250p.m mesh net was attached to the downstream end of the sampler to collect the dislodged organisms. Although designed to be used in deep water, the current velocity of the Fortymile precluded use of the sampler at most deep-water locations, particularly those in the center of the river. At some deep-water locations, SCUBA techniques were used to collect the samples; SCUBA was required for collection of approximately 5% of the samples collected within the sediment plume. In general, all macroinvertebrate samples were collected from near-shore habitats, approximately 2-30 meters from the bank. This is the same distance from the bank in which the dredge was operating.

Following collection, each sample was placed into a labeled plastic bag (Whirl-pak brand) to which approximately 10-15 ml of concentrated formalin was added to preserve the organisms. In the laboratory, the contents of each macroinvertebrate sample were spread-out in a white sorting tray and all organisms removed. The sorting was accomplished with the aid of a dissecting microscope of 10X magnification. The organisms were then identified to the lowest feasible taxonomic level, usually genus, using published taxonomic references, primarily Merritt and Cummins (1996), Wiggins (1996), and Stewart and Stark (1993). A reference collection was established and voucher specimens are located in the Stream Ecology Center, Pocatello at Idaho State University.

Periphyton samples were collected from individual rocks located just upstream of each macroinvertebrate sample. Processing was done immediately after collection of the rock and followed the procedures of Robinson and Minshall (1986). Briefly, the process involved removing all material within an enclosed area (3.14 cm2) from the rock surface. The removed material was then suctioned onto a pre-fired, glass microfiber filter (Whatman GF/F). Filters were frozen with liquid nitrogen in a modified dewar flask (Taylor-Wharton model 3DS) and sent to the Stream Ecology Center, Idaho State University for processing. Periphyton samples were extracted with reagent grade methanol (Holm-Hansen and Riemann 1978) and the 1997 chlorophyll-a content was determined with a spectrophotometer (Gilford Instruments model 2600). The 1998 chlorophyll-a samples were analyzed using a fluorometer in order to detect very low concentrations. Following centrifugation, approximately 3 ml of the sample was removed and used in the chlorophyll-a determination, the remaining material was used for measuring the AFDM of the sample as described above under total filterable solids.

Results

Water Chemistry and Clarity

At Site 1, dredge operation had no discernable effect on alkalinity, hardness, or specific conductance in the Fortymile (Fig. 3). Alkalinity ranged from <20 to >50 mg CaCO3/L,

regardless of whether or not the dredge was operating. Hardness ranged from approximately 80 to 115 mg CaCO3/L. Both alkalinity and hardness displayed a large amount of variability in the immediate vicinity of the dredge whether or not the dredge was operating. Values of alkalinity and hardness measured at 320 m below the dredge were similar during operation of the dredge to values measured when the dredge was not in use (Fig. 3). Specific conductance showed only slight spatial and temporal variation during our sampling. Values ranged from 131 to 135 µS/cm, with a small decrease immediately downstream of the dredge, when in operation (Fig. 3). Turbidity and total filterable solids (TFS) both displayed an increase below the dredge (Fig. 4). During operation of the dredge, turbidity increased from values around 1 NTU upstream of the dredge to values of approximately 25 NTU immediately downstream of the dredge. The elevated turbidity declined rapidly downstream and by 160 m (525 ft) turbidity had returned to values measured upstream of the dredge. No such increase in turbidity was recorded when the dredge was not in operation. TFS showed a pattern similar to that of turbidity, increasing from 3 mg AFDM/L upstream of the dredge to 46 mg AFDM/L immediately downstream of the dredge (Fig. 4). As with turbidity, TFS did not display an increase downstream of the dredge when the dredge was not operating. Regardless of whether or not the dredge was operating, a longitudinal increase in TFS was measured from 80 m to 320 m downstream of the dredge. At 160 m downstream of the dredge, values of TFS were 28 and 23 mg AFDM/L during operation and non-operation, respectively. Total settleable solids showed a pattern very similar to that observed for TFS (Fig. 5).

During operation of the dredge, specific conductance and turbidity were measured across the width of the Fortymile at 0, 5, 10, 20, and 320 m downstream of the dredge to identify the proportion of the river width affected by the dredge plume. Specific conductance was unaffected by the dredge plume which was located along the right bank, but did decrease near the left bank (Fig. 6). This decrease was most likely due to groundwater and/or a small tributary that joined the Fortymile on the left bank just upstream of the study area.

Unlike specific conductance, cross-sectional measurements of turbidity from within the dredge plume showed a large increase, relative to areas outside the plume (Fig. 7). However, at 320 m downstream of the dredge, cross-sectional variation in turbidity was quite low, ranging from 1.2 to 2.5 NTU. During this sampling, the dredge was operating in close proximity to the right bank. Under these conditions, the plume tended to remain near the right bank and did not extend to the center of the river. In terms of turbidity, approximately 7% of the river width was affected by the dredge plume for a distance of less than 320 m.

Heavy Metals

For the unfiltered samples, two metals, copper and zinc, showed distinct increases downstream of the dredge (Fig. 8). Total copper increased approximately 5-fold and zinc approximately 9-fold at the transect immediately downstream of the dredge, relative to the concentrations measured upstream of the dredge. For both metals, the concentrations declined to near upstream values by 80 m downstream of the dredge. The pattern

observed for total copper and zinc concentration is similar to that for turbidity and TFS (see Fig. 4), suggesting that the metals were in particulate form, or associated with other sediment particles. The results of sampling for dissolved heavy metals area are shown in Table 1. Zinc, arsenic, and copper displayed an average value downstream of the dredge that was greater than the average value measured upstream of the dredge (note that samples sizes are low, particularly upstream of the dredge). Copper displayed the greatest change, increasing by approximately 3-fold downstream of the dredge. Dissolved lead concentrations did not appear to be affected by operation of the dredge. Values of dissolved mercury actually were greater upstream of the dredge, suggesting that any effect of the dredge was likely within the range of natural variation. (The operator reported observing deposits of liquid mercury within the sediments he was working.) For both dissolved and total concentrations, budgetary limitations precluded multiple sampling across either space or time, thus the results of heavy metal sampling are only indicative of likely conditions.

Due to the low densities of macroinvertebrates in the dredge plume (and in the Fortymile in general) and the short exposure times, no macroinvertebrates were collected for heavy metal tissue analysis downstream of the suction dredge. However, results from the 1998 analysis of macroinvertebrate tissues suggest that these organisms are capable of concentrating heavy metals at least under conditions of chronic exposure. Although the data are preliminary in nature, several metals showed substantially greater concentration in the invertebrates from Polly Creek (mined) than from Alder Creek (reference), including mercury, zinc, molybdenum, and arsenic (Table 2). Other metals, such as copper and nickel, did not exhibit substantial differences between the two sites. The upwelling area identified by the USGS as a potential source of metals in the NF Fortymile did not appear to be influencing metal concentrations in macroinvertebrates. For the metals listed above, nickel was the only metal that showed a substantial increase (Table 2).

Channel Morphology

Site 1- Cross-sectional profiles were mapped to quantify the extent of the dredge piles relative to the width of the river. At Site 1 only the pile created most recently, 0 m downstream of the dredge, was visible with our profile mapping (Fig. 9). At the transects 5 and 20 m downstream of the dredge the piles were visually obvious due to the light color of the excavated material compared to undisturbed riverbed. However, the piles did not appear as distinct "mounds" in the measurements made at these transects. One year after active dredging occurred, the distinct mounds seen in Figure 8 at the 0 m transect were no longer apparent. There was no discernable dredge pile at the 5 and 20 m areas. Figure 9 is based on detailed mapping along the right bank of the river and is drawn to scale to represent the conditions within the streambed relative to the depth of the river in that area. There is a large width:depth ratio for Site 1 as indicated by Figure 10. Discernable dredging activity can be seen within the first 5 m from the right bank. The area that this particular dredge operation affected was about 6% the width of the river.

Site 2a- In August 1997 partial cross-sectional profiles were measured every 5 meters, beginning slightly downstream of dredging activity and continuing for 110 meters, to map a series of dredge piles along the right bank of the South Fork of the Fortymile (Appendix A). In July 1998 three transects were re-measured to map the change in location of the dredge piles (Fig. 1). The dredge pile at 30 m shows a shift towards the center of the stream, though the overall size remained essentially the same after one year. A profile of the 40 m transect produced similar results. Remaining partial cross-sectional profiles are presented in Appendix A.

Site 2b- In July 1998 a second site on the South Fork was included in our sampling to determine if there are spatial differences in dredging effects on biota. Cross sectional profiles were measured. Full cross-sectional profiles were completed for the "upper" pile in 1998 which had been dredged in September of 1997 (Fig. 12) and partial cross-sections were measured for the upper, middle, and lower locations (Figs. 13 and 14). Easily discernable dredge piles were observed and measured between 0, 5, and 10 m below a reference transect at the upper location for Site 2b. Partial cross-sectional profiles also were measured to determine the longitudinal extent of the upper dredge pile (Fig 13). According to our measurements, the upper dredge pile tapered off at about 35 m. Profiles for the middle and lower dredge areas show another dredge pile beginning between 80 and l00 m. The lower dredge pile begins at about 130 m and continues slightly past 140 m (Fig 14). The middle and lower dredge areas were mined about 7 days prior to our sampling at Site 2b.

Site 3- Cross-sectional profiles also were measured at Site 3 in the North Fork. Entire width profiles were measured every 20 m along this reach (Fig. 15) and partial profiles were measured at various distances between each full profile (Fig. 16). Dredging was active at the 0 m and 10 m locations and between the 40 and 60 m locations. There is a large width:depth ratio for Site 3. Figure 13 shows the size of the dredge piles relative to the entire width of the river for Site 3. The full width profile measured for Site 3 shows distinguishable channel forms where mining activity had occurred within 10 days of our sampling at 20 m, 60 m, and 80 m though the 80 m location may simply be due to natural bed forms. The lack of obvious dredge piles at the 0 m and 40 m locations are most likely because the dredge pile began slightly upstream of these locations. Dredge piles accounted for approximately 15% of the total channel width at Site 3.

The partial profiles show very distinct dredge piles 5 m downstream of mining activity which can be seen nearly 4 m from the right bank. 10 m downstream another relatively distinguishable streambed "rise" is discernable between 4 and 6 m from the right bank. There is no discernable effect on the streambed 15 m downstream of mining activity according to these profiles.

Periphyton Standing Crop

At Site 1, 1997 periphyton AFDM was greatest at the transect upstream of the suction dredge, with a mean value of 1.8 mg AFDM / cm2 (Fig. 17). Periphyton standing crop was reduced by approximately 2-4 fold at the transects downstream of the dredge. The

lowest value, >0.5 mg AFDM / cm2, occurred in the first 10 m immediately below the dredge. Unlike other variables, periphyton standing crop did not appear to recover at subsequent transects downstream of the dredge. At the 320 m transect, for example, AFDM was only 50% of the value measured upstream of the dredge. Chlorophyll-a concentrations are reduced to unmeasurable values within the areas dredged and 20 m below the operating dredge. Measured chlorophyll-a concentrations follow the results of periphyton standing crop biomass downstream of the operating dredge. After one year, chlorophyll-a concentrations and periphyton standing crop biomass in the mined area had returned to values near those from the unmined reference location, indicating that periphyton is unaffected by dredging the previous year at this location (Fig 18).

Both periphyton standing crop and chlorophyll-a at Site 2a showed little response to dredging in comparison to the upstream reference location in 1997. In 1998, mean chlorophyll-a concentrations were nearly identical at the reference location to those values in 1997; however, mean chlorophyll-a concentrations were greater at each of the dredged locations in 1998 than in 1997 (Fig 19). Periphyton standing crop in 1998 also increased 2-4 fold in the reference and 25 m locations and increased slightly less in the 70 m and 100 m locations after one year (Fig 19).

At Site 2b, periphyton standing crop biomass averaged between 3 and 4 mg/cm2 for all locations regardless of the year in which they were dredged. However, mean chlorophyll-a was 2.5 times greater in the "Upper" location, which had been dredged late in the previous year, than either of the other two nearby locations that had been dredged in 1998. The Upper location was dredged late in the 1997 mining season but sampled only during 1998. The greater amount of chlorophyll-a in the upper location, compared to the other two (1998) dredge piles is most likely due to the additional time of recovery (Fig. 20).

Comparisons between the NF and SF Fortymile were conducted to document differences in background conditions and the potential for recovery of mined areas in two tributaries with different mining pressures within the same basin. Mean periphyton biomass was three times greater in the NF site (Site 4) than in the SF site (Site 6) in 1997. Mean chlorophyll-a concentrations were 4 times greater in the NF than, in the SF for the same year (Fig 21).

Aquatic Macroinvertebrates

Site 1- The short-term influence of the suction dredge on macroinvertebrates appeared to be limited to the first 20-40 m downstream of the dredge. Two locations were examined upstream of the dredge at Site 1, the first was approximately 80 m upstream and the second approximately 200 m upstream. In terms of water velocity and substrate characteristics, the -200 m site was considerably more similar to the habitat downstream of the dredge than was the -80 m site. For this reason, only the -200 m transect was used as the reference for Site 1.

The abundance of macroinvertebrates at Site 1 was low, relative to large rivers in other parts of North America (e.g., Royer and Minshall 1996). A mean of 270 individuals per m2 was collected at the reference site; approximately 370 individuals per m2 were found at the site 160 m downstream of the dredge (Fig. 22). Diversity averaged 6-7 taxa per sample at the reference site and ranged from 1 to 7 taxa per sample at the sites downstream of the dredge. Taxa within the orders of Ephemeroptera (mayfly), Plecoptera (stonefly), and Trichoptera (caddisfly) are considered sensitive to habitat degradation and are used commonly in aquatic bioassessment. The mean number of EPT taxa was 5 per sample at the reference site and ranged from <1 to 5 per sample at the sites downstream of the dredge.

The abundance and diversity of macroinvertebrates at Site 1 was greatly reduced in the first 10 m below the dredge, relative to the reference site. Immediately below the dredge (0-10 m) macroinvertebrate abundance was reduced by 97%, number of taxa by 88%, and number of EPT taxa by 92%, relative to the site 200 m upstream of the dredge. The abundance and diversity of macroinvertebrates returned to values seen at the reference site by 80 to 160 m downstream of the dredge.

The relative abundance of all taxa collected from the Site 1 in 1997 are presented by transect in Table 3. The order Trichoptera was the most abundant, in terms of richness, with seven genera represented. Five genera of Ephemeroptera and two genera of Plecoptera were collected. Two families of Diptera were found, Simuliidae (blackflies) and Chironomidae (midges). Other groups included: one genus of Coleoptera (beetles), Acarina (water mites), Collembolla (springtails), Oligochatea (aquatic earthworms), and Ostracoda. For all transects, 50% or greater of all taxa were members of the Chironomidae and the Ephemeroptera.

The sampling conducted in 1998 indicated substantial recovery at Site 1 from the dredging that occurred in 1997, in terms of macroinvertebrate diversity. Diversity was notably reduced downstream of the dredge in 1997 (see above) but in 1998 the difference in diversity among the four transects was minimal (Fig. 23). For example, at the location 20 m downstream of the dredge macroinvertebrate diversity was approximately 6 taxa in 1997 but 17 taxa in 1998. A similar increase in the number of taxa was observed at all Site 1 transects that were sampled in both 1997 and 1998. Macroinvertebrate density and the number of EPT taxa also increased after one year (Fig. 24).

Site 2a- Sampling in 1997 revealed patterns at Site 2a similar to those observed at Site 1. Macroinvertebrate density at the reference transect was approximately 200 individuals per m2 (Fig. 25). At the transect 25 m downstream of the dredge, density decreased to approximately 20 individuals per m2 and then increased to about 100 individuals per m2 at the transect 70 m downstream of the dredge. The number of taxa at the reference transects was equal for Site 1 and Site 2a and showed a similar downstream pattern at both sites. The number of EPT taxa, however, was considerably less at Site 2a in 1997, although the downstream pattern was the same as that for Site 1. Recovery of macroinvertebrate diversity at Site 2a was nearly complete one year after dredging with approximately 20 taxa at each of the transects (Fig. 26). One year after dredging with a

10 inch dredge at Site 2a, macroinvertebrate density, richness, and number of EPT taxa also had recovered to pre-mining conditions (Fig. 27).

Site 2b- A second site was established on the South Fork of the Fortymile River in 1998 to evaluate the effects of dredging on a nearby site with different water flow and possibly substrate composition. This site was on the inside bank of a meander bend, about 800 m downstream of Site 2a. Site 2b was also used to evaluate the effects of dredging late in the fall on macroinvertebrate composition. In Figures 28 and 29, locations labeled "Upper" represent an area dredged with a 10-inch dredge in late September 1997. Locations labeled "Middle" and "Lower" represent adjacent areas mined within a week of our sampling in July 1998. Comparing Site 2a results with the Upper location of Site 2b revealed that there were in fact differences in macroinvertebrate density between the Upper site of Site 2b and the reference area of Site 2a. Mean macroinvertebrate density at the reference location of Site 2a was 26% of the "Upper" location of Site 2b, 40% of the "Middle" and nearly 30% of the "Lower" locations (Fig 28A). The number of EPT taxa per sample present in the Site 2a reference location were 74% that of the "Upper" location of Site 2b (Fig 29A). Likewise, the number of Diptera present in each sample from Site 2a were 72% those present at Site 2b (Fig. 29B) Diptera comprised between 40 and 80% of the macroinvertebrates per sample at all of our SF sites.

Site 3- We sampled a single dredge site on the North Fork in which a 10-inch dredge was operated by an experienced miner and was actively dredged within 10 days prior to our sampling. This site consisted of three dredged areas, one beginning at the head of our study reach (T0), the second stretching the length between 10 and 20 m from the T0 location (T10), and the third encompassing the distance between 40 and 60 m (T40) from the T0 location. The mined areas at 0 m, 10 m, and 40 m were compared to a reference location in an unmined area of similar substrate type and water velocity. We were not able to determine the distance downstream affected by dredging because of inconsistent dredge operations by the North Fork miners which were caused by relatively high flows over the duration of our sampling. The study reach chosen here allowed us to determine the short term recovery (>10 days) of these dredged areas in the North Fork. Our results suggest that all measures except macroinvertebrate density appeared to fully recover within 10 days since dredging. Macroinvertebrate density at the reference location averaged about 1600 organisms per m2 while densities within the mined areas averaged between 1200 and 1400 organisms/m2 (Fig. 30A). Macroinvertebrate taxa ranged from 10 to 12 per sample for all locations (Fig. 30B). Mean numbers of EPT taxa ranged from 5 to 6 per sample (Fig. 30C). Diptera, which comprised the majority of the macroinvertebrate community at all of the sites sampled, ranged from 60 to 80% in the NF sites (Fig. 30D).

North Fork/South Fork Comparison - Comparisons between the North Fork and South Fork were made to determine if the South Fork macroinvertebrate populations were depauperate due to degraded water quality from increased mining activity on the South Fork itself and some of its major tributaries. In 1998 we sampled a different reference location on the South Fork (Site 6, see Fig. 1) that was nearly 500 m upstream of its confluence with the North Fork and compared this data with those from an unimpacted

reference site several kilometers upstream on the North Fork (Site 5). We also compared this North Fork reference site to a location downstream of an upwelling of heavy metals noted by the USGS near the confluence of the North and South Forks (Site 4).

The upwelling of heavy metals between Sites 4 and 5 appears to have little effect on macroinvertebrate populations in the North Fork. The number of taxa, number of EPT taxa, and overall relative abundance of Diptera are nearly identical for both Sites 4 and 5. Macroinvertebrate density was nearly 2500/m2 downstream of the upwelling and nearly 1500/m2 upstream (Fig 31A). The number of taxa per sample at all locations ranged from 11 to 12 (Fig 31B). The number of EPT taxa ranged from 5 at the NF and SF reference areas, to 6 at the NF confluence area (Fig 31C). Diptera comprised 60 to 80 % of the macroinvertebrates at all locations (Fig 31D).

Although we did not sample the South Fork confluence site in 1997, there may be some degree of yearly variation in macroinvertebrate populations in the South Fork as seen from comparison of reference conditions from Site 2a (see Fig. 26). In the North Fork however, there appears to be less yearly variation in macroinvertebrate populations in the years that we sampled. Even though taxa richness was similar at the NF and 2a sites in both years, the relative dominance of taxa differed among the sites (Fig. 32). There was a greater difference in the taxa abundance of some taxa between years at the SF reference location whereas there is almost no change in the relative dominance of taxa in the NF site. The difference is seen in the shape of the curves. Table 4 shows that the Chironomidae (order Diptera) comprised over 75% of all the macroinvertebrates present in our samples at Site 4 in 1997 and 82% in 1998. Baetis comprised 0.5% in 1998, and 5.5% in 1997. In the SF Diptera comprised about 34% of the macroinvertebrates in 1997 and about 35% in 1998. However, Oligochaeta (Annelida) comprised 32% of the macroinvertebrates in 1998 and only 8% in a 1997. Baetis, a mayfly, comprised 1.3% of the macroinvertebrates in 1998 and 5% in 1997.

Benthic Organic Matter

Benthic organic matter (BOM) is a primary source of carbon and energy for organisms that live on and within the substrate of the river. In general, the amount of BOM found in the Fortymile was lower than values from many streams in the contiguous United States (see Minshall et al 1982), but are similar to other studies from the interior arctic and subarctic Alaska region (for example, see Miller and Stout 1989).

Site 1- In 1998, mean amounts of BOM within the mined area were slightly lower than those found at the reference and downstream (20, 40 m) areas. BOM at the 20 m location is also much more spatially variable than at the other locations (Fig. 33). This increased patchiness may be a result of the downstream redistribution of BOM from upstream dredged areas.

BOM concentrations at Site 2a in 1997 were similar between reference and mined locations, averaging 5 g per m2 at the reference location and 9 and 11 g per m2 at the 35 m and 70 m locations, respectively (Fig. 34). Mean amounts of BOM in 1997 at the

reference area was 15% that of 1998. In 1998, mean BOM at Site 2a ranged from an average of 33 g per m2 at the reference area to 25 and 37 g per m2 at the 35 m and 70 m areas, respectively. BOM at Site 2b ranged from 23 g per m2 at the locations mined in 1998 (Middle and Lower areas) and averaged 53 g per m2 at the location mined in the late fall of 1997 (Upper area). These values were similar to those from 1997 for Site 2a, indicating a yearly variation in BOM of between 15 and 30%. BOM from Site 3 averaged between 6 and 7 g per m2, and showed little difference in average amounts between locations (Fig. 35). However, the coefficients of variation in the mined locations showed considerable variability, particularly at the 35 m location.

Mean amounts of BOM in both the NF and the SF confluence locations show considerable differences. At the SF confluence site (Site 6), BOM was more spatially variable and averaged more than twice the amount found at the NF confluence site (Site 4, Fig. 36).

Discussion

The primary effect of suction dredging on water chemistry of the Fortymile River, as detected at Site 1, was increased turbidity, total filterable solids (TFS), and copper and zinc concentrations downstream of the dredge. Turbidity and TFS were substantially elevated downstream of the dredge and the plume of sediment-laden water created by the dredge was visually obvious. But, although the plume was visually dramatic it was spatially confined to within 160 m (= 525 ft.) of the dredge and was restricted to the portion of those days that the dredge was operating. Furthermore, the effect of the plume was limited to approximately 7% of the width of the river. The results from this sampling revealed a relatively intense, but very localized, decline in water clarity during the time the dredge was operating. Wanty et al. (1997) reported turbidity values of 19 NTU 30.5 m (100 ft) downstream of a 10 inch dredge located below Wilson Creek on the North Fork Fortymile River. Values returned to near background levels (3.7 NTU) within the next 30.5 m but remained slightly above background levels (2.2 - 2.3 NTU) as far as 150 m downstream (furthest sampling transect). Turbidity values downstream of an 8-inch dredge operating in the same vicinity were lower because less sediment was being disturbed and the sediments were coarser and hence settled more rapidly. The 19 NTU at 30.5 m is comparable to the value we found at 20 m at Site 1.

Wanty et al. (1997) examined dissolved metal concentrations 60.8 m (200 ft) downstream of a 10-inch and an 8-inch dredge and found no difference between the sides and center of the dredge plume. In our study, dissolved metals displayed no clear pattern in relation to the dredge suggesting the increased concentrations of total copper and total zinc at Site 1 were likely a result of metals associated with the sediments excavated by the dredge. As the metal-laden sediments were transported downstream and deposited on the riverbed, total copper and zinc concentrations declined. By 80 m downstream of the dredge, copper and zinc concentrations were similar to those measured upstream of the dredge (see Fig. 8). These results suggest the need for examining heavy metal accumulation on the riverbed, rather than instantaneous measures of heavy metal concentrations in the water column. The examination of heavy metal concentrations in aquatic macroinvertebrates

indicated that at some locations, such as Polly Creek, the chronic effects of mining may be reflected in the physiological condition of the biota. However, the degree to which metals within the tissues of the macroinvertebrates may influence life-history or other biological traits is unknown.

Discussions with local miners indicated that the amount of material in the plume is, in part, a function of the type of sediment that is being excavated from the riverbed. Thus, the impact of suction dredging on water clarity and heavy metal concentrations may be greater or lesser than that reported here, depending on the type of material being excavated. In general, the observed decrease in water clarity was unlikely to have altered ecosystem function in that area of the Fortymile. However, the increased sediment load and rapid reduction in light could cause aquatic organisms to drift (Allan 1995:221-237, Wiley and Kohler 1984), resulting in reduced macroinvertebrate abundance and/or delayed re-colonization of dredge piles. The effect of suction dredging on the abundance of drifting macroinvertebrates was not addressed in the present study, but drifting is likely an important mechanism in the interaction between macroinvertebrate abundance and suction dredging. In particular, organisms capable of drifting may be displaced, but not killed, by the dredging activities. Those organisms that are entrained by the dredge will not necessarily be killed. For example, Griffith and Andrews (1981) examined >3,600 organisms and reported less than 1% mortality for macroinvertebrates entrained through a 3-inch suction dredge.

The cross-sectional profiles indicate the impact of the dredge piles relative to the width of the river was small (see Fig. 10). Assuming widths of 2 m for the dredge pile and 80 m for the river, the dredge pile would represent 2.5% of the river width. Our results show that in all four of the dredge sites studied, there were substantial changes to the bed morphology where dredging had occurred, but there was no discernable change toward the center of the river. There also did not appear to be any downstream influence on bed morphology by dredged sediments, indicating that dredging strongly influenced immediately adjacent substrates but had little effect beyond, either laterally or downstream of the dredged area. Though no measurements of substrate composition were made directly in the Fortymile, it seems likely that suction dredging has little effect on the size and distribution of bed sediments. Local miners claim that much of the Fortymile River system has been mined in recent history and though this is an unsubstantiated claim, it appears reasonable as we observed no striking differences between sediment compositions within mined areas and those in reference areas particularly in the amount of deposited fines. We did observe that at Site 1, downstream gravels were covered with a fine sediment within the plume caused by the dredge. Given the shallow depth of bedrock and the intense scouring action by ice-flows and spring runoff, it is likely that sediments of all sizes may be well mixed and that fine sediments do not accumulate at the bed surface.

After one year discernable dredge piles remained at one of the two sites studied in both years, though reduced in size and in the South Fork site, shifting toward the stream's center. Thomas (1985) studied suction dredging in a stream in Montana and reported that spring flows eliminated dredge piles created along the stream margin. Likewise, Somer

and Hassler (1992) examined the effect of suction dredging in two northern California streams and observed that dredge piles existed only seasonally and did not persist beyond springtime high-flows. Based on our observations and results, it appears likely that the dredge piles at the locations we examined will remain in place no longer than 1 to 3 years. In many cases the stream channel will return to its pre-dredge condition in a year as a result of river freezing and the succeeding ice-action and springtime flows that accompany snow-melt in the Fortymile drainage.

The abundance and diversity of aquatic macroinvertebrates at a given site are closely related to the size, stability, and surface complexity of the substrata at that site (e.g., Minshall 1984, Hart 1978). In addition, the magnitude of impact a particular disturbance has on a macroinvertebrate community may be mediated by substrate size; small rocks are more easily tumbled (i.e., disturbed) than are larger rocks (Gurtz and Wallace 1984). Thus, the effect that suction dredging has on the macroinvertebrate community of the Fortymile depends on the characteristics of the substrata being disturbed. The rate at which dredge piles are re-colonized also will depend on stability of the individual substratum. A detailed study requiring a longer period of time than was available would be required to accurately determine the rate at which macroinvertebrates re-colonized dredged areas. Studies of smaller scale dredging impacts have shown complete recolonization within 30 days of the cessation of mining activity. Given the northern extent of the Fortymile region, the harsh climate and short time available for production and recolonization, the depauperate macroinvertebrate structure, and the likely low quality and quantity of available food resources typical of sub-arctic rivers, recolonization would likely be extended beyond 30 days. It also is possible that the initially low abundance and diversity of macroinvertebrate taxa in the Fortymile would cause rapid recolonization due to the low numbers of organisms required to call an area "substantially recovered". Without detailed recolonization studies for longer periods of time, it is difficult to "guess" at potential times of recovery.

As with water clarity, the effect of suction dredging on macroinvertebrate abundance and diversity at the locations we examined was confined spatially to a relatively small area downstream of the dredge. Other researchers also have documented the localized nature of suction-dredge effects (Somer and Hassler 1992, Harvey 1986, Thomas 1985), although each of these studies was conducted using smaller, recreational dredges. In the present study, both abundance and diversity were notably reduced for 10 m downstream of the dredge at Site 1. By 80 m below the dredge, however, abundance and diversity appeared unaffected by the dredge plume. Site 2a displayed a similar pattern, although the sampling was more spatially limited. The short-term, downstream impact of suction dredging on macroinvertebrates probably was limited to the same area in which the dredge plume was visible. Therefore, the percent of the riverbed being affected by the dredge was small: approximately 7% of the width for <80 m downstream. The cumulative effect of suction dredging on the biota of the Fortymile cannot yet be assessed fully, but likely will depend on the number of dredges operating concurrently and the distance between them, the size of the dredges, the strategy of the dredge operators, and the extent of re-colonization that occurs on the excavated dredge piles. Clearly, the effect

of suction dredging will not be the same for all locations in the Fortymile and/or sizes of dredge.

The results from 1998 indicate that substantial recovery of the macroinvertebrate community occurs within one year after suction dredging. At both Site 1 and Site 2a, the transects dredged in 1997 showed, in 1998, taxa abundance curves very similar to the reference transects (see Figures 23 and 26). Although suction dredging is a very intense, local disturbance to benthic organisms. the biological and chemical effects of suction dredging do not appear to extend for more than a year. However, conditions at these two sites after two years and at sites 2b and 3 after one year could not be determined prior to the termination of the project.

The comparison of conditions in the North Fork versus the South Fork suggests that macroinvertebrate density in this river system may be a function of annual variation in food resources and physical conditions, especially flow and suspended sediment (likely caused by additional mining activity in the SF tributaries). Results from 1997 suggested that greater food abundance (e.g., periphyton and BOM) in the NF corresponded to an approximately 5-fold greater density of macroinvertebrates. These comparisons were made under the assumption that the reference location at Site 2a was representative of the South Fork conditions. However, our 1998 comparison of the North and South Forks, using an undredged site in the SF nearest to the confluence of the two streams (Site 6) and that we believe is more representative of conditions in the tributary, showed no clear difference in biotic conditions between the two sites. The results suggest that conditions may vary markedly among locations and years and suggest that in addition to differences in food resources differences in physical conditions may be important. We suggest that other mining activities within the basin, primarily those in the South Fork tributaries may be important causes of decreased biotic integrity in some years and locations. However, suction dredge mining clearly reduces macroinvertebrate densities, diversity, BOM, and periphyton immediately below dredge activity regardless of the background conditions, though these effects are local and short lived.

Part II - Recreational Dredging in Resurrection Creek and the Chatanika River

Introduction

Recreational gold mining is a popular activity throughout much of Alaska and suction dredging is a common method used in recreational mining. Recreational dredges are smaller than those examined on the Fortymile and typically have intake lines of 2-6 inches in diameter. Despite the relatively small size of the dredges, streams that are popular with hobbyists may experience a more intensive mining disturbance than do larger rivers such as the Fortymile because of the concentrated and repetitive nature of the mining in these areas. Part II of this report describes the results of our research into the effects of recreational suction dredging in several Alaskan streams.

Methods

This research was conducted on Resurrection Creek located on the Kenai Peninsula in 1997 and on the Chatanika River, located along the Steese Highway north of Fairbanks, in 1998. Resurrection Creek is designated as a recreational mining site by the State of Alaska and the U.S. Forest Service and is open to recreational dredging from about May 15 through July 15 of each year. The Chatanika River is not officially designated for mining, but is a popular recreational site with few accessible areas that are open to mining during approximately the same time period.

Our sampling on Resurrection was conducted on 22 August 1997; approximately 5 weeks after recreational dredging in the Resurrection Creek had ended for the year. The general design was similar to that described above for sampling on the Fortymile. Four locations were sampled: (1) within the reach of stream that suction dredging is permitted, (2) approximately 500 m upstream of the dredged area, (3) approximately 35 m downstream of the dredged area, and (4) an area >500 m downstream of the dredged area. In each of these locations, five macroinvertebrate samples and three periphyton samples were collected. Water samples were collected at the location within the dredged area, but as active dredging was not occurring, these samples are indicative of conditions in the stream as a whole. All samples were collected, preserved, and processed as described above for samples from the Fortymile River.

Sampling on the Chatanika River occurred during July 1 and 2, 1998 approximately two weeks prior to the end of the mining season for that region. Because there was no designated downstream mining boundary as there had been for Resurrection Creek, a slightly different sampling regime was used. Samples were taken at approximate distances downstream of last distinguishable active mining location within the river. Transects at "Mined", 50, 100, 150, 300 and 500 m were sampled on two different days. However, an intense rain within the Chatanika basin on the second day caused the river to rise and alter conditions from the first day and therefore the samples beyond 100 m were discarded. Samples from the Mined ("0 m" transec location were taken from representative locations within the entire actively mined area. An area upstream of any active mining was used as our reference location. Substrate measurements were also made to document any changes in substrate size or sorting caused by mining. Approximately 25 stones were chosen at random from near the location of each macroinvertebrate sample. Each stone was measured to the nearest cm and embeddedness was determined. Embeddedness is the portion of stone covered by fine sediments and is an indication of the amount of interstitial filling.

One-way ANOVA was used to test for statistically significant differences among the four locations in Resurrection Creek. Prior to analysis, the data were transformed using either natural log (X) or arcsin (square root (X)) as appropriate (Zar 1984). Pairwise comparisons were conducted using the Tukey HSD test.

Results

At the time of sampling, total alkalinity, total hardness, and specific conductance in Resurrection Creek were 29 mg $CaCO_3$/L, 69 mg $CaCO_3$/L, and 110 µS / cm,

respectively. Mean benthic organic matter (BOM) ranged from approximately 15 to 30 g / m2 among the four sampling locations (Fig. 37), but ANOVA indicated no significant differences (p=0.252). Mean chlorophyll-a was greatest in the mining area and the location immediately downstream, but the differences among the means were not significant (p=0.182) (Fig. 37). Periphyton AFDM showed a pattern similar to chlorophyll-a, with the greatest mean values in the mined area, but here too the differences were not significant (p=0.064) (Fig. 37). The reach of Resurrection Creek in which suction dredging occurs is bordered by a campground and numerous foot trails along the stream. The riparian canopy along that section of Resurrection Creek appeared reduced, relative, to areas downstream, by the activities associated with recreational mining (e.g., stream-side camping). The reduced riparian shading (= increased solar radiation) may be responsible for the trend towards greater periphyton AFDM and chlorophyll-a observed in the mined area and the location immediately downstream. Additionally, these results suggest that activities other than the actual dredging, such as long-term camping, firewood collection, trampling of vegetation, etc., also may have an impact on streams open to recreational suction dredging.

The pattern seen with periphyton was not observed for macroinvertebrates in Resurrection Creek. Mean density was 3,700 individuals per m2 in the mined area, and ranged from 4,300 to 4,500 individuals per m2 in the other three locations, although the variability was large and the differences not significant (p=0.581) (Fig. 38). Total taxa richness from about 17 to 19 among the four locations (p=0.811). The number of EPT taxa was not significantly different among the sites (p=0.415), although the mean values increased from 9.5 at the upstream location to 11 taxa at the most downstream location (Fig. 38).

Results from the Chatanika River showed a trend toward decreasing macroinvertebrate density as well as less variable distribution of those macroinvertebrates with distance from active dredging (Fig 39). Average densities decreased from 6000 per m2 at the reference location, to 2000 per m2 150 m downstream of the mined area. The number of taxa per sample was more even among locations, ranging from 10 to 13 taxa per sample. EPT taxa per sample also showed a slight trend toward decreasing numbers downstream of the mined area, ranging from 6 EPT taxa at 150 m, to 8 EPT taxa at the reference area. Mean amounts of BOM were greater within the mined area (10 g/m2) than within the reference area (6 g/m2) or the 50 and 100 m areas (7 g/m2 each) (Fig. 40). Substrate measurements showed little change among locations, ranging from 11 to 15 cm. Substrate embeddedness also averaged 15 to 24 percent (Table 5). The mined areas showed no discernable trends toward any significant change from the reference area.

Based on density, taxa richness, and EPT richness, there was no difference in the macroinvertebrate community between the mined area and the locations downstream. The relative abundance of Plecoptera (stoneflies) was significantly greater at the two downstream locations than in the mined area (p=0.037) (Fig. 32). However, if the observed reduction was a result of recreational suction mining, downstream recovery was rapid (i.e., by 35 m).

In general, other studies on the effects of recreational suction dredging have reported only localized reductions in macroinvertebrate abundance (Somer and Hassler 1992, Harvey 1986, Thomas 1985). Studies that examined temporal recovery have found that macroinvertebrates return to pre-dredging densities within 30-45 days (Harvey 1986, Thomas 1985). Our sampling in Resurrection Creek occurred approximately 35 days after suction dredging had ended for the year. Thus, it is not surprising that the abundance and diversity of macroinvertebrates was not significantly different between the mining area and the locations downstream. Results from a concurrent but separate study not funded by the EPA in 1998 also suggest considerable redistribution of BOM downstream of mining areas and reduced numbers of macroinvertebrates (both richness and density) within those mined areas immediately following the end of the mining season (A.M. Prussian, pers. comm.).

The results presented here on the effects of recreational suction dredging on macroinvertebrates are derived from a one-time sampling of only two streams. All of the streams specified in the litigation, plus an additional 13 streams were examined for compatibility with the study design. The two sites presented here represent the best examples of concentrated mining activity we could find and should be considered "worst-case" scenarios because both streams receive considerable mining activity and have relatively well-defined downstream boundaries. The remaining sites suggested in the litigation were either not as intensively mined or do not contain easily identified mining boundaries. Together with the results of other studies, we suggest that the impacts by small-scale dredging activity are primarily contained within mined areas and persist for about one month after the mining season. However, other studies suggest a high degree of variability among streams in terms of impact caused by small-scale dredges (A.M. Prussian, pers. comm.) confounding our ability to draw broad conclusions for small-scale mining impacts on stream ecosystems in the State of Alaska. Additional study is needed to fully quantify the impact of suction dredge mining on the environment of Alaska before final conclusions are reached regarding the effects of this activity on Alaskan streams and their associated plant and animal communities.

Acknowledgments

This project could not have been completed without the help of numerous individuals. Gretchen Hayslip (EPA), Steve McGroarty (Alaska DNR), and Phil North (EPA) assisted in the planning and development of the study. Field sampling was accomplished with the help of Jeff Davis, Mike Monaghan, Eric Snyder, and Steve Thomas. Larry Taylor, Pat Scofield, and Scott Reed and Dave Hatch kindly allowed us access to their mining sites. In the laboratory, Angela Bright, Christine Fischer, Jamie Larson, Cary Myler, Cecily Nelson, Mark Overfield, Kelly Sant, Amanda Rugenski, Maria Blackhorse, Mark Sjostrom, Chris Seeley, and Jacklynn Johnson helped with sample processing and data entry. Taxonomic identification of the aquatic macroinvertebrates was performed with the help of Christina Relyea. Jim Crock and Larry Gough of the USGS facilitated sample processing and heavy metal analysis of the macroinvertebrates. The EPA laboratory in Manchester, WA conducted heavy metal analysis of suspended and dissolved samples. Judy Minshall and Marie Davis assisted with logistics and purchasing of field supplies.

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Exhibit 3

In 1993 the U.S. Army Corps of Engineers (Corps) and U.S. Environmental Protection Agency (EPA) were subject to a court decision that forced them to issue new rules regarding suction dredging in Alaska. A challenge to this decision resulted in a new

decision in May 1999 that the Corps, at least, was not required to regulate suction dredging in most cases. Unfortunately, the same decision states that because of another court decision, Rybachek v. EPA, 904 F.2d 1276 (9th Cir. 1990) resuspension of materials by placer miners as part of gold extraction operations is an "addition of a pollutant" under the CWA (Clean Water Act) subject to EPA's regulatory authority. The final result of all this legal action is that the Corps issued General Permit 88-02P for Alaska that covers most suction dredge activities automatically

The main reason this SPECIAL PUBLIC NOTICE 94-10 is presented here is to show the Corps finding of de minimis (i.e., inconsequential) effects on aquatic resources for suction dredges with nozzle openings of 4 inches or less. This is an official recognition of what suction dredgers have long claimed; that below a certain size, the effects of suction dredging are so small and so short-term as to not warrant the regulations being imposed in many cases. The U.S. Environmental Protection Agency (EPA), in particular, has ignored this concept, although numerous studies, including the EPA's own 1999 study of suction dredging, repeatedly and consistently support the Corps finding de minimis effects. The reports consistently find no actual impact of consequence on the environment, and so almost always fall back to the position that "potential for impact exists".

However, showing potential for harm, and showing that actual harm exists are two different things, and the studies to date have not shown any actual effect on the environment by suction dredging except for those that are short-term and localized in nature. Current regulatory efforts are proceeding despite this lack of evidence showing that harm to the environment is taking place. The regulatory agencies should be consistently and continually challenged by the dredging community to produce sound, scientific evidence that support their proposed regulations. To regulate against a "potential for harm", where none has been shown to exist, is unjustifiable and must be challenged.

Public Notice
US Army Corps of Engineers

Alaska District Regulatory Branch
Post Office Box 898
Anchorage, Alaska 99506-0898
Date: 13 SEPTEMBER 1994

James D. Foley
Mining Rights Advocate
21935Highway 96
Klamath River, CA. 96050
(530)465-2211

Suction Dredging Ca. EIR NOP
California Department of Fish and Game
601 Locust Street
(Address)
Redding, CA 96001

- The ACT of JULY 26, 1866 or H. B. 365 declares that the mineral lands of the public domain, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and occupation by all citizens of the United States.

- In the Mineral Estate grant of 1866 the claim holder has exclusive possession of mineral land, to include the entire surface i.e. minerals, water, and timber as Congress expressly provided. How then can a claim holder not be in control of it to exclude interference by agency regulation?

- **30 USC 26.94 -** Unpatented mining claims are "property" in the highest sense of such term, which may be bought, sold and conveyed and will pass by decent.

- **THE SUPREMACY CLAUSE**
  Article. VI.

  "This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any thing in the Constitution or Laws of any State to the Contrary notwithstanding."

Any legislation or rule that seeks to prohibit any kind of mining will run afoul of the Federal Supremacy Clause. The preemption doctrine derives from the Supremacy Clause of the Constitution which states that the "Constitution and the laws of the United States...shall be the supreme law of the land...anything in the constitutions or laws of any State to the contrary notwithstanding." This means of course, that *any* federal law trumps *any* conflicting state law.

- **CDFG Quote:**
  "The SEIR and related review under CEQA will analyze new significant and substantially more severe environmental impacts that may be occurring under the existing permitting program that were not addressed by the Department during prior environmental review completed in 1994."

- **Question:**
  What are these impacts and what is the source of this information?

- Volumes of peer reviewed scientific studies have been published regarding the question of any adverse impacts due to suction dredge mining. Invariably these studies reach conclusions of;
  1. de-minimus effects, as published by the U.S. EPA.

  2. "Effects of dredging commonly appear to be minor and local." (Professor Bret C. Harvey)

  3. "Studies to date have not shown any actual effect on the environment by suction dredging, except for those that are short-term and localized in nature. Effects were significant, but localized. Suction dredging effects could be short-lived on streams where high seasonal flows occur. The greatest potential for damage is at low flow.
  4. Many peer reviewed studies reach a conclusion of **"No significant impact."**

From: "James Hardy" <fatz40@frontiernet.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/29/2009 2:57 PM
Subject: Scoping

To:
Mark Stopher,

Dear Mark,
I have been dredging for about 15 years off and on, and while I can't supply you with any scientific data, I would like to offer a suggestion. Would it be possible for you to send out a questionnaire to all who purchased dredging permits in the past, let's say 5 years? Ask some real specific questions such as: How often do we use our dredge, what percentage of time out is used for actual dredging as opposed to moving rocks etc, etc. Have you ever encountered mercury, when ,where and in what quantity? Have you ever found lead, and what do you do with it if you do?
I think you would be surprised at the answers. There are many more questions I'm sure that could be more specific to what you are doing and we would all be willing to help out.

Thanks,

Jim Hardy

From: Jim Madden <upi.gold@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 5:16 PM
Subject: Draft EIR
Attachments: Mark Stopher.doc

Hi Mark,
Nice to see you at the Fresno scope meeting.

I have attached a memo on the processing mercury.

Jim Madden
650 589 8081

Mark Stopher
Hi,
I am writing in response to the Draft EIR.

On the subject written in the Draft EIR about mercury being used around the campfire to process gold recovery. You should know that this is not a practice that any miner engages in. The process of removing gold particles from black sand is not one that is done during the mining season. The miners screen down their concentrates and use various recovery methods such as the Blue Bowl, Spiral gold wheels to recover 30 mesh size and above particles. Gold pans recover the larger particles. It is not productive time for one to work at dredging and rock removal all day and try to recover micron gold from the concentrates. One is usually very tired from their daily activities and this is not a job for a tired miner to perform. We always take home the smaller mesh particles in 5 gallon buckets and store them for the winter when we have more time at home to work on removing the micron gold.

The miners who run larger dredges and accumulate more quantities of concentrates usually have milling tables that will process out the micron gold. Usage of mercury during this process is far from efficient. Studies have shown that mercury becomes contaminated and its ability to wet precious metals is greatly diminished. This for one reason is why we do not use mercury in the recovery process.

The low cost shaker tables and micron mill wave tables can remove micron size gold with great efficiency and very little manpower. These devices are low enough in cost that most recreational and professional miners can afford them.

On another side note, Black sands contain other precious metals and Rare Earths. There are a number of companies in and out of state who buy the miners concentrates and utilize processes in their warehouses to do a complete recovery of all elements.

So to answer the question. No we miners do not use mercury in the field to process fine gold recovery.

Jim Madden
Editor United Prospectors Inc. newsletter
Assistant membership director

35 years as a recreational gold miner
Amateur scientist.

From: "jim moir" <moir1010@frontiernet.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/8/2009 10:17 AM
Subject: http://www.redding.com/news/2009/nov/08/are-gill-nets-decimating-klamath-and-trinity/

The article in the Redding news about gillnetting is very interesting. Gillnetters are the cause of salmon population decline. Jim Moir

INFO

November 14, 2009

Mark Stopher
Dept. of Fish and Game
601 Locust Street
Redding, CA 96001

Jim Nash
301 Rolling Hills Dr.
Yreka, CA 96097

Re: EIR process on California Suction Dredging

To Whom It May Concern:

I have dredged off and on for at least 15 -20 years. I have even taught my boys to mine. Never did we ever harm the area where we mined, in the water or out. As young as my boys were they were amazed how the small fish would come into the hole where we were dredging. Even salmon would come in the hole. Over the years we noticed more and more fish would come into the hole. They learned how the sun would create moss in the shallow areas where the water was warmer and the fish preferred the deeper cooler holes we created with our dredge.

As a miner we are not out there to rape the land of its riches. Why can't certain people understand this? They would rather take the issue to the courts or people that don't have the slightest idea what is going on out in the rivers when we are mining.

I, my friends and my family consider ourselves Native Americans too. We were born and raised in these counties and remained here do to our love of the rivers, mountains, and trees. No one will protect an area better than those of us who call that area home.

To the best of my knowledge no one has ever come to either of the mining organizations I belong to, The Lost Dutchman Assoc. or The New 49er, and asked to observe the type of dredging we do. In fact all my years in the river I have only seen helicopters and brand new government vehicles patrolling the river to ascertain if we as miner are conforming to the new rule they have set forth. Only after collecting our money for permits are they now checking to make sure we are in the right place at the right time of year with the right equipment.

I honestly feel that the Native American Tribes in our area have been targeted by environmental lawyers seeking money. Let's face it right now the Native American Tribes have a steady stream of money coming to them. Not to mention playing on their sympathies for wrongs done to their ancestors. "We will fight for you, look the fish population is declining, and we will stop the dredgers from making holes in your river." What they seem to forget is that one of the basic principals in the Native American beliefs is that the land should not be owned by man, it is there to provide for everyone.

I hope in the future they will take a good look at who they have speaking on their behalf, because most of the Native American in my area do not agree with what is going on. They have always been happy to share the river for all of us to enjoy. They have always held precious their exclusive fishing and hunting rights and have not abused them like in some areas where the salmon caught in their traditional ways are sold on the street out of the back of a pick-up truck. The Native Americans I know gather together with their bounty and celebrate the catch. Teach their children about their heritage.

The mining done on the river currently is done as a recreation, not like the mining done in the 40's, 50's and 60's where large scale dredges were used and the flow of the river was diverted, commonly known as wing damming, to expose rich earth. Yes I agree that type of mining was harmful to the environment.

The two organizations I referred earlier in this letter, The Lost Dutchman's Assoc. and The New 49's, are committed to teaching the proper way to conduct recreational mining, they stay up to date on all regulations and conduct classed to show their members how to mine with respect to the river.

Recreational mining is one of the ways a great number of us enjoy this area and have family outing with our kids and grandkids that does not involve cell phone or video games but teach these kids what nature has to offer and how to respect the beauty of our area.

In closing I would like to invite the government officials the lawyers and the scientist to vacate your offices, come up here. park your trucks, ground your helicopters put on a wet suite and get in the water. We will show you first hand what a dredge does in the water and how the fish welcome the new shelters we make for them.

Jim Hoff

From: "JimBurke" <executivejim@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/5/2009 12:31 PM
Subject: Suction Dredging Permitting Program

Ladies and Gentleman, In all of your infinite wisdom, why don't you just go ahead and ban all forms of mining. Not that this country and the state of California were not built on mining. While your at it, why don't you stop all fishing and quit stocking and declare the whole boundary of your area of operations a natural sanctuary. Oh wait, you already have. O yeah and for such a top heavy organization, go ahead and vote yourselves a fat pay raise, with the monies you have hijacked from us, for how well you serve the people. With the grand state of the economy, this wise economic decision must have come from up on high. Lastly go pee in the corner of a round room. Going to hell in a hand basket on the fast track are we?

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name: John F. Kiltoff

Mailing Address: ~~11075 Campers Court #3 Redding, CA 96003~~ 1299 So Main St. Ste. C box 125 Yreka, CA 96097

Telephone No. (optional):

Email (optional): kiltoff60@Juno.com

Comments/Issues: (1.) I have beendredging in California and various states since 1984, using small dredges and up to 6 inches. To my knowledge I have never killed a single fish with a dredge. The fish are smart enough not to get too close to the suction Nozzle. They feed off the small bugs that inhabit the river bottom and feed on them when they are stirred up by the dredge. I am also a fisherman so I have no desire to damage any fish habitate.

Most of the time I find the river bottoms very hard material and the rocks are covered with algae. The only way large fish can spawn is to find soft gravel beds where they can deposit their eggs, not on the hard surface of the river bottoms. Suction dredging helps break up the river bottom giving fish a better place to spawn.

The only rivers that run clear and have little algae are where natural floods occur and the river bottom is scrubbed clear in the high flood water.

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

Comments / Issues continued:

(2.) Nearly all the rivers in California have dams which restrict the natural flow of the river. These rivers are full of algae because of this unnatural restriction. Removal of the dams would restore the natural flow of the river and create the best habitate for the fish. Commercial over-fishing should be restricted also. ~~This would~~ These 2 implementations would solve many many problems

No salmon exist on much of the American River, The Bear or the Feather because of the dams with no fish ladders. This also true on the Northern Part of the Klamath river and the streams associated with those rivers. The dams prevent the salmon from going up the rivers and streams to spawn.

The algae that covers the gravel bars and the rocks would also prevent salmon from spawning if they could get up the dams. Removal of the dams would clear up the algae problems.

As well as dam removal, restriction of the Commercial Over-fishing would help restore the salmon population.

Again, I want to emphasize: Suction Dredging has no impact on the fish.

From: John Faughn <john.faughn@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/5/2009 6:41 AM
Subject: Mark Stopher / suction dredge permitting program

Dear Mr. Stopher ,
I hope that you are not one of the many politicians / bureaucrats , that just go on auto pilot , going along with whatever the program is , as pointed out from above .
This country is in desperate need of leaders , that use the facts to make decisions , rather than , as stated above .
Studies already exist , that point out that under water suction dredging does the reverse of what most opponents claim [we take out many metals / those of value , but much of what is harmful , lead , mercury ect. . also many things that are beneficial to fish , such as aerate the water , stir up food for the fish] .
And the big issue , there has been little to no reporting of any harm to fish [we are regulated to stay out / away , durning spawning ect.] .
To be lead by the nose , to spend moneys / tax's , for what has been already done , is a waste .
If there were real interest in helping fish , than go after those that go after fish , especially large quantity , indians & commercial fishing .
It defies logic , that the leaders against mining [which does no harm] are the biggest offenders of fish .
John Faughn
PO box 14182
St. Paul , MN. 55114

P.S. Wanting to make more trips to California , to spend money , but can not under these circumstances .

To Whom It Concerns:

I'm a retired professional with my academic major being an emphasis of science and biology. Originally, I came from New York and came to California beginning in 1990 in order to pursue recreational gold mining as a form of relaxation and as a profitable hobby. I chose to mine on the Scott River due to its beautiful surroundings and the fact that it has been an underdeveloped location for small-scale river dredging for gold. Having invested over 19 yrs of my life into this hobby, you cannot imagine my emotional distress at having it pulled away from under me by the same politicians I believed would defend my right to let me use my personal private property at my discretion within reason. I have always believed that as long as I was being a good neighbor to my downstream neighbors, that my activities would not be viewed as harmful. I have personally removed hundreds of pounds of mercury and lead from the river through the course of my mining years. Taking into account the small area in which I dredged, which could be measured over the course of only several hundred feet of river front, I cannot begin to imagine the ecological impact of something that has been sitting around for decades and has been proven to be a potent neurotoxin as well as an agent of infertility of in fish species. Cloudy water as a result of mining which lasts for only a few minutes cannot compare as such to this.

With respect to the environmental impacts of my own activities, I have always strived to leave as little impact on the river as possible while practicing my hobby in a safe manner. I have personally witnessed the earth shaping effects of one spring flood over the course of a mere week, and have never witnesses anywhere near that cumulative effect over the course of 19 yrs of dredging activity on the river as a whole. Every year that I dredged, even the smallest of changes I may have made to the water flows of the river were altered in an instant by a single day of spring flows. I

have personally witnessed the benefits to nature from my activity by the amount of fish I have seen commingling in the deeper pools of water I created as a result of my dredging activity. These man-made depressions in the river surface generally were 10+ feet deep and were like a magnet to any fish in the area. I never witnessed any changes in water quality as a result of my activity that lasted more than the few minutes it took for the river to naturally reshape the debris piles from my dredging. In the meantime, I was creating survival zones for fish that were strangled by the low river flows common during dredging season. In an essence, I was helping to preserve life instead of allowing nature to brutally destroy it.

I believe most of the long term damage that has been done to the river can be tied to unregulated contaminants and pumping from the river that was a result of local farming activity. Low levels of fish in the river can be tied to the unregulated harvesting of fish by local tribes in the area. Similarly, the more pronounced forest fires in recent years have significantly increased the amount of erosion and debris that has flowed into the river. The recent escalation in illegal marijuana production by cartels and locals alike has resulted in pesticide contaminants entering the river from the hillsides.

I see myself and my hobby as the whipping boy for a statewide agenda aimed at targeting small-scale activities that are politically feasible to eliminate. I do not see myself as a threat and do not believe the sum total of dredging activities on all rivers in the region can compare to one flood or one erosion event tied to a fire or denuded hillside. I would hope that the real threats the river ecosystem could be targeted and stop playing on uneducated voters lack of "green" credibility or sense. I consider myself a friend of the environment and a watchman on the wall who sees the damage caused by local industry firsthand.

Sincerely,

John Morone

Winter
Address
John Morone
81519 Castlerock Court
La Quinta, Ca 92253
760-2897118

Summer Address
27729 Scott River Rd
Scott Bar CA 96085
530 4963284

COMMENT ON 2009 SEIR DOCUMENTS ON SUCTION DREDGING

John Oates
424 Red Cedar Drive,
Redding, California, 96003

Section 1 –Introduction

The 1994 EIR is the only sound base from which all future EIR changes must be based upon. As the promulgated document , and with the color of law for over 15 years, it should have been the beginning point. This current SEIR documents are flawed beyond repair with preconceived illogical deductions proved wrong in the 1994 EIR.

-Background

The failed 1997 SEIR was a perfect example of special interest groups attempt to immediately amend / overturn/ repeal the 1994 EIR even before the ink had dried on the documents. The open and notorious actions documented by Mr. Richard S. Zambiec, USDA Forest Service Minerals Officer, and further pursued by Senator Maurice Johannessen , are a perfect example of the DFG bowing to " special interest groups that don't believe miners should be working on the rivers in California. Included in this comment are supporting documents, #A & #B, from the Senator and agencies included in this conspiracy to deny us our further due diligence under CEQA and the immediate attack on our rights.

The 1994 EIR process provided a workable document and was managed by Mr. Bill Maxwell and legal council by Ms. Stephanie Tong. Their unrelenting dedication lead to a 15 year equitable compromise that protected the environment and dredgers.

-Objective

After sitting through an absolutely insane 1 ½ hour rant that was purported to be a meeting (what happened to an exchange of ideas?) the department , Mr.Stopher ,gleefully announced that the timeline of HIS(?) EIR will be met no matter what. Also how he was going to extend the DEIR comment period to 45 days which it already was as required by CEQA. This insane hard line stand completely violates the letter of the law and crushes any meaningful discourse that would have occurred. The comment period of this SEIR has already negated any possibility of collecting any data to refute the absurd allegations leveled at the dredgers of California. The DFG has had over 1-1 /2 years since the judges ruling in 2006 and over a MILLION dollars to compile this comic book of prejudice and we're allocated less than 2 weeks to respond?? No science allowed just the steamroller wave of half facts, innuendo, could, might and other states facts and figures because they are MUCH more outrageous than the truth in California dredgers actions. The DFG would have you believe that the facts and figures of tickets, responses, terms, covenants and conditions within our realm of use are unobtainable from THEMSELVES? Again straight out misdirection to deceive, as service to their influential special groups wants and needs.

Another moment of covered smiles and chuckling followed Mr. Stopher as he spewed forth the states stand," that all user groups must support the program that administers it. AND the EIR process must not use general funds to complete this study. My contention is BUT IT MUST BE FUNDED THROUGH USER FEES. AND WITH ALL USERS BANNED THERE ARE NO FEES AND HENCE THE EIR CANNOT BE

FINISHED OR EVEN PROCEED EQUITABALLY. This gleeful announcement was the ONLY animated happy moment for ALL the folks employed by the DFG at the meeting albeit rant/lecture. Therefore the only conclusion that makes any sense is—spend down the money as fast as possible and kill the EIR as a non funded project so the dredgers are locked out of the rivers and streams of California. This mirrors the underhanded actions Mr. Stopher and Mr.Turek took to the illegal permanent closure of the Sacramento River Cantara Spill area through open and notorious violation of our civil rights, 1994 EIR process and common law.

-Introduction-2.1.1-3

The only function the DFG serves to dredgers is to ticket and issue permits and nothing else. A 6" nozzle is NOT the maximum size nozzle in California-it is a 8", again wrong information to cloud the issues. In the last sentence there is no such thing as a RECREATIONAL USE definition. A dredger is a owner and state licensed operator of reclaimation equipment and nothing more or less.

In 1984 my California company PESCO products introduced the only commercially available environmentally friendly dredge designs. Utilizing headerless boxes, deaireation flaps, flarejet introduction systems, over under classification and solids return underwater also to increase fines retention, prevent aeration and decrease turbidity. The design has been utilized in the industry for over 25 years and is indeed the industry standard and bulk of sales also. The archaic figure 2 of a dredge with a ancient crashbox header is yet again another example of misdirection. They are no more relevant than a late 1800's bucketline dredge than what is the industry standard of today.

Yet another example of misdirection is the Keene hype chart, table 2.1, that has absolutely no base in fact. It is advertising hype only. The SEIR preparers have spent huge amounts of time to gleam misinformation to fluff up, exaggerate, and misdirect the truth of dredge capacities using the most libelous commercial hype. The studies utilized throughout this SEIR-mainly Stearns and Hassler prove beyond any doubt that the capacity of actual in stream dredge capacities in indeed less than 1/10 of the advertising hyperbole presented within as scientific fact.

Table 2.2 is yet another example of absolute misdirection utilizing non scientific methods and just hyperbole. Please explain how the study of Griffith and Andrews scientific math meet this insane allegation? How does 0.43-0.55 m3 instantly transmit to your 1.8m3 and 13m3 an hour when the study states 0.76 divided by 100=0.0076 + 0.049=0.056 m3 hourly production? Both Stern and the Hassler studies refute this absurdity stated in this table.

2.2 chart is a manufactures advertising hyperbole and the SEIR has forgotten math, truth and utilizes, as usual, the irrelevant as science- again.

2.2.2- 8" is the norm as per 1994 EIR in all major rivers and 6" for streams. Securing equipment is done with boat anchors below the water level.

Processing- in 37 years of dredging I have never seen a single dredger playing on the river using mercury. We pick out the larger nuggets and process the concentrates at home utilizing recovery equipment.

2.4.2 There is no requirement to notify the BLM to dredge and this again is more misinformation.

2.6- They are not nor have they ever been any industry standards for any dredging operations. There are never any structures allowed on BLM or Forest Service lands. In

the 37 years that I have been dredging, I have never seen a miner carry a safe for gold storage.

Section 3 Methodology

The illegal 2007 uncertified SEIR is not a source of anything legal in knowledge and should not be represented as such. Idaho studies are in different geology, hydrology, altitude, and regulations. Citations in other states are irrelevant and why does DFG hide the facts on California dredging citations.

Section 4.22-There are no studies so there is no science and the liberal use of sometimes, can and might does not constitute a legal precedence.

Summary of 4.2.3-You readily admit there is little information and the 2005 Water Board mercury dredge study does not constitute any scientific evidence. The study violates all rules governing scientific testing. Utilizing antiquated equipment the SWRCB study came to the conclusion that even an old dredge removes 98% of the mercury. According to the EPA, and there resultant studies, this constitutes the legally accepted BAT rule-as the best available technology at this time. It is very interesting that I have videos and pictures of friends and myself dredging this exact same area for years with a 8" dredge and what do you know NO MERCURY.

Section 4.3.2-All impacts of dredging are adequately addressed in the current 1994 EIR under our season and size protocols. Other states information is completely irrelevant to this EIR for scientific evidence.

Ironically the study that was to be done by the USGS on effects of dredging and mercury removal was tragically stopped by the STATE and is now being conducted as a lab experiment with a couple of buckets of dirt. For some reason the state, DFG , wants to utilize this artificial study as the basis of scientific fact. Again as the SWRCB hypothetical study, this attempt is not being conducted in any scientific manner for yet another scam in a long list of bad intentions. I do believe there was a glimmer of hope for some truth here but my conversations with the USGS have killed all hope of any real scientific evidence on dredged mercury removal. The EPA rule of science technology being BAT precludes utilizing antiquated equipment in a non monitored and sealed environment to conduct any study for any scientific truth. With over 40 years experience in water treatment , hazardous materials and wastes I can attest to this fact. Having been responsible, at over a dozen facilities in multiple states, to their respective state agencies for processing many MILLIONS of gallons of water and wastes. Dealing with EPA, OSHA, CALOSHA, Nevada State Haz/Mat board in Carson City , and dozens of state, county and regional water boards have been my area of responsibility since the 60's. Dredging is the only way to remove mercury and clean the tragic spills of yesteryear.

Biological resources-Yet again the convoluted versus the real. You can—you might—you have the capacity—again show me the tickets, citations, anything. This illogical SEIR would compare the miniscule 3,400 dredgers use of a average 10 days versus the 57,000,000 million visitor days to national forests alone. Then add on another 2.5 million fishermen at over 22 average days. Then ATV and dirt bike users 40+ days a year by the 4+ million registered bikes. Now comes the campers, kayakers, rafters, backpackers ,hunters, and PLEASE don't forget the tree hugging environutz. Even minimizing figures your looking at 34,000 dredge days versus 100,000,000+++ other user days. As always the prey singles out the smallest quarry and kills it first. The same logic applies here, kill

the smallest user group and work up the outdoor users chain till there is a chain across all the forests, rivers, and valleys.

Dredging effects 4.3.4 would have you believe our miniscule usage is relevant to the forests health. In comparison it is stated within these corrupt files that a single road increases erosion over 100 times. The 1995 Forest Service study on the subject of "A comparison of stream materials moved by mining suction dredging operations to the natural sedimentation yield rates " is yet another great example of our non-impact. The Siskiyou National forest estimates their annual sedimentation rates are over 331,000 cubic yards was moved in a single year—EVERY YEAR. The dredgers were monitored closely all year and 2413 cubic yards were moved and this miniscule amount equaled O.007 of the NORMAL BACKGROUND RATE.

Next you are given to believe that we camp differently than all other outdoor users. We live in filth, trash, and wallow in spilt gas and hazardous materials. Our impact is less than 1/100 of 1/100 of a percent of the combined used days. The SEIR would also have you believe that we ONLY are responsible for tearing up the banks, hills and riparian habitat. Forget the millions of fishermen slogging through the creek killing everything they step on all day. Forget the millions of campers, kayakers, and all others using the forests as their own personal trash bin and toilet. SHOW ME THE TICKETS and not some other states absurd tickets. You are the DFG and yet you CONVENIENTLY just can't seem to find YOUR own evidence but prefer to utilize some other states figures to your advantage. The direct damage is the 100's of millions of user days and NOT us. The more you restrict—the more you concentrate user usage damage. Then we are to blame—I think not. I have the old training manual used by the DFG to train wardens on the SPECIFIC DANGER OF DREDGERS—oh the nasty filthy garbage spewing miners. To prejudice a officer of the law as a matter of fact with lies and hate to target us is illegal. Yet common practice for over half the force. There is no science again –just maybe, might, will, ad nauseatum. Talk about cultural effects is absolutely without merit and no science has been applied or inferred by this insipid category. There is not a user in 100,000 who has ever even seen a dredger much less have their outdoor experience tainted by our evil presence.

Mineral resources 4.5 Specifically states that most dredgers operate in streams of water previously mined. Indeed in over 50+ years of mining, gem & mineral collecting and fossicking I have yet to go ANYWHERE in this state and not found evidence of prior habitation and workings. This inept SEIR would have you believe that California is some pristine wonderland when the opposite is the absolute truth. The greenest anti mining organization on this planet is the National Geographic Society. There debut of the newest Planet Earth series just happens to deal with mans footprint on the earth. THEY-not us miners-state specifically that the salmon demise was sealed long before the white man ever set foot on this continent. The true culprit was the Indians torching annually millions of acres to increase feed to attract animals to kill. This enabled them to see prey easily, facilitate the dragging home and ease of motion through the forest and plains. The proof has been thoroughly analysized and this led to the ecosystems collapse for the salmon. The SEIR would have you believe that you can patent and remove public lands and make them your own. There has been a 100% moratorium for over 14 years now and will never be again. Again misdirection as the norm. The table 4.2 is yet another smoke screen as the ancient information is no longer relevant but the absolute worst possible scenario

from over 10 years ago. The summary is absolute lies. I and many MANY miners claim our gold production and business expenses to the State Franchise tax board and the IRS and are NOT the tax cheating criminals outlined in this summary.
The absurd allegations presented as relevant information from 1983 for gods sake is absolutely a lie today. How do cash expenditures from 26 years ago become relevant to anything??
NOW the real deal No information is reviewed that was available concerning the actual costs of cleanup of suction dredgers camps. WHY?? Quite simple—THERE WERE NONE-SHOW ME THE TICKETS. And again a 1983 study says 12% of dredgers had no permit. The massive influx, largest in dredging history, was going on and every ding dong with a buck was a instant ignorant miner and you want to damn us with this insane archaic misinformation??
I am amazed at the falsified cost of $1.5 million the dept spews as relevant information. The deptartment issues permits and issues tickets. Where is this insane amount of cash being spent and once again-SHOW ME THE TICKETS. Summary is like all others smokescreen and no solid information just hyperbole , innuendo, and slanderous accusations with no base in facts.

The Recreation 4.7 is definitely the most ludicrous of all. The 100,000,000+ visitor days have been ruined by my physical presence. What about the 100's of tons of trash the BLM has hauled off my Whiskey Creek claims from the tourists. We miners are the most responsible stewards of public lands there are. I had a claim on the South Fork American by Lotus, hence sold. I sold because I could not pick up rafter and kayakers trash and feces fast enough to even stay there any longer. The Trinity Rivers miners founded the annual Trinity River cleanups. Miners started the Trinity River Restoration with grants we applied for. The job resource center was miner founded and the Chairmen of the Trinity County Grand Jury was a dredger, Lynn Gunn RIP. Who was conveniently murdered a few days after being voted in as chairman of the Grand Jury after being a member for years . Your own archaic table concerning usage prove beyond any doubt that we have impact minimus and not relevant to any user group.
The cancer on the Klamath is not and never will represent anything in conjunction with responsible stewardship of public lands. Again Dean Swickard and this SEIR have produced absolutely no evidence of any sort to prop up their insane allegations of a 100 calls to miners camps. We do not conflict with anyone—they conflict with us with there stupid assertion that we diminish their outdoor experience. We clean up their filth, trash and left to live with their habitat destruction on our mining claims each and every year. Our noise cannot be compared to 100's of millions of drunk rowdy dirt bikers, fishermen, rafters screaming and hunters blasting anything that moves and much more. This assertion that we are the problem is absolutely insane. I don't even fish and I know of no miner who does. Who can kill their daily companions underwater and live with themselves---fishermen—all 2.5 million plus the massive trawlers with many miles of nets and god lets not forget the Indian gillnets, by the 100 , that decimate the annual salmon runs for fun and profit. But damn those dredgers for having the audacity of trying to have a little fun and find a little gold whilst we create native spawning gravels. The summary is a hoot. Again no information just misinformation and hyperbole about the poor fishermen, whose whole intent and desire is to kill fish.

Aesthetics 4.8 This is yet another in a line of stupid assertions. The forest, plains and rivers were desecrated long before the white man ever put foot on this continent .Over a 100,000,000 user days for all other users crawling, dragging, blasting through on atvs, dragging there feet through the rivers and streams of our state is great but damn those piddly few miners who persist throughout the mess and harassment. Summary matches all others as pure hyperbole and no scientific or socioeconomic evidence. Air and Noise. Here again is the same old tired hyperbole that our mere presence produces the worst pollution of any user group even though we're outnumbered 100,000 user days to1. All other user groups are not delivered by the fairies but pollution producing gas guzzling monsters that offend us. Why are we the party considered to injure when we are indeed the victims?

A miners summary of the hypothetical hyperbole filled SEIR.

In 1988 the DFG posted notice of a meeting with dredgers to finally follow the CEQA demands. In that massive auditorium there showed up 7 people from the whole state. 5 dredgers and 2 land rights activists. DeWayne Johnston was the presiding speaker and we all moved up to the front and had a great talk amongst ourselves. Our aspirations at the time was to open talks to assist the DFG in reclamation projects and establish a permanent working committee to address all issues to do with dredging. At that time the Miners Alliance was formed between our founders Lynn Gunn, Dan Morrison, Steve and Karen Cassidy and myself John Oates. We all served as proud productive members of the Dredge committee associated with the 1994 EIR process. Through many hours of exchange it soon became evident that miners rights groups were engaging in obstructionist practices. We shelved the legal mumbo jumbo and moved into the arena of openings, closures and joint projects that were of mutual benefit to all sides and the ecology of the state. DFG biologist had a huge list of projects that our assistance was required. Just 1 HUGE example was the impacted gravels south of the 49er highway on the Mokelumne River above Power Inn Road. The area is devoid of fish and impacted hard as a freeway. This was to be a joint project, 1 of many, that was proposed to prove our reclamation worth and also an experiment in mercury removal. The politicos adamant refusal to accept over a dozen river openings and many projects let to the committee demise.. Our permanent dredge committee was ruined and all the goodwill and desire to cooperate on future projects were killed. The Miners Alliance and our many associates continue to interact with many government agencies and projects for the betterment of the wildlife in the state of California. Our culture, history and very means of support have been torn asunder through a multi-million dollar multi-year attack in both the legislative and judicial branches of government. We have now the exclusive right to be deemed GUILTY TILL PROVEN INNOCENT—maybe-sometime. Even standing CEQA law and the righteous 1994 EIR be damned.

Normally as custom I would end any comment with respectfully yours BUT there is absolutely no respect anymore for this illegal takings and it WILL cost the state MANY MILLIONS.

John R.Oates Cofounder and Board Member of the Miners Alliance

Mercury Recovery from Recreational Gold Miners

The Challenge:

Looking for gold in California streams and rivers is a recreational activity for thousands of state residents. Many gold enthusiasts simply pan gravels and sediments. More serious recreational miners may have small sluice boxes or suction dredges to recover gold bearing sediments. As these miners remove sediments, sands, and gravel from streams and former mine sites to separate out the gold, they are also removing mercury.

This mercury is the remnant of millions of pounds of pure mercury that was added to sluice boxes used by historic mining operations between 1850 and 1890. Mercury is a toxic, persistent, and bioaccumulative pollutant that affects the nervous system and has long been known to be toxic to humans, fish, and wildlife.

The Solution:

Taking mercury out of streams benefits the environment. Efforts to collect mercury from recreational gold miners in the past however, have been stymied due to perceived regulatory barriers. Disposal of mercury is normally subject to all regulations applicable to hazardous waste.

In 2000, EPA and California's Division of Toxic Substance Control worked in concert with other State and local agencies to find the regulatory flexibility needed to collect mercury in a simple and effective manner. One approach was to add mercury to the list of materials that are collected at regularly scheduled or periodic household hazardous waste collection events sponsored by local county agencies.

Another mercury collection approach was to set up collection stations in areas where mercury is being found by recreational miners.

The Results:

In August and September, 2000 the first mercury "milk runs" collected 230 pounds of mercury. Not only was mercury received from recreational gold miners, but others such as retired dentists. The total amount of mercury collected was equivalent to the mercury load in 47 years worth of wastewater discharge from the city of Sacramento's sewage treatment plant or the mercury in a million mercury thermometers. This successful pilot program demonstrates how recreational gold miners and government agencies can work together to protect the environment.

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

Downieville Ranger District

15924 Highway 49
Camptonville, California
95922-9707

File Code: 2810

Date: JUN 07 1995

received
7-3-95

3A

404

Dear

This letter will confirm our telephone conversation during which I told you how Steven N. Taylor, Senior Fishery Biologist for the California Department of Fish and Game Regulations Program, responded to my question as to why the California Department of Fish and Game was once again proposing to amend Sections 228 and 228.5 of Title 14, California Code of Regulations, Re: Suction Dredge Mining.

I asked Mr. Taylor this question on April 26 or 27 at the U.S. Forest Service Region 5 Minerals Officers Meeting at the Expo Inn in Sacramento after he stated that he did not know very much about mining, but knew a lot about writing Regulations.

Mr. Taylor stated that the reason for the proposed Regulations was "because the Department (of Fish and Game) is getting a lot of pressure from influential special interest groups that don't believe miners should be working in the rivers". He then went on to say that the proposed regulations would be a good starting point to get this situation under control even though the Department had little scientific evidence that dredging in the rivers and streams really has a long term negative impact on the fish and other aquatic life.

Richard S. Zembiec
Minerals Officer

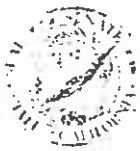
8

REPRESENTING THE COUNTIES OF
COLUSA GLENN, SHASTA, SISKIYOU
SOLANO (EXCEPT VALLEJO), SUTTER,
TEHAMA, TRINITY, YOLO,
PORTIONS OF BUTTE AND
SACRAMENTO

California State Senate

SENATOR
K. MAURICE JOHANNESSEN
FOURTH SENATORIAL DISTRICT

COMMITTEES
BUSINESS & PROFESSIONS
VICE CHAIR
AGRICULTURE & WATER RESOURCES
FINANCE, INVESTMENT & INTERNATIONAL TRADE
NATURAL RESOURCES & WILDLIFE
VETERANS AFFAIRS



July 26, 1995

Kassandra Fletcher, Deputy Director
Department of Fish and Game
1416 Ninth Street
Sacramento, California 95814

Dear Kassandra:

I am enclosing a copy of a letter on United States Department of Agriculture letterhead, signed by Richard S. Zembiec. I have received many letters of complaint and inquiry to this letter. It brings to my mind several questions as well.

First, just last year, the Department imposed many new rules and regulations on the suction miners. Why is the Department looking to modify these regulations again so soon?

Second, why were the attempts to make further changes done by another division within the Department instead of those who were already familiar with the situation?

Third, many complaints have been expressed by miners of the notification process of public hearings in regard to proposed changes. Specifically, were all those groups and individuals involved in last year's process notified of the hearings surrounding these most recent changes?

Fourth, if the Department determined that new regulations were possibly needed, why did it stop pursuit of these new changes?

Fifth, what Department personnel were specifically involved in last year's efforts and this year's process?

PLEASE REPLY TO

☑ STATE CAPITOL
ROOM 2066
SACRAMENTO, CA 95814
(916) 445-3353

☐ 410 HEMSTED DRIVE
SUITE 200
REDDING CA 96002
(916) 224-4706

☐ 2967 DAVISON COURT
SUITE A
COLUSA CA 95932
(916) 458-4161

☐ 1170 NORTH LINCOLN STREET
SUITE 106
DIXON CA 95620
(916) 678-3195

Last, but not least, I would like to know what steps are being taken to determine the facts in regard to the statements attributed to Mt. Steve Taylor specified in Mr. Zembiec's letter. If those statements are determined to be accurate, what is the Department's position on those statements?

As always, your prompt and concise response is appreciated.

Sincerely,

K. MAURICE JOHANNESSEN

KMJ:jsd
CC: Tim Leslie
Tom Woods
Earl Wintle

From: Cedar Seeger <cedarseeger@hotmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 6:19 PM
Subject: Suction Dredging Comment input
Attachments: F&G Suction Dredge.doc

Please include my comment in the scoping. See attached.

Thank you.

Respectfully,

John Seeger

Windows Live Hotmail gives you a free,exclusive gift.
http://www.microsoft.com/windows/windowslive/hotmail_bl1/hotmail_bl1.aspx?ocid=PID23879::T:WLMTAGL:ON:WL:en-ww:WM_IMHM_7:092009

12/3/09

Mark Stopher
Calif. Dept of Fish and Game
601 Locust St.
Redding, CA 96001

Re: Suction Dredging

To Whom it may concern:

I own 154 acres of private land on both sides of the Salmon River in Forks of Salmon Calif. I have lived and worked in Siskiyou County on Salmon River for many years. I have sadly watched the decline of salmon and steelhead over the years. I have also seen the result of unmanaged suction dredging on the Salmon River.

Certainly many scientific studies have been done and evidence provided to substiantiate the validity of an outright ban based on water quality and fisheries issues which I fully support based on the evidence I have seen with my own eyes.

My biggest concern after the decline and degradation of the fisheries are the legal, environmental and social issues created by the suction dredgers themselves. The USFS does not appear to have the mandate or funding to manage the onslaught of unsupervised occupation of river bars, flats and roadside semi permanent encampments on Federal lands. These dredgers are often armed and belligerent and I am simply on my own to defend my property. Camping, driving in riparian areas, backhoes in the river bed, no toilets, fuel storage and spillage, noisy generators, littering and disdainand trespass on the rights of local landowners and residents is the norm. I understand that many of these

people are well meaning folks out to try to get some “free”gold but as the as the price of gold has risen so too has the pressure posing a severe problem for both government and locals. I don’t see either USFS or F&G having the resources to keep up with the encroachment pressure driven by the recession either now or in the future. That money can be spent in far more beneficial ways than trying to manage the “New Gold Rush” to Californian waters.

This leads me to concur that the unregulated, unmanaged permitting of suction dredging as practiced in the Sate of California and in National Forests in and of itself constitutes malfeasance and creates a dangerous and harmful situation to not only the immediate river environment, but to the local citizens who live, work, pay taxes and defend their homes and property from willful trespass by frustrated dredgers who have often been sold bogus mining claims for large sums of money by scam artists.

In closing, as a witness and landowner on the un-dammed Cal Salmon River, I go on record as unequivocally OPPOSED to any further issuance of dredging permits on California streams and rivers until the Calif. State Fish and Game Commission can point to the recovery and resurgence of the salmon and steelhead fishery. Also to provide a law enforcement presence that is determined to effectively manage the laws and regulations it is charged with in these isolated communities and elsewhere, holding gold miners and other resource extractors to the same laws, regulations, reporting and standards as every other business in California that is within the riparian zone of the waters of the State.

Respectfully,

John Seeger
Forks of Salmon Land Holding LLC.

Jon B. Grunbaum BS, MS
219 East Fork Indian Creek Road
PO Box 727
Happy Camp, CA 96039
530.493.2522
knothere@sisqtel.net

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

December 2, 2009

SUBJECT: Suction Dredge Permitting Program

Dear Mark Stopher and the California Department of Fish and Game (CDFG):

Please consider my comments as you develop new suction dredging permitting rules:

In relation to suction dredging, water quality, aquatic habitats, and fish I have the following background. For the last 15 years I have been employed full time as a Fishery Biologist by a Federal agency to monitor fish populations and assess fish habitat and water quality along 90 miles of the mid-Klamath River and tributary streams from Beaver Creek to the Salmon River. Before that, from 1989 until 1994, I was employed by a Federal agency as technical and field coordinator for research on the effects of land use on aquatic habitats and fish populations. During 20 years in the field I frequently observed suction dredges being operated and the resultant effects of suction dredging on water quality and aquatic habitats. I am still currently employed as Fisheries Biologist for a Federal agency, however, the comments I am submitting in this letter are my own opinions. I am writing this letter on my own time as a concerned private citizen and my comments are not intended to and do not represent the position of the Federal agency that employs me.

In the Klamath River system (and other places I suspect), suction dredging is particularly impacting water quality and aquatic habitats because the suction dredging occurs during the dry seasons when stream flows are low and there is not enough water to easily dilute or spread the sediment plume/turbidity/pollutants generated by suction dredging. Increased turbidity and disturbance levels from suction dredging can have direct adverse effects on fish where these impacts occur synergistically with existing poor water quality conditions including high water temperature and high levels of other pollutants or stressors. As you know, Klamath River streams where most suction dredging occurs are on California's 2006 Section 303(d) List of Impaired Waterbodies due to high water temperature, low dissolve oxygen, and excessive nutrients.

In my experience, impacts of suction dredging are often greater than what is assumed in the California Department Fish and Game (CDFG) regulations and supporting environmental analyses even if implemented according to the permit. For instance, the turbidity plume from

suction dredging can exceed the 300 feet that is assumed by CDFG (Hassler et al. 1996, Prussian et al. 1999). CDFG should recognize that suction dredging consistently results in unanticipated or unaccounted for impacts to water quality and aquatic habitats. Examples of common impacts not accounted for in current environmental impact analyses are:

- spills and leaks of gas and oil from suction dredges and gas cans that have floated away
- dredges that came un-tethered and break up in the river polluting the water with gas and oil – this is not uncommon on the Klamath River where wrecked dredges are continually being removed from the river during summer River Clean-Up projects
- constructing authorized and unauthorized roads, trails, and campsites in riparian areas
- additional environmental degradation caused by not following the rules - the CDFG should recognize that a small but consistent percentage of permitted suctions dredgers do not follow the rules for one reason or another and this contributes to the impacts caused by permitting suction dredging. Often the damage caused by not following the rules is not discovered in time to prevent the impacts because CDFG and other regulatory agencies are too understaffed to properly monitor compliance

The CDFG should restrict or prohibit suction dredging where the beneficial uses of water can be adversely affected. These areas include near domestic and municipal sources of course, but also should include water quality necessary to support threatened and endangered aquatic species. Maintenance of salmon and steelhead (and other aquatic fauna) is the primary beneficial use of water in many California streams. Harvey and Lisle (1998) and Washington Department of Fish and Wildlife (2006) currently provide the best comprehensive reviews of suction dredging on water quality and fish habitat. Both these reviews conclude with warnings of potential adverse effects to fish habitat and populations form suction dredging.

Based on 20 years of working on streams and observing suction dredging operations, my professional training in stream ecology and fisheries biology, existence of suction dredging studies demonstrating potential adverse effects to aquatic habitats and fish, the considerable uncertainty of suction dredging effects on fish in various locations and under various environmental conditions, the substantial unanticipated or unaccounted for environmental impacts, and the suction dredging reviews of Harvey and Lisle (1998) and the WDFW (2006) who concluded that suction dredging should be assumed to harm declining aquatic species unless it can be proven otherwise, I do believe that suction dredging can and does adversely affect water quality and fish habitat, and can lower the stream carrying capacity for fish and other aquatic species. To protect salmon, steelhead, sturgeon, lamprey and other aquatic species in the mid-Klamath River and tributaries, I agree with the Expert Report of Peter B Moyle (one of the Nation's most prominent and respected fishery scientists) who recommended that **"suction dredging should be banned in tributaries to the Klamath River, 500 meters above and below cool-water refuge areas (stream mouths) on the mainstem Klamath River, the Klamath River from the Trinity River confluence to Green Riffle, Canyon Creek and all other Scott River tributaries, and the Salmon River including the north and south forks and all tributaries"** until further analyses prove that suction dredging would not contribute to the decline of listed or sensitive aquatic fish species. As the agency charged with protecting California's fish and wildlife resources, the only prudent suction dredge permitting alternative for CDFG is to forbid suction dredging in the critical habitat of any listed or sensitive aquatic

species until further analyses and/or studies show that suction dredging would not harm these species.

On a personal note, I think it is an absolute shame to permit a few people to de-spoil our streams and riparian areas, especially since most suction dredging is recreational.

Thank you for considering my concerns.

Sincerely,

_____

Jon B. Grunbaum

From: "gail" <knothere@sisqtel.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 8:38 PM
Subject: my comments on CDFG suction dredge permitting program
Attachments: Suction dredge comment letter 12012009_esign.doc

Hello,

Attached are my comments on CDFG's suction dredge permitting program.

thank you, Jon Grunbaum

Jon B. Grunbaum BS, MS
219 East Fork Indian Creek Road
PO Box 727
Happy Camp, CA 96039
530.493.2522
knothere@sisqtel.net

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

December 2, 2009

SUBJECT: Suction Dredge Permitting Program

Dear Mark Stopher and the California Department of Fish and Game (CDFG):

Please consider my comments as you develop new suction dredging permitting rules:

In relation to suction dredging, water quality, aquatic habitats, and fish I have the following background. For the last 15 years I have been employed full time as a Fishery Biologist by a Federal agency to monitor fish populations and assess fish habitat and water quality along 90 miles of the mid-Klamath River and tributary streams from Beaver Creek to the Salmon River. Before that, from 1989 until 1994, I was employed by a Federal agency as technical and field coordinator for research on the effects of land use on aquatic habitats and fish populations. During 20 years in the field I frequently observed suction dredges being operated and the resultant effects of suction dredging on water quality and aquatic habitats. I am still currently employed as Fisheries Biologist for a Federal agency, however, the comments I am submitting in this letter are my own opinions. I am writing this letter on my own time as a concerned private citizen and my comments are not intended to and do not represent the position of the Federal agency that employs me.

In the Klamath River system (and other places I suspect), suction dredging is particularly impacting water quality and aquatic habitats because the suction dredging occurs during the dry seasons when stream flows are low and there is not enough water to easily dilute or spread the sediment plume/turbidity/pollutants generated by suction dredging. Increased turbidity and

disturbance levels from suction dredging can have direct adverse effects on fish where these impacts occur synergistically with existing poor water quality conditions including high water temperature and high levels of other pollutants or stressors. As you know, Klamath River streams where most suction dredging occurs are on California's 2006 Section 303(d) List of Impaired Waterbodies due to high water temperature, low dissolve oxygen, and excessive nutrients.

In my experience, impacts of suction dredging are often greater than what is assumed in the California Department Fish and Game (CDFG) regulations and supporting environmental analyses even if implemented according to the permit. For instance, the turbidity plume from suction dredging can exceed the 300 feet that is assumed by CDFG (Hassler et al. 1996, Prussian et al. 1999). CDFG should recognize that suction dredging consistently results in unanticipated or unaccounted for impacts to water quality and aquatic habitats. Examples of common impacts not accounted for in current environmental impact analyses are:

- spills and leaks of gas and oil from suction dredges and gas cans that have floated away
- dredges that came un-tethered and break up in the river polluting the water with gas and oil – this is not uncommon on the Klamath River where wrecked dredges are continually being removed from the river during summer River Clean-Up projects
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- additional environmental degradation caused by not following the rules - the CDFG should recognize that a small but consistent percentage of permitted suctions dredgers do not follow the rules for one reason or another and this contributes to the impacts caused by permitting suction dredging. Often the damage caused by not following the rules is not discovered in time to prevent the impacts because CDFG and other regulatory agencies are too understaffed to properly monitor compliance

The CDFG should restrict or prohibit suction dredging where the beneficial uses of water can be adversely affected. These areas include near domestic and municipal sources of course, but also should include water quality necessary to support threatened and endangered aquatic species. Maintenance of salmon and steelhead (and other aquatic fauna) is the primary beneficial use of water in many California streams. Harvey and Lisle (1998) and Washington Department of Fish and Wildlife (2006) currently provide the best comprehensive reviews of suction dredging on water quality and fish habitat. Both these reviews conclude with warnings of potential adverse effects to fish habitat and populations form suction dredging.

Based on 20 years of working on streams and observing suction dredging operations, my professional training in stream ecology and fisheries biology, existence of suction dredging studies demonstrating potential adverse effects to aquatic habitats and fish, the considerable uncertainty of suction dredging effects on fish in various locations and under various environmental conditions, the substantial unanticipated or unaccounted for environmental impacts, and the suction dredging reviews of Harvey and Lisle (1998) and the WDFW (2006) who concluded that suction dredging should be assumed to harm declining aquatic species unless it can be proven otherwise, I do believe that suction dredging can and does adversely affect water quality and fish habitat, and can lower the stream carrying capacity for fish and other aquatic species. To protect salmon, steelhead, sturgeon, lamprey and other aquatic species in the mid-Klamath River and tributaries, I agree with the Expert Report of Peter B Moyle (one of the Nation's most prominent and respected fishery scientists) who recommended that **"suction**

dredging should be banned in tributaries to the Klamath River, 500 meters above and below cool-water refuge areas (stream mouths) on the mainstem Klamath River, the Klamath River from the Trinity River confluence to Green Riffle, Canyon Creek and all other Scott River tributaries, and the Salmon River including the north and south forks and all tributaries" until further analyses prove that suction dredging would not contribute to the decline of listed or sensitive aquatic fish species. As the agency charged with protecting California's fish and wildlife resources, the only prudent suction dredge permitting alternative for CDFG is to forbid suction dredging in the critical habitat of any listed or sensitive aquatic species until further analyses and/or studies show that suction dredging would not harm these species.

On a personal note, I think it is an absolute shame to permit a few people to de-spoil our streams and riparian areas, especially since most suction dredging is recreational.

Thank you for considering my concerns.

Sincerely,

/s/ Jon B. Grunbaum

Jon B. Grunbaum

From: "Joe A" <MojaveJoe@verizon.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/29/2009 10:11 AM
Subject: Suction Dredge Permit Program

Mark Stopher

California Department of Fish and Game

601 Locust Street

Redding, CA 96001

RE: Suction Dredge Permit Program - Can Logic Trump Science?

When can Logic trump Science? Whenever science cannot provide answers to the most basic and logical questions.

I have been a dredger in CA for over 20 years. I have abided every new law as it was adopted. I intend to abide by any new law adopted in this process. But there comes a time when pure logic should lead the intellect to the proper perspective. I fear that the overzealousness of the anti-dredging groups has now gone beyond logic. Let me explain.

Decline of salmon and other fisheries:

The DFG's own 2009 'decision' to open a limited season for the improved Salmon populations before dredging was even shut down in CA (SB 670) logically implies that dredging was not the cause of the problem. But rather, the annual slaughter of these fish by commercial, Indian, and individual fishermen was the cause.

New spawning beds produced by dredgers help the re-population of fisheries. Much like mother nature in her annual high water and random floods do, by creating new loose gravel beds. Why would anyone want to discourage dredgers from helping fish spawn?

I've heard the argument that the tailing piles are unstable. Well, so are natural gravel bed formations, until they are washed down by subsequent winter flooding that stablilizes them.

Mercury is a natural element:

Free mercury occurs in nature and is put into the air by coal fired power plants in the thousands of tons every year. The government in its wisdom has ordered that all incandescent bulbs be replaced with compact florescent lights (with mercury in them) by 2014. They actually are forcing Americans to bring toxic mercury into their homes.

In 20 years of dredging I have never encountered free mercury in my dredge. Only the occasional flake with mercury well stuck to it (since they have an affinity for each other).

I suspect each year I encounter no more mercury stuck to gold than what you might find in 5-6 CFLs. The difference is, I am removing the mercury from a river and water supply, and the government is adding tons of it to landfills and the water supply by act of law. So who is causing damage to the environment?

Methylated mercury occurs naturally:

Does mercury sucked into a dredge get methylated? If it does, how much is produced?

Modern dredges with a flare (vs crash box) design can catch a speck of gold so small you can barely see it with the naked eye? If it can do this it can also catch extremely small amounts of mercury. It does this because there is so little turbulence in the operation.

Mercury is thus nearly completely recovered from the river. Rather than being a hazard, dredging is actually a win win for the environment. The study that showed methylated mercury in the water downstream of a dredge surely did not test the water 1 mile, 2 miles or 10 miles downstream. If they had, do you think that they could detect any change from normal background levels for that stream? There is an EPA standard for safe mercury levels in water and fish etc. Does dredging create/surpass this? Consider that every decade or two mother nature produces a record flood that churns up the entire bottom of a river or stream with massive material movement, which must easily produce a million times or more the amount of methylated mercury than gold dredging might have over that decade or two. Thus, of what significance is this issue?

I could go on and on. But I think you understand my point.

I only request that you let logical answers trump the science being offered when the science does not address the bigger and more appropriate questions.

Thank You,

Joseph Albrecht

PO Box 1674

Helendale, CA 92342

Ph 760-985-5213 cell

Joseph Albrecht

PO Box 1674, Helendale, CA 92342.... phone: hm 760-952-1057 cell 760-985-5213

November 30, 2009

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

RE: Suction Dredge Permit Program – Can Logic Trump Science?

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Thank You,

Joseph Albrecht
PO Box 1674
Helendale, CA 92342
Ph 760-985-5213 cell

From: Joseph Greene <greenejc_39@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/20/2009 10:18 AM
Subject: Comments Regarding the Update of the Environmental Impact Report (EIR) on SUCTION DREDGE MINING in California
Attachments: __2009 1119, EIR COMMENTS TO CALIFORNIA DEPARTMENT OF FISH and GAME.doc

Please accept my following comments and those in the attached MS Word document as testimonial in support of suction dredging. I hope the attached information is helpful in establishing a scientifically sound Environmental Impact Report.

My association with problems of mining and surface water contamination began as early as 1974 in the Coeur d' Alene mining district relative to the Kellog, ID mine and smelter.

I am very familiar with suction dredge mining and other forms of gold mining. I have, over the past 15 years or more, observed and participated in suction dredge mining operations. My exposure to mining techniques have occurred on the Umpqua River, Calapooia River, Quartzville Creek, Stratton Creek and Carberry Creeks in Oregon, the Klamath River and Stanislaus Rivers in California, and Humbug Creek, San Domingo Wash in Arizona and the Majuba Mountains, Black Rock Desert and Rye Patch areas of Nevada.

Some 25 of my 30 years of government service have related to biological research. A lifetime of biological testing on toxicity and nutrient pollution in the aquatic environment provides a sound basis for appreciating the magnitude of impacts associated with the asserted environmental contaminants, and gives a quantitative perspective generally lacking in general biologists, which leaves them less able to ascertain which environmental effects are significant and which aren't.

I would like to comments on statements attributed to Dr. Peter Moyle recently and in previous legal declarations. Dr. Moyle has had an eminent career in the fisheries sciences. He is well published and respected. However, I believe he is entirely out of his realm regarding factual information about suction dredging. I believe this is proven by his words.
In a Lake County News article written November 17, 2009 by Elizabeth Larson Dr. Moyle was cited as follows:
"Dr. Peter Moyle, professor of wildlife, fish and conservation biology at the University of California, Davis' Center for Watershed Sciences, has conducted studies on the practice and concluded that it has a negative impact.

"It is too soon to tell if the moratorium has had a positive impact on salmon populations and in fact this will always be hard to demonstrate because no one is studying the issue," Moyle told Lake County News in an e-mail message. (my comment: So Dr. Moyle has studied the issue while stating, "no one is studying the issue???:.)

Moyle said the state's fisheries agencies, such as DFG, are "woefully short" of funds and manpower to do their jobs. "Also there are multiple factors affecting the fish populations so separating causes is difficult," he wrote.

"But given the severely threatened nature of summer steelhead, spring chinook salmon, and coho salmon populations it is best to assume that dredging (and associated activity) is having a negative impact unless it can be proven otherwise.As studies show, there are lots of reasons to suspect an impact is there," Moyle noted. "

I find this guilty until proven innocent attitude disturbing coming from a scientist. However, Dr. Moyle has been consistent in his position of denying the rights of suction dredgers to perform their mining operations while clearly stating that he has no scientific cause effect relationship that suction dredging has ever harmed a single fish.

In a legal declaration submitted in the case of the Karuk Tribe vs. the California Department of Fish and Game in the Superior Court of California Dr Moyle held to the same position as follows: "In his declaration, Dr. Moyle states, "I agree with the thrust of Harvey and Lisle (1998), that it should be assumed that dredging is harming declining species unless it can be proven otherwise".
I believe the weight of the available scientific literature establishes that this is NOT the case. In particular, in April 2003 Dr. Peter B. Bayley, of the Department of Fisheries and Wildlife, Oregon State University, Corvallis, OR published a final report titled "Response of fish to cumulative effects of suction dredge and hydraulic mining in the Illinois subbasin, Siskiyou National Forest, Oregon". Dr. Bayley stated that, "Harvey and Lisle (1998) opine that "effects of dredging commonly appear to be minor and local", but stress that cumulative effects of several operations at larger scales have not been investigated. This is one reason this study has been undertaken. Because most suction dredge mining activity in the Rogue basin and the Siskiyou National Forest was concentrated in the Illinois River drainage, the study described here was limited to the drainage of that subbasin." Dr. Bayley concluded, "Localized, short-term effects of suction dredge mining have been documented in a qualitative sense. However, on the scales occupied by fish populations such local disturbances would need a strong cumulative intensity of many operations to have a measurable effect. Local information reveals that most suction dredge miners more or less adhere to guidelines that have recently been formalized by the Forest Service and generally in the Oregon." Dr. Bayley's study and other works confirm that even when analyzed from a cumulative effects perspective, there is no reason to believe that suction dredge mining is deleterious to fish.

Dr. Moyle goes on to state, "It should be ASSUMED there is harm, unless it can be proven otherwise. One reason for taking this conservative position is that we simply do not know the effect of dredging on many species." He went on to further state that, "Even for salmonids, information on the effects of dredging, with the exception of a few studies such as Harvey (1989), is largely anecdotal or in non-peer reviewed reports". Dr. Moyle continues with the statement, "In particular, coho salmon, spring-run Chinook salmon, and summer steelhead are particularly vulnerable to the immediate effects of dredging and have been reduced to low numbers in the Klamath Basin so need special protection".
This is mere opinion without scientific supporting data, for as previously described, Dr. Moyle has in substance acknowledged that he does NOT have any documentation to support these assertions. As far as I can tell, the perception of Dr. Moyle and others of the condition of salmonid stocks is rooted in misconceptions concerning the relative importance of fresh water habitat as compared with ocean conditions and harvest which are of much greater importance in the population dynamics of these fish.

Joseph C. Greene

Research Biologist, USEPA, Retired

California Department of Fish and Game
601 Locust Street, Redding, CA 96001
dfgsuctiondredge@dfg.ca.gov

November 19, 2009

Subject: **Comments Regarding the Update of the Environmental Impact Report (EIR) on SUCTION DREDGE MINING in California**

Dear Board Members,

Thank you for allowing me this opportunity to comment on the water quality aspects of small-scale suction dredge mining.

As I have searched the scientific literature for studies on the effects of small-scale suction dredge mining on the environment I have learned that the preponderance of the published

research studies have been directed towards assessment of its effect on the biology of the streams and rivers. In nearly every instance the results have concluded that the effects were less than significant.

In water quality terms some studies have discussed turbidity, water temperature, and suspension of heavy metals into the overlying water. I will focus my water quality comments on these three areas. But first I would like to put this issue in to perspective.

GEOGRAPHICAL SCALE OF SMALL-SCALE SUCTION DREDGING

It has been observed that environmentalists opposing suction dredging use data gleaned from reports that studied effects of environmental perturbations that are occurring on a system-wide basis. For example, they would characterize the affects of turbidity from a suction dredge as if it would impact downstream organisms in a manner that system-wide high water flow events might. This approach is entirely inconsistent with the way in which suction dredges operate or generally impact their downstream environment.

The California Department of Fish and Game (1997) described typical dredging activities as follows' "An individual suction dredge operation **affects a relatively small portion of a stream or river**. A recreational suction dredger (representing 90-percent of all dredgers) may spend a total of four to eight hours per day in the water dredging an area of 1 to 10 square meters. The average number of hours is 5.6 hours per day. The remaining time is spent working on equipment and processing dredged material. The area or length of river or streambed worked by a single suction dredger, as compared to total river length, is relatively small compared to the total available area."

In the Oregon Siskiyou National Forest Dredge Study, Chapter 4, Environmental Consequences, some perspective is given to small-scale mining. "The average claim size is 20 acres. The total acreage of all analyzed claims related to the total acres of watershed is about ***0.2 percent***. The average stream width reflected in the analysis is about 20 feet or less and the average mining claim is 1320 feet in length. The percentage of land area within riparian zones on the Siskiyou National Forest occupied by mining claims is estimated to be only ***0.1 percent***." The report goes on to say, "Over the past 10 years, approximately 200 suction dredge operators per season operate on the Siskiyou National Forest" (SNF, 2001).

A report from the U.S. Forest Service, Siskiyou National Forest (Cooley, 1995) answered the frequently asked question, "How much material is moved by annual mining suction dredge activities and how much does this figure compare with the natural movement of such materials by surface erosion and mass movement?" The answer was that suction dredges moved a total of 2,413 cubic yards for the season. Cooley (1995) used the most conservative values and estimated that the Siskiyou National Forest would move 331,000 cubic yards of material each year from natural causes. Compared to the 2413 (in-stream) cubic yards re-located by suction mining operations the **movement rate by suction dredge mining would equal *about 0.7% of natural rates***.

It has been suggested that a single operating suction dredge may not pose a problem but the operation of multiple dredges would produce a cumulative effect that could cause harm to aquatic organisms. However, “No additive effects were detected on the Yuba River from 40 active dredges on a 6.8 mile (11 km) stretch. The area most impacted was from the dredge to about 98 feet (30 meters) downstream, for most turbidity and settleable solids (Harvey, B.C., K. McCleneghan, J.D. Linn, and C.L. Langley, 1982). In another study, “Six small dredges (<6 inch dredge nozzle) on a 1.2 mile (2 km) stretch had no additive effect (Harvey, B.C., 1986). *Water quality was typically temporally and spatially restricted to the time and immediate vicinity of the dredge* (North, P.A., 1993).

A report on the water quality cumulative effects of placer mining on the Chugach National Forest, Alaska found that, “The results from water quality sampling do not indicate any strong cumulative effects from multiple placer mining operations within the sampled drainages.” “Several suction dredges probably operated simultaneously on the same drainage, but did not affect water quality as evidenced by above and below water sample results. *In the recreational mining area of Resurrection Creek, five and six dredges would be operating and not produce any water quality changes* (Huber and Blanchet, 1992).

The California Department of Fish and Game stated in its Draft Environmental Impact Report that “Department regulations do not currently limit dredger densities but the activity itself is somewhat self-regulating. Suction dredge operators must space themselves apart from each other to avoid working in the turbidity plume of the next operator working upstream. *Suction Dredging requires relatively clear water to successfully harvest gold* “ (CDFG, 1997).

ELEVATED TURBIDITY AND SUSPENDED

Suction dredging causes less than significant effects to water quality. The impacts include increased turbidity levels caused by re-suspended streambed sediment and pollution caused by spilling of gas and oil used to operate suction dredges (CDFG, 1997).

"Suction dredges, powered by internal combustion engines of various sizes, operate while floating on the surface of streams and rivers. As such, oil and gas may leak or spill onto the water's surface. ***There have not been any observed or reported cases of harm to plant or wildlife as a result of oil or gas spills associated with suction dredging"*** (CDFG, 1997).

The impact of turbidities on water quality caused by suction dredging can vary considerably depending on many factors. Factors which appear to influence the degree and impact of turbidity include the amount and type of fines (fine sediment) in the substrate, the size and number of suction dredges relative to stream flow and reach of stream, and background turbidities (CDFG, 1997).

Because of low ambient levels of turbidity on Butte Creek and the North Fork American River, California, Harvey (1986) easily observed increases of 4 to 5 NTU from suction dredging. Turbidity plumes created by suction dredging in Big East Fork Creek were visible in Canyon Creek 403 feet (123 meters) downstream from the dredges (Somer and Hassler, 1992).

In contrast, Thomas (1985), using a dredge with a 2.5-inch diameter nozzle on Gold Creek, Montana, found that suspended sediment levels returned to ambient levels 100 feet below the dredge. Gold Creek is a relatively undisturbed third order stream with flows of 14 cubic feet per second. A turbidity tail from a 5-inch (12.7 cm) dredge on Clear Creek, California was observable for only 200 feet downstream. Water velocity at the site was about 1 foot per second (Lewis, 1962).

Turbidity below a 2.5 inch suction dredge in two Idaho streams was nearly undetectable even though fine sediment, less than 0.5 mm in diameter, made up 13 to 18 percent, by weight, of substrate in the two streams (Griffith and Andrews, 1981).

"During a dredging test carried out by the California Department of Fish and Game on the north fork of American River, it was concluded that turbidity was greatest immediately downstream, returning to ambient levels within 100 feet. Referring to 52 dredges studied, Harvey (1982) stated "...generally rapid recovery to control levels in both turbidity and settable solids occurred below dredging activity."

Hassler (1986) noted "...during dredging, suspended sediment and turbidity were high immediately below the dredge, but diminished rapidly within distance downstream." He measured 20.5 NTU 4 meters below a 5-inch dredge that dropped off to 3.4 NTU 49 meters below the dredge. Turbidity from a 4-inch dredge dropped from 5.6 NTU 4 meters below to 2.9 NTU 49 meters below with 0.9 NTU above. He further noted "...water

quality was impacted only during the actual operation of the dredge...since a full day of mining by most Canyon Creek operators included only 2 to 4 hours of dredge running time, water quality was impacted for a short time." Also "...the water quality of Canyon Creek was very good and only affected by suction dredging near the dredge when it was operated."

The US Geological Survey and the Alaska Department of Natural Resources conducted a survey into dredging on Alaska's Fortymile River, which is a river designated as a wild and scenic corridor. The study stated, "One dredge had a 10-inch diameter intake hose and was working relatively fine sediment on a smooth but fast section of the river. The other dredge had an 8-inch intake and was working coarser sediments in a shallower reach of the river. State regulations require that suction dredges may not increase the turbidity of the river by more than 5 nephelometric turbidity units (NTU), 500 feet (=150m) downstream. In both cases, the dredges were well within compliance with this regulation."

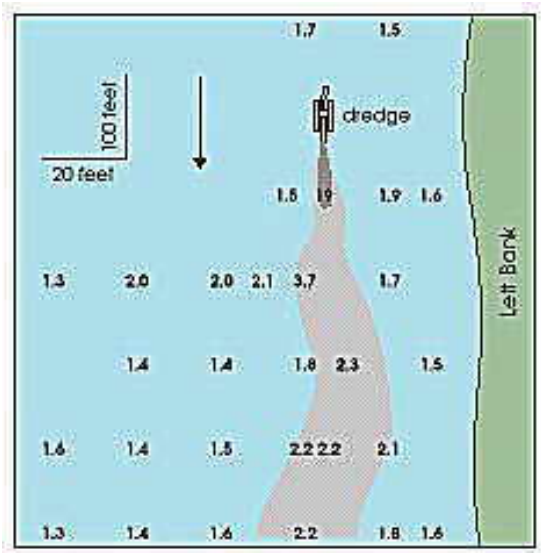

Figure 2. Results of turbidity survey behind an operating 10-inch suction dredge (site #1 on fig. 1). All numbers shown are in NTU, or nephelometric turbidity units; the standard unit of turbidity. The right bank of the river is off the edge of the figure. The approximate shape of the plume is shown in gray. Note that the figure is exaggerated 5x horizontally, so the plume is actually much narrower than it appears in the figure. To comply with State regulations, dredges may not increase the turbidity of the river by more than 5 NTU, 500 feet behind the dredge.

http://www.akmining.com/mine/usgs1.htm

Samples were collected on a grid extending downstream from the dredges as they were operating and compared to measurements made upstream of the dredges. One dredge had a 10-inch diameter intake hose and was working relatively fine sediments on a smooth but fast section of the river. The results of the turbidity survey for the 10-inch dredge are shown on figure 2. Turbidity values behind the 8-inch dredge were lower, because the smaller intake was moving less sediment material, and because the coarser sediments being worked by the 8-inch dredge settled more rapidly

The turbidity values found in the dredge studies fall within the range of turbidity values found for currently mined areas of the Fortymile River and many of its un-mined tributaries. Figure 3 shows the ranges of turbidity values observed along the horizontal axis, and the number of samples that fall within each of those ranges. For example, 25 samples had turbidity between 1.0 and 1.5 NTU, 22 of which were in a dredged area. The

highest turbidity value was from an un-mined tributary to Uhler Creek; the lowest from a number of different tributaries to the North Fork. As seen on the figure, there is no appreciable difference in the distribution of turbidity values between mined and un-mined areas.

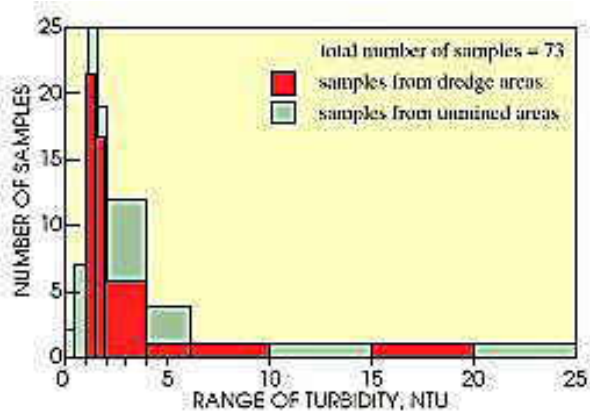

Figure 3. A comparison of turbidity values between mined and unmined areas shows that the suction dredge mining does not affect the turbidity of the Fortymile River system under the conditions studied. The highest turbidity values from the dredge areas are within 200 feet (60 m) of the back of the two operating dredges which were studied.

http://www.akmining.com/mine/usgs1.htm

In American studies, average turbidity levels have been shown to be between 5 and 15 NTU 5 meters below dredges. But even the maximum turbidity level measured in a clay pocket (51 NTU) fell below 10 NTU within 45 meters. Turbidity increases, from even large dredges on moderate sized streams, have shown to be fairly low, usually 25 NTU or less, and to return to background within 30 meters. The impact is localized and short lived; indicating minimum impact on moderate and larger waterways.

Within any waterway, sediment is primarily carried in suspension during periods of rainfall and high flow. This is an important point, as it indicates that a dredging operation has less, or at least no greater effect on sediment mobilization and mobility than a rain storm."

All of these research studies have concluded that only a local significant effect occurs, with it decreasing rapidly downstream. The studies have been wide spread, having been undertaken in Alaska, Idaho, California, Montana and Oregon.

The science supports *de minimus* status for $\leq$ 6-inch suction dredges. Turbidity is *de minimus* according to the U.S. Army Corps of Engineers.

“Effects from elevated levels of turbidity and suspended sediment normally associated with ***suction dredging as regulated in the past in California appear to be less than significant with regard to impacts to fish and other river resources*** because of the level of turbidity created and the short distance downstream of a suction dredge where turbidity levels return to normal” (CDFG, 1997).

Furthermore, individuals that have not, in fact, operated suction dredges may not realize that it is a self-limiting operation. The dredge operator must be able to see his work area to operate safely and manage the intake of the dredge nozzle. ***If high levels of turbidity***

were to flood the dredger's work area and render him "blind" he would have to move the operation to another location.

INCREASING WATER TEMPERATURE

Responsible suction dredge miners do not dredge stream banks (it is illegal). Dredging occurs only in the wetted perimeter of the stream. Therefore, it is unlikely suction dredging will cause a loss of cover adjacent to the stream.

Solar radiation is the single most important energy source for the heating of streams during daytime conditions. The loss or removal of riparian vegetation can increase solar radiation input to a stream increasing stream temperature. ***Suction dredge operations are confined to the existing stream channel and do not affect riparian vegetation or stream shade*** *(SNF, 2001).*

Suction dredging could alter pool dimensions through excavation, deposition of tailings, or by triggering adjustments in channel morphology. Excavating pools could substantially increase their depth and increase cool groundwater inflow. This could reduce pool temperature. If pools were excavated to a depth greater than three feet, salmonid pool habitat could be improved. In addition, ***if excavated pools reduce pool temperatures, they could provide important coldwater habitats for salmonids living in streams with elevated temperatures*** *(SNF, 2001).*

Dredge mining had little, if any, impact on water temperature (Hassler, T.J., W.L. Somer and G.R. Stern, 1986). In addition, the Oregon Siskiyou Dredge Study states, "***There is no evidence that suction dredging affects stream temperature***" *(SNF, 2001).*

Increases in sediment loading to a stream can result in the stream aggrading causing the width of the stream to increase. This width increase can increase the surface area of the water resulting in higher solar radiation absorption and increased stream temperatures. ***Suction dredge operations are again confined to the existing stream channel and do not affect stream width*** *(SNF, 2001).*

Stream temperature can also increase from increasing the stream's width to depth ratio. The suction dredge operation creates piles in the stream channel as the miner digs down into the streambed. The stream flow may split and flow around the pile decreasing or increasing the wetted surface for a few feet. However, within the stream reach that the miner is working in, the change is so minor that the overall wetted surface area can be assumed to be the same so the total solar radiation absorption remains unchanged. ***Suction Dredging results in no measurable increase in stream temperature*** *(SNF, 2001).*

"Small streams with low flows may be significantly affected by suction dredging, particularly when dredged by larger dredges (Larger than 6 inches) (Stern, 1988). However, the California Department of Fish and Game concluded, "current regulations *restrict the maximum nozzle size to 6 inches on most rivers and streams which, in*

conjunction with riparian habitat protective measures, results in ***a less than significant impact to channel morphology***" (CDFG, 1997).

WATER CHEMISTRY

Concern has been raised that small-scale dredge operations may increase the metal load of the surface waters. Whereas dredge operations do re-suspend the bottom sediment, the magnitude of this disturbance on stream metal loading was unknown. It was unknown what affect the dredge operations may have on the transport and redistribution of metals—some of which (for example, arsenic, copper, and zinc) have environmental importance.

The U.S. Geological Survey and the Alaska Department of Natural Resources cooperated in a project, on Fortymile River, to provide scientific data to address these questions. This river is designated a Wild and Scenic Corridor by the Alaska National Interest Lands Conservation Act. Current users of the river include placer mine operators, as well as boaters and rafters. Along the North Fork Fortymile River, and just below its confluence with the South Fork, mining is limited to a few small suction dredges which, combined, produce as much as a few hundred ounces of gold per year. In this area, some potential environmental concerns have been raised associated with the mining activities, including increased turbidity of the river water; adverse impact on the overall chemical quality of the river water; and potential additions of specific toxic elements, such as arsenic, to the river during mining operations.

Field measurements were made for pH, turbidity, electrical conductivity (a measure of the total dissolved concentrations of mineral salts), and stream discharge for the Fortymile River and many of its tributaries. Samples were collected at the same time for chemical analyses, including trace-metal analyses

Water-quality samples were collected at three points 200 feet behind each of the two operating suction dredges. One sample was collected on either side of the plume, and one in the center of the plume. The samples were passed through a filter with a nominal pore size of 0.45 micrometers and acidified to a pH less than about 2. Results are shown in the following table. Samples 1A, 1C, 2A, and 2C are from either side of the plume behind dredges 1 and 2, respectively. Samples 1B and 2B are from the center of each plume. All concentrations given are in micrograms per liter, except pH, which is expressed in standard units.

The data show similar water-quality values for samples collected within and on either side of the dredge plumes. Further, the values shown in the table are roughly equal to or lower than the regional average concentrations for each dissolved metal, based on the analyses of 25 samples collected throughout the area. Therefore, ***suction dredging appears to have no measurable effect on the chemistry of the Fortymile River*** within this study area. We have observed greater variations in the natural stream chemistry in the region than in the dredge areas (Wanty, R.B., B. Wang, and J. Vohden. 1997).

		Side 1	Dredge 1	Side 2		Side 1	Dredge 2	Side 2
		1A	**1B**	**1C**		**2A**	**2B**	**2C**
pH		7.7	7.6	7.8		7.0	7.5	7.5
Arsenic		0.3	0.3	0.3		0.3	0.3	0.3
Iron		110.	110.	110.		100	97	100
Chromium		2	2	3		3	3	3
Cadmium	all less than 0.02 micrograms per liter							
Cobalt		0.07	0.07	0.06		0.06	0.05	0.05
Zinc		0.8	0.6	0.8		1.0	1.0	1.0
Lead	all less than 0.05 micrograms per liter							

A final report from an EPA contract for analysis of the effects on mining in the Fortymile River, Alaska stated, "This report describes the results of our research during 1997 and 1998 into the effects of commercial suction dredging on the water quality, habitat, and biota of the Fortymile River…. The focus of our work on the Fortymile in 1997 was on an 8-inch suction dredge (Site 1), located on the mainstem… At Site 1, dredge operation had no discernable effect on alkalinity, hardness, or specific conductance of water in the Fortymile. Of the factors we measured, the primary effects of suction dredging on water chemistry of the Fortymile River were increased turbidity, total filterable solids, and copper and zinc concentrations downstream of the dredge. These variables returned to upstream levels within 80-160 m downstream of the dredge. The results from this sampling revealed a relatively intense, but localized, decline in water clarity during the time the dredge was operating" (Prussian, A.M., T.V. Royer and G.W. Minshall, 1999).

"The data collected for this study help establish regional background geochemical values for the waters in the Fortymile River system. As seen in the chemical and turbidity data **any variations in water quality due to the suction dredging activity fall within the natural variations in water quality**" (Prussian, A.M., T.V. Royer and G.W. Minshall, 1999).

REMOVAL OF MERCURY FROM THE ENVIRONMENT

Looking for gold in California streams and rivers is a recreational activity for thousands of state residents. As these miners remove sediments, sands, and gravel from streams and former mine sites to separate out the gold, they are also removing mercury. This mercury is the remnant of millions of pounds of pure mercury that was added to sluice boxes used

by historic mining operations between 1850 and 1890. Modern day small-scale gold suction dredgers do not use mercury to recover gold during the operation of the dredge. Therefore, any gold that would be found in their possession would be that which was extracted from the stream or river they are working.

Taking mercury out of streams benefits the environment. Efforts to collect mercury from recreational gold miners in the past, however, have been stymied due to perceived regulatory barriers. Disposal of mercury is normally subject to all regulations applicable to hazardous waste.

In 2000, EPA and California's Division of Toxic Substance Control worked in concert with other State and local agencies to find the regulatory flexibility needed to collect mercury in a simple and effective manner. In August and September, 2000 the first mercury "milk runs" collected 230 pounds of mercury. A Nevada County household waste collection event held in September 2000 collected about 10 pounds of mercury. The total amount of mercury collected was equivalent to the mercury load in 47 years worth of wastewater discharge from the city of Sacramento's sewage treatment plant or the mercury in a million mercury thermometers. This successful pilot program demonstrates how recreational gold miners and government agencies can work together to protect the environment (US EPA, 2001).

Mercury occurs in several different geochemical forms, including elemental mercury, ionic (or oxidized) mercury, and a suite of organic forms, the most important of which is methylmercury. Methylmercury is the form most readily incorporated into biological tissues and is most toxic to humans. The process of mercury removal by suction dredging does not contaminate the environment because small-scale suction dredging removes elemental mercury. Removal of elemental mercury before it can be converted, by bacteria, to methylmercury is a very important component of environmental and human health protection provided as a secondary benefit of suction dredging..

THE REAL ISSUE

The issue of localized conflict with suction dredgers and other outdoor recreational activities can be put into a more reasonable perspective using the data provided at the beginning of this report. For example, the total acreage of all analyzed claims related to the total acres of watershed is about *0.2 percent*. The percentage of land area within riparian zones on the Siskiyou National Forest occupied by mining claims is estimated to be only *0.1 percent*." The report goes on to say, "Over the past 10 years, approximately 200 suction dredge operators per season operate on the Siskiyou National Forest (SNF, 2001).

The issue against suction dredge operations in the streams of the United States appears to be less an issue of environmental protection and more of an issue of certain organized individuals and groups being unwilling to share the outdoors with others without like interests.

Management of the Fortymile River region (a beautiful, wild and scenic river in the remote part of east-central Alaska) and its resources is complex due to the many diverse land-use options. Small-scale, family-owned gold mining has been active on the Fortymile since the "gold rush" days of the late 1880's. However, in 1980, the Fortymile River and many of its tributaries received Wild and Scenic River status. Because of this status, mining along the river must compete with recreational usage such as rafting, canoeing, and fishing.

A press release from the U. S. Geological Survey stated, in part, the following, "The water quality of the Fortymile River-a beautiful, …has not been adversely impacted by gold placer mining operations according to an integrated study underway by the U.S. Geological Survey and the Alaska Department of Natural Resources.

Violation of mining discharge regulations would close down the small-scale mining operations. No data existed before this study to establish if the mining was degrading the water quality. **However, even with the absence of data, environmental groups were active to close down mining on the river citing unsubstantiated possible discharge violations.**

This study has found no violations to date to substantiate closure of the small-scale mining operations. The result is a continuance of a way of life on the last American frontier." (U.S. Geological Survey October 27, 1998). I have no doubt that this is the real issue currently facing small-scale gold suction dredgers in California.

Suction dredges do not add pollution to the aquatic environment. They merely re - suspend and re-locate the bottom materials (overburden) within the river or stream.

I hope this scientific research information I have provided will be helpful in your efforts regarding suction dredge mining and water quality. I thank you for this opportunity to submit this data.

Respectfully Yours,

Joseph C. Greene
Research Biologist, U.S. EPA **Retired**

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From: Joseph Valdes <jfvaldesch@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/30/2009 5:45 PM
Subject: comments

I'd just like to comment about the lack and/or faulty information DFG uses, in relation to the acual operation of a dredge. The most notable one, to me, is the amount of material dredges can actually move per day or hour. I understand for an 8" dredge, the amount in your report stands at around 150 cubic yards per day. That's absolutely ridicolous. I've been dredging the Trinity for 20 years and I'm lucky if I have that kind of yardage in THE WHOLE SEASON ! Also, I'd like to offer an idea. Seems to me there is a bias to negate that we dredgers actually remove mercury and lead from the rivers. Let's find out exactly how much mercury and lead. I propose FG set up stations where dredgers can turn-in the mercury and lead taken from our rivers. You prefer having it in the water (where every flood will stirr it up much worse that thousands of dredge could) or having it out of the water ? Let's
get some numbers here so we can discuss the issue with more information and knowledge. Thanks.

From: Joseph Zitzelberger <jmzitzelberger@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 3:10 PM
Subject: Suctin Dredge Program Comments
Attachments: Suction Dredge Program Comments.pdf

Please find attached, my comments in response to the NOP.

TNX

Joseph Zitzelberger
El Dorado, California

California Department of Fish and Game
Attn: Mark Stopher
Suction Dredge Program Comments
601 Locust Street
Redding CA 96001

Email: dfgsuctiondredge@dfg.ca.gov
Subject Line: Suction Dredge Program Comments

Personal Background

I have been actively involved in prospecting and mining for the past 30 years. My involvement has ranged from simple panning methods to suction dredge mining to open pit aggregate/placer mining and underground hard rock gold mining. I have also been involved in many other land use activities including camping, fishing, hiking, OHV, Rock Hounding and others. Not a single year has passed where I have not produced at least a couple of ounces of placer gold and in fact, suction dredge mining was my primary source of income for at least 3 of the last 30 years.

In 2003 I purchased land at a cost of $100,000.00. My major consideration in making this purchase was because of the potential for suction dredge mining. I have also invested tens of thousands of dollars in suction dredge mining equipment and supplies. I have spent over $5,000.00 in the past two years alone on new equipment and equipment maintenance not to mention the thousands of dollars spent on travel, food and lodging to prospect in other areas of the state and the west.

In the past, I have deployed and currently own suction dredge mining equipment from 2" to 8" in size. For the last five years, the primary equipment I have used has been a five inch suction dredge. I have operated suction dredges in various areas throughout the state but for the last five years, I have operated only on my own private property.

DFG Study Bias

It is obvious from much of the content in this NOP that the Department of Fish and Game has a bias against suction dredge mining and suction dredge miners. Due to this bias, this study has been flawed from the very start. There are numerous places where bias is evident. The following are my comments pertaining to this.

The Department of Fish and Game (DFG) has made statements in the program description and elsewhere in the NOP that are biased against myself and suction dredge miners as a group. I think that it's wrong for a government agency to publish statements that can create a bias against a person or group of people and I feel that I am being "profiled" or "segregated" from the rest of society by these statements.

In section 5.5.7 Processing of Material, you describe chemical processing using mercury and acid. In my 30 years of suction dredge mining, I have seen very little of this type of activity and never have I witnesses miners processing gold in this manner in the field. This portrayal of activity in my opinion is far from accurate and leads people to believe that suction dredge miners are a group of careless, reckless people with no respect for themselves, others or the environment and who commonly use and dump hazardous and toxic materials wherever they are. If these activities actually occur, they are the exception and not the rule.

In section 5.5.10 Encampments, you describe a mess of a camp with human waste and hazardous material strewn around. The last line of the section says "It is unknown whether this behavior is typical of suction dredge miners." This statement implies that this type of behavior may be typical of all suction dredge miners and presents a reason for bias against all suction dredge miners and suction dredge mining. I can assure you that this type of behavior IS NOT TYPICAL of suction dredge miners but instead is typical of a very small section of our society as a whole. The people who behave in this manner should be prosecuted to the full extent of the law instead of using their example to profile all suction dredge miners in this manner. The fact is that most suction dredge miners keep a very clean way and strive to maintain a very low profile and footprint on the land.

Mercury

It appears that mercury is one of the bigger concerns in this study. I don't know why there has not been a CEQA review on the impact of NOT dredging in relation to the removal of mercury and trash from the rivers and streams of California. Suction dredge mining actually reclaims a very large amount of mercury that may be present. To represent that the losses of mercury off the tail of a suction dredge present a greater contamination potential than not removing any mercury at all from the environment is not only irresponsible but also indicates a bias as mention in the prior section of this response. Suction dredge mining is the only commonly performed activity that I know of that has done anything to further the removal of mercury from the streams and rivers of the gold fields.

DFG should not only encourage suction dredge mining to further promote the reclamation of mercury but should also offer a bounty on it. At a minimum, there should be some type of "regular program" to promote mercury reclamation by suction dredge mining and reward those who collect and surrender mercury to DFG. This would not only increase the amount of mercury removed safely from the environment but could also lead to better cataloging of the areas where contamination actually exists thus allowing for more concentration of reclamation efforts where they are most needed. There are many areas where there is very little or no mercury present at all. I do not believe that mercury is commonly used by suction dredge miners today but may be a by-product of the suction dredge mining operation.

Fish

This study should focus on the impact of suction dredge mining on the fish and their habitat. Instead, the study will review many topics that in no way relate to fish. Maybe if you want to promote more fish the DFG should stop issuing fishing licenses. Fishing kills fish, suction dredge mining does not. I cannot count how many areas that I have suction dredge mined over the past 30 years where, if visited today, there would be absolutely no evidence that any suction dredge mining activity ever occurred and that the fish and habitat appear to be healthy.

Comparative Impacts

It's hard to believe that with 211,000 miles of rivers and streams (per swrb web site) and 3000 to 4000 suction dredge miners in the state, most of whom have very little dredge time each year, that the impact of suction dredge mining can be significant in any way at all. With millions of fishing licenses issued annually and millions of people using these same areas for other "recreational" purposes, why is all this time and money being wasted on such a small activity. In my opinion, this again clearly shows that a bias exists at DFG against suction dredge mining and the mining community.

I read on-line that in 2006, there were 1.7 million anglers in California who averaged 11 fishing days per year for a total of ~19 million fishing days in the state that year. Wow, I wonder how many fish they killed or how much trash or pollution they left in or by the water.

Section I talks about aesthetics. Do you think the fish care about this?

Section III talks about air quality. What about the millions of residents and visitors that drive vehicles of all kinds in through and around these areas? The impact of suction dredge mining cannot compare to this in any way to this.

Section IV addresses biological resources. This section goes on and on about all type of impacts that suction dredge mining has on the biological resource. Have you ever seen a watershed after a major flood? Even after normal high water years the amount of material that is moved and the damage to riparian habitat is astronomically greater than what suction dredge mining can do to the environment. It's a wonder there are any fish at all with mother nature to contend with yet they seem to thrive after high water events that "tear up" the environment like the floods of 1986, 1997 and 2005.

Section VII addresses hazards and hazardous materials. Here again suction dredge miners are being profiled as an irresponsible and careless group of individuals who commonly transport, use, store and dispose of dangerous chemicals and materials. This is the "what if" paranoia.

A single watercraft sinking in any lake would likely produce thousands of time the pollution than any fuel spill from any suction dredge miner. How many boats sink every year in the state?

Section VIII, hydrology and water quality. Again there is a bias in this study because the focus is on the tiny fractional portion of mercury that is not recovered instead of focusing on the fact that almost all of the mercury present is actually removed from the environment. It is foolish to think that the mercury as a whole if left in the environment, poses a lesser risk than removing almost all of the mercury by suction dredge mining. If your test shows this, you need to do another test because it just doesn't make any sense at all. Maybe the original test results were flawed.

I can go on and on with this but again I think the study is clearly biased against suction dredge mining. It's like trying to compare a mountain to a mole hill. DFG and the legislative body that passed 670 is out of touch with reality. I also think that a great mistake is being made due to the fact that there will be no actual real-time study of suction dredge mining in California. DFG should be actively involved in studying real mining operations and over a long extended period of time (years) to determine the true impact of this type of activity. I cannot find where any long term study has ever been completed in California.

In closing, I would like to add that as far as I know, prospecting and mining are protected by Federal Law. To me, suction dredge mining is mining and is covered as a granted right in the mining laws. To restrict my rights as a citizen and a property owner from enjoying this activity is wrong and may even be criminal.

Thank you for your consideration and attention.

Joseph Zitzelberger
PO Box 787
El Dorado, California 95623

California Department of Fish and Game
Attn: Mark Stopher
Suction Dredge Program Comments
601 Locust Street
Redding CA 96001

Email: dfgsuctiondredge@dfg.ca.gov
Subject Line: Suction Dredge Program Comments

Personal Background

I have been actively involved in prospecting and mining for the past 30 years. My involvement has ranged from simple panning methods to suction dredge mining to open pit aggregate/placer mining and underground hard rock gold mining. I have also been involved in many other land use activities including camping, fishing, hiking, OHV, Rock Hounding and others. Not a single year has passed where I have not produced at least a couple of ounces of placer gold and in fact, suction dredge mining was my primary source of income for at least 3 of the last 30 years.

In 2003 I purchased land at a cost of $100,000.00. My major consideration in making this purchase was because of the potential for suction dredge mining. I have also invested tens of thousands of dollars in suction dredge mining equipment and supplies. I have spent over $5,000.00 in the past two years alone on new equipment and equipment maintenance not to mention the thousands of dollars spent on travel, food and lodging to prospect in other areas of the state and the west.

In the past, I have deployed and currently own suction dredge mining equipment from 2" to 8" in size. For the last five years, the primary equipment I have used has been a five inch suction dredge. I have operated suction dredges in various areas throughout the state but for the last five years, I have operated only on my own private property.

DFG Study Bias

It is obvious from much of the content in this NOP that the Department of Fish and Game has a bias against suction dredge mining and suction dredge miners. Due to this bias, this study has been flawed from the very start. There are numerous places where bias is evident. The following are my comments pertaining to this.

The Department of Fish and Game (DFG) has made statements in the program description and elsewhere in the NOP that are biased against myself and suction dredge miners as a group. I think that it's wrong for a government agency to publish statements that can create a bias against a person or group of people and I feel that I am being "profiled" or "segregated" from the rest of society by these statements.

In section 5.5.7 Processing of Material, you describe chemical processing using mercury and acid. In my 30 years of suction dredge mining, I have seen very little of this type of activity and never have I witnesses miners processing gold in this manner in the field. This portrayal of activity in my opinion is far from accurate and leads people to believe that suction dredge miners are a group of careless, reckless people with no respect for themselves, others or the environment and who commonly use and dump hazardous and toxic materials wherever they are. If these activities actually occur, they are the exception and not the rule.

In section 5.5.10 Encampments, you describe a mess of a camp with human waste and hazardous material strewn around. The last line of the section says "It is unknown whether this behavior is typical of suction dredge miners." This statement implies that this type of behavior may be typical of all suction dredge miners and presents a reason for bias against all suction dredge miners and suction dredge mining. I can assure you that this type of behavior IS NOT TYPICAL of suction dredge miners but instead is typical of a very small section of our society as a whole. The people who behave in this manner should be prosecuted to the full extent of the law instead of using their example to profile all suction dredge miners in this manner. The fact is that most suction dredge miners keep a very clean way and strive to maintain a very low profile and footprint on the land.

Mercury

It appears that mercury is one of the bigger concerns in this study. I don't know why there has not been a CEQA review on the impact of NOT dredging in relation to the removal of mercury and trash from the rivers and streams of California. Suction dredge mining actually reclaims a very large amount of mercury that may be present. To represent that the losses of mercury off the tail of a suction dredge present a greater contamination potential than not removing any mercury at all from the environment is not only irresponsible but also indicates a bias as mention in the prior section of this response. Suction dredge mining is the only commonly performed activity that I know of that has done anything to further the removal of mercury from the streams and rivers of the gold fields.

DFG should not only encourage suction dredge mining to further promote the reclamation of mercury but should also offer a bounty on it. At a minimum, there should be some type of "regular program" to promote mercury reclamation by suction dredge mining and reward those who collect and surrender mercury to DFG. This would not only increase the amount of mercury removed safely from the environment but could also lead to better cataloging of the areas where contamination actually exists thus allowing for more concentration of reclamation efforts where they are most needed. There are many areas where there is very little or no mercury present at all. I do not believe that mercury is commonly used by suction dredge miners today but may be a by-product of the suction dredge mining operation.

Fish

This study should focus on the impact of suction dredge mining on the fish and their habitat. Instead, the study will review many topics that in no way relate to fish. Maybe if you want to promote more fish the DFG should stop issuing fishing licenses. Fishing kills fish, suction dredge mining does not. I cannot count how many areas that I have suction dredge mined over the past 30 years where, if visited today, there would be absolutely no evidence that any suction dredge mining activity ever occurred and that the fish and habitat appear to be healthy.

Comparative Impacts

It's hard to believe that with 211,000 miles of rivers and streams (per swrb web site) and 3000 to 4000 suction dredge miners in the state, most of whom have very little dredge time each year, that the impact of suction dredge mining can be significant in any way at all. With millions of fishing licenses issued annually and millions of people using these same areas for other "recreational" purposes, why is all this time and money being wasted on such a small activity. In my opinion, this again clearly shows that a bias exists at DFG against suction dredge mining and the mining community.

I read on-line that in 2006, there were 1.7 million anglers in California who averaged 11 fishing days per year for a total of ~19 million fishing days in the state that year. Wow, I wonder how many fish they killed or how much trash or pollution they left in or by the water.

Section I talks about aesthetics. Do you think the fish care about this?

Section III talks about air quality. What about the millions of residents and visitors that drive vehicles of all kinds in through and around these areas? The impact of suction dredge mining cannot compare to this in any way to this.

Section IV addresses biological resources. This section goes on and on about all type of impacts that suction dredge mining has on the biological resource. Have you ever seen a watershed after a major flood? Even after normal high water years the amount of material that is moved and the damage to riparian habitat is astronomically greater than what suction dredge mining can do to the environment. It's a wonder there are any fish at all with mother nature to contend with yet they seem to thrive after high water events that "tear up" the environment like the floods of 1986, 1997 and 2005.

Section VII addresses hazards and hazardous materials. Here again suction dredge miners are being profiled as an irresponsible and careless group of individuals who commonly transport, use, store and dispose of dangerous chemicals and materials. This is the "what if" paranoia.

A single watercraft sinking in any lake would likely produce thousands of time the pollution than any fuel spill from any suction dredge miner. How many boats sink every year in the state?

Section VIII, hydrology and water quality. Again there is a bias in this study because the focus is on the tiny fractional portion of mercury that is not recovered instead of focusing on the fact that almost all of the mercury present is actually removed from the environment. It is foolish to think that the mercury as a whole if left in the environment, poses a lesser risk than removing almost all of the mercury by suction dredge mining. If your test shows this, you need to do another test because it just doesn't make any sense at all. Maybe the original test results were flawed.

I can go on and on with this but again I think the study is clearly biased against suction dredge mining. It's like trying to compare a mountain to a mole hill. DFG and the legislative body that passed 670 is out of touch with reality. I also think that a great mistake is being made due to the fact that there will be no actual real-time study of suction dredge mining in California. DFG should be actively involved in studying real mining operations and over a long extended period of time (years) to determine the true impact of this type of activity. I cannot find where any long term study has ever been completed in California.

In closing, I would like to add that as far as I know, prospecting and mining are protected by Federal Law. To me, suction dredge mining is mining and is covered as a granted right in the mining laws. To restrict my rights as a citizen and a property owner from enjoying this activity is wrong and may even be criminal.

Thank you for your consideration and attention.

Joseph Zitzelberger
PO Box 787
El Dorado, California 95623

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name:	JOSH KLIEWER
Mailing Address:	260 E. AVE L
	CALIMESA, CA 92320
Telephone No. (optional):	
Email (optional):	

Comments/Issues:

IT WOULD BE NICE TO HAVE THE PUBLIC HEARING(S) (AT LEAST ONE!) SOMEWHERE NEARER LOS ANGELES AREA. MANY PEOPLE LIVE TOO FAR TO MAKE IT SO FAR NORTH! THANX!

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

From: julian atta camara <julianatta@gmail.com>
To: <julianatta@gmail.com>
Date: 11/28/2009 9:34 AM
Subject: Enquiry

I am contacting you to inquire if you are intrested in buying Alluvial gold dust and Rough diamonds high % purity, origin Guniea Conakry .contact me if you are intrested in our offer.

Regards,
Julian ATTA.

November 12, 2009

Mark Stopher
California Department of Fish and Game
Regional Headquarters
601 Locust Street
Redding, CA 96001

Dear Mr. Stopher:

I would like to appeal the Department of Fish and Game to listen to the miners of our State. They are hardworking men that are part of the backbone of our Country. The moratorium on mining was such a shock to us given the fact that we have always followed the Fish and Game regulations. Just the fact that the State made no provision to refund our dredging permit is criminal. It's not the money of the permit so much as the principle. Our income has been greatly reduced and has created extreme economic hardship on our family. Gold mining is a large part of our income. These are hard times for our Country and the State of California. There is no need to take away more jobs from our citizens, as the unemployment rate is so high.

I have witnessed first hand the trash and mercury my husband has removed from the South Fork of the American River.

Your notice of intent mentions that dredging may affect global warming. Man has not even proved there is global warming. They are now calling it climate change to make it sound politically correct. Please use only scientific studies, facts, and common sense throughout this EIR process.

The State of California and special interest groups are discriminating against the miners. Other river users have the freedom to continue to fish and raft leaving behind lead, fishing lines, and all kinds of trash, while killing fish. My husband has not killed a single fish while dredging for over 30 years. We are not against fishing but since this EIR has been propagated on the basis of saving Salmon these points have to be made. One of the most evident facts to point out is that there are no Salmon above the Nimbus dam. We are on the South Fork of the American River far above Folsom.

The miners are being responsible citizens and cleaning up the environment, please keep this in mind while you are working the EIR. If we can be of any help, please contact us anytime.

Sincerely,

Kathryn Tyler

Kathryn Tyler
5601 Bumper Road
El Dorado, CA 95623.

Dear Mr. Stopher

I'm not much of a letter writer but when it comes to Gold Dredging it is very important to me.

Not sure how many miles of gold bearing streams you have in California but there are many. Some make it sound like all three thousand dredge permit holders are on the Klamath River at the same time. Some permit holders don't get to dredge because of sickness or work. Some only dredge for a week. Some only dredge for a few hours a day and skip days. Some use a 2 or 2 1/2 inch dredge and have to buy a permit. Even with my 6 inch dredge I worked a very small area on the klamath in 2009. I dredged in an area about 6 foot by 20 foot and the river must have been over 400 foot wide at that location. So, I didn't make much of a dent in it.

Only the dredgers know that they have no impact on the streams. If there is a decline of fish, it is not caused by dredging for gold. What about the gillnets and ocean nets?

People that know nothing about dredging should not be making the rules for dredgers. I'm 67 years and hope to have a few more years of dredging left in me. Keith

Keith McRobert
843 E. Kokopelli

Cochise, Arizona

From: Ken Bowman <6xnbugs@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/4/2009 9:02 PM
Subject: Suction Dredge Program Comments

Hello Mr. Stopher,

I have read through the initial Notice of Preparation. I will not be able to attend any of the meeting due to work conflicts. I wanted to send in comments, until I read the topics we are allowed to respond to. Following is the list copied from the notice.

• Potential impacts of suction dredging
• Scope and range of alternatives
• Types or approaches to the regulatory updates
• Information regarding deleterious effects to fish, if any; and
• Types of activities to be regulated under the Department's suction dredge permit
program

It seems to me that only comments related to negative impacts of suction dredging are welcome. Are positive comments not to be incorporated?

In all, the initial notice seems to carry a negative tone. There are quite a few positive things that come from dredging. The one with the greatest environmental impact would be the removal of lead and mercury from our water ways. This was briefly included in the notice. There are also quite a few miners, myself included, that actually remove trash left by people with no concern for the environment what so ever. Maybe this could be promoted asking people to take a spare trash bag with them and help out.

With this said maybe the comments could include the positive side of dredging.

Thank you,

Ken Bowman
530 518 3663
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The greatest problem in communication is the illusion that it has been accomplished….Ambrose Bierce

From: Ken Casaday <kencasaday@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 7:00 PM
Subject: Scoping Comments on NOP for Suction Dredging Permitting Program EIR
Attachments: Comments on IS 03dec09.doc

Mr. Mark Stopher et al,

Please find attached our comments on the NOP for the Suction Dredging Permitting Program EIR. We are happy that the state is undertaking this effort, and we expect a fair assessment will result in reduction or elimination of the damages we have been witnessing from recent levels of dredging.

Ken and Carol Casaday

Comments on Initial Study and Environmental Checklist for Suction Dredge Permitting Program from Ken and Carol Casaday, Quincy, CA

Initial Study

Because the proposed permitting program is not really defined, it is difficult to comment on an assessment of potential impacts. And although the initial study formally recognizes that the no-action alternative is no dredging, it does not consistently apply this assumption. For some resources, it concludes that because nothing would change from the recent level of dredging, there would be no impacts. These comments, and several others are as follows:

1. *The proposed project, for the purposes of the SEIR, will consist of continued implementation of the permitting program, and, if necessary, proposed amendments to the Department's existing regulations governing suction dredge mining throughout California. (See generally Cal. Code Regs., tit. 14, § 228 et seq.)* (IS sec. 1). CEQA requires that alternatives to the proposed project need not be considered in as such detail as proposed project. But some potential alternatives may be environmentally superior. Can DFG commit to preparing an equal-level analysis of all reasonable alternatives to the suspended program?

2. *"A 6 inch diameter nozzle intake is generally the largest allowed size, however a larger nozzle is allowed under the following conditions: ... An 8 inch nozzle size is permitted on the following ten rivers: American, Consumnes, Feather, Klamath, Merced, Mokelumne, New, Scott, Trinity, and Yuba."* (IS sec. 4.2.1) If differing nozzle sizes will be permitted, justification for use of the large size (8") in certain streams, such as the Feather River, is needed. The IS did not discuss why these larger openings are allowed in 10 rivers in the state, but the EIR should evaluate impacts of alternative maximum intake nozzle diameters.

3. *"Current permit language also stipulates that suction dredging may be restricted in waters designated under the state and federal Wild and Scenic Rivers Acts. Waters designated under these Acts include portions of the following rivers: American (North Fork American and Lower American rivers), Big Sur, Eel, Feather, Kern, Kings, Klamath, Merced, Sespe Creek, Sisquoc, Smith, Trinity, and the Tuolumne. In addition, the Auburn State Recreation Area imposes special restrictions on suction dredging. Areas previously closed to suction dredging also include some waters in the San Gabriel Mountains, and portions of the Sequoia and Sierra National Forests (designated as the Kings River Special Management Area), as well as waters in National Parks, National Monuments, State Parks, and designated wilderness areas."* (IS sec. 4.2.3) Assuming the no-dredging baseline, the EIR must evaluate the impacts of allowing introduction of dredging into each river system of the state. For example, the EIR must analyze impacts of committing the National Wild and Scenic charter member, the Middle Fork of the Feather River, to suction dredging, since it is apparently not protected by law. Moreover, for systematic impact assessment, alternative management schemes for allowance and intake sizes must be formulated for each major watershed. For example, given the efforts to restore the trout fishery of the upper Feather River watershed, should one alternative exclude disturbance of food-producing substrates through dredging?

Also, with regard to restricted areas, trespass of dredgers on private land or use of lands locally-zoned to preclude mining and dredging (e.g. rural residential zones) are indirect effects of

reinstated dredging; therefore impacts of this trespass or illegal operation must be assessed in the EIR. Program administrative methods of reducing trespass on private land or conflicts with local zoning should be developed in the EIR.

4. *On occasion, to reach gold that has deposited below or around large boulders, winching or prying is performed. Crowbars, powered winches, or pull cables/chains are used to move the boulders out of place during dredging. Cables can be pulled by hand or by vehicle depending on their size and weight. (IS sec. 5.5.5)* Will the EIS evaluate the impacts of this behavior and the efficacy of various administrative means of preventing it?

5. *Amalgamation is a method of separating finer gold particles from other materials. In this process, clean mercury is brought into contact with clean gold, and the gold becomes wetted and "drawn into" the mercury. This results in a solution of gold in mercury, or an alloy of gold and mercury called amalgam. After the mercury has gathered in the gold, it is removed by dissolving it in nitric acid or by driving it off as a vapor by heat, leaving the gold behind. While mercury should be treated as a hazardous waste, some miners collect and store it, while others dispose of it by vaporizing it in a cooking pan on a camp stove. Nitric acid presents similar concerns regarding handling, storage, and disposal. (IS sec 5.5.7)* The dredging program would allow reinstatement of such damaging and dangerous practices? It seems incredible that in the Sierra Nevada watershed where mercury broadcast throughout the environment during the gold rush is now commonly found coating river-channel gold, man would continue to bring mercury into this watershed, dispersing it to the air and the ground. Shouldn't the EIR consider alternative approaches to reducing the levels of mercury in sediments of Sierra Nevada and Klamath Mountains lakes and streams?

6. "*Suction dredging can take place throughout California, though much of the suction dredging occurs on private lands or unpatented claims owned by mining clubs. In some cases individual club members pay a fee to use the club's claim, such as with the New 49ers (New 49ers 2009). Clubs cannot prohibit the public from accessing unpatented claims for purposes other than mining. These clubs may provide facilities, infrastructure, supplies, and also have their own rules and guidelines for suction dredging and associated activities. Many miners also own their own unpatented claims to which they have an exclusive right only to the locatable minerals under claim." (IS sec 5.5.8)* Some (many?) of these clubs do <u>not</u> provide any facilities or infrastructure, or post any rules at the sites. Reinitiating dredging would allow reinstatement of club camps on public land where unpatented mining claims under the 1872 Mining Law have been secured by the mining club or association. Such concentrated, unregulated occupancy has been raising health and safety issues for local residents and other visitors to the state's rivers. The EIR must characterize and assess the impacts of reinitiating such activity, since it is an indirect impact of granting permits. Impact along Spanish Creek, a main tributary to the Feather River in the Plumas National Forest, have included degradation of floodplains and river terraces through surface discharge of human fecal wastes, ignition of wildfire, littering, soil compaction, vegetation damage, noise, dust, and displacement of wildlife. Impacts to nearby communities have included dangerous speeding through rural neighborhoods and exposure of local residents to human fecal material.

7. *"Many miners also own their own unpatented claims to which they have an exclusive right only to the locatable minerals under claim." (IS sec 5.5.8).* This statement brings up an interesting approach being taken by some mining clubs – using a placer claim filed under the 1872 General Mining Law to reserve certain reaches for their member to dredge, and to exclude other would-be dredgers from their reach. This practice is being conducted on public lands in the Sierra Nevada. However, the 1872 law, as construed in several court decisions, allows exclusivity of claimant dredging only insofar as it contributes to identification of a deposit that can eventually be economically mined by a reasonable person. The recreational dredging occurring today does not constitute *mineral development* as required by the mining law. Thus, the reinitiating dredging would have the indirect impact of inducing illegal occupancy of public lands. The impacts of such occupancy need to be addressed by the EIR.

8. *"While many suction miners adhere to these basic rules and responsible behavior, Department wardens have observed camps strewn with household garbage, industrial waste, large gas barrels, dilapidated vehicles, and human waste (1994 EIR; Sierra Fund 2009). It is unknown whether this behavior is typical of suction dredge miners." (IS sec 5.5.10)* We have also

witnessed this behavior, and it should not be treated in the EIR as rare or uncommon, but as an expected, common indirect effect of permitting dredging. The cited "unknown" should be resolved in the EIR.

9. *"Although the permitting program and likely amendments to the existing regulations are the proposed project for purposes of CEQA, ..." (IS sec 6.1).* This statement suggests that there is more to the proposed project than just the prior program. Where are the likely amendments? It sounds as if DFG is subjecting something to impact assessment without stating what it is.....

10. *"The Department has determined, as a result, that the appropriate environmental baseline for purposes of CEQA and the analysis set forth below is one that assumes no suction dredging in California. This Initial Study and the SEIR will, as a result, provide a "fresh look" at the impacts of suction dredge mining on the environment generally." (sec 6.2)* A baseline of no suction dredging in California is not only "appropriate", but is mandatory under CEQA, for the reasons stated in this section of the IS.

11. "*Below is a preliminary list of potential environmental issues to be addressed in detail in the SEIR." (IS sec. 7.3).* Please add *Human Health* to the list, per comments 4 and 5 above. Please add *Traffic Safety* and *Soils* , and per comment 5 above. Please add *Land-Use* per comments 2, 5, 6, and 7 above.

Environmental Checklist

1. *"Environmental Factors Potentially Affected."* See comment 11 above.

2. "*...impacts could result from illegal activities such as removal of anchored vegetation or dredging into banks, though permitted activities may also have incidental effects such as the trampling of habitat." (EC Ib).* Does "incidental" mean they've been dismissed? This statement belittles the impacts that dredging club camping is having on the stream environment. In our area of the Feather River watershed, dredgers have spread human fecal material through the forest; ignited wildfires that require intervention by regional firefighting personnel; driven off-road vehicles throughout the forest, destroying ground cover vegetation and compacting soils; and discarded trash or left it in campfire rings where no trash disposal exists. These scenic impacts are far from incidental.

3. "In particularly sensitive areas, changes or damage could be considered substantial and inconsistent with the "wild and scenic" designations of such rivers." (EC 1b). Is this statement intended to eliminate discussions of scenic impact of dredging and dredge camping for all rivers except those designated as Wild and Scenic by state or federal law? That would be completely inappropriate, since there are many beautiful streams in the Sierra Nevada that have no such formal protection, but which are enjoyed annually by thousands of people.

4. "*However, it is beyond the scope of the Department's jurisdiction to regulate and enforce campsite housekeeping, since camping is not an exclusive activity of suction dredge mining. Rather, this is a general aesthetic issue that is common to all overnight recreational activities in public areas." (EC 1c).* We believe the Department has jurisdiction over littering in stream zones; violators are cited in our area by Department wardens. The observed spreading of human fecal material in these zones may or may not be subject to Department authority, but it should be, as should ignition of wildfire, vegetation damage, and all forms of littering. Department wardens patrol these stream zones daily, while local law enforcement personnel are busy elsewhere. Also, we have observed behavior at dredger camps that contradicts the second sentence cited above. In our area of the Feather River watershed, impacts of camping dredgers described above are far worse than impacts of the normal contingent of campers. Perhaps the EIR can determine why this is. We are gratified that the IS commits the EIR to evaluating *Degradation of Visual Character*, and remind the Department that mitigation measures must be formulated for potentially significant impacts even if the responsible agency has no current authority to impose them.

5. *"Small, internal combustion engines are the typical source of power on suction dredges." (EC sec. II).* What percentage of these engines are 2-stoke rather than 4-stoke? Our understanding is that 2-stroke engines, besides being much noisier, emit up to ¼ of the fuel consumed unburned as pollutants to air and water. The EIR should address air quality effects of adding more 2-stroke polluters to the environment, if that is the case.

6. *"Exhaust from suction dredge engines may cause localized air pollution, particularly in locations such as confined canyons with little air movement. However, this pollution would generally be occurring in remote rural areas that are sparsely populated." (EC sec IIId).* We are part of that sparse population located in a confined canyon, and object to using population density or air shed volume as criteria for dismissing this potential impact. I do not know if I am a sensitive receptor or not, but when a dredge operated for an extended period adjacent to our property, the ambient concentration of unburned fuels and combustion products was substantial and degraded our quality of life.
7. "*Suction dredge air emissions are primarily the result of gasoline combustion, which does not typically produce the type (or quantity) of odors considered to be unpleasant. In addition, these emissions would occur in rural, sparsely populated areas." EC sec. IIIe)* See comments 5 and 6 above. Two-stroke engines produce plenty of odor, and why dismiss our sparse population as being insignificant?
8. *"In conclusion, suction dredging can have substantial short□term and localized adverse impacts on local benthic invertebrate abundance and community composition. Benthic communities seem to recover over time frames of 30□60 days after the disturbance ceases and the adverse impacts of suction dredging are not evident after one year (unless there is a very small population that is threatened or endangered). However, when discussing the extent of benthic disturbance and its recovery, the extent to which it affects a juvenile salmonid's reliance on the natal stream before emigrating is important as is larval development of other native species that depend on a healthy benthic invertebrate community. This is considered a potentially significant impact and will be analyzed further in the SEIR." (EC sec. IVa)* and *As discussed above under Effects on Fish and Invertebrates, the benthic community would be directly impacted from the action and may affect amphibians, based on the temporal loss of the prey base. The USFS 2004 Sierra Nevada Forest Plan Amendment FEIS states that suction dredging constitutes a significant amount of the mining activity in the Sierra Nevada and that suction dredging causes short□term sterilization of the gravel at the dredging site.* (EC sec Iva). We expect EIR preparation to involve substantial new analysis, and new data as needed, to fully address these issues. Here at our home in the northern Sierra Nevada on a tributary of the Feather River, we observe various hatches of aquatic insects at various times throughout the growing season. After the sediments in the channel were dredged, aquatic insert production was definitely reduced. It is relatively simple to understand how and why dredging destroys the prey base for trout in Sierra Nevada streams. Regardless of whether Special-Status species are involved, these impacts should be fully assessed. Are not trout, truly, becoming threatened throughout California.
9. *"...the potential exists for discharges [of mercury] to cause adverse impacts to aquatic organisms and increase the risk of mercury bioaccumulation in the foodchain." (EC sec.III)* We presume that this brief, initial conclusion, and the scant data discussion that follow it, will be expanded upon in this EIR, based on existing or new research.
10. *"That said, recreational impacts have the potential for long□lasting damaging effects (Moyle et al. 1996) [to riparian habitats and sensitive natural communities]." (EC sec. IVb]* The discussion of this subject in the EIR should include analysis of extent of wildfire caused by camping dredgers. On Forest Service land near us, dredger camping increased substantially last summer and a wildfire was ignited. Years of camping by non-dredgers has never resulted in a wildfire in the area.
11. *"For example, analysis of aerial photography in 1996 showed that fragmentation of riparian corridors was usually associated with vehicular access, often originating from logging activities but continued afterwards by recreationists (Kattelmann and Embury 1996)." (EC sec. IVb)* We presume that this habitat fragmentation issue will be fully evaluated in the EIR. As a component of it, you should evaluate the extent of soil compaction in riparian habitats that is occurring because of dredger encampments. It is caused by vehicle access, but exacerbated by towing and camp-area use of OHVs.
12. *"It is likely that suction dredge miners may require the use of septic or alternative wastewater facilities; however, the Proposed Program is not anticipated to result in a demand beyond the current capacity of existing facilities."* (EC sec.VIe). Given the no-dredging baseline for impact assessment, the metric of *demand beyond the current capacity* is inappropriate. The proper metric is demand relative to no dredger demand. On the ground in our area, however, there are

no wastewater facilities, not even pit toilets. Dredgers are spreading human fecal waste throughout the camp vicinities.

13. *"Activities associated with suction dredging include the use of ... chemicals for materials processing (primarily nitric acid and/or mercury)... When used or disposed of improperly, these materials pose a risk to public health and safety from contamination or exposure. ... Because suction dredging and related activities are associated with the routine use of hazardous materials, the implementation of the Program could potentially endanger the health of the public or the environment. (EC sec. VIIa,b)* See comment 5 on the Initial Study above.

13. *"Due to the naturally wooded and undeveloped characteristic of many recreation areas, there is an inherent risk of wildfire associated with most outdoor activity in California. Under certain conditions, fires may result from careless or improper practices involving equipment, supplies, or outdoor practices. Because suction dredging activities generally involve the use of flammable supplies for fuel and materials processing, there is a greater risk of fire associated with this activity as compared to some other forms of recreation (such as day□hiking or picnicking). As such, this activity has the potential to expose the public to an increased risk of wildfire." (EC sec. VIIh).* See comment 4 above. It isn't the materials used that increase the wildfire potential, it is the behavior of dredgers. The EIR should examine methods of engendering in dredgers ecosystem-stewardship behavior, and assess their potential effectiveness.

14. *"Finally, suction dredges operate using internal combustion engines while floating on the surface of the water. Therefore, the potential exists for oil and gas leaks or spills to occur, resulting in direct discharges of these contaminants to water bodies and possible adverse water quality effects." (EC sec. 8a).* See comment 5 above. If applicable, the EIR should address water quality effects of adding more 2-stroke polluters to the environment (since under the baseline, there are no operating dredgers in California).

15. *"While the regulations under the Program may specify location and seasonal restrictions on operations, they would not provide authorization to operate on any public or private lands where such activity is not otherwise allowed. Indeed, the suction dredging regulations resulting from the Program would not override any existing laws or policies governing land uses on public or private lands which are under the jurisdiction of another agency. All suction dredgers would be responsible for obtaining any necessary authorizations from the relevant land use authority or property owner. Therefore, the Proposed Program would not conflict with any applicable land use plan, policy, or regulation of an agency jurisdiction adopted for the purpose of avoiding or mitigating an environmental effect. There would be no impact . (EC sec IXb).* But there are land-use impacts! Just because dredgers must obtain approvals from landowners or should operate consistently with local zoning does not excuse the EIS from analyzing and documenting the land-use conflicts that allowing dredging causes. See our 3rd comment on the Initial Study, which concludes "...trespass of dredgers on private land or use of lands locally-zoned to preclude mining and dredging (e.g. rural residential zones) is an indirect effect of reinstated dredging; therefore impacts of this trespass or illegal operation must be assessed in the EIR. Program administrative methods of reducing trespass on private land or conflicts with local zoning must be developed." The Department cannot simply ignore the impact.

16. "*Gasoline□powered engines are a primary component of suction dredge equipment. The operation of such noise□generating equipment in the existing quiet environments of the surrounding recreational areas could result in a perceptible increase in noise." (EC XIa,d).* This is an understatement! We live in such an environment, and the steady chug-chug of a dredger in our backyard has been totally annoying. For a few weeks, we were forced to leave home during operating hours, and were precluded from renting it to others. The noise level was far from imperceptible! In this regard, the EIR should clarify the degree to which dredger engines are two-stroke. Two-stroke engines are much noisier (and polluting) than four-stroke engines, and our experience is that a two-stroke engine is commonly used for dredging.

17. *"Operations on private lands often have self□regulating bodies that enforce similar rules to ensure the long□term sustainability of the area. One such private mining club is the New 49ers. New 49er Club members are required to abide by established rules and are encouraged to monitor the activities of adjacent users. Violators can be reported to the club management and are subject to eviction from the club and its properties (Koons 2004)."* (EC sec. XIIIa) This ignores the situation on public lands, such as near our home, where a dredging club has illegally

claimed exclusive dredging use of various river reaches but provides to self-regulation or rules to ensure any environmental protection. The U.S. Forest Service and the local county sheriff and environmental health departments are unable to control their behavior, even though much of it is in violation of federal and local law. The EIS should not, therefore, assume that police and fire protection demand will not increase with reinitiated dredging. Does the Department envision any mechanism by which it can ensure that mining clubs do adopt and enforce dredger-camping behavior rules.

18. *"The Proposed Program would not provide or require newly created recreation areas or facilities specifically for the purpose of servicing suction dredging activities."* (EC sec. IVa,b) The reasons given following this statement are unconvincing, especially since, near our home, reinitiation of dredging will require the Plumas National Forest to construct a new campground to accommodate recently-increased dredger occupancy. The EIR should investigate whether this situation prevails elsewhere in the state. It should also investigate whether the Forest Service may require dredging clubs to provide onsite services to camping members for lands claimed under the 1872 General Mining Law, or whether and how the Department can provide the needed facilities and services.

19. *"Anecdotal complaints from other recreational users include issues related to barriers to access, reduced fishing success or quality of recreational experience from the use of gas powered motors, overall reduction in aesthetic quality of the surroundings, and safety hazards related to suction dredge equipment use and practices (dredge holes, gas leaks, encampments).* (EC sec. XIVa,b) Based on our first-hand experience, this statement of complaints should be expanded to include spreading of human fecal waste and toilet paper throughout the camping vicinity, littering in general, reckless driving, use of OHVs throughout the forest, and wildfire ignition. Moreover, we disagree that this is a perception problem. It is an acceptable behavior problem.

20. *As noted previously in Section XIV, Recreation, suction dredge miners represent only a small percentage of the overall number of those engaged in recreational activity in California annually. As such, the Proposed Program would not have a noticeable effect on the volumes and patterns of traffic beyond that which is normally associated with outdoor recreation.* (EC sec. XVc) If a condition is created that result in the death of a pedestrian, would the Department continue to make this argument? Dredger campers dangerously and recklessly speed through our neighborhood as part of their camping experience. The common suite of campers does not display this type of behavior. It is evident, then, that reinitiation of dredging will disproportionately increase the threat of death to pedestrians by vehicles here.

21. *Those camping in undeveloped areas may store wastewater in recreational vehicles or utilize outdoor areas for disposal. All recreationists, including miners, are responsible for the proper containment, disposal, and treatment of any such wastewater. As such, the Proposed Program would not result in an increase in wastewater quantities that would exceed wastewater treatment requirements or require new or expanded wastewater treatment facilities. This impact would be less than significant.* (EC sec. XVIa,e) In our vicinity, reintiation of dredging will result in renewed spreading of human fecal material in floodplain the river terrace areas. Or, reintiation of dredging will require the Forest Service or the Department of provide new restroom faculties, since none now exist, and the problem is out of control. The third quoted sentence is untrue.

From: Ken & Debbie McMaster <kdmc@gotsky.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 8:54 AM
Subject: SEIR Comments
Attachments: DFG 2009 comments.pdf

Please read and accept the attached as part of the official record concerning the Suction Dredge Permit Program and its current SEIR.
Ken McMaster

Ken McMaster
P.O. Box 223
Calpine, CA 96124
530 994-1050 kdmc@gotsky.com

December 1, 2009

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Mark,

Please make these comments an official part of the record regarding suction dredging for the current scoping process and any and all pertinent processes ending Dec. 3, 2009 and continuing processes thereafter. For the record, Since 1979, I have been an active miner using a suction dredge as the most productive tool for extraction of gold from my mining claims. I have done so with all permits and authorizations from both DFG and the U.S. Forest Service. I follow the law, pay taxes and contribute substantially to the local economy where I mine. With the ban on dredging, I am no longer paying taxes or contributing to local economies as no gold is being produced.

The baseline condition being used at 6.2 of the Program Description is adverse to the intent of the DFG regulations and the Mining Law of 1872. The current regulations provide that The Department's regulatory authority governing suction dredge mining is based specifically on Fish and Game Code section 5653 et seq. In general, these provisions of the Fish and Game Code prohibit the use of any vacuum or suction dredge equipment by any person in any river, stream, or lake in California, except as authorized by a Department permit issued in compliance with regulations adopted pursuant to Fish and Game Code section 5653.9. (See Fish & G. Code, § 5653, subd. (a).) The Department's existing regulations governing the issuance of vacuum and suction dredge permits are found in Title 14 of the California Code of Regulations in sections 228 and 228.5. With respect to proposed amendments to the existing regulations, the Department is **charged** by the Fish and Game Code to issue suction dredge permits where the Department determines, consistent with the regulations, that the operation will not be deleterious to fish (Fish & G. Code, § 5653, subd. (b).). The prior EIR should be the baseline! This new baseline is not a conservative approach, it is a radical approach. We should be using the current regulations and science as the baseline, not political will power disguised as science.

To use a baseline that assumes no suction dredging in California is allowed is against the current regulations and against the departments history of allowing suction dredging if it is not deleterious to fish. The baseline you propose is that one considers dredgers guilty until proven innocent. It is against common sense and the law. The current Wiggins law is totally political and should be overturned in court. When the Karuk Indian tribe and other tribes can gill net salmon by the thousands and fishermen can get permits to kill fish, it is absurd to punish miners who some think could disturb or

harm a fish. All evidence points to the contrary, dredging improves stream habitat for spawning fish, aerates the gravels and removes mercury from the rivers. Do fishermen aerate the gravels, improve spawning beds or remove mercury from the rivers and streams? No, neither do the Indians!

DFG needs to change the written dialogue that states that "suction dredgers regulated under the program are often small-scale, recreational gold dredging operators conducting suction dredging for a limited time each year." This is a slanderous and deceptive perception that DFG initiates and one that overlooks many key aspects. First, DFG alone has set the timeframes for when the mining industry can dredge. If someone then follows the law and mines within that timeframe, you then consider them small-scale, recreational dredging operators conducting suction dredging for a limited time each year. I consider myself a full time miner, mining within the existing timeframes set by law. To seemingly dictate a dredging season, but base full time vs. part time on a calendar year is an abuse of discretion. Secondly, state law mandates that assessment work be done each year to fulfill the laws requirements, and if dredging is the method of choice to do this work, then the requirements of the law are being met, not that someone is small-scale. This type of analogy and depiction plays well to the anti-dredging lobby, but is discriminatory at best.

On page 28 of the Program Description, under Environmental Factors Potentially Affected, Human Resources are omitted and not recognized. Humans will be greatly affected by this project. The human environment needs to be considered to be an effective and legal environmental document. The effects of no dredging are pervasive. No gold recovered means no taxes on gold recovered and sold, no mining equipment bought or sold (job losses to the industry), mining claims being worthless, no beneficial impacts to towns close to mining areas, no taxes paid to counties for mining claims and the end result will be lawsuits for takings implications.

The cost to the government will be enormous, both ways, meanwhile not doing anything to protect fish. The real problem, if any, are fishing and the dams, not dredging.

Also on page 28, the box for Mineral Resources is not checked. This will have a tremendous impact on the mineral resources, as gold will not be produced from the streams and rivers, another environmental factor affecting people.

On page 78 it states that the loss of mineral resources is considered to be less than significant. This is like saying that eliminating cars and mechanical transportation will not affect people or their jobs! Dredging is the only viable means of recovering gold on my mining claim. I am located within a wilderness area and I would not be able to bring in other equipment. The Forest Service themselves state that dredging is the only viable source mining on my wilderness mining claims. Stating that a ban on dredging will not affect the "Program" is unbelievable! Take away your DFG issued computer, your state issued car, office and uniform and see how you compete in the real world. Dredging for most placer miners is the only cost effective method of extracting gold. Where in the world did you get this bizarre data from... that a less than significant mineral resource impact would occur without dredging?

In the Program Description, it discusses the affects mining have on aesthetics. The effects of dredging on aesthetics are no different than those of gill netting indians, fishermen, loggers, Cal-Trans, rafters, mountain bikers, horsemen, backpackers and all functions of life. If someone doesn't like a legal activity, go elsewhere. And to equate

that other visitors to an area that may view dredging and don't like it are better than others or that their experience is more important is elitist and ludicrous. To state at page 86 that a recreationalist is intimidated when approaching a dredging operation is only analogous to the fact that any recreationalist should be wary upon approaching another's encampment. I.e., if some stranger walked into your campsite, you might be suspicious, dredgers have gold that they are mining are reasonable to protect it, no different than a camper protecting his ATV, camper, etc. We all need to get along together.

I have been dredging on the South Fork Salmon River in Siskiyou County since 1979 and on the N.F. Trinity River in Trinity County since 1983. Both areas are within the Trinity Alps Wilderness area. I have valid existing rights on these mining claims and have had them validated by the U.S. Forest Service. On the S.F. Salmon River, I have had countless DFG permits and studies that show that my dredging occurs above any anadromous fish populations. My dredging occurs approximately two miles upstream from the <u>last known range or distribution of anadromous salmonids.</u> The relatively long distance between my dredging location and any potential salmon and steelhead habitat or any localized disturbance to aquatic invertebrates would have little to no impact on food availability or habitat for salmon or steelhead. In addition, any settleable fine sediments mobilized in the stream by my dredging would settle out long before reaching any known salmon or steelhead habitat locations downstream.

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Regarding the N.F. Trinity River, my area been **illegally classified Zone A,** no dredging allowed at any time. When one researches the FEIR of 1994 to substantiate this report, **no biological reason is given**. The only information given at Appendix J, Reasons for Stream, Lake & River Closures is @ 106, pg. 151, that, "The North Fork Trinity River and tributaries upstream from Hobo Gulch Campground may be closed to suction dredging due to federal wilderness designation boundary beginning at Hobo Gulch. Check with the U.S. Forest Service for details." Only the U.S. Congress can close a wilderness area to mining, not Fish and Game. Wilderness areas are not closed to dredging to mining claims with valid existing rights, such as I possess! Prior to the DFG eliminating special dredge permits, I played along with the department and obtained a special dredging permit to operate in closed areas. I had been waiting either for new regulations or a lawsuit. Now that the area is closed to dredging, a lawsuit might ensue. Any new regulations need to address the N.F. Trinity River and reopen it to dredging. The N.F. Trinity River and its tributaries above Hobo Gulch must be open to dredging, per similar areas. **<u>This is significant new information for you to include in any assessment or new regulations.</u>**

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N.F. Trinity River has to be reclassified based upon science, not someone's skewed political view that no dredging is allowed in wilderness. Within the same wilderness, on the S.F. Salmon River, I have received dredging permits, but within the N.F. Trinity, the area is closed, Zone A, no dredging allowed at anytime... this mistake by the DFG must be rectified. It is the only river, stream or lake in the state of California closed because of a lack of relevant criteria! This must be done in any new regulations. To not do so would be arbitrary and capricious and an abuse of agency discretion.

The entire program description is skewed and flawed. It entirely omits any reference on the federal right to mine and mining claimants statutory right to mine. The entire SEIR is filled with speculation and innuendo, using the terms could or may numerous times in the agencies attempt to justify their end. It speaks to the heartstrings of liberals everywhere. It doesn't address reality. All functions of life affect something. The DFG driving out daily to do their job affects the environment, any EIR done on that? You might as well eliminate all RV's, ATV's, fishermen, hikers, backpacker's, anyone from the woods for the next 50 years to obtain your social goal. Dredging is not the problem. Eliminate gill net fishing and then fishing for the general public and see what controversy you have.

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Sincerely,

Ken McMaster

From: Ken & Debbie McMaster <kdmc@gotsky.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 10:42 AM
Subject: SEIR comments
Attachments: DFG 2009 comments.pages

Please read and accept the attached as part of the official record concerning the Suction Dredge Permit Program and its current SEIR.
Ken McMaster

Ken McMaster
P.O. Box 223
Calpine, CA 96124
530 994-1050 kdmc@gotsky.com

December 1, 2009

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Sincerely,

Ken McMaster

Ken McMaster

From: "kshillig@juno.com" <kshillig@juno.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/13/2009 10:15 AM
Subject: Public Scoping Meetings

Mark Stopher:

What a great activity available to us until stopped by DFG. We would dredge on the San Gabriel River, and we had a lot of fun myself with my two older boys ages 25 and 29. We worked together, and talked, and I can't remember a better time. Didn't seem to do any damage to the environment and while underwater, saw lots of fish hanging right there with us watching for something good to eat. Really too, too bad to have stopped this type of activity, and it seems DFG efforts might be better directed to healing the Bays which deterioration is much much worse than what I could see dredging... Please open up dredging again so we can have a fun activity..

Kurt Shillig
Santa Clarita, Calif.

IN 2003 Their WAS A Big Kill off of salmon in The KlAMATH River. They said above HAPPY CAMP where the Indina Live they Found Poison Coming From where The Indina Live.

IN 1976-77 in somone co. At SANTA ROSA point st Geoge Fish plant WAS Raided by The LAW.
My grill Fiend was the D.A. sectary. She went on The Raid The Indina were selling Fish (SALMON) That They had cough on The KlAMATH River.

I Don't Know of much Dredging ON The Eel. Or Dredging on The Russian River.

I Dont Know About ANY Dredging on SALMON creek.
Where HAVE The salmon gone.

Is it The Sewer or the Gravle PlANT on The River That Are Killing off The Fish.
I have live over 50 yry in somona Co.

What About The Sewer That Nevada Co. has Dump into Deer creek and Wolf creek.

What About The Sewer That Santa Rosa has Dump into The Russian River.

In The newpaper 2008 Fish and Game was Trying To make Nevada Co. pay for Sewer spill $300,000.00.

Dose Sewer and Meth Drug Dump into The creeks and River Kill Fish and people.

The Graule Plant At Healdsburg has Been Digging in The Russian River for over 50 years. How much mud And Dirt Do They send Down The River.

If Dredgger Do So much Damage To The River. How much Damage Do The gravel plants Do.

How Dose Fish & Game At Bodega Bay Let Boat sink in The Bay and not make some one clean it up.

How much oil come off The Tractor and Equipment That Graule plants use Into The Rivers.

I have Fish Almost all the River and Creek and OCIAN ~~[illegible]~~. For 50 yrs.

The Russian River and SALMON creek use TO have A Lot of Fish. NOT ANY more.
SALMON creek has Been close sence About 1975.

The Bear River in PLACER CO. is Full of Merchury.
Dose the HANSON BQ CO. Gravle PLANT Dig up The River Bed.
What Happen To the merchury THAT they Dig up.

I ~~[illegible]~~ Colect the Merchury THAT in my Dredge.
Dose HANSON GRAVLE PLANT keep the Merchury. NO.

How is it THAT one of The Chif. of The Indy Tribe WAS Arested ON Meth Drug.

LARRY PACKARD
11030 New Town Rd NEVADA CA 95959

From: "Cynthia Salhaney" <gldminer@Lincolnxing.org>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: "RICK&LISA HOME SMITH" <rlsmith67@juno.com>
Date: 12/2/2009 3:15 PM
Subject: Comments Regarding the Subsequent Environmental Impact Report

Comments Regarding the Subsequent Environmental Impact Report (SEIR) on Suction Dredging.

Larry Salhaney, PE.

December 2, 2009

If the real obstacle to suction dredging is the Hillman lawsuit, why is the proposed scope of the draft SEIR on suction dredging not consistent with the primary content of the lawsuit? The scope of a study to dispute the Hillman suit could simply consist of a comparison of fish takes from all sources possibly affecting the fish. These would include commercial fishing, tribal fishing, sport fishing, agriculture, industry, suction dredging and any other serious threats to the fish. It is obvious to me that the detrimental affects of 3200 suction dredge permits (state-wide, including areas which are not affecting salmon and perhaps have no measureable fish take at all) are miniscule in comparison to the fish take produced by other sources-especially fishing. To most reasonable people, the sheer numbers of permits vs. fishing licenses would indicate that "suction dredging is not a major cause of fish population decreases described in the lawsuit, especially when compared to fishing. Accordingly, a proposal to ban fishing and a ban on issuing fishing licenses until a draft SEIR on fishing is completed would be fair and appropriate and is more applicable to the problem indicated in the Hillman lawsuit.

A proposal to ban fishing would no doubt produce a title wave of outrage from fishing license holders, tribal lawyers and commercial fishermen claiming the State is depriving its citizens of a livelihood, sustenance and their right to recreational pursuits. Additionally, the loss of revenue to the State would be significant and therefore the action would probably be deemed not feasible during times of economic stress by the State.

What about the suction dredge permit holders of California? For the first time in 30 years, gold has attained a high economic value. The State is prohibiting suction dredge permit holders from any activity for an indefinite period of time. Some of these permit holders have been dredging for decades and have been barely breaking even or losing money. Recreational permit holders have a considerable investment in equipment they can no longer use and cannot recover their equipment and operational costs. The State is demanding them to wait an indefinite period of time for an inappropriate and expensive study to be completed-if and only if enough money can be appropriated from the taxpayers and license fee payers of

California, which in either case includes dredge permit holders. It is apparent that because the fees from suction dredging permits do not produce large revenues for DFG, the State is uninterested in protecting and representing the rights of these permit holders.

If the State had really been concerned about the affects of suction dredging on fish and was serious about changing the dredging regulations, the funds would have been appropriated for DFG to complete a proper study to revise the regulations, years ago. Hundreds of grants for meaningless studies and reports are subsidized by the taxpayers of the State every year. No studies of similar scope (and potential cost) have even been considered or proposed for other, more likely causes of deteriorating fish populations.

I am a professional engineer and have been a suction dredge permit holder and small scale miner for decades. I have participated in a remediation of an EPA Superfund site in California and have over 27 years of professional engineering experience.

In my professional opinion, this situation amounts to an old-fashioned "lynching" of the "California suction dredger" and I regret having had to witness it at the hand of the State government due to misinformation and speculation, misuse of revenues and a complete lack of representation for the accused-the "California suction dredger".

Larry Salhaney, PE

From: Laurie Lindenauer <laurielinden@hotmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 2:50 PM
Subject: Comments on Gold Dredging Ban

Laurie A. Lindenauer Brown

P.O. Box 466

Fair Play, CA 95684

530-620-4021

www.laurielindenauer.com

Comments on Gold Dredging in the Sierra Foothill Region, California Department of Fish and Game

Mark Stopher/California Department of Fish and Game:

As a long-time Sierra Foothill property owner and resident, occasional gold dredger, jewellery artist, gold consumer, and fisherperson, I would like to comment on the recent and sudden ban on the use of gold dredges to apply Statewide, and with no refund due to the permit holders.

I have had a small 2" -2 1/2" gold dredge which, in past years, did not require a permit to operate from the California Department of Fish and Game - the reason being that it could not move enough material to create a nuisance or hazard to streamside habitat or wildlife.

A small gold dredge is a tool, similar to a chainsaw or vacuum cleaner, which can be used to move small amounts of material from clogged waterways and drainpipes, as well as to enhance the stream environment by creating better habitat and food for the fish. Finding a gold nugget or two in the process makes it even better, and certainly provides at least a partial livelihood for those who wish to pursue this as a hobby or part-time job (some people do get lucky). There are many people here in the foothills who also benefit from the recreational "spin-off" jobs it creates. As more people have lost their regular employment due to mill closures, construction lay-offs, and general economic malaise, this is not a good time to close down yet another of our industries.

I understand that several EIR’s have already been completed and certified in this area. Most of the people that I have spoken to regarding mercury in the streams, are actually recovering and removing what they find, as well as lead shot, fishing weights and trash.

I object to not being able to even use a small gold dredge on my own property, within the proper season, as I also have concerns for the continuation of the fish, wildlife, and streamside populations.

I strongly urge the reconsideration of this total ban.

Sincerely,

Laurie Lindenauer Brown

Windows Live Hotmail gives you a free,exclusive gift.
http://www.microsoft.com/windows/windowslive/hotmail_bl1/hotmail_bl1.aspx?ocid=PID23879::T:WLMTAGL:ON:WL:en-ww:WM_IMHM_7:092009

11-30-2009

Mark Stopher
CA Dept. of Fish and Game
601 Locust Street
Redding, CA 96001

RE: EIR

DFG personnel,

I have been dredging in streams and rivers of California since 1978. Every year or so since 1978, one govt. entity or another and/or enviromental group have found reasons for more and more regulations to be put upon dredgers to cause us another hoop to jump through just to do our job. SB670 is just the latest attempt to shut down an industry.

I recommend you refer to the EIR done on suction dredging in the early 1990's. As I recall suction dredging was found not to be diliterious to fish.

I find it disconserting that a judge can stop issuance of dredge permits forced by an indian tribe supposedly concerned about fish, while no tribal member I know of subsists on salmon.

Mining acts of US Congress in 1866 and 1872 supercede all attempts to curtail active pursuit of granted minerals.

Push your pens on the EIR in an unbiased way based on science.

Leroy D. Hardenburger

Ph. (530)493-5394

Leroy Hardenburger
PO Box 194
Happy Camp, CA 96039

Attention: Mark Stopher CA Dept of Fish and Game Nov 17,2009
Sacramento Public Scoping Suction Dredge

I have read many hundreds of pages regarding the present Moratorium on Suction Dredging in the State of California. At first I took copious notes, then I reread and highlighted important items. Then I re-read and analyzed the reams of material.

Thousands of hours and untold weeks and months and maybe years have gone into the development of the 1994 and 1997 Draft EIR Amended Regulations for Suction Dredge Mining by skilled and educated researches and scientists.

The question comes to mind regarding why wasn't the 1997 Draft EIR ever promulgated? What stopped it? It is obvious that all rules were adhered to. That all public forums were held. That the information was absorbed and analyzed and incorporated into the process. Then why did it sto deadini it's tracks?

The first concept that concerns me is a rather obvious bias by the information gatherers to include issues not directly related to the 3200 suction dredgers presently permitted but unable to utilize the dredge permit paid for this year(2009). A negative attitude paints suction dredge users as gun-toten, disrespectful, frightening, garbage strewing, environment ruining backwoodsmen. Although there may be a few of this type in every recreational use, most are just folks. A few bad apples I could extrapolate on this but I donot believe it to be useful or necessary.

At first I was considering arguing each item in the CEQA list, but then realized that is not the issue. If one keeps the actual purpose of this moratorium in mind, then it becomes obvious that if enough data is thrown some will stick. Clearing the process as the 1997 Draft EIR does results in a reasonably acurate picture of suction dredging and those who do it

The infinitely small numbers of dredgers compared to the outrageously large number of other recreationalist makes on wonder about ulterior motives on the part of the authors and legistlative members who voted on the moratorium. I spoke with a few Assembly members, one of whom admitted she thought the bill excluded 11 counties! She also thought the purpose was to establish clear water in the state. Then she willfully volunteered that she hadn't actually read the bill, that there are too many bills to actually read! And yet she voted on it.

So here we are in a state with little or no money, contemplating increasing expenses to re-do an EIR and CEQA at the cost of probably millions of dollars in order to placate an unnecessary study that was previously adequately done.

Additonal comments forthcoming via email or mail prior to the Dec 3 cut off date. .

Respectfully submitted,
Linda Colombo
7979 Hwy 49, El Dorado, CA. 95623 lcolombo@jps.net

Thoughout the entire Notice of Preparation/Initial Study reference is made to "the program", "the proposed program" or the"proposed project". It is designed to " analyze new significant and substantially more severe environmental impacts that MAY BE occurring under the exsting permitting program that were not addressed by the Department during the prior environmental review completed in 1994. The proposed project...will consist of continued implementation of the permitting program and IF NECESSARY proposed amendments to the Department's existing regulations governing suction dredge mining throughout California.

1)What are these "new significant and more severe environmental impacts"?

2)Could there be new significant substantially beneficial impacts that may be occurring under the existing permitting program that were not addressed by the Department during the prior environmental review completed in 1994? If yes, will they be entered into the report and considered in the final analysis?

3)Would the deletion of items found to be unneccessary or inappropriate be considered?

On page 21. 6.CEQA Considerations,6.1 Type of EIR paragraph 2 "For purposes of CEQA and as detailed in the initial Sudy, the Department has determined that the continued issuance of suction dredge mining permits under the existing permitting program CAN result in new significant or substantially more severe environmental impacts than previously disclosed in the 1994 EIR. Similarly, the Department believes the SEIR is necessary because more than minor revisions or changes to the 1994 EIR WILL BE REQUIRED.

Of the 25 items checked as "Potentially Significant" in the Environmental Checklist many are speculative in nature, not based on statistics focusiing on suction dredge use, and/or are biased in there perception of suction dredging and it's operators.

1)Am I correct in addressing only those items designated as "Potentially Significant"?

2)Are all other catagories "off limits" to the study or comments?

3)Does the fact that not one check mark is located under "Less than Significant with Mitigation Incorporated" indicate NO mitigation will be considered in addressing the "Potentially Significant" items?

Just in case #3 directly above is not the case, the following are my comments regarding "Potentially Significant " items that may be mitigatable. My remarks are based on the percentage of suction dredge miners to "others", those referred to as other recreationalists, hikers, OHV users, campers, rafters, motorists, trail users, other sensitive receptors and human beings, among other non-suction dredge activists. There exists a recognizable bias relating to the inclusion of suction dredge miners into all activities, even those not directly or sometimes remotely related to suction dredge miners. Speculation and profiling of suction dredge miners and their attendant activities does not enhance the validity of this Initial Study.

Suction Dredge Permitting Program
Notice of Preparation/Initial Study Pg 30

I Aesthetics
a)Effects on Scenic Vistas"viewers may still be able to observe dredging activities"

There are many views one may not want to see depending on ones likes and dislikes. There are so few dredgers in the state that coming upon one almost always draws interest,. Many people are intrigued and curious since it is such an unusual occurrence

b) Effects on Scenic Resources
"suction dredge activities are located within undeveloped areas"
"activities associated with suction dredgin COULD lead to destruction of banks "
"these impacts COULD result from illegal activities"
"incidental effects such as trampling of habitat"

This indicates that there may not be too many viewers to observe the items in "a "above. The comment on "banks" and trampling" have not taken into account all the "others" not to mention the forces of nature itself. Pointing to "illegal" verifies the bias profiling inherent in this report.

c)Degradation of Visual Character
"The physical appearance of suction dredges...MAY affect the recreational experience of other users"
"aestheic impact....on the viewer group and their aesthetic goals, social values social values...their opinions of suction dredging as an activity"
""illegal operations may play a role...violations of waste or hazardous material storage and disposal regulations "
"this is a general aesthetic issue ...common to all overnight recreational activities"
"If the proposed Program is implemented the visual character ....COULD be potentially be altered"

Beauty is in the eye of the beholder , as are goals, social values and opinions. Illegal activities and violations on the other hand, again points to a profiling bias inherent in this report. To take these very nebulous predetermined concepts of suction dredge miners and congeal them into a reason for making this a "Potentially Significant Impact " alters the trust in an unbiased result.

III Air Quality

c)**Cumulative contributions to non-attainment status**
"Emissions from suction dredging would be consistent with attainment plans, and would be relatively small compared to other sources of emmissions, they would ...contribute to the existing non-attainment status.

So does breathing, or mowing your yard, or using electricity that comes from carbon based fuels. The number of dredge motors is not only limited to 3200 this past year but also to the number of days per year, and then only used a fewhours per day. Making this an "Potentially Significant Impact" doesn'tmake sense.

d)Greenhouse Gas Emissions
" emissions MAY be cumulatively considerable in conjunction with .....other projects"

I would suggest the formula take into consideration the number of dredges, the engine sizes, the hurs per day actually run and the number of actual days run, then evaluate away and compare it to almost any other small engine expenditure. Since this is not actually drdging, the data on exhaust content et al should be available or able to be tested.

IV Biological Resources
I leave this to the experts. The data in the 1994 and the 1997 reports indicated the creation of the present scheduling of open and closed rivers and the timing of dredge useage and size of intake hose. Those conclusions were based on scientific data not just written publications. Inclusion of actual scientific experiments and test have shown that not all effects are negative. The Cosumnes Rover Management study done by the RCD shows the Cosumnes to be clear and pristine even though it has been mined or dredged for the past 150 years , non-stop!

V Cultural Resources

a) Adverse change in significance or historical resource
"A potentially significant impact would occur IF suction dredging activities would cause a substantial adverse change to a historical resource through demolition, construction, conversion, rehabilitiation, relocation, or alteration.
"sunken vessels submerged within Californias river system"...1547 recorded shipwrecks...70..(in) Sacramento,American,FEather,Yuba,San Joaquin rivers" "both recorded and non recorded vessels MAY exist in locations where suction dredging may occur "
"damage tor destruction to historic architechture.... would have less than significant impact"

Again, this appears to be profiling fears of illegal activity by suction dredgers. As far as sunken vessels go, less then ½ of 1% have been found in navigable streams , the solution may be two fold, offer suction dredge miners a free year or two of permits if they find one and turn it in. I'm sure a trade could easily be made to salvage the historic vessels and MAY even be a benefit to historians by finding and reporting the finds.

b)Adverse change in the significance of a unique archaeological resource.
"it isless likely that these ...resources are ...in the riverbed..there is high potential (they)are located on adjacent riverbanks. "there is potential for disturbance from historic-era mining to have buried"resources"
"could cause substantial adverse change ...through demolition,construction ...that culd disurb remains."
"Riverscape analysis requires the entire river sstem be holistically considered for cultural values"

Any of the horrendous floods that have scraped the landscape over the millenia has surely revealed or uncovered or recovered whatever cultural resources exist on the river banks. Suction dredge miners have the opportunity to make these sites known if they come upon them as long as there is a benefit to all, why not teach suction dredge minershow to treat a found object. The fact that demolition, construction keeps coming up inthese remarks again indicates the potential for profiling in a negative manner.

VI Geology and Soils

b) soil erosion
"dredging ...(can) result in changes to stream morphology" and "activities associated with trail use, camp locations, and staging areas may also have incidental impacts on soil loss and or erosion."

So does the spring runoff from the high Sierras. And once again the % of suction dredge miners in realtion to all other users is definitely incrementally small . It is almost as if the thousandths of one percent of users is being asked to carry the weight of the other 99.999999 %.

VII Hazards and Hazardous Materials

and b) Use and Disposal of Hazardous Materials)
"routine use of hazardous materials (from collect(ions) of mercury, or lead (bullets,metal debris,etc)"

Mercury is found in very slight amounts, usually as a small mark on a nugget. Lead as "bullets, etc" are no different and much less in weight then imagined in the study. The amount of lead in one week's dredging operation would most likely not make a single weight for balancing the tires on a vehicle.

c) **Hazards Near School Facilities**
"it is highly unlikely" that dredging would occur within close proximity of a school"

On page 36 ,sec d and e it is stated that dredging is found in "rural and sparsely populated areas" or "remote rural areas". You can't have it both ways. A solution would be to check all occupied schools and map them.

h) Increased Wildfire Risk
"there is an inherent risk…with most outdoor activitiy" Suction dredging "generally involve(s) the use of flammable supplies".

Statistics of ONLY suction dredger miners or their equipment would indicate negligible or non-existent instigation of fires. If a check on the statistics of wildfires caused by hikers, campers, RV'ers, motorcycles and other off road enthusiasts such as horse back riders, etc. the numbers of fires attributable to them would be great. Again there appears to be profiling and inclusionary bias.

VIII Hydrology and Water Quality

a)Violation of Water Quality Standards or Waste Discharge Requirements
Contaminant Discharge from Onshore Dredge Site Encampments
"access to stream sites with motorized transportation", "temporary encampments" "creation of wastewater…if remotely located", "incidental discharge of trash or debris", and "debris, trash, or hazardous substances remaining in encampments"
Anyone in a remote, rural area has to have gotten there somehow, most arrived via vehicle of some sort, most are NOT avid long distance runners or hikers and even those who arrived sans vehicle still create wastewater . The "carry in-carry out rule" applies to all activities and suction dredge miners are cautious to clean up after themselves specifically because they are a minority and have been profiled.

"potential exists for oil and gas leaks or spills to occur… (which) MAY adversely affect water quality for …recreational users or other beneficial uses"
A catch pan would accommodate any leaks or spills.

c)Onsite or Offsite Erosion or Siltation

"encampments…MAY involve transport of materials, vegetation removal, trail construction,…that would disturb, compact, or expose soils"
Another case for representing suction dredge miners as " the only" encroachers on nature. Again the percentage of users is skewed by the combining of " all others" but not mentioning them.

e) Contribute Runoff that would Exceed Stormwater Conveyance Capacity or Contribute Polluted Runoff
"does not involve…contributions of additional stormwater…however, receiving waters downstream (could cause) increases of pollutants"
Since suction dredge mining is usually in remote and rural areas it is highly unlikely that anything will travel beyond the remote and rural environment
.

f)Otherwise Substantially Degrade Water Quality
"encampments have the potential to incrementally degrade water quality through contaminant discharges, EVEN if the resulting conditions STILL MEET water quality standards.
Another case for representing suction dredge miners as "the only encroachers on nature" when in reality the percentage of users is extremely high in comparison ot suction dredge miners

XI Noise
a,d):operation…could result in perceptible increase in noise"…due to…"the manner in which it is operated". "this stationary source MAY affect recreationists or other sensitive receptors in the vicinity".
"Another source ….is the use of generators ..commonly used by campers in general" these noises " could exceed noise standards and increase ambient noise levels above existing conditions "

Although "others" also make noise: motorcycles, quads, campers generators (also stationary), it appears that these recreationalists and sensitive receptors, being a much higher percentage of users, still get to be carried on the backs of suction dredge miners miniscule contribution, even though "suction dredging is "short term and seasonal".(pg 80 para.c).

X Public Services

a)Police and Fire Protections
"all recreational activities are required to abide by applicable regulations and guidelines"
Illegal trespass and health and safety violations are primary issue""50-100 cases of suction dredge trespass on BLM lands. "Out of 1500 reported contacts 130 were found to be in non-compliance with some kind of law, regulation or permit."
"
"observations that the encampments often pose hazards …firearms, unsanitary conditions, irresponsible treatment,flammable materieals." Additionally "concerns include LIKELY destruction of lands for hunting, firewood, and other subsistence needs"

The 50-100 trespassers is a wide range. Is it 51 or 99 or 76? Over what period of time? A season (year)or since statistics started being kept? Less than 9% (130 out of 1500) non-compliant means that with only some of the 130 being suction dredges , the percentage of suction dredges could be miniscule as are most impacts relagated to suction dredgers.
Again profiling dredgers as other than honest upstanding, intelligent peole allows for statements of "concern fo destruction of land"

XVII Mandatory Findings of Significance

In "resource-specific discussions the Program MAY result in potentially significant effects on the environment". Due to the fact that they "MAY cause substantial adverse impacts upon human beings".

Suction dredge miners are human beings!
If not construed with a biased profile and not combined with thousands or tens of thousands of "other users" and taken with a focus on the specific usage and activities of suction dredge miners only, this Initial Sudy could prove helpful to the State as a whole and suction dredge miners as a portion. Done honestly without bias,without profiling, and with complete scientific objectivity a fair EIR will result.

Thank you for your time.,

LINDA COLOMBO
7979 Hwy 49
El Dorado, CA 95623

lcolombo@jps.net

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name:	Louis Volpe
Mailing Address:	PO Box 494501
	Redding CA 96049
Telephone No. (optional):	
Email (optional):	info@advancedlabs.com

Comments/Issues: Its important to have a Non Bias Impact Study Done. Adhoc Commitee or Something like that is also very important.

The Scoping meeting was good and informative.

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

APPENDIX K: Private Citizen Comments (M)

From: "Malcolm Terence" <terence@starband.net>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: "'Creek Hanauer'" <tcreek@sisqtel.net>
Date: 12/2/2009 8:29 PM
Subject: suction dredge input

I am an owner of a mining claim on the main stem of the Salmon River just upriver from Butler Creek. It is listed as CAMC#283436. Despite this ownership, I hope the state continues its ban of dredge mining. I mined in the Salmon River in the mid-1970s with a suction dredge and, despite my best efforts, it was inevitable that gasoline and oil got dumped in the river during refueling and lubrication. On top of that, the pit that I'd dredge out every season would be filled with sand and gravels by the following spring. I didn't realize at the time how damaging that was to the salmon redds I saw around me in the fall.

I mined a lot but it was essentially recreational and the lion's share of the dredges near here are also recreational, that is they cost the operators more to run than they yield in nuggets. It is not enough of a benefit to justify the damage dredging by me and others was doing to the dwindling runs of anadramous fish.

The worst pollution came when an unexpected overnight rainstorm would flip my dredge at its moorings. I never lost it entirely but every year I see dredges that have gone adrift. In those cases I would lose large amounts of gas and oil. And, sadly, not too much gold.

Again, I urge the Department of Fish and Game to prioritize fish survival over the more transitory needs of us recreational miners. We recreationalists will survive just fine.

Malcolm Terence
6304 Butler Mt. Rd.
Somes Bar, CA 95568
707-736-6173

From: Manuel Figueiredo <kenainson@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 11:38 PM
Subject: Suction Dredging Information

To: California Department of Fish and Game.
Since we the Dredgers cannot make Personal comments regarding Suction Dredging, I offer to you some of your own DFG Documents and E.P.A. studies as well as Biologists studies from California to Alaska on Suction Dredging and Mercury studies.
Below are links in regards and reports to suction mining. I had no choice in sending you links due to the fact I couldn't send a PDF file of 896MB threw my PC.

1] www.akminning.com/mine/excerpts.htm Pages 1-11

2] www.plp2org/forum/showthread.php?t=149 Pages1-4

3] www.plp2.org/forum/showthread.php?t=516 Pages 1-7

4] waterboards.ca.gov This site is Calif, State Water Resources Control Board, Subject: Suction Dredge Mining Dated, June 6 2007. with Studies ranging from California to Alaska with all of the data and Biologists E.P.A as well of other officials in their Field of expertise in regards to Suction Mining.

I would like to thank you for letting me contribute information on this matter
Manuel Figueiredo, Reno Nevada.

From: Marianna Mejia <lamarianna@aol.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 10:34 AM
Subject: Suction dredging? Maybe not....

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Dear Mr. Stopher

This comment is in regard to the Suction Dredge Permitting Program. It is my position - and that of most likely the majority of Californians - that our salmon fishery and its associated ecosystem is one of the most valuable natural resources of our state. It is, in fact, a State Treasure and should be regarded as such, and honored, and protected.

This resource merits the best and strongest protections that we can possibly provide, both now and ongoing, in order to maintain the fishery and ecosystem in optimum health in its own right, and so that it will be available for future generations of Californians.

No doubt your entire department is familiar with the writing of Peter B. Moyle, PhD, Associate Director of the Center for Integrated Watershed Science and Management at UC Davis since 2002. In a statement as an expert witness for the Karuk tribe he says that

"All anadromous fish in the Klamath River basin should be considered to be in decline and ultimately threatened with extirpation as wild populations... dredging is harming declining species... suction dredging represents a chronic unnatural disturbance of natural habitats."

Other studies that reaffirm this statement number in the hundreds, with sufficient research and evidence-based reasoning upon which to base your determination.

What about the miners? Considering that suction dredging buries spawning areas for salmon, it takes considerable and unconscionable hubris to place a human desire for sport, fun and profit above the needs of our land and its fish and animal species. The miners' position is immoral.

Kindly take these statements into consideration and be led to a Right decision- one that does not permit suction dredging on any river in the subject watershed in any area that will have a negative impact on the salmon fishery and its associated ecosystem.

Thank you for considering my opinion.

Marianna Mejia
1009 Hidden Valley Road

Soquel, CA 95073

From: Sandy Bar Ranch <sandybar58@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/1/2009 11:14 AM
Subject: Suction Dredge Mining
Attachments: SuctionMining Comments.doc

Dear Mr Stopher:

We submit these comments as owners of a recreational business on the Klamath River situated in the town on Orleans on the Mid-Klamath Section of the Klamath River: Sandy Bar Ranch, a lodging facility for vacationers, fisherman and outdoor recreationists.

As a lodge owners suction dredge mining has a severe impact on our business. There is a mining claim located on the opposite bank of the river from us, on a Forest Service River Access point. Our cabin guests use the banks of the Klamath River on both our side and the opposite side for swimming, fishing, rafting and general relaxation. When a suction dredge is in operation none of these activities are possible, and this dredge operated by a single person impacts many others. Elsewhere on the Klamath and nearby Salmon river I have seen suction dredges creating sediment and impairing water quality for fisheries and creating a general nuisance in the form of noise and pollution from spilled fuel containers and trash left behind.

The Klamath River is already suffering from a variety of impacts on water quality including reduced flows, toxic algae from upper basin dams, sedimentation from roads and upslope management, all of which have severe consequences for fisheries, recreation, and river communities. Suction dredge mining is just one more impact, which happens to benefit a few at the expense of many. We can and should prohibit it on all California streams.

We can be reached at any of the numbers below for questions or clarifications.

Sincerely,

Mark DuPont & Blythe Reis

Owners, Sandy Bar Ranch

Sandy Bar Ranch
PO Box 347, 797 Ishi Pishi Rd.
Orleans, CA, 95556
Tel: (530) 627-3379
Riverside Cabins: www.sandybar.com

SANDY BAR RANCH
PO Box 347
Orleans, CA, 95556
Phone (530) 627-3379
mail@ sandybar.com

December 1, 2009

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001
Subject: Instream Suction Dredge Mining

Dear Mr Stopher:

We submit these comments as owners of a recreational business on the Klamath River situated in the town on Orleans on the Mid-Klamath Section of the Klamath River: Sandy Bar Ranch, a lodging facility for vacationers, fisherman and outdoor recreationists.

As a lodge owners suction dredge mining has a severe impact on our business. There is a mining claim located on the opposite bank of the river from us, on a Forest Service River Access point. Our cabin guests use the banks of the Klamath River on both our side and the opposite side for swimming, fishing, rafting and general relaxation. When a suction dredge is in operation none of these activities are possible, and this dredge operated by a single person impacts many others. Elsewhere on the Klamath and nearby Salmon river I have seen suction dredges creating sediment and impairing water quality for fisheries and creating a general nuisance in the form of noise and pollution from spilled fuel containers and trash left behind.

The Klamath River is already suffering from a variety of impacts on water quality including reduced flows, toxic algae from upper basin dams, sedimentation from roads and upslope management, all of which have severe consequences for fisheries, recreation, and river communities. Suction dredge mining is just one more impact, which happens to benefit a few at the expense of many. We can and should prohibit it on all California streams.

We can be reached at any of the numbers above for questions or clarifications.

Sincerely,

Mark DuPont & Blythe Reis
Owners, Sandy Bar Ranch

11-28-09

DEAR MARK,

I HAVE A 2" SUCTION DREDGE THAT I BOUGHT IN 07, AND HAVE USED 11 TIMES. I USE A 5 GAL. BUCKET WITH HOLES IN IT TO PLACE THE SUCTION (WATER INLET) IN.

WERE I HAVE DREDGED I HAVE NOT SEEN ANY FISH NEAR THE INLET PIPE OR WATER FEED PIPE WHILE DREDGING. I HAVE SEEN A LOT OF SMALL FISH AROUND THE HOLE THAT I HAVE TAKEN MATERIAL OUT OF AFTER I HAVE SHUT DOWN THE DREDGE. I LET THE FISH FEED FOR ABOUT 10 MINS IN THE HOLE BEFORE I REFILL IT. IF I DO CLOUD UP THE WATER IN THE STREAM IT MAY TRACK DOWN STREAM FOR 25' AT THE MOST

THANK YOU FOR LISTENING TO ME

MARK MESZAROS
4980 BRITTANY DR
FAIRFIELD, CA.
94534

H.# 707-646-2833
C # 707-480-8540

Comments and Questions submitted for the public record for the Initial Study for Suction Dredge Permitting, Nov 2009

The Initial Study for Suction Dredge Permitting (The Study), Nov 2009 as prepared by Horizon Water and Environment of Oakland, CA completely omits the property rights of miners and mischaracterizes the nature of gold dredging operations when conducted on inactive, existing, or potential mining claims (mining claims) as outlined in the following section of "The Study"

5.1 "Activity Description". (On page 8)

It states that "Suction dredgers regulated under the program are often small-scale recreational gold dredging operators conducting suction dredging for a limited time each year.

In the above cited section "The Study" makes no designation between recreational suction dredgers vs the property rights of mining claim owners or those in the process of exploring and sampling potential claims, who happen to find that geology of their claim dictates that the use of water for mining or "suction dredging" is the most efficient and economical means of uncommon mineral recovery. "The Study" also has no mention of any remedy by the State of California for payment of compensation to mining claim holders for the loss of their property rights and the economic impact that the loss of those rights incur.

Most of the suction dredge activity in the state is conducted on recorded mining claims and the claim owners and those who work in association with them have property rights. These rights were initially granted by an Act of United States Government in H.R. 365 which was approved July 26, 1866. The act includes the right to the exploration and occupation of public domain lands that bare uncommon minerals including gold. Included in H.R. 365 is the granted right to:

a) Declare Property Vesting via Claim [H.R. 365 Section 1 & H.R. 365 Section 2]

b) "That the right of way for the construction of highways over public lands, not reserved for public uses, is hereby granted." [H.R. 365 Section 8]

c) ..."That whenever, by priority of possession, rights to

the use of water for mining agricultural, manufacturing, or other purposes, have vested and accrued"... [H.R. 365 Section 9]

See Footnote (3) for the rest of HR 365

These granted rights and the case law cited in the footnotes of this document establish claim ownership and gives claim (or potential claim) holder access to their claim via the "right of ingress and egress by private entry" [H.R. 365 Section 8] which is a granted right that cannot be denied by administrative authority. (See Footnote 1) There is case law supporting this where an agent of a mining claim owner was cited by the U.S. Forest service for using a motorized vehicle with the intention of accessing a mining claim in an area that the U.S. National **Forest** closed to motor vehicles by closure order. The U.S. The Ninth Circuit Court of Appeals determined that landowner property rights permitted access by motorized vehicle and that the citation was in error due to the rights granted in [H.R. 365 Section 8] There is also case law that conclude Mineral rights are ownership in land (Footnote 2)

The legal precedent set forth in the above case would permit the claim (or potential claim) holder to exercise their granted rights "to the use of water for mining" as outlined [H.R. 365 Section 9]

Yet, the regulation of "Suction Dredging" via California SR670 and the Administrative Authority of the California Department of Fish and Game Code 5653 seeks to regulate how and when we use our granted right to the use of water for mining via suction dredging and other recovery methods that may come under the review of "The Study". In doing so it ignores similar long-standing U.S. Granted rights such as Copyright, Patents and Homestead rights. The granted rights in H.R. 365 entitle the claim (or potential claim) holder to individual to property protection in the grant. The granted rights may then not be taken or regulated away without due process of law and the granted right cannot be taken without the payment of compensation.

I ask that the California Department of Fish and Game Instruct Horizon Water and Environment of Oakland, CA to amend the The

Initial Study for Suction Dredge Permitting Dated November 2009 to include the following:

1) Define and include Mining Claim Owners and their respective granted property rights as defined in HR 365 in Section 5.1 of "The Study"

1) Conduct a current economic review of the impact on the mining claim holders and the industries they support (Such as grocery stores campgrounds, mining equipment manufactures and resellers)

2)A legal review of the implications of the violation of the granted property rights as set forth in HR 365 for claim (or potential claim) holders without due process of law and without payment of compensation.

3) Demonstrate how the "The Study" and the California Fish and Game has the legal Administrative Authority to regulate the granted rights listed in HR 365 including the regulation of the use of water for mining purposes which would result in effectively creating and "economic" mineral land withdrawal from mining claims by making them unprofitable to recover uncommon minerals by other means

4) Demonstrate how "The Study" and the California Fish and Game intends to show how it is not acting contrary to the laws of the United States when purporting to study via this EIR Property Congress lawfully disposed of as lawful use under HR 365

5) Where does the "The Study" show the researchers are competent in mining law, the Law of Possession, and mining "rule and regulations", Which is a corner stone of HR 365. To be able to competently define or study anything impacting mining or the law relating. Evidence of the incompetence of the study can be found in the lack of understanding that the term "small-scale recreational gold dredging operators" as applied to the congressionally disposed property is a fabricated term, an impossibility in law or the mining environment. Being that additional power resides in each miner, whether or not he has a mineral claim, how has "The Study" completely, accurately, and faithfully reported upon the subject matter of the mining environment as impacted by the study subject matter? Or, is it that the "The Study" was not to include the impact upon mining or other economic, social, or cultural, or heritage environments? And if this is the case, Where in the study has it been shown that the

study, or the agency in reliance, takes precedence over the law recognizing the prevailing nature of the valuable mineral environment, greater even than that of fish, that it's assertions, whether or not favorable, could be used to impact the granted Property
environment?

6)By "The Sudy"'s omission of the violation of the granted rights of mining claim owners under HR 365 there is no reference to any to the conflict that arises by the assumed Administrative Authority of the California Department of Fish and Game Code 5653 with respect to existing mining rights under the following section of "The Study"

IX(b) "Land use and Planning" (On page 76)

Would the project Conflict with any applicable land use plan, policy or regulation of an agency with juristiction over the project....

7) 6)By "The Sudy"'s omission of the violation the granted rights of mining claim owners under HR 365 there is no reference to the economic loss to the claim holder if they were unable to recover uncommon minerals from their claim in and economic manner via the use of water for suction dredging, and the devaluation of their claim via the loss of property rights as outlined in HR 365 in the following section of "The Study"

X "Mineral Resources (a) and (b) (On page 78)

Would the project ... Result in the loss of the availability of a known mineral mineral resource that would be of value to the region and residents of the state?

Respectfully Submitted for the Public Record

Mark Weiss
160 Clinton St Apt A
Redwood City, CA 94062

650-369-1151
mrlocksmith@sbcglobal.net

Footnote (1)
United States Court of Appeals,Ninth Circuit.
UNITED STATES of America, Plaintiff-Appellee,
v.
***Steve** A. **HICKS**, Defendant-Appellant.*
No. 01-30146.
D.C. No. CR-00-00001-DWM.

Argued and Submitted Nov. 5, 2002.
Decided Nov. 14, 2002.

*Corporate employee was convicted in the United States District Court for the District of Montana, Donald W. Molloy, Chief Judge, of operating motorcycle in area of National **Forest** closed to motor vehicles by **Forest Service** closure order, and he appealed. The Court of Appeals held that employee of corporation that owned subsurface mineral rights in national **forest** was not subject to **Forest Service** closure order that exempted landowners.*

Reversed and remanded.

Woods and Forests 411 8

*411 Woods and **Forests** 411k8 k. **Forest** Reservations, Preserves, or Parks. Most Cited Cases*
*Corporation that owned subsurface mineral rights in national **forest** was "landowner," and thus corporate employee was not subject to **Forest Service** closure order that exempted landowners from prohibition against operating motor vehicles in national **forest**. 36 C.F.R. § 261.55(b).*

***867** Appeal from the United States District Court for the District of Montana, Donald W. Molloy, Chief District Judge, Presiding.*

Before TROTT, T.G. NELSON and THOMAS, Circuit Judges.

****1 Steve** A. **Hicks** (" **Hicks**") appeals pro se the district court's affirmation of his conviction in magistrate court for operating a motorcycle in an area of Lolo National **Forest** closed to motor vehicles by a **Forest Service** closure order, in violation of 36 C.F.R. § 261.55(b). **Hicks** drove a motorcycle on a **Forest Service** trail while acting as an agent of Kenton Lewis ("Lewis"), an owner of subsurface mineral rights in Lolo National **Forest**. We have jurisdiction pursuant to 28 U.S.C. § 1291, and we reverse because **Hicks's** conviction is based upon a plain legal error.

1. Standard of Review

This court reviews for plain error when an appellant raises an issue on appeal that the appellant did not raise before the lower court. Jones v. United States, 527 U.S. 373, 388, 119 S.Ct. 2090, 144 L.Ed.2d 370 (1999). The **Forest Service** closure order exempts landowners from its provisions, but **Hicks** did not rely upon the landowner exemption before the magistrate court. Hence, we review for plain error. This court has discretion to grant relief under the plain error standard if there has been (1) an error; (2) that is plain; and (3) ***868** affects substantial rights. Id. at 389, 119 S.Ct. 2090.

2. Both Lower Courts Committed A Plain Error By Determining The Landowner Exemption Did Not Apply To Hicks

Footnote (2)
Mineral rights are ownership in land, and therefore Lewis is a landowner. See, e.g., United States v. Shoshone Tribe of Indians of Wind River Reservation in Wyo., 304 U.S. 111, 116, 58 S.Ct. 794, 82 L.Ed. 1213 (1938) (with respect to question of ownership, "[m]inerals ... are constituent elements of the land itself"); British-American Oil Producing Co. v. Bd. of Equalization of State of Mont., 299 U.S. 159, 164-65, 57 S.Ct. 132, 81 L.Ed. 95 (1936) (finding a mineral estate an estate in land); Texas Pac. Coal & Oil Co. v. State, 125 Mont. 258, 234 P.2d 452, 453 (1951) ("[l]ands as a word in the law includes minerals"). We need not decide whether the term "landowner" as it is used in **Forest Service** regulations and orders always includes owners of mineral estates. Here, the government conceded at oral argument that Lewis is a landowner under the terms of the closure order before us and thus exempt from this closure order. The landowner exemption in this closure order must necessarily apply to agents

of landowners. For example, corporate landowners can only access their land through agents. Hicks, as Lewis's agent, is therefore also exempt.

Because the trial courts did not recognize mineral rights as ownership in land, and because this error adversely affected Hicks's entitlement to the landowner exemption, we exercise our discretion to correct this plain error.

REVERSED AND REMANDED WITH AN INSTRUCTION TO ENTER A JUDGMENT OF NOT GUILTY.

C.A.9 (Mont.),2002.
U.S. v. Hicks
50 Fed.Appx. 867, 2002 WL 31553938 (C.A.9 (Mont.))

Footnote (3)

39TH CONGRESS,
1st Session

H.R. 365.

IN THE SENATE OF THE UNITED STATES.
JULY 19, 1866.
Ordered to be printed.

AMENDMENT

Reported by Mr. STEWART. from the Committee on Public Lands, to the act (H. B. 365) granting the right of way to ditch and canal owners over the public lands in the States of California, Oregon, and Nevada, viz: Strike out all after the enacting clause, and insert as follows:

SEC. 1 That the mineral lands of the public domain, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and occupation by all citizens of the United States, and those who have declared their intention to become citizens, subject to such regulations as may be prescribed by law, and subject also to the local custom or rules of miners in the several mining districts, so far as the same may not be in conflict with the laws of the United States.

SEC. 2. *And be it further enacted,* That whenever any person or association of persons claim a vein or lode of quartz, or other rock in place, bearing gold, silver, cinnabar, or copper, having previously occupied and improved the same according to the local custom or rules of miners in the district where the same is situated, and having expended in actual labor and improvements thereon an amount of not less than one thousand dollars, and in regard to whose possession there is no controversy or opposing claim, it shall and may be law- ful for said claimant or association of claimants to file in the local land office a diagram of the same, so extended laterally or otherwise as to conform to the local laws, customs, and rules of miners, and to enter such tract and receive a patent therefor, granting such mine, together with the right to follow such vein or lode with its dips, angles, and variations, to any depth, although it may enter the land adjoining, which land adjoining shall be sold subject to this condition.

SEC. 3. *And be it further enacted,* That upon the filing of the diagram as provided in the second section of this act, and posting the same in a conspicuous place on the claim, together with a notice of intention to apply for a patent, the register of the land office shall publish a notice of the same in a newspaper published nearest to the location of said claim, and shall also post such notice in his office for the period of ninety days; and after the expiration of said period, if no adverse claim shall have been filed, it shall be the duty of the surveyor general, upon application of the party, to survey the premises and make a plat thereof, indorsed with his approval, designating the number and description of the location, the value of the labor and improvements, and the character of the vein exposed; and upon the payment to the proper officer of five dollars per acre, together with the cost of such survey, plat, and notice, and giving satisfactory evidence that said diagram and notice have been posted on the claim during said period of ninety days, the register of the land office shall transmit to the General Land Office said plat, survey, and description; and a patent shall issue for the same thereupon. But said plat, survey, or description shall in no case cover more than one vein or lode, and no patent shall issue for more than one vein or lode, which shall be expressed in the patent issued.

SEC. 4. *And be it further enacted,* That when such location and entry of a mine shall be upon unsurveyed lands,it shall and may be lawful, after the extension thereto of thepublic surveys, to adjust the surveys to the limits of the premises according to

the location and possession and plat aforesaid, and the surveyor general may, in extending the surveys, vary the same from a rectangular form to suit the circumstances of the country and the local rules, laws, and customs of miners: *Provided,* That no location hereafter made shall exceed two hundred feet in length along the vein for each locator, with an additional claim for discovery to the discoverer of the lode, with the right to follow such vein to any depth, with all its dips, variations, and angles, together with a reasonable quantity of surface for the convenient working of the same as fixed by local rules : *And provided further,* That no person may make more than one locationon the same lode, and not more than three thousand feet shall be taken in any one claim by any association of persons.

SEC. 5. *And be it further enacted,* That as a further condition of sale, in. the absence of necessary legislation by Congress, the local legislature of any State or Territory may provide rules for working mines involving casements, drainage, and other necessary means to their complete development; and those conditions shall be fully expressed in the patent.

SEC. 6. *And be it further enacted,* That whenever any adverse claimants to any mine located and claimed as afore said, shall appear before the approval of the survey, as provided in the third section of this act, all proceedings shall be stayed until a final settlement and adjudication in the courts of competent jurisdiction of the rights of possession to such claim, when a patent may issue as in other cases.

SEC. 7. *And be it further enacted,* That the President of the United States be, and is hereby, authorized to establish additional land districts and to appoint the necessary officers under existing laws, wherever he may deem the same necessary for the public convenience in executing the provisions of this act.

SEC. 8. *And be it further enacted,* That the right of way for the construction of highways over public lands, not reserved for public uses, is hereby granted.

SEC. 9. *And be it further enacted,* That whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and the decisions of courts, the possessors and

owners of such vested rights, shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes aforesaid is hereby acknowledged and confirmed: *Provided, however,* That whenever, after the passage of this act, any perso or persons shall, in the construction of any ditch or canal, injure or damage the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

SEC. 10. *And be it further enacted,* That wherever, prior to the passage of this act, upon the lands heretofore designated as mineral lands, which have been excluded from survey and sale, there have been homesteads made by citizens of the United States, or persons who have declared their intention to become citizens, which homesteads have been made, improved, and used for agricultural purposes, and upon which there have been no valuable mines of gold, silver, cinnabar or copper discovered, and which are properly agricultural lands, the said settlers or owners of such homesteads shall have a right of pre-emption thereto, and shall he entitled to purchase the same at the price of one dollar and twenty-five cents per acre, and in quantity not to exceed one hundred and sixty-acres ; or said parties may avail themselves of the provisions of the act of Congress approved May twenty, eig teen hundred and sixty-two, entitled "An act to secure homesteads to actual settlers on the public domain," and acts amendatory thereof.

SEC. II. *And be it further enacted,* That upon the survey of the lands aforesaid, the Secretary of the Interior may designate and set apart such portions of the said lands as are clearly agricultural lands, which lands shall thereafter be subject to pre-emption and sale as other public lands of the United States, and subject to all the laws and regulations applicable to the same.

From: Marcia Armstrong <armstrng@sisqtel.net>
To: "Mark Stopher" <MStopher@dfg.ca.gov>
CC: <rcostales@co.siskiyou.ca.us>, <tmbst@sisqtel.net>, <mkobseff@co.siskiyo...
Date: 11/3/2009 5:58 PM
Subject: Re: Suction dredge Notice of Preparation and Initial Study
Attachments: Coordination with State and Federal Agencies 2008 RES.pdf

Mark,

Please arrange with our Natural Resource specialist Ric Costales to formaly meet on a government to government basis for coordination purposes. (See attached Resolution)

Water Code §§ 8125-8129 places planning for non-navigable streams within the authority of county supervisors. State planning activities must be coordinated with local County processes. Public Resources Code § 5099.3 mandates coordination by the state with Siskiyou County since it is a county “having interest in the planning, development, and maintenance of outdoor recreation resources and facilities.The California Legislature has mandated in Government Code Section 65300 that each county shall prepare a comprehensive plan, and stated legislative intent in Section 65300.9 that the county planning shall be coordinated with federal and state program activities, and has mandated in Section 65103 that county local plans and programs must be coordinated with plans and programs of other agencies.

In addition, our Comprehensive Land and Resource Management Plan passed in 1999 cites, among many authorities, that:
http://library.ceres.ca.gov/docs/data/1600/1646/HYPEROCR/hyperocr.html

"The California Administrative Procedures Act mandates any state agency that proposes to impose a new rule, order or regulation, or proposes to change any existing order or regulation, upon Siskiyou County or its citizens, to first consider all reasonable alternatives and create a formal '...statement that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective or less burdensome to affected private persons than the proposed regulation.' This Act clearly shows the California Legislature's intent that its agencies carefully consider the customs, culture and economics of California citizens during the process of consideration and adoption of new or changed rules, orders and/or regulations in Siskiyou County.

Marcia Armstrong, District 5 Supervisor

At 03:05 PM 11/3/2009, you wrote:

>Michael and Marcia
>
>We sent these documents listed above to the
>County Clerk office in Siskiyou County. However,
>they are also accessible at
><http://www.dfg.ca.gov/suctiondredge/docs/SuctionDredge-IS-NOP-20091025.pdf>http://www.dfg.ca.go
v/suctiondredge/docs/SuctionDredge-IS-NOP-20091025.pdf
>for your review.
>
>Mark Stopher
>Environmental Program Manager
>California Department of Fish and Game
>601 Locust Street
>Redding, CA 96001
>
>voice 530.225.2275
>fax 530.225.2391
>cell 530.945.1344
>
>
>

RESOLUTION OF THE BOARD OF SUPERVISORS
OF THE COUNTY OF SISKIYOU ASSERTING LEGAL
STANDING AND FORMALLY REQUESTING
COORDINATION WITH ALL FEDERAL AND STATE AGENCIES
MAINTAINING JURISDICTION OVER LANDS AND/OR
RESOURCES LOCATED IN SISKIYOU COUNTY

WHEREAS, Siskiyou County is a public unit of local government and a five member elected Board of Supervisors serves as its chief governing authority; and,

WHEREAS, the Siskiyou County Board of Supervisors is charged with supervising and protecting the tax base of the County and establishing comprehensive land use plans (including, but not limited to, the General Plan) outlining present and future authorized uses for all lands and resources situated within the County; and,

WHEREAS, Siskiyou County is engaged in the land use planning process for future land uses to serve the welfare of all the citizens of Siskiyou County; and,

WHEREAS, approximately sixty-eight percent (68%) of lands in Siskiyou County are publicly owned, managed, and/or regulated by various federal and state agencies; and,

WHEREAS, the citizens of Siskiyou County historically earn their livelihood from activities reliant upon natural resources and land which produces natural resources is critical to the economy of Siskiyou County; and,

WHEREAS, the economic base and stability of Siskiyou County is largely dependent upon commercial and business activities operated on federally and state owned, managed, and/or regulated lands that include, but are not limited to, recreation, tourism, timber harvesting, mining, livestock grazing, and other commercial pursuits; and,

WHEREAS, Siskiyou County desires to assure that federal and state agencies shall inform the Board of Supervisors of all ending or proposed actions affecting local communities and citizens within Siskiyou County and coordinate with the Board of Supervisors in the planning and implementation of those actions; and,

WHEREAS, coordination of planning and management actions is mandated by federal laws governing land management, including the Federal Land Policy and Management Act, 43 USC § 1701, and 43 USC § 1712, regarding the coordinate status of a county engaging in the land use planning process, and requires that the “Secretary of the

Interior [Secretary] shall . . . coordinate the land use inventory, planning and management activities . . . with the land use planning and management programs of other federal departments and agencies and of the state and local governments within which the lands are located"; and,

WHEREAS, the coordination requirements of Section 1712 provide for special involvement by government officials who are engaged in the land use planning process; and,

WHEREAS, Section 1712 sets forth the nature of the coordination required with planning efforts by government officials and subsection (f) of Section 1712 sets forth an additional requirement that the Secretary "shall allow an opportunity for public involvement" (including local government without limiting the coordination requirement of Section 1712 allowing land or resource management or regulatory agencies to simply lump local government in with special interest groups of citizens or members of the public in general); and,

WHEREAS, Section 1712 also provides that the "Secretary shall . . . assist in resolving, to the extent practical, inconsistencies between federal and non-federal government plans" and gives preference to those counties which are engaging in the planning process over the general public, special interest groups of citizens, and even counties not engaging in a land use planning program; and,

WHEREAS, the requirement that the Secretary "coordinate" land use inventory, planning, and management activities with local governments, requires the assisting in resolving inconsistencies to mean that the resolution process takes place during the planning cycle instead of at the end of the planning cycle when the draft federal plan or proposed action is released for public review; and,

WHEREAS, Section 1712 further requires that the "Secretary shall . . . provide for meaningful public involvement of state and local government officials . . . in the development of land use programs, land use regulations, and land use decisions for public lands"; and, when read in light of the "coordinate" requirement of Section 1712, reasonably contemplates "meaningful involvement" as referring to ongoing consultations and involvement throughout the planning cycle, not merely at the end of the planning cycle; and,

WHEREAS, Section 1712 further provides that the Secretary must assure that the federal agency's land use plan be "consistent with state and local plans" to the maximum extent possible under federal law and the purposes of the Federal Land Policy and Management Act and distinguishes local government officials from members of the general public or special interest groups of citizens; and,

WHEREAS, the Environmental Protection Agency, charged with administration and implementation of the National Environmental Policy Act (NEPA), has issued regulations which require that federal agencies consider the economic impact of their actions and plans on local government such as Siskiyou County; and,

WHEREAS, NEPA requires federal agencies to consider the impact of their actions on the customs of the people as shown by their beliefs, social forms, and "material traits," it reasonably follows that NEPA requires federal agencies to consider the impact of their actions on the rural, land and resource-oriented citizens of Siskiyou County who depend on the "material traits" including recreation, tourism, timber harvesting, mining, livestock grazing, and other commercial pursuits for their economic livelihoods; and,

WHEREAS, NEPA requires federal agencies to consider the impact of their actions on the customs, beliefs, and social forms, as well as the "material traits" of the people; and,

WHEREAS, it is reasonable to interpret NEPA as requiring federal agencies to consider the impacts of their actions on those traditional and historical and economic practices, including commercial and business activities, which are performed or operated on federally and state managed lands (including, but not limited to, recreation, tourism, timber harvesting, mining, livestock grazing, and other commercial pursuits); and,

WHEREAS, 42 USC § 4331 places upon federal agencies the "continuing responsibility . . . to use all practical means, consistent with other considerations of national policy to . . . preserve important historic, culture, and natural aspects of our national heritage"; and,

WHEREAS, Webster's New Collegiate Dictionary (at 227, 1975) defines "culture" as "customary beliefs, social forms, and material traits of a group; the integrated pattern of human behavior passed to succeeding generations"; and,

WHEREAS, In 16 USC § 1604, the National Forest Management Act, requires the Forest Service to coordinate its planning processes with local government units such as Siskiyou County; and,

WHEREAS, federal agencies implementing the Endangered Species Act, the Clean Water Act, the Clean Air Act, and the Outdoor Recreation Coordination Act (16 USC § 4601-1(c) and (d)) are required by Congress to consider local plans and to coordinate and cooperate directly with plans of local government such as Siskiyou County; and,

WHEREAS, the coordinating provisions referred to in the resolution require the Secretary of the Interior to work directly with local government to resolve water resource

issues and with regard to recreation uses of the federal lands, and,

WHEREAS, the regulations issued by the federal agencies in this resolution are consistent with statutory requirements of coordination and direct cooperation and provide implementation processes for such coordination and direction consideration and communication; and,

WHEREAS, the California Constitution has recognized Siskiyou County's authority to exercise its local, police and sanitary powers, and the California Legislature has recognized and mandated exercise of certain of those powers in specific statutes; and,

WHEREAS, the California Legislature has mandated in Government Code Section 65300 that each county shall prepare a comprehensive plan, and stated legislative intent in Section 65300.9 that the county planning shall be coordinated with federal and state program activities, and has mandated in Section 65103 that county local plans and programs must be coordinated with plans and programs of other agencies; and,

WHEREAS, the California Legislature has stated its intent in Section 65070 that preparation of state and regional transportation plans be performed in a cooperative process involving local government; and,

WHEREAS, the California Legislature has mandated in Section 65040 that the State Office of Planning and Research shall "coordinate, in conjunction with . . . local agencies with regard to matters relating to the environmental quality of the state"; and,

WHEREAS, in Water Code §§ 8125-8129, the California Legislature has placed planning for non-navigable streams within the authority of county supervisors, and since such planning activities must be coordinated with natural resource planning processes of federal and state agencies; and,

WHEREAS, in Streets and Highways Code §§ 940-941.2, the California Legislature has placed the general supervision, management, and control of county roads and highways - including closing such roads (Section 901) and removing and preventing encroachment of such roads and highways, and since planning and actions with regard to such roads by any federal or state agency must be coordinated with the county; and,

WHEREAS, in Public Resources Code § 5099.3, the California Legislature has mandated coordination by the state with Siskiyou County since it is a county "having interest in the planning, development, and maintenance of outdoor recreation resources and facilities,"

NOW, THEREFORE, BE IT RESOLVED that the Siskiyou County Board of Supervisors does hereby assert legal standing and formally requests coordination status with all federal and state agencies maintaining jurisdiction over lands and/or resources located within Siskiyou County.

BE IT FURTHER RESOLVED that the Clerk of the Board shall cause a copy of this Resolution to be transmitted annually to local, regional, state, and/or national offices of all federal and state agencies maintaining jurisdiction of lands and/or resources located within Siskiyou County and to all federal and state elected representatives serving Siskiyou County.

BE IT FURTHER RESOLVED that the Clerk of the Board of Supervisors is authorized and hereby directed to publish a copy of this Resolution in the Siskiyou Daily News, a newspaper of general circulation printed and published in Siskiyou County, California.

PASSED AND ADOPTED this _____ day of _____, 2008, by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
Chair, Board of Supervisors

ATTEST:
COLLEEN SETZER, CLERK
Board of Supervisors

By_____
Deputy

G:\Share\RESOLUTN\Coordination with State and Federal Agencies 2008 RES.wpd

From: Marcia Armstrong <armstrng@sisqtel.net>
To: "Mark Stopher" <MStopher@dfg.ca.gov>
CC: <rcostales@co.siskiyou.ca.us>, <tmbst@sisqtel.net>, <mkobseff@co.siskiyo...
Date: 11/3/2009 5:58 PM
Subject: Re: Suction dredge Notice of Preparation and Initial Study
Attachments: Coordination with State and Federal Agencies 2008 RES.pdf

Mark,

Please arrange with our Natural Resource specialist Ric Costales to formaly meet on a government to government basis for coordination purposes. (See attached Resolution)

Water Code §§ 8125-8129 places planning for non-navigable streams within the authority of county supervisors. State planning activities must be coordinated with local County processes. Public Resources Code § 5099.3 mandates coordination by the state with Siskiyou County since it is a county “having interest in the planning, development, and maintenance of outdoor recreation resources and facilities.The California Legislature has mandated in Government Code Section 65300 that each county shall prepare a comprehensive plan, and stated legislative intent in Section 65300.9 that the county planning shall be coordinated with federal and state program activities, and has mandated in Section 65103 that county local plans and programs must be coordinated with plans and programs of other agencies.

In addition, our Comprehensive Land and Resource Management Plan passed in 1999 cites, among many authorities, that:
http://library.ceres.ca.gov/docs/data/1600/1646/HYPEROCR/hyperocr.html

"The California Administrative Procedures Act mandates any state agency that proposes to impose a new rule, order or regulation, or proposes to change any existing order or regulation, upon Siskiyou County or its citizens, to first consider all reasonable alternatives and create a formal '...statement that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective or less burdensome to affected private persons than the proposed regulation.' This Act clearly shows the California Legislature's intent that its agencies carefully consider the customs, culture and economics of California citizens during the process of consideration and adoption of new or changed rules, orders and/or regulations in Siskiyou County.

Marcia Armstrong, District 5 Supervisor

At 03:05 PM 11/3/2009, you wrote:

>Michael and Marcia
>
>We sent these documents listed above to the
>County Clerk office in Siskiyou County. However,
>they are also accessible at
><http://www.dfg.ca.gov/suctiondredge/docs/SuctionDredge-IS-NOP-20091025.pdf>http://www.dfg.ca.gov/suctiondredge/docs/SuctionDredge-IS-NOP-20091025.pdf
>for your review.
>
>Mark Stopher
>Environmental Program Manager

>California Department of Fish and Game
>601 Locust Street
>Redding, CA 96001
>
>voice 530.225.2275
>fax 530.225.2391
>cell 530.945.1344
>
>
>

RESOLUTION OF THE BOARD OF SUPERVISORS
OF THE COUNTY OF SISKIYOU ASSERTING LEGAL
STANDING AND FORMALLY REQUESTING
COORDINATION WITH ALL FEDERAL AND STATE AGENCIES
MAINTAINING JURISDICTION OVER LANDS AND/OR
RESOURCES LOCATED IN SISKIYOU COUNTY

WHEREAS, Siskiyou County is a public unit of local government and a five member elected Board of Supervisors serves as its chief governing authority; and,

WHEREAS, the Siskiyou County Board of Supervisors is charged with supervising and protecting the tax base of the County and establishing comprehensive land use plans (including, but not limited to, the General Plan) outlining present and future authorized uses for all lands and resources situated within the County; and,

WHEREAS, Siskiyou County is engaged in the land use planning process for future land uses to serve the welfare of all the citizens of Siskiyou County; and,

WHEREAS, approximately sixty-eight percent (68%) of lands in Siskiyou County are publicly owned, managed, and/or regulated by various federal and state agencies; and,

WHEREAS, the citizens of Siskiyou County historically earn their livelihood from activities reliant upon natural resources and land which produces natural resources is critical to the economy of Siskiyou County; and,

WHEREAS, the economic base and stability of Siskiyou County is largely dependent upon commercial and business activities operated on federally and state owned, managed, and/or regulated lands that include, but are not limited to, recreation, tourism, timber harvesting, mining, livestock grazing, and other commercial pursuits; and,

WHEREAS, Siskiyou County desires to assure that federal and state agencies shall inform the Board of Supervisors of all ending or proposed actions affecting local communities and citizens within Siskiyou County and coordinate with the Board of Supervisors in the planning and implementation of those actions; and,

WHEREAS, coordination of planning and management actions is mandated by federal laws governing land management, including the Federal Land Policy and Management Act, 43 USC § 1701, and 43 USC § 1712, regarding the coordinate status of a county engaging in the land use planning process, and requires that the “Secretary of the

Interior [Secretary] shall . . . coordinate the land use inventory, planning and management activities . . . with the land use planning and management programs of other federal departments and agencies and of the state and local governments within which the lands are located"; and,

WHEREAS, the coordination requirements of Section 1712 provide for special involvement by government officials who are engaged in the land use planning process; and,

WHEREAS, Section 1712 sets forth the nature of the coordination required with planning efforts by government officials and subsection (f) of Section 1712 sets forth an additional requirement that the Secretary "shall allow an opportunity for public involvement" (including local government without limiting the coordination requirement of Section 1712 allowing land or resource management or regulatory agencies to simply lump local government in with special interest groups of citizens or members of the public in general); and,

WHEREAS, Section 1712 also provides that the "Secretary shall . . . assist in resolving, to the extent practical, inconsistencies between federal and non-federal government plans" and gives preference to those counties which are engaging in the planning process over the general public, special interest groups of citizens, and even counties not engaging in a land use planning program; and,

WHEREAS, the requirement that the Secretary "coordinate" land use inventory, planning, and management activities with local governments, requires the assisting in resolving inconsistencies to mean that the resolution process takes place during the planning cycle instead of at the end of the planning cycle when the draft federal plan or proposed action is released for public review; and,

WHEREAS, Section 1712 further requires that the "Secretary shall . . . provide for meaningful public involvement of state and local government officials . . . in the development of land use programs, land use regulations, and land use decisions for public lands"; and, when read in light of the "coordinate" requirement of Section 1712, reasonably contemplates "meaningful involvement" as referring to ongoing consultations and involvement throughout the planning cycle, not merely at the end of the planning cycle; and,

WHEREAS, Section 1712 further provides that the Secretary must assure that the federal agency's land use plan be "consistent with state and local plans" to the maximum extent possible under federal law and the purposes of the Federal Land Policy and Management Act and distinguishes local government officials from members of the general public or special interest groups of citizens; and,

WHEREAS, the Environmental Protection Agency, charged with administration and implementation of the National Environmental Policy Act (NEPA), has issued regulations which require that federal agencies consider the economic impact of their actions and plans on local government such as Siskiyou County; and,

WHEREAS, NEPA requires federal agencies to consider the impact of their actions on the customs of the people as shown by their beliefs, social forms, and "material traits," it reasonably follows that NEPA requires federal agencies to consider the impact of their actions on the rural, land and resource-oriented citizens of Siskiyou County who depend on the "material traits" including recreation, tourism, timber harvesting, mining, livestock grazing, and other commercial pursuits for their economic livelihoods; and,

WHEREAS, NEPA requires federal agencies to consider the impact of their actions on the customs, beliefs, and social forms, as well as the "material traits" of the people; and,

WHEREAS, it is reasonable to interpret NEPA as requiring federal agencies to consider the impacts of their actions on those traditional and historical and economic practices, including commercial and business activities, which are performed or operated on federally and state managed lands (including, but not limited to, recreation, tourism, timber harvesting, mining, livestock grazing, and other commercial pursuits); and,

WHEREAS, 42 USC § 4331 places upon federal agencies the "continuing responsibility . . . to use all practical means, consistent with other considerations of national policy to . . . preserve important historic, culture, and natural aspects of our national heritage"; and,

WHEREAS, Webster's New Collegiate Dictionary (at 227, 1975) defines "culture" as "customary beliefs, social forms, and material traits of a group; the integrated pattern of human behavior passed to succeeding generations"; and,

WHEREAS, In 16 USC § 1604, the National Forest Management Act, requires the Forest Service to coordinate its planning processes with local government units such as Siskiyou County; and,

WHEREAS, federal agencies implementing the Endangered Species Act, the Clean Water Act, the Clean Air Act, and the Outdoor Recreation Coordination Act (16 USC § 4601-1(c) and (d)) are required by Congress to consider local plans and to coordinate and cooperate directly with plans of local government such as Siskiyou County; and,

WHEREAS, the coordinating provisions referred to in the resolution require the Secretary of the Interior to work directly with local government to resolve water resource

issues and with regard to recreation uses of the federal lands, and,

WHEREAS, the regulations issued by the federal agencies in this resolution are consistent with statutory requirements of coordination and direct cooperation and provide implementation processes for such coordination and direction consideration and communication; and,

WHEREAS, the California Constitution has recognized Siskiyou County's authority to exercise its local, police and sanitary powers, and the California Legislature has recognized and mandated exercise of certain of those powers in specific statutes; and,

WHEREAS, the California Legislature has mandated in Government Code Section 65300 that each county shall prepare a comprehensive plan, and stated legislative intent in Section 65300.9 that the county planning shall be coordinated with federal and state program activities, and has mandated in Section 65103 that county local plans and programs must be coordinated with plans and programs of other agencies; and,

WHEREAS, the California Legislature has stated its intent in Section 65070 that preparation of state and regional transportation plans be performed in a cooperative process involving local government; and,

WHEREAS, the California Legislature has mandated in Section 65040 that the State Office of Planning and Research shall "coordinate, in conjunction with . . . local agencies with regard to matters relating to the environmental quality of the state"; and,

WHEREAS, in Water Code §§ 8125-8129, the California Legislature has placed planning for non-navigable streams within the authority of county supervisors, and since such planning activities must be coordinated with natural resource planning processes of federal and state agencies; and,

WHEREAS, in Streets and Highways Code §§ 940-941.2, the California Legislature has placed the general supervision, management, and control of county roads and highways - including closing such roads (Section 901) and removing and preventing encroachment of such roads and highways, and since planning and actions with regard to such roads by any federal or state agency must be coordinated with the county; and,

WHEREAS, in Public Resources Code § 5099.3, the California Legislature has mandated coordination by the state with Siskiyou County since it is a county "having interest in the planning, development, and maintenance of outdoor recreation resources and facilities,"

NOW, THEREFORE, BE IT RESOLVED that the Siskiyou County Board of Supervisors does hereby assert legal standing and formally requests coordination status with all federal and state agencies maintaining jurisdiction over lands and/or resources located within Siskiyou County.

BE IT FURTHER RESOLVED that the Clerk of the Board shall cause a copy of this Resolution to be transmitted annually to local, regional, state, and/or national offices of all federal and state agencies maintaining jurisdiction of lands and/or resources located within Siskiyou County and to all federal and state elected representatives serving Siskiyou County.

BE IT FURTHER RESOLVED that the Clerk of the Board of Supervisors is authorized and hereby directed to publish a copy of this Resolution in the Siskiyou Daily News, a newspaper of general circulation printed and published in Siskiyou County, California.

PASSED AND ADOPTED this _____ day of _____, 2008, by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
Chair, Board of Supervisors

ATTEST:
COLLEEN SETZER, CLERK
Board of Supervisors

By_____
Deputy

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From: Marshall Apple <mcapple@sbcglobal.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/30/2009 8:44 AM
Subject: Public Scoping Meetings

Hello, I am sending this email to relay my thoughts on the continuation of dredging in 2010. I was unable to attend your meetings and appreciate this opportunity to voice my opposition to the dredging ban in 2009. I have a mining claim on Canyon Creek in Sierra County. My family has been dredging on this claim since 1959. We appreciate the beauty of the land and have been careful not to harm it. I feel dredging helps the fish population by loosening the gravel and allows the fish to spaun. It also sturs up insects for them to feed on. When I find mercury on the bottom of a hole, I do suck it up and recover it and remove it from the water. If I can not use the dredge, I use a turkey baster and am able to remove the mercury. I also want to point out, we still had to pay taxes (over $400) on the claim where we could not mine. We still needed to pay for our permit to dredge (no refund was offered) and file assessment work at the county and BLM and pay the filing fees. Mining claims have been around longer than California has been a state. Gold mining is responsible for the establishment of many California cities and still provides an income for miners and a hobby for recreational dredgers. If the decline of the salmon population is the culperate for the loss of dredging, I suggest you look at the gill nets the indians string from bank to bank on the Klamath. Look at the overfishing both legal and illegal in the oceans and look at the warming of the oceans for the decline of the salmon population. I also feel there is a major problem with the stripers (a non-native fish to California waters) that eat the millions of salmon fingerlings released into the rivers. The limit on stripers should be removed to control this problem. There are also large populations of sea lions feeding on the salmon when they enter the bays to feed and spaun. Their populations seem to be growing as their preditor (great white shark) is declining in population. Please keep me informed of any development on the future of dredging in California.

Sincerely,
Marshall C. Apple
Horsetird Mine

From: "MARTIN H. MILas" <mhmilas@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>, <mstopher@dfg.ca.gov>
CC: Steve Karno RR <skarno@socal.rr.com>, Art Morgan <amcollects@verizon.net...
Date: 12/3/2009 4:09 PM
Subject: Public Scoping Written Comments

Dear Mr. Stopher:
This e-mail is in response to your written invitation to me [as a 2009 suction dredge permit holder] to submit scoping comments regarding the DFG Suction Dredge Permit Program. Specifically, comments were requested as to the range of actions, alternatives, significant environmental effects and mitigation measures to be discussed in the draft Subsequent Environmental Impact Report [SEIR]. I believe the following questions and issues should be addressed in the SEIR:
1. How will objective comparisons of environmental impacts be made between rivers and waterways that [a] involve no active suction dredging and [b] rivers and waterways that do not involve active dredging? For example, there are several rivers and waterways in California that have no history of ever having been significantly dredged due to the well known absence of gold bearing gravels. COMMENT: It is scientifically more reliable and credible when assessing environmental impacts to utilize comparisons BOTH of ecosystems that do not experience the activity to be studied [in this case, suction dredging] with ecosystems that do experience the activity to be studied in order to form a valid opinion.
2. As of August 6th 2009 no suction dredging is lawful in the state of California. What will be the DFG methodology in preparing a SEIR during times that no active suction dredging is lawful in the entire state of California? COMMENT: The DFG SEIR should place greater reliance on data and opinions that in the past were developed prior to the time that suction dredging was made illegal on August 6, 2009. Such data and opinions were gathered in prior EIRs performed by DFG regarding suction dredging when EIR studies had the benefit of actual and measurable observation of the thing being studied [suction dredging].
3. I have personally removed substantial amounts of elemental mercury [Hg] that is amalgamated with some of the gold I have recovered while using a suction dredge in California. This Hg no longer is in the waterways of California and thus not capable of adding to the methyl-mercury levels of those waters. To what extent will the SEIR address the positive environmental impact that Hg removal by suction dredging has on the environment? COMMENT: The prevention of methyl-mercury development by the removal of elemental mercury through the use of suction dredges is environmentally significant and should be addressed in the current SEIR.
4. I personally have removed many pounds of lead, copper, zinc and other heavy metals from California waterways while employing my suction dredge. COMMENT: The SEIR should address the amount of environmental impact that results from the removal of heavy metals by suction dredges from California waterways.
5. I have personally observed spawning salmon fight each other over the privilege of nest building in recently dredged gravel tailings and I have observed them shun silty, mud packed river bottoms. Fish egg parasites and harmful molds thrive in silty, mud choked river beds, but they do not thrive in freshly dredged gravels tailings. COMMENT: The SEIR should address the environmental impact that results from the creation of suction dredge tailing piles and why spawning salmon are intuitively attracted to them.
6. I personally dredge down to bedrock while suction dredging for gold nuggets and flakes because this is where the gold pay streaks typically are most prevalent. In the course of removing the strong layers of cemented gravels that were formed from the hydraulic mining clays of the 19th century, I noticed that fish and other forms of aquatic life, especially during the hot summer months, congregated at the bottoms of these holes even AFTER I removed my suction dredge. It occurs to me that the water temperature at the bottom of these holes is lower than that of the ambient river water. This, in turn, likely is due to the removal of those tough, cemented gravels which no longer can choke off the seepage of cold artesian water from the bedrocks cracks and crevices thus exposed. COMMENT: The SEIR should address the environmental impact that dredge holes provide by providing thermal refugia for aquatic life during the hot summer months.
7. It is well established that a healthy river bottom is well oxygenated. Suction dredges dissolve much oxygenation into the waters where they are deployed by bringing oxygen depleted water in direct contact with the atmosphere. COMMENT: The SEIR should address the positive impact that suction dredges create by dissolving badly needed oxygen into the rivers of California, especially during the hot summer months when river water is less able to hold dissolved oxygen due to increased heat.
8. I have personally observed migrating salmon utilize deep dredge holes as rest areas. COMMENT: The SEIR should address the environmental impact to migrating salmon that suction dredges provide by the creation of deep dredge holes all along the length of of salmon habitat rivers.
9. It is common knowledge that both the periodic release of water from dams during the summer and the release of water by summer monsoon rain storms create vast amounts of turbidity up and down the entire length of a river for days at a time. This is so because in each of those cases water volume is increased throughout the river. Increased water volume, in turn, increases water pressure which, in turn, increases water velocity which, in turn, is the cause of massive turbidity in California river systems. Dredging, on the other hand, does not add any water to the river, cannot increase water pressure throughout the river and cannot increase water velocity throughout the river and is entirely localized for short periods of time. COMMENT: The SEIR should address the localized significance of river turbidity generated by suction dredging in comparison to the total and enduring turbidity caused by the large scale release of dam water and natural
rainfall.
10. I am a law abiding small scale prospector who is deeply committed to a healthy California water environment. To what extent does DFG publicize that it has tribal partners, but not suction dredge partners, in helping to improve the California natural river environments? Why is this so? Is there a place in this quest for small scale suction dredgers such as myself and my wife [ages 67 and 61 respectively]? COMMENT: The SEIR should address a range of actions that INCLUDE rather than EXCLUDE small scale suction dredge operators, particularly in light of a suction dredge operator's potential to contribute positively to the water quality of California.
Thank you for considering these comments
Martin H. Milas

November 22 09

Dept of Fish & Game

As we are unable to attend the Public Scoping Meetings Regarding: Suction Dredge Permit Program.

Will you mail us any information you may have: ?

Initial Study
Project description
Notice of Preparation

We want to stay involved

With the Repeal of HR670.

Dredgers unite!

Thank you

Mary J Harrison

Mary J Harrison
PO Box 2185
Blythe, CA 92226-2185

To whom it may concern,

We Mary Lee Knox and Joe Lopes oppose this ban on dredging. Due to the fact of Lack of public knowledge from DFG concerning the reason behind this ban.

It is our understanding that the ban is focused on the Salmon fishing industry.

We reside in Plumas County and to the best of our knowledge there is not and has not been any Salmon population in our rivers and streams since the building of Oroville Dam.

So why does this ban blanket the whole state, instead of only the counties this issue is at hand?

So there for we strongly oppose the loss of our rights to supplemental income and recreational activity, due to the action of others.

Joe Lopes Mary Lee Knox

From: Matthew Plourd <mattominer@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/21/2009 11:00 PM
Subject: suction dredge impact commentary from miner

Dear sirs or madams,
My name is Matt Plourd and I live in the foothills of the Sierras, known as Paradise California.... I speak as a experienced miner, Up until about 3 months ago I owned the "Red Hill Hydraulic Mine" A historic piece of Magalia Calif, This is a patented 80 acre claim with part of this property overlaying the West Branch Of The Feather River. This Property has had a history of mining since 1848. I owned and mined this property for 3 Years.

Part of the past history of the property has been Suction Dredging on a recreational basis.While I have lived here in this area for the past 9 years I have witnessed very little activity in Suction Dredging , there has been an estimated 13 dredge operations actively mining in this area and most lasted no longer than a week, most were small dredges 3" size and smaller, one 8" operation that lasted an estimated 10 days and was operated by a few older miners and as such more talk on the banks of the river took place than actual mining.

The same activity has been observed on butte creek, although more mining has taken place by suction dredging operations on butte creek, the number of Dredgers on Butte over the last few years has been minimal at best.
BLM would have statistics on how many people have Dredged on Butte Creek as the BLM pay sites are really the only sites accessible to Dredging on Butte Creek.

Both the West Feather River and Butte Creek have not only had low numbers of dredgers. Both rivers have a point at which the so called "Tribitity" factors would not apply as there are "Settling" areas of calm waters where sediments can have a chance to settle.

On Butte Creek there is the PG&E Power House, were the sediment settles behind the dam and never reaches the "Salmon Habitat" as Dredging below the dam is illegal and for the most part inaccessible.

On the West Feather River, the water enters Lake Oroville on the North side and exits the dam some 10 miles away.
As such, NO sediment from the West Feather Dredging Operations EVER reach the "Salmon Habitat" that is located below the dam.

There are ways to catch sediments and slurries from dredge operations if necessary to insure against possible mercury contamination or other harmful products becoming water bourne using various methods. Question is, is this really necessary considering the impact of winter storms on a annual basis?

It does not take a million dollar + Environmental Impact Study to figure out that the winter storms on any given El Nino year, tears up the Stream Bed and re-distributes Gravels and Boulders beyond what any impact from small scale mining could cause in a life time of Suction Dredging.

Thank you,
Matt Plourd of Paradise, California
E-mail mattominer@yahoo.com

From: Michael Adams <audredger2002@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 2:15 PM
Subject: Responce to Draft EIR
Attachments: responce.doc

Gentlemen,
My response to your "Initial Study Suction Dredge Permitting Program Subsequent Environmental Impact Report"

Aesthetics Pages 30.31 &32
a.) (Effects on Scenic Vistas) Almost every point of visual impacts can apply to fishermen, drift boats, rafters and rotary fish traps. Is it the intent of Fish & Game to limit there access to the river so my scenic vistas are not impaired?

b.) (Effects on Scenic Resources) & c.) (Degradation of Visual Character) Illegal activities are illegal. You cannot condemn a group of people just because there may be some outlaws. The California Fish & Game and the National Marine Fisheries are more than guilty of destruction of riparian habitats where ever the launch and monitor one of there rotary fish traps.

Air Quality Section Pages 34 thru 36
ATV's, dirt bikes, go carts, dune buggies, dragsters, lawnmowers, leaf blowers, chainsaws, ECT. all would have the same impacts. It is the legislators job to deal with these not DFGs'. The last two dredge engines that I purchased were CARB complaint!!!

Biological Resources

Page 41 "Heavy metal contamination" "suction dredging activities can result in the discharge of mercury (Hg) or other toxic contaminants."
Page 54 "Mercury contamination" "suction dredging activities can result in the discharge of mercury (Hg) or other toxic contaminants,"

Suction dredging is not a source of mercury nor any other heavy metal contaminates. Suction dredges only discharge what is already in the streambed sediments. Suction dredges capture and remove many heavy metal contaminates including but limited to mercury, lead and, tungsten.

"Mercury biomethylation is the transformation of divalent inorganic mercury (Hg(II)) to CH_3Hg^+, and is primarily carried out by sulfate-reducing bacteria that live in anoxic (low dissolved oxygen) environments, such as estuarine and lake-bottom sediments." USGS Website http://toxics.usgs.gov/definitions/methylmercury.html

Suction dredges remove mercury from the anoxic environments where bimethylation may occur and trap and remove at least 98% of the free mercury encountered. Ref. Staff Report Mercury Losses and Recovery, California Water Boards 2005.

Page 55 "Behavioral Effects" Human visitation along stream banks resulted in 80 to 100 percent decrease in frog use with a five□fold and 12□fold increase in direct disturbance (Rodríguez□Prieto and Fernández□Juricic 2005).

Page 55 "Recreation Use" Activities associated with suction dredging, such as camping, may have effects on special status wildlife. In general, recreational activities can change the habitat of an animal, which can affect the behavior, survival, reproduction, and distribution of individuals (Cole and Landres 1995).

Fishing, Rafting and hunting have the same effects; is it the intent of Fish & Game to outlaw or limit these activities?

"Dumping of trash and toxic materials (soap, motor oil, mercury), associated with dredging operations, can degrade water quality, and may also have adverse effects on eggs and developing larvae (USFS 2001, USFWS 2002)."

The dumping of trash and toxic material is illegal, and should not be considered as a consequence of suction dredging but as a law enforcement problem.

Hazards and Hazardous Materials

a, b. Dredgers use of gasoline and oil is no worse than the average homeowner and should not constitute a significant impact. Dredgers use of nitric acid is overstated! In 2002 I was gifted 4 liters of nitric acid. Since May 2002 thru Dec 2009 I and my partner have used approximately ¼ liter and gifted to other miners another ¼ liter. ¼ liter over a seven year period is less than significant! The lead and mercury collected by our dredges is carried home and reused or sold to recyclers.

We, dredgers, do not represent a danger to the public health nor the environment any more than the average household.

h.) Not a significant risk!

Hydrology and Water Quality

a) See above plus the discharge of hazardous substances is against State & Federal Law. If you think this is significant, enforce the law! Debris and trash left at campsites is also against the law. Hunters, fishermen and picnickers are as if not more guilty than dredgers.

National Marine Fisheries regulations require that dredges be equipped with drip pans. These pans should contain any spills of gas or oil that may occur. The discharge of un-burnt gas oil mix from outboard motors, which is directly discharged under the water, should be of greater concern than what dredgers might spill.

Turbidity form dredges is such short lived that it should not be considered significant.

Mercury Discharges) Suction dredging is neither a source of mercury nor any other heavy metal contaminates. Suction dredges only discharge what is already in the streambed sediments. Suction dredges capture and remove many heavy metal contaminates including but limited to mercury, lead and, tungsten.

"Mercury biomethylation is the transformation of divalent inorganic mercury (Hg(II)) to CH_3Hg^+, and is primarily carried out by sulfate-reducing bacteria that live in anoxic (low dissolved oxygen) environments, such as estuarine and lake-bottom sediments." USGS Website http://toxics.usgs.gov/definitions/methylmercury.html

Suction dredges remove mercury from the anoxic environments where bimethylation may occur and trap and remove at least 98% of the free mercury encountered. Ref. Staff Report Mercury Losses and Recovery, California Water Boards 2005.

Literature:
Re. Staff Report Mercury Losses and Recovery, California Water Boards 2005.

This study is flawed. Use of a dredge that did not contain miner's moss, shag carpet or multiple layers of screen, impaired its ability to trap mercury. Had the afore mentioned traps been used the capture rate would have been higher. There sampling methods leaves much to be desired. There conclusions that floured mercury may be more dangerous ignores the fact that the mercury was in all probability floured when it was lost from sluice boxes in the 1800's. Mercury will recoaless given the opportunity.

Michael Adams
1200 Cherry Maple Rd
Horse Creek, CA 96050

530 496-3346

December 2, 2009

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

RE: Notice of Preparation of a Draft Subsequent Environmental Impact Report

Dear Mr. Stopher,

I am writing to express my concerns over the current moratorium on suction dredging and the pending environmental impact report. Setting all partisan-related issues aside, I will briefly focus on the effects of suction dredging on the immediate ecosystem, as I perceive it.

First, please allow me to clarify that, while I am a small-scale prospector and resident of California, I also hold a Master's of Science in Biology from Cal Poly State University - San Luis Obispo. My areas of expertise are in environmental microbiology and molecular biology. But I do have a basic understanding of environmental biology as related to ecosystems.

Modern suction dredging is generally performed using a gas-powered engine to drive a water pump mounted on a floating (in-stream) platform. Water is pumped under high-pressure to a nozzle, where a venturi-action creates the suction to vacuum sediments into a hose, and then delivers the sediments to a sluice box mounted on the afore-mentioned floating platform. As the sediments wash over the riffles of the sluice box, heavy minerals and metals are recovered and retained. The waste materials are released from the end of the sluice box, where rocks and heavy sediments not trapped by the riffles are deposit immediately-downstream of the dredge and lighter materials may drift a short distance before settling and depositing. Only fine, silt-like materials travel a notable distance from the dredge. In scope, this process is not unlike the natural redistribution of aquatic sediments caused by strong runoffs and flooding cycles, but on a significantly smaller, site-specific scale. Taking the design, function and operation of the modern-suction dredge into account, the following points of concern, as related to the impact on the aquatic ecosystem, come to mind.

- The operation of the suction dredge, being a mechanized device, could pose an immediate-threat to aquatic organisms if caught in the suction of the nozzle and passed through the sluice assembly. However, as this would require large organisms, such as fish, to come within inches of the nozzle during operation, the risk is of such occurrence is unlikely.

- The risk of aquatic life being pulled into the intake nozzle of the pump is very low, as the intake is screened and restricted by a foot valve, thus limiting the size of material inadvertently-pulled into the pump.

- The suctioning of gravels and sediments removes materials from the area of work, often to the point of exposing bedrock. The post-process material is then deposited within close proximity of the area worked, as limited by the size and power of the pump/engine, the length of hose between nozzle and dredge, and the effects of drift caused by the natural flow of water within the aquatic ecosystem (i.e. river or stream). Because mercury from both naturally-occurring deposits and residual-waste from early-mining operations can be liberated from the processed sediments, the formation of methyl mercury has been of concern. However, the abiotic-formation of methyl mercury may involve the presence of other methylated metals to serve as potential methyl donors. And the rate of methylation depends strongly on environmental factors such as pH, temperature, and the presence of complexing agents, especially chloride (1). While it is still unclear, the probability that the passing of mercury-containing sediment over the riffles of a sluice box will result in the formation of any detectable-amount of methyl mercury is highly-questionable.
- A majority of methyl mercury is reported to be formed biologically, through the metabolic activities of sulfate-reducing bacteria under anaerobic/anoxic conditions, such as those found in subsurface-sediments. And the equilibrium between inorganic and organic forms of mercury my change rapidly, depending on the conditions of the environment at any given time (2, 3). Thus, the disturbance of aquatic sediments by any means, to include redistribution of sediments associated with natural runoff cycles, may release trapped methyl mercury trapped within anaerobic sediments into the aquatic environment. Considering that suction dredging loosens packed sediments and may concomitantly-expose sulfate-reducing organisms to dissolved oxygen, the activity of dredging may pose some benefit in the context of reducing the biological formation of methyl mercury through the aeration of sediments. In addition, the action of the sluice box has been shown to recover mercury from the environment in earlier studies using primitive equipment. The design improvements of modern dredges may subsequently improve the efficiency of mercury recovery and could prove to be another benefit of suction dredging.
- If the formation and/or liberation of methyl mercury or other toxic compounds is a real product of suction dredging, then it should be identifiable through the definitive-impact on sentinel organisms, such as sensitive aquatic life and top predators within that ecosystem. Specifically, the decline in fish populations associated with dredging-related toxins would be evident through malformed embryos, the subsequent reduction in hatch, the premature die-off of fry, and a noticeable reduction in adult fish count. And any such decline in sentinel organisms would be most evident around and/or within areas experiencing high-frequencies of dredging activity.
- As noted in the recent DFG literature review on suction dredging, the use of suction dredges in California had occurred from the 1960s through the 1980s, and was later regulated by DFG through the issuance of permits to minimize the potential-impact of dredging on spawning fish populations. If suction dredging has a significant environmental impact of any kind, it would be evident through study of the records of fish populations – specifically those associated with areas most subjected to suction dredging. The study of such records would also potentially-elucidate variances in

populations between the unregulated and permit-regulated periods within the state of California.

- Lastly, the study of the environmental impact of suction dredging on various aquatic ecosystems and potentially-sensitive species within these ecosystems cannot be effectively-studied "*in-vitro*", using test equipment under simulated conditions, while being operated by inexperienced personnel. This study is best conducted through the monitoring of test areas open to permitted-operators, under real conditions – "*in-vivo*". This approach will produce the best data for analysis, and will better-afford the DFG to reevaluate guidelines for permitting to maintain compliance with CEQA and other environmental regulations. Thus, I propose the DFG petition to open a small number of test-sites within the state for the study of dredging activities under controlled-conditions using permitted dredge operators. To do anything less is equivalent to generating a "hearsay" dataset.

I thank you for your time, consideration and efforts in resolving these issues. I know you have a daunting challenge in front of you, with heated-interests lining both sides of the road ahead. I bid you well in executing the review as fairly and impartially as humanly-possible.

Sincerely,

Michael Braid, M.S.
186 Wellfleet Circle
Folsom, CA 95630

References:

1. Celo V, Lean DR, Scott SL, **Abiotic methylation of mercury in the aquatic environment.** Sci Total Environ. 2006 Sep 1;368(1):126-37. Epub 2005 Oct 14.

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From: Michael Braid <michaelbraid@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: <mstopher@dfg.ca.gov>
Date: 12/3/2009 1:32 PM
Subject: Letter of concerns regarding suction dredging SEIR

December 3, 2009

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

RE: Notice of Preparation of a Draft Subsequent Environmental Impact Report

Dear Mr. Stopher,

I am writing to express my concerns over the current moratorium on suction dredging and the pending environmental impact report. Setting all partisan-related issues aside, I will briefly focus on the effects of suction dredging on the immediate ecosystem, as I perceive it.

First, please allow me to clarify that, while I am a small-scale prospector and resident of California, I also hold a Master's of Science in Biology from Cal Poly State University - San Luis Obispo. My areas of expertise are in environmental microbiology and molecular biology. But I do have a basic understanding of environmental biology as related to ecosystems.

Modern suction dredging is generally performed using a gas-powered engine to drive a water pump mounted on a floating (in-stream) platform. Water is pumped under high-pressure to a nozzle, where a venturi-action creates the suction to vacuum sediments into a hose, and then delivers the sediments to a sluice box mounted on the afore-mentioned floating platform. As the sediments wash over the riffles of the sluice box, heavy minerals and metals are recovered and retained. The waste materials are released from the end of the sluice box, where rocks and heavy sediments not trapped by the riffles are deposited immediately-downstream of the dredge and lighter materials may drift a short distance before settling and depositing. Only fine, silt-like materials travel a notable distance from the dredge. In scope, this process is not unlike the natural redistribution of aquatic sediments caused by strong runoffs and flooding cycles, but on a significantly smaller, site-specific scale. Taking the design, function and operation of the modern-suction dredge into account, the following points of concern, as related to the impact on the aquatic ecosystem, come to mind.

- The operation of the suction dredge, being a mechanized device, could pose an immediate-threat to aquatic organisms if caught in the suction of the nozzle and passed through the sluice assembly. However, as this would require large organisms, such as fish, to come within inches of the nozzle during operation, the risk is of such occurrence is unlikely.

- The risk of aquatic life being pulled into the intake nozzle of the pump is very low, as the intake is screened and restricted by a foot valve, thus limiting the size of material inadvertently-pulled into the pump.
- The suctioning of gravels and sediments removes materials from the area of work, often to the point of exposing bedrock. The post-process material is then deposited within close proximity of the area worked, as limited by the size and power of the pump/engine, the length of hose between nozzle and dredge, and the effects of drift caused by the natural flow of water within the aquatic ecosystem (i.e. river or stream). Because mercury from both naturally-occurring deposits and residual-waste from early-mining operations can be liberated from the processed sediments, the formation of methyl mercury has been of concern. However, the abiotic-formation of methyl mercury may involve the presence of other methylated metals to serve as potential methyl donors. And the rate of methylation depends strongly on environmental factors such as pH, temperature, and the presence of complexing agents, especially chloride (1). While it is still unclear, the probability that the passing of mercury-containing sediment over the riffles of a sluice box will result in the formation of any detectable-amount of methyl mercury is highly-questionable.
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dredging on spawning fish populations. If suction dredging has a significant environmental impact of any kind, it would be evident through study of the records of fish populations – specifically those associated with areas most subjected to suction dredging. The study of such records would also potentially-elucidate variances in populations between the unregulated and permit-regulated periods within the state of California.

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I thank you for your time, consideration and efforts in resolving these issues. I know you have a daunting challenge in front of you, with heated-interests lining both sides of the road ahead. I bid you well in executing the review as fairly and impartially as humanly-possible.

Sincerely,

Michael Braid, M.S.
186 Wellfleet Circle
Folsom, CA 95630
michaelbraid@yahoo.com

References:
1. Celo V, Lean DR, Scott SL, Abioticmethylation of mercury in the aquatic environment. Sci Total Environ. 2006 Sep 1;368(1):126-37. Epub 2005 Oct 14.
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From: Michael Braid <michaelbraid@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 10:31 PM
Subject: Comments and Concerns regarding SEIR
Attachments: DFG_EIR_Letter.pdf

To whom it may concern,

Please find my letter attached.

Sincerely,

Michael Braid
186 Wellfleet Circle
Folsom, CA 95630
michaelbraid@yahoo.com

December 2, 2009

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

RE: Notice of Preparation of a Draft Subsequent Environmental Impact Report

Dear Mr. Stopher,

I am writing to express my concerns over the current moratorium on suction dredging and the pending environmental impact report. Setting all partisan-related issues aside, I will briefly focus on the effects of suction dredging on the immediate ecosystem, as I perceive it.

First, please allow me to clarify that, while I am a small-scale prospector and resident of California, I also hold a Master's of Science in Biology from Cal Poly State University - San Luis Obispo. My areas of expertise are in environmental microbiology and molecular biology. But I do have a basic understanding of environmental biology as related to ecosystems.

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I thank you for your time, consideration and efforts in resolving these issues. I know you have a daunting challenge in front of you, with heated-interests lining both sides of the road ahead. I bid you well in executing the review as fairly and impartially as humanly-possible.

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SUCTION DREDGE PERMITTING PROGRAM
Supplemental EIR - CEQA Scoping Comment Form

Name: Michael Dorn

Mailing Address: 8609 Sonofest Dr.
Pico Rivera, CA 90660

Telephone No. (optional): 562 949-3275 Cell 562 571 2231

Email (optional): MADorn 90660 @ yahoo.com

Comments/Issues: Hello Mark, As a dredger it always seemed that we were helping the fish. (1) We remove lead and mercury. (2) We stir up food and create new environment for fish. (3) The tailing piles are ideal for the salmon to lay eggs. (4) We are the equivalent to a water runoff. During a flood there is no indication that dredging even existed. You have to know that we are not the reason for the salmon's depletion. Why are dredgers being specifically targeted? Don't fisherman "kill" fish? Why aren't they being targeted? Man and nature can live together in a harmonious way. The environmentalist movement has been taken too far sometimes and this is a prime example. By the time we're done, we won't be able to step off a trail without breaking a law. I realize that

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

SUCTION DREDGE PERMITTING PROGRAM
Supplemental EIR - CEQA Scoping Comment Form

Name:	
Mailing Address:	
Telephone No. (optional):	
Email (optional):	

Comments/Issues: this letter probably will not help very much but I would hope that you would ask yourself one question. Is dredging hurting the fish? IF you really believe this, than you are doing a great job, but if not than you are destroying the rights of Californians to pursue happiness.

Thank you for reading my letter. I am a person who likes to bike, hike, fish, hunt and especially Dredge. OH, by the way, as I am writing this I am eating a big peace of salmon. LOL

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

30 November 2009

Michael E. Kissel
3477 Heron Lake Lane
Elk Grove, CA 95758
(916) 683-0353
LnMtimber@comcast.net

California Department of Fish and Game
Attn: Mark Stopher
Suction Dredge Program Comments
601 Locus Street, Redding, CA 96001

Re. Post Public Meeting - In-stream suction dredging Program Environmental Review Scope Comments

Sir:

I attended the California Department of Fish and Game (CDFG) suction dredge public meeting on 17 November 2009 at West Sacramento. I submitted a 3 page letter of scope objections regarding this supplemental environmental impact report (SEIR) at this meeting. I was impressed by the attendance of about 250 people with an interest in the suction dredge issue. I was pleased to learn that a vast majority of these people, like me, support the continued practice of suction dredging. Like many in this crowd, I find the "recreational" label offensive and inappropriate since we depend on it for our livelihood. I request that you discontinue the use of the "recreational" label for my profession and this study. It marginalizes and misrepresents the importance of this activity.

We own a total of five non-patented gold claims on the Klamath, American, and Consumnes Rivers. I operate three suction dredges: backpack, floating, and high banker units that are critical to the livelihood of family. None of these claims or my suction dredging activities affects any of the threatened species identified by Alameda County Superior Court Case No. GR 05211597. These assets continue to rack up significant out of pocket costs for me that cannot be offset with any feasible mining income under the suction dredge moratorium. The total ban of suction dredging will result in the destruction of billions of dollars of asset value and further undermine the fragile California economy.

My industry has been decimated by the incompetence of CDFG, the Karuk, the Alameda Superior Court, and the California Legislature. First, the CDFG and California Legislature failed to address the concerns of the Karuk, forcing the issue to Superior Court. This resulted in decisions about complex environmental and socio-economic

issues by a single superior court judge, hundreds of miles away from the ecosystem, without any environmental study, data, or analysis; and that decision is actually causing environmental harm to the fishery. Many of the people of the State of California are outraged at CDFG for its handling of this issue. CDFG was then derelict in its responsibilities when it did not deliver follow up environmental studies in 1997, putting the environment, fishery, its director and this industry at risk. The California Legislature then failed to fund required environmental studies. CDFG was not resourceful enough to finish what it had started. This series of incompetent missteps resulted that this moratorium on small family gold miners like me, that followed the regulations, did nothing wrong, and are bearing the full brunt of the incompetence of all these parties. We are outraged at this injustice and governmental incompetence! The overly expansive scope for the SEIR and CDFG's extreme conservatism it its environmental checklist proposal add insult to this moratorium injury.

This suction dredge moratorium is most devastating to small, family operated gold mining operations of self employed Americans that don't qualify for unemployment benefits. To add further insult to injury, CDFG and the California Legislature offered no rebate of license fees it collected and failed to honor this year. I was financially damaged by this action and I request full reimbursement. It costs more to file a state board of control claim against CDFG than the amount of the original permit, leaving us with no recourse against this outrage. To protect our families, communities, and the environment we need this issue resolved quickly, objectively, accurately, and fairly; and we need the suction dredge moratorium lifted sooner than latter.

The proposed scope of the supplemental environmental impact study accomplishes none of these objectives because:

- This SEIR makes no recognition of the existing Environmental Impact Report (EIR) and regulations, and the actual regulatory environment under which we operate. Starting over takes too much time and wastes too much money. The term Supplemental in this supplemental environmental impart report (SEIR) is wholly ignored by CDFG. It should not be.
- The baseline is technically wrong. It ignores the fact that suction dredging has been occurring since 1961. This study assumes suction dredging has't ever occurred and closes the door to any consideration of the environmental benefits of suction dredging. This is absolutely wrong and irresponsible. CDFG should at least provide a parallel comparison of both with dredging and without dredging in this SEIR.
- The proposed geographic area and scope of this SEIR study covers the entire State of California. This SEIR must be limited to the authorized direction provided to it by the California Legislature and Alameda County Superior Court limits the scope of this environmental document to the Klamath, Scott, and Salmon Rivers, listed as threatened or endangered after the 1994 EIR. For the rest of the State of California, suction dredging should de permitted under the proper

environmental determination for this suction dredge activity of Negative Declaration under CEQA. CDFG should not study the whole world in order to respond to your mandate under this moratorium by the court and the legislature. I doubt you have authority to expand this SEIR under your current funding constraints.

- CDFG's definition of fish is too broad and therefore inappropriate since the authorized direction provided to it by the California Legislature and Alameda County Superior Court limits the scope of this environmental document to the protection the Coho Salmon and/or other special status fish species in the watershed of the Klamath, Scott, and Salmon Rivers, listed as threatened or endangered after the 1994 EIR.
- At the public meeting, CDFG claimed this study would be fair and objective. This proposed scope is not. CDFG is using anticipated litigation concern criteria to drive this overly expansive SEIR rather than the science. This resulted in its unrealistic, overly conservative, and frankly wrong scope and constraints for this study. In the end, CDFG will be sued by environmental groups and the Karuk regardless of its findings or determinations. I request that you follow the law, science, and common sense to issue an objective and credible SEIR, since no document can be legally bullet proof. This SEIR should pass all tests, including legal, social, equity, and common sense.
- CDFG is going out of it way to engage in non-traditional and excessive practices for the SEIR, the extensive literature search is an example.
- While this case was litigated in Alameda Superior Court, CDFG undermined its own original environmental impact report work product, claiming it will expand the scope of this SEIR further to the extreme environmental protection left. Given CDFG had already determined the scope of the SEIR, what is the point of even soliciting public participation or comment? It is apparent from its actions that CDFG's lacks fairness or objectivity. The problem with this approach is that it is first wrong and second will result in excessive regulatory mitigations that will further undermine the feasibility of this industry while resulting in negligible if any environmental benefit. Either outcome will further harm those who victims of this debacle, the small, independent, family owner miner.

In my 17 November 2009 letter I objected to any expansion in scope of this SEIR beyond enabling legislation and court order, including but not limited to Sections 1 through Environmental Checklist Aesthetics of the proposed SEIR. I notified you that I would be submitting the following additional comments and concerns with the scope of the SEIR. Please respond to and incorporate these additional SEIR scope comments:

Environmental Checklist Section II AGRICULTURAL RESOURCES – I agree with the scope of this determination.

Environmental Checklist Section III AIR QUALITY – CDFG's no section dredging baseline severely impacts, makes wrong, and significantly biases this SEIR scope and ultimately the final outcome. Since the number of permits has been less than 3500 per year for the past 15 years, there should be zero impedance of green house gas emissions since the 1992 levels and these emissions will have no cumulative impacts on federal or state ambient air quality standards. This study will surely recognize suction dredging in the future, but ignores that suction dredging has taken place in the past. This is technically wrong, excessively conservative, and prejudiced.

Environmental Checklist Section IV BIOLOGICAL RESOURCES - This is a SEIR not an initial EIR. CDFG has studied suction dredging to death (literally) and found no significant impacts. This activity cannot move enough material to make any significant environmental impact compared to the bed load movement during a single storm event. Section dredging technology has not changed since the last EIR. Your potentially significant impact determinations are wrong. CDFG should not be not starting over. By your own admission this is a supplemental environmental impact report. I implore you to plug any holes in the original study, consider any changes, then finalize this effort. Get it done. I object to a complete restart of this process as both a miner and a tax payer. It is both wrong and inefficient. The inappropriate geographic and species expansion of scope discussed above also apply here. This section is the best example of CDFG's inappropriate and overly conservative environmental bias for this study. The original narrow scope to a limited number of fish species and to rivers mostly in Siskiyou County has exploded to include: effects on wildlife, changes to channel morphology, off stream effects, recreational use, off road use, wetland protection, and wildlife movement to name just a few. This proposed scope is ridiculous and out of touch with the economic reality that this State is nearly bankrupt and CDFG is killing an environmentally and economically beneficial industry.

Environmental Checklist Section V CULTURAL RESOURCES - The finding of potentially significant impacts to historic, archeological, and human remains where suction dredging occurs is ridiculous. This activity occurs in the flood plan and is subject to violent destruction and constant movement. There is no way these resources could be identified, let along preserved underwater in these river environments. This excessive scope cannot be completed within this environment let alone within the proposed schedule.

Environmental Checklist Section VI GEOLOGY AND SOILS – There is no way this activity, which requires water and must be performed under water, could possibly in any way result in soil erosion or the loss of top soil, Period. High banking could result in an impact, but this study is on suction dredging, not high banking. This determination is clearly excessive and out of all measures of the authority of a suction dredging activity or suction dredging permit that CDFG issues.

Environmental Checklist Section VII HAZARDS AND HAZARDOUS MATERIALS – Potentially significant impact determinations for areas: a, b, c, and h are wrong. The quantities of fuels, chemicals, and other potentially hazardous materials are so small that they cannot be considered hazards. CDFG's own definition of suction dredges recognizes these units are operated on floats atop of water. Since water does not burn, there cannot be any significant impacts as a result of this activity.

Environmental Checklist Section VIII HYDROLOGY AND WATER QUALITY – this SEIR doesn't recognize existing regulations and therefore results in the wrong scope for potentially significant hydrology and water quality impacts. This activity takes place in stream. It doesn't add or remove any significant material by volume of the stream. It improves access for fish to use otherwise armored fish spawning gravels. This activity is inconsequential compared to natural storm event occurrences that create magnitudes greater disturbance to hydrology and water quality compared to suction dredging. Suction dredging does not result in the discharge of mercury since this material is retained in the sluice, not discharged. The scientific research and CDFG's own EIR makes this determination. This checklist fails to recognize a single environmental benefit such as this, it is prejudiced, and it is biased. Onsite and offsite erosion or siltation due to encampments is clearly out of the scope of any reasonable SEIR. Furthermore, you must remember that you are preparing a SEIR not a new EIR!

Environmental Checklist Section IX LAND USE AND PLANNING – I agree with the scope of this determination.

Environmental Checklist Section X MINERAL RESOURCES – I agree with the scope of this determination.

Environmental Checklist Section XI NOISE – Ambient noise produced by suction dredges operated under permit in California can in no way result in violation to existing noise standards. My expectation of CDFG is that you know something about the activity you are studying. This finding proves you do not. Potentially significant impact determinations for excessive general plan noise standards and ambient noise levels proves CDFG does not understand this equipment or noise science. The core issue driving this moratorium is not this suction dredging activity since SB 670 (Wiggins) permits this practice commercially, to protect infrastructure, and to promote navigation. What's driving this issue are extremist environmental groups and Indian tribes that do not want to share public lands and river resources, will limit access and activities to suit their own selfish uses at all costs, and which will bombard this process with endless litigation to kill this industry just as they have done to the timber and other natural resource based industries. CDFG's excessively broad scope of the SEIR opens the door to potential litigation rather than limiting it.

Environmental Checklist Section XII POPULATION AND HOUSING – I agree with the scope of this determination.

Environmental Checklist Section XIII PUBLIC SERVICES – CDFG's potentially significant impacts for fire protection cannot be correct for the same reasons as identified above under Environmental Checklist Section VII Hazards.

Environmental Checklist Section XIV RECREATION – I agree with the scope of this determination.

Environmental Checklist Section XV TRANSPORTATION/TRAFFIC – I agree with the scope of this determination.

Environmental Checklist Section XVI UTILITIES AND SERVICE SYSTEMS – I agree with the scope of this determination.

I object to the scope as defined by this SEIR. It was wrong for CDFG to expand the scope of this environmental review to consider statewide issues and to make that commitment to the Alameda County Superior Court without public participation and comment.

Though the environmental review process, I volunteer to participate as a subject matter expert or work group member at the request and pleasure of CDFG. I live in the Sacramento area and could participate either by telephone or in person, depending on the venue for this meeting.

Sincerely,

Michael E. Kissel, P.E., MBA

From: "Michael J. Morrison, Chtd." <venturelawusa@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: "Michael J. Morrison, Chtd." <venturelawusa@gmail.com>
Date: 12/4/2009 2:13 AM
Subject: RE: Comments - Suction Dredging SEIR

December 4, 2009

Dear Mr. Stopher-

With the benefit of my long-time involvement in mining, the mining industry and as a mining lawyer, I have reviewed the comments submitted and respectfully submit that the most salient and compelling aspect of the current fact-based and scientifically supportable data submitted to you compels one inescapable and uncontrovertable conclusion: there is currently insufficient scientifically cognizable data available to reach any responsible conclusion regarding the subject SEIR.

Indeed, all of the currently available data cries out for more surveys, testing and data gathering, and to ignore this manifest need for additional, current and scientifically-based data, which is readily available through well-established and reliable surveying and testing protocols and processes, would, in my sincere opinion, be irresponsible and unfair to the public and the process. I respectfully submit that the public and the people of California deserve far better consideration on such an important and far-reaching decision, with potentially vast and irreversible ramifications.

In this regard, I also respectfully submit that, at this point, far more empirical data is required in order to make a responsible governmental and regulatory decision impacting such a critical, historically significant and well-recognized segment of the mining industry and use of public lands and waterways, and, therefore, I implore you to take steps to obtain such data and base any decision not on outdated historical information presently submitted to you, but rather, on currently available or easily obtainable and far more significant demonstrable scientific data.

Furthermore, I respectfully submit that any decision should also be based far less on self-serving, emotionally generated and motivated speculation and, quite significantly, disengenuous misinformation heretofore submitted to you, and far more on independent, current, fact-based information and readily available scientific and empirical data.

Thank you in advance for your reasoned consideration of these comments.

Most sincerely and respectfullysubmitted,

Michael J. Morrison, Esq.
Member, State Bars of California and Nevada
1495 Ridgeview Drive, Suite 220
Reno, NV 89519

From: Michelle <mmf418@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 3:12 PM
Subject: dredging comments
Attachments: dredging comments.doc

I have attached a word document of my comments, please let me know if you have any trouble opening it.

Thank you,

Michelle Fuller

December 3, 2009

Michelle Fuller
3458 Elizabeth St.
Eureka, CA 95503

Mark Stopher
601 Locust St
Redding, CA 96001

To Whom It May Concern:

I am writing to urge law makers to make the ban on suction dredging permanent.

I am well aware of the disruptive and destructive behaviors that accompany suction dredging. It would be irresponsible of state agencies to ignore the damage done to California's rivers and streams by this industry. Suction dredging degrades already impaired and impacted habitat in many California rivers. The creation of dredge holes in sensitive stream bed habitat is unacceptable for macroinvertabrate populations, fish populations, and human safety. Suction dredges glean streambed cobbles, destroying macroinvertabrate habitat, create noise and turbidity pollution which affects all downstream users, and create conditions where unstable gravels, which may be used by spawning salmonids, can 'blow out' and destroy entire egg populations.

The use of a suction dredge disrupts downstream users, creating highly turbid conditions that affect water quality. This behavior releases toxic contamination - gasoline, oil, or diesel exhaust and spills, and reintroduces remnant toxics like mercury in addition to fine sediment into the water column. In some instances, dredge sites are nearby or upstream of a major community water source. Many of California's rivers and streams face unacceptable levels of turbidity and contaminants; dredging makes these problems even worse.

Clearly, the banning of suction dredging on all California rivers is not only an issue of fish populations, habitat, and water quality, but also a matter of environmental justice for downstream communities reliant on these waters. Make the right decision using sound science and reason. Ban suction dredging permanently in all California rivers and streams.

Sincerely,

Michelle Fuller

From: "Elster" <melster@ulink.net>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: <melster@ulink.net>
Date: 11/6/2009 2:43 PM
Subject: My Response To Suction Dredging

To Whom It May Concern, My name is Mike Elster and my wife is Judy. Our primary residence is in Roseville and we have a cabin in Trinity County, just south of Douglas City on Deer Lick Springs Rd. I purchased the cabin a little over 15 years ago and have completely renovated it in preparation for retirement. We are both now retired and pretty much live at the cabin from April through October. My property line (3290 Deer Lick Springs Rd.) on the west and south is bordered by BLM land and the south and east property lines extend across Deer Lick Springs Rd and halfway into Browns Creek. Even though I am an avid fisherman, I don't fish in Browns Creek as I prefer the serenity and have observed some Salmon and Steelhead over the past few years that are starting to re-inhabit the creek. My wife and I really enjoy sitting on the back deck in the early evening, listening to the creek and array of birds, frogs and crickets. That changed this past summer. Someone setup a dredge mining operation in Browns Creek about 100' off my back deck. They apparently had a mining claim issued by the BLM in Redding. The dredge turned the creek into a flowing mud pit and who knows what impact it had on the fish and other wildlife dependent on the creek. In addition, I could no longer sit on the back deck and enjoy the natural setting that I invested in as my retirement home. I had to constantly listen to the sound of the gas dredge from early in the morning to just before dark. I called the Trinity County Planning Department to find out if they issued the permit and they did some research and found out that the Permit had a Federal ID # and was issued out of Redding. I totally support the moratorium on Suction Dredging and would like to see it permanently implemented within our legal system. I'm also wondering why the BLM did not recognize the moratorium when they issued the permit in the first place. In the meantime, I would like to know what I and/or the DFG can do to have this particular mining claim revoked. Any advice on this matter is greatly appreciated. Thank you very much.

Mike Elster
633 Dawnridge Rd.
Roseville, CA 95678

December 2, 2009

Mr. Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

Hi Mark,

I attended the CEQA scoping meeting in Sacramento on November 17, 2009. Congratulations on holding a most excellent and informational meeting. I think some of the people would have taken the dredge ban out on you and your staff if the meeting were an open question forum. I liked the questions on the cards and the fact that they were collected during the session. Many of my questions were answered but a few remain. Namely, can the Kuruk Tribe dredge on the Klamath and other rivers on their reservation? Why wasn't a CEQA report performed before the ban on dredging for comparison? Without it I don't understand how conclusions can be drawn as to how dredging effects the environment in an adverse way.

I am retired and live on the Cosumnes River in Amador County just east of the Highway 49 Bridge. My neighbor across the river, John Henderson, lives in El Dorado County. Our property lines meet in the center of the river. Seven years ago we learned of dredging from another neighbor who lives upstream in El Dorado County. Because we met almost every afternoon down at the river, we decided to purchase a used dredge to deepen our swimming area and look for gold. We both got dredging permits in 2003 and have gotten them ever since.

Because of our close proximity to Highway 49 and the fact our dredge could been seen from the highway, each time we used it, we had to cover it and chain it to a tree. So, we only used it a couple times a week. Over the years our spouses became involved by panning for gold and later helping underwater for extended periods scowering the bedrock for gold. Other neighbors upstream have dredges. We go back and forth to each others places helping move rocks and dredging. Our experience is purely recreational and we're really pissed off it was taken away from us. We are all over 65 years old.

The Cosumnes River has very few fish. The salmon are long gone due to the excess ground water usage in the valley. The river dries up each summer near Elk Grove before spawning season and doesn't run again until we have substantial rains, some times as late as February. Because the Cosumnes does not have a dam and it is not stocked with trout, very few species of fish can be found here. But the Small Mouth Bass and occasional blue gill or Sacramento Sucker all hang out in the hole we dug with our dredge. Late summer flows are so low (many places under six inches deep) they like the cooler water in the deeper hole. The dredging doesn't seem to bother them. I never recall sucking one of them into the suction hose.

Over the years, we have moved no more than 15 yards of material from our hole. High winter flows have certainly moved more debris and silt down stream than we have. The Cosumnes water is extremely clean and clear during the summer despite others dredging upstream from us. West of the Highway 49 Bridge it is nearly impossible to put a dredge in for five miles to near the Latrobe Bridge. Our depth of disturbance is minimal. I don't believe we hurt the environment with the amount of activity here.

In our endeavor we have invested about $4000 between the used dredge and new engine, compressor and air system. We have removed about one ounce of gold and another ounce of gold covered in mercury. We're still looking for the big nugget!

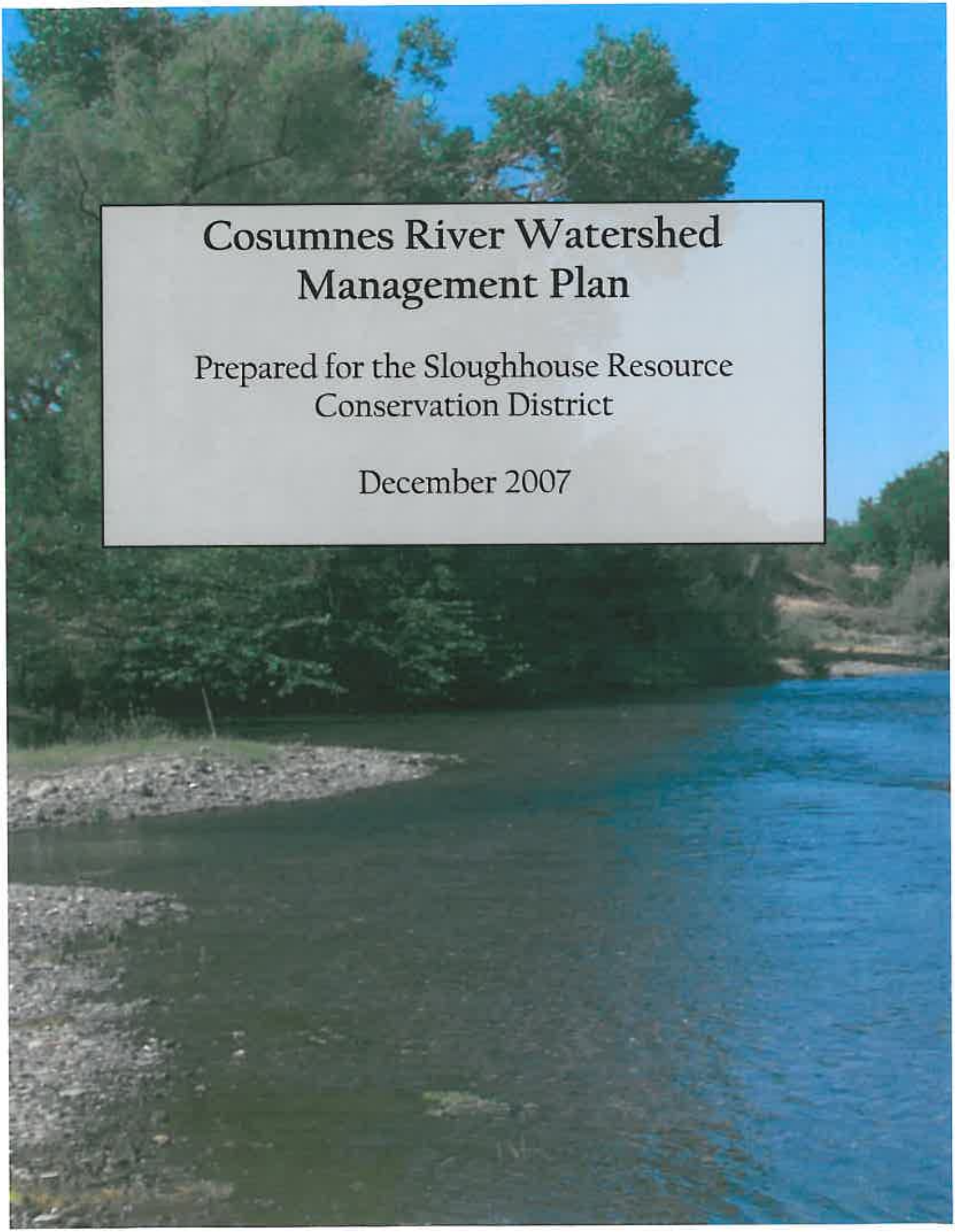
I'm enclosing a copy of the Cosumnes River Watershed Management Plan prepared in 2007. The report confirms the health of the Cosumnes River.

Thanks for this opportunity to present our situation.

Mike Hopkins

Mike Hopkins
9451 Cosumnes Drive
Plymouth, CA 95669
(209) 245-6563
jmhop@centralhouse.net

c. Assemblymember Alyson Huber



Cosumnes River Watershed Management Plan

Prepared for the Sloughhouse Resource Conservation District

December 2007

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1.0 Background

1.1 Introduction

As we pass the 10 year anniversary of the largest flood in watershed history, it is important that we do not forget the devastation that occurred nor let the attention that flooding brought to watershed issues wane. This management plan is a synthesis of scientific research and community action in the watershed. Combining social science with science it attempts to show where the watershed has come from and where it is going to. It recognizes that science alone will not improve the watershed and that restoration without science is misinformed. This plan highlights the challenges that have been overcome and the challenges that still lie in front of us. It is intended to ignite the spark that moves us to a healthier, more intact watershed that is capable and ready to address future issues as they present themselves.

1.1.1 Introduction to the Plan

The Management Plan is segmented into four parts.

Part I

Part I places watershed issues in context by providing the social, scientific and land-use background of the watershed.

Part II

Part II discusses the major issues occurring in the watershed. A description of the issues is followed by an explanation of the causes. Once the causes are presented, all reasonable possible solutions are described with their benefits and drawbacks. For ease of understanding and to facilitate action, part II organizes 16 sub-issues into four overarching issues. The organization of the document was chosen to improve ease of understanding and to facilitate action. In reality, the issues are not clear cut, are intertwined and overlapping.

Part III

Part III narrows the possible solutions into the outline of an implementation plan. Projects that are obtainable, will have a direct impact on the watershed, and that facilitate public participation were selected. In some cases, a group decision-making process is needed to further determine a best course of action. For example there are several areas of the river in need of bank stabilization. An RCD led collaborative effort can identify the most effective projects, find willing landowners, and work through the permitting process.

Part IV

Part IV holds a glossary of terms, a bibliography, and a complete list of species found in the watershed. All three augment this plan. In addition, the bibliography is intended to be a resource to all who wish to work or research in the watershed. To our knowledge, it is the only complete bibliography that combines technical documents intended for management and scientific articles.

1.1.2 What is a Watershed?

A watershed is an area of land that captures water in any form, such as rain, snow, or dew, and drains it to a particular stream, river, or lake. All land is part of a watershed for some creek, stream, river or lake. Some watersheds are immense; others are quite small. The Cosumnes Watershed encompasses 768 square miles emerging in the Sierra Nevada Mountains at an elevation of 7200 feet, extending 81 miles down to the convergence with the Mokelumne River. The Mokelumne River flows into the San Joaquin River and eventually into the bay-delta system.

More than just an area of land, a watershed provides us with a very useful way of looking at the area in which we live. Rivers and lakes don't stop at a state border, and neither does a watershed. Because all water in a watershed eventually drains into the same creek, river, lake, or bay, everyone in the watershed is connected through the water we use for drinking, recreational activities and industries.
(Definition thanks to the Smithsonian Environmental Research Center)

Watersheds are also where we live, work and play. They influence our communities and our communities influence our watersheds. It is thus advantageous to look at the whole watershed when addressing flood protection, water quality, or wildlife habitat issues, not just the stream and channel itself. An effective watershed plan considers these related natural features and human uses of the land within the context of the watershed as a whole.

1.1.3 Acronyms (definitions can be found in appendix I)

BMP- Best Management Practice
CFS- Cubic Feet Per Second
CRP - Conservation Reserve Program
CSP - Conservation Security Program
EQIP - Environmental Quality Incentives Program
OHWD- Omochumne-Hartnell Water District
NRCS- Natural Resource Conservation Service
RCD - Resource Conservation District
SWRCB- State Water Resources Control Board
UCD- University of California at Davis
USACOE- United States Army Corps of Engineers
USDA- United States Department of Agriculture
US EPA- United States Environmental Protection Agency
USFWS- United States Fish and Wildlife Service

1.2 Characterization of the Watershed

At 81 miles long, the Cosumnes River is neither the longest nor largest river in California. However, it retains a special significance both as the last river on the western slope of the Sierra Nevada Mountains without a major dam and as a critical contributor to the Bay-Delta ecosystem. The river has a natural flow regime, drying up in drought years

and flooding in wet years. The native flora and fauna located along and in the river and floodplains have evolved to depend on seasonal fluctuations. Seasonal fluctuations create a rich mosaic of habitats and support a large number of animal populations throughout the watershed.

The Cosumnes River is one of great diversity. While the headwaters are just 81 miles from the outlet to the delta, they are nothing alike. The headwaters begin in the El Dorado National Forest with little to no development. The river is surrounded by steep canyons carved out of the mountains by years of flowing water. Coniferous forests cover the steep slopes of the canyons and stand guard across the tops of the mountains. The area is largely untouched and the river is barely accessible to humans through much of this range. Little change has occurred to the river in this section due to its rock beds and remote access points.

By the time the Cosumnes reaches the area around Sly Park Reservoir, human presence is felt. Rural mountain houses dot the tops of the steep canyons and roads wind down to hidden access points to the river. The canyons are still present, but the canyon walls become less steep as the river flows toward the valley. Historically, this is the first section of the river actively mined for gold. Homes here are remote and threatened with fire danger and water scarcity. Mercury has reportedly been found in these areas.

As the mountains give way to the foothills, more agriculture and residential homes are present. But, residential and agricultural development in the foothills is limited by a lack of water. Deep historic fissures in the granite hold pools of water below the earth's surface that are tapped into, but have little chance of replenishment. Water scarcity makes it hard to eek out a living in the brush and deciduous forests of the foothills. Vineyards and commercial landscape stock are the main production crops of the region.

The foothills lead into the valley where agricultural operations can be found on as much as 90% of the land. Here cattle ranches and row crops dominate the land with homesteads tucked back behind crops that are scattered across the valley floor. The water, too, is tucked away as it braids its way through the valley floor winding around roads and homes and communities as it travels downstream. Water scarcity is also an issue on the valley floor, however, water comes from deep abundant aquifers that are tapped into to feed a growing residential population that is drying the aquifer, the river, and the land. The soils in the valley are mostly clay with patches of sand and gravel that make infiltration of water into the aquifer difficult. Water runs from the bottom of the foothills to the end of the valley taken up only by the growing crops, valley oaks, seasonal grasses, and the occasional animal with little ability to seep into the ground. The silt and sand that has been scoured from the granite of the upper watershed is deposited in these reaches giving rise to fertile soils, oak woodlands, cottonwoods, grasslands and rich agricultural production.

At the base of the valley the watershed changes again. At this point, the water is being called out to sea. The river bottom spreads into an alluvial fan that drains the water from the Cosumnes to the Mokelumne River in the broad pattern of an unwinding braid. Broad fingers spread out and flow across the land into the waiting river and eventually into the bay-delta system. Rather than the clay soils of the valley floor, the lower watershed is made of sand and gravel allowing water to sink deep in the earth and replenish the aquifer. The broad splay of water gives rise to wetlands, wildlife, and waterfowl. The first water flows of each year pause in this region to sink into the alluvial fan and must fill the space below the surface of the earth before the river can run on to the ocean.

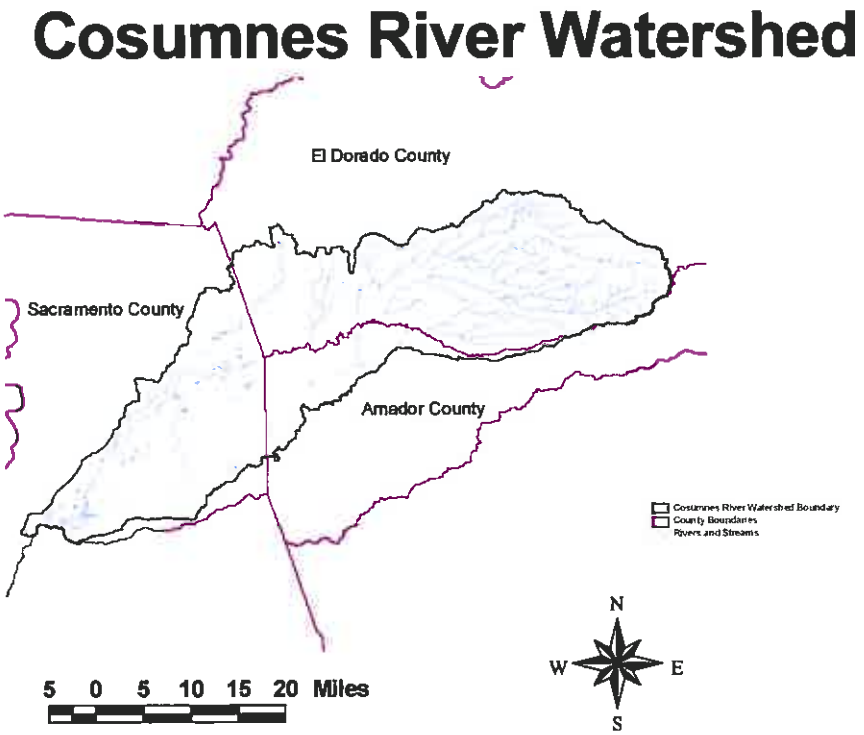

Figure 1.1 Map of the Cosumnes Watershed

1.2.1 History

For approximately 4,000 years, eight villages of Miwok Indians lived along the banks of the 81 miles of the Cosumnes River. The rich diversity of resources in the watershed supported over 11,000 Miwok within the watershed. Chinook salmon were an important resource to the Miwok both for food and spiritual purposes. Because of the salmon's importance, the river was named Cosumnes meaning "people who fish for salmon".

Agriculturists began moving into the valley just before the gold rush. Agricultural production originally grew to feed the increasing populations of miners that took up residence along the entirety of the river. The mining presence can still be felt throughout the watershed in the mine towns, mine tillings, equipment relics, and mercury that were left behind. Many foothill towns still celebrate their mining roots.

Because of the fertile deposition of sediment on the valley floor, farmers were able to find highly productive agricultural land throughout the Cosumnes watershed. Many of the farming families in the area can trace their family's tie to the land back to the mid 1800s. Since then, agriculturists have provided a stable backbone to the economy and produced a rich culture. Throughout the boom and bust gold rush, the seasonal floods and droughts of the river, and the modern expansion of residential communities, farmers have persisted. Writers such as John Steinbeck, William Saroyan and Mark Twain became captivated by life on the valley floor and frequently wrote about the unique culture that developed on it.

> "All of California quickens with produce, and the fruit grows heavy. The year is heavy with produce. And men are proud, for of their knowledge they can make the year heavy. They have transformed the world with their knowledge."
>
> -John Steinbeck 'Grapes of Wrath'

While agriculturists found the farmland along the Cosumnes River to be extremely productive, the river's seasonal flooding impeded the predictability of food supplies. To reduce the impacts of flooding and to provide a stable source of agricultural production, a series of levees were built along the Cosumnes in the early to mid 1900s. This allowed the land to be farmed year round and a greater diversity of crops to be produced. The levee system was successful in stemming the tide of the river for over half a century keeping the pattern of land use relatively constant. Farmers and ranchers weathered the occasional flood and the impacts and losses were tolerable. In recent times, however, flood levels have escalated and the effects have been felt throughout the watershed. Homes that have appeared along the upper reaches of the river have been carried downstream by floodwaters along with sheds, propane tanks and cars. The value and cost associated with residential homes and agricultural production have risen dramatically making the impact of flood events much more significant.

As the need to feed the mining and timber booms began to subside, the agricultural industry in the watershed matured. Agriculturists realized that the valley and foothills could produce a wide variety of specialty crops that could be sold locally, throughout the state and country. Today, this change is evident. Local agriculturists provide a broad array of agricultural products. In the valley, vegetable stands provide farm-fresh locally grown produce. In the upper-watershed vineyards and landscaping nurseries have become prominent creating a local tourism industry. The once rough mining towns are now filled with cafes, gourmet restaurants, antiques and boutiques.

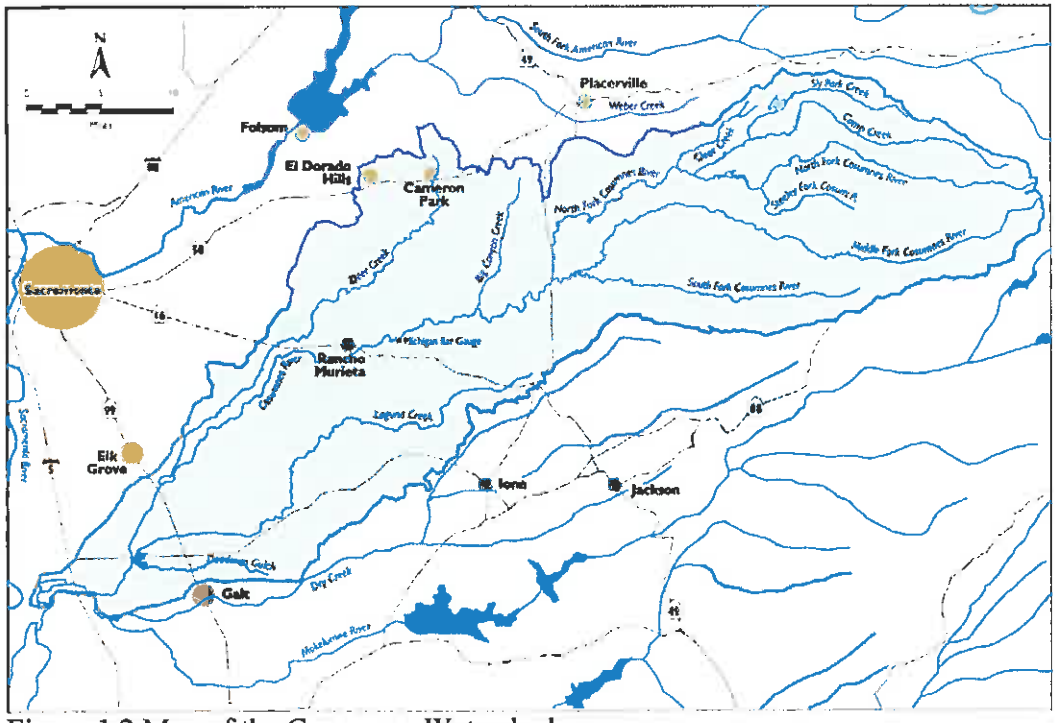

Figure 1.2 Map of the Cosumnes Watershed

Until recently, the towns of Galt, Elk Grove, Plymouth, Sloughhouse and Wilton mainly provided supplies and a city center to the populations of farmers that speckled the valley floor. In the last decade, however, the cities have developed rapidly. The City of Elk Grove was incorporated in 2000 with a population of 80,000 people. By 2005 that population had grown to 112,000 people, making it one of the five fastest growing cities in the country. Recently, The City of Elk Grove has expressed their intent to expand residential and commercial development to the Southeast of the city. While Elk Grove is showing the most dramatic growth, growth is occurring throughout the watershed. Empty lots are being bought and sold at an incredible pace and developments are springing up all over the watershed.

One impact of urbanization is a difficulty in obtaining water. In the upper watershed, individual wells and septic systems supply and treat water. The wells are drilled into granite fissures that lay below the earth's surface. The fissures are intermittent and unpredictable. In some areas, 200 ft wells produce rich supplies of water, in others, 600 foot wells produce nothing. In addition, neighboring wells compete for the water that is available. If one landowner drills a well deeper than their neighbor's, the neighbor's well can become dry. Water availability has limited growth in this area, yet it continues on. In the lower watershed, the aquifer is dropping at over a foot a year.

Table 1.1 Elk Grove Population Growth

	2000	2003	2006
Elk Grove Population	81,707	98,489	129,184

While the expansion of the urban environment has been economically beneficial to the watershed, the growing pains of urbanization are felt by everyone in the communities. Rising populations have increased property value and property taxes. The average home now sells for $425,000. Traffic congestion has increased and the small town feel of the communities has been lost. Many production agriculturists are unable to compete with the need for residential homes and farm land is quickly turning into housing developments. The tax structure is adding to the problem. For example, to pay inheritance taxes, agriculturists are often forced to sell agricultural land from estates to developers. The pressure to meet tax bills has turned countless acres of agricultural land into new homes.

The growing economic pressure on farmers and ranchers is not unique to this watershed. The American Farmland Trust predicts that the population of the State of California will increase by nearly two-thirds by 2040 accompanied by a loss of one million acres of irrigated farmland in the Central Valley. Agriculturists that persist will face higher costs of production and water acquisition. The ability to maintain agricultural production will only get more difficult which endangers the existence of farmland and disproportionately affects small family farms. Many small farmers provide critical habitat that allows endangered and threatened species to survive. With the loss of agricultural lands, family farmers, and the associated habitat, the survival of the natural world is also in question.

1.2.2 The Natural World

The natural world is feeling the growing pains of urbanization. Early depictions of the valley suggest an incredible abundance of resources. The resources found in the Cosumnes watershed were vast enough to support large populations of Miwok Indians. In later days, the diversity of the natural world was so rich that it inspired a style of writing. Steinbeck, Saroyan and Twain wrote about a natural world full of unique species, wonder and awe.

> "On the valley side the water is lined with trees- willows fresh and green with every spring, carrying in their lower leaf junctures the debris of the winter's flooding; and sycamores with mottled, white, recumbent limbs and branches that arch over the pool. On the sandy bank under the trees the leaves lie deep and so crisp that a lizard makes a great skittering if he runs among them. Rabbits come out of the brush to sit on the sand in the evening, and the damp flats are covered with the night tracks of 'coons, and with the spread pads of the dogs from the

ranches, and with the split-wedge tracks of deer that come to drink in the dark."- John Steinbeck of Mice and Men

In fact, it is the diversity of species itself that makes this ecosystem unique. The ecosystem is based on a variety of seasonal high-water levels that varies significantly during the course of any year, year to year, and over decades. Differing amounts of rainfall in various years provides different types of flood events that support and create a rich mosaic of habitat types and a broad diversity of species. Flooding of some kind naturally occurs on the river almost every year. In the upper watershed, floodwaters fill the rock fissure aquifers to provide water for human use. When the small rock-fissure aquifers overflow, they send a slow flow of water into the river which used to supply enough water to keep the river running all year. Floods in the lower watershed flow out onto the land creating floodplains and filling the clay soils. The floodplains play an important role in maintaining productivity, habitat, and as recharge for groundwater while occupying a small area of land. The water trapped in the clay soils flows back into the river over a long period of time which maintains a constant flow. Eventually this water runs over the alluvial fan at the base of the river where it soaks down into the aquifer that feeds the valley.

Currently, this unique watershed is home to 36 species of fish and over 46 species of plants and animals. Included in this list are 24 special status animal species including Swainsen's Hawks, Chinook Salmon and Giant Garter Snakes. Twenty-two special list habitat types or plants are found in the area. (A complete list of species in the watershed is in appendix IV). While the number of species may sound impressive for such a small basin, in reality, the watershed could be home to over 400 species based on habitat provisions. Many of the 82 species that are still present in the watershed are present in fewer numbers than they once were. The most significant decrease has been in salmon populations. In the 1950s more than 5,000 salmon spawned annually in the Cosumnes River. In recent years, that number has dwindled to a few hundred.

Species decline is led by the changes occurring on the river brought on by the depleting aquifer. The Cosumnes River is flowing for shorter periods of time and threatens to disappear altogether. The habitat of endangered species, migrating birds, and water dependent animals is vanishing, as is the river itself, spawned mainly from a drop in the sub-surface level of the ground water table. Sub-surface flow from the granite-fissure aquifers in the upper-watershed combined with water seeping from clay in the valley should provide a year-round flow in the river. Instead, the water drains almost immediately to fill the empty aquifer. As the aquifer drops in elevation, it takes more rainfall to produce a running flow in the Cosumnes, often delaying the flow of the river by two months. Many species are significantly affected by the reduction of flow, most notably salmon. Salmon wait outside the mouth of the river for the flow to begin so they can travel upstream and spawn in gravel beds. Salmon do not eat as they migrate so the extra months of waiting deplete valuable stored energy. In addition, while the salmon

wait, they are subject to large scale predation. With an extra two months of waiting and intensive predation, significantly fewer salmon complete their migration.

Salmon also face degraded habitat for the first few months of life. Normally, young salmon would live in the slow moving water of the floodplains where food sources are abundant. With the lowering water table and physical barrier of the levees, floodplains have become disconnected from the river. Growing salmon are forced to live in the current and spend energy swimming and searching for food rather than growing. The current produces weakened and smaller salmon and decreases survival rates. Fewer salmon migrate to the ocean and even fewer salmon return to spawn in subsequent years.

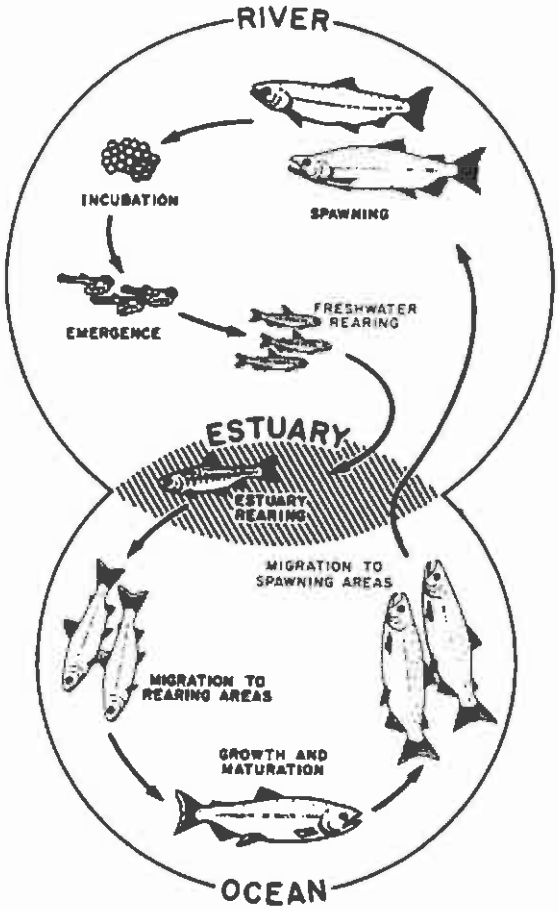

Figure 1.3 Salmon Life Cycle. Image courtesy of the USFWS

1.2.3 Groundwater, Levees and Water Quality

In 1993, the aquifer in the lower watershed was found to have been lowered by approximately 60 feet which translates to roughly a foot a year. The pace is likely increasing as urban population growth places greater demands on water supplies. Urban development has the largest impact on groundwater decline and will continue to be a large problem in the future. As increasing demand is placed on a drying aquifer, creative solutions will be needed to meet water needs.

The problem in the upper-watershed is just as serious. The small granite fissures, from which residents draw their water, produce an inconsistent, erratic, and unpredictable water supply. When the water is gone, it is gone and there are few available sources to bring water into the watershed. In addition, water scarcity in the upper-watershed exacerbates problems throughout the lower-watershed. A portion of the water that sustains the flow of the Cosumnes on an annual basis comes from the overflow of the fissure aquifers that empty into the river by sub-surface flow.

Many costs are associated with a lowered groundwater table. Human impacts include increases in the cost of drilling wells, water extraction, and water per cubic foot. If water continues to become scarcer and populations continue to rise, the cost of water could become exorbitant. This cost disproportionately affects production agriculturists and their ability to produce a viable food source.

There could be long-term impacts from the overuse of groundwater. When groundwater is severely overused for a sustained period of time, rivers dry up, sinkholes and large depressions in land may occur, water may become impractical to extract, and saltwater may leak into the aquifer making it virtually unusable. If this were to occur in the central valley, millions of people would be left with no viable water source. In the upper watershed water may become virtually impossible to obtain threatening the livelihood of residents, agriculturists and businesses.

It has been feared that the levees in the lower watershed are contributing to the loss of groundwater by removing floodplains from the river channel. In some rivers, removing levees has allowed high waters to flood into fields and seep into the groundwater table. However, the Cosumnes is not likely to show the same results for two reasons. First, clay soils exist in much of the watershed and line the river. Clay soils will store some water that is slowly released back into the river, but the impermeable layer will not allow much water to seep into the aquifer. Second, there are only limited flood events in the watershed. High-water levels in the Cosumnes are limited to a few instances every few years and recede rapidly. Floods occur infrequently and rarely last more than 24 hours. Hydrographs of high water events are sharp with a quickly descending slope. Even the largest flood in watershed history lasted less than two days before draining back into the river. This does not allow adequate opportunity for water to seep into the aquifer.

Instead, the Cosumnes River replenishes its aquifer by storing floodwaters in the clay soils surrounding the river and the granite-fissure aquifers in the upper-watershed and

slowly releasing it into the river. The small amounts of water that remain in the clay soils and the overflow from the granite fissures create a baseline flow that keeps the river flowing year-round. As the water slowly flows over the alluvial fan at the end of the river, the sandy soils suck the water down into the aquifer. A slow, consistent flow is needed for maximum aquifer recharge. As the aquifer drops, the water stored in clays and soils is sucked downstream at a rapid pace to fill the empty space left in the aquifer, halting the flow of the river in the summer months. In addition to groundwater problems, the drying watershed creates a fire hazard in the upper-watershed. Dead and dry brush threatens to be consumed by wildfire and the fire season is extending for longer and longer periods of time each year.

The greatest potential for aquifer recharge comes from a slow and steady release of water over the recharge points. This flow can be augmented by holding high-water flows in storage basins or fields surrounding the Cosumnes. Water from the fields would travel into the river by a slow and steady sub-surface flow that would eventually reach the recharge points. Essentially, flooding fields would slow the progression of water and allow for a steady infiltration of water into the aquifer rather than letting it travel in floods at a rapid pace to the delta. The levees would be essential in this process to hold the high-water flows out of the river in order to extend the length of flow.

Another concern with levees is that they cause degraded water quality. However, data shows that water quality is high in the Cosumnes. The SWRCB completed a year long monitoring of the river in 2002 as part of a monitoring effort on the San Joaquin River. This data shows that the river is well within water quality targets:

> "When evaluated against water quality objectives …, goals …, targets …, and guidelines …, the water quality results indicate that, in general, there is no evidence of impairment for the following beneficial uses: municipal supply, aquatic life, irrigation supply, and recreation." – SWRCB draft report on sub-basin monitoring.

As recently required by state law, agriculturists are now beginning to report water quality data through an agricultural waiver program. While direct data from the Cosumnes is not available, the data taken at the confluence of the Mokelumne shows a pristine river that only exceeds TMDLs a few days a year. The few times when TMDLs are exceeded are events in which exceedances would be expected. For example, higher sediment levels follow the first major rain event of the year. In addition, Rancho Murieta removes water from the river for human consumption. Their tests show that water quality is high and very little treatment is needed in processing the water for human consumption. This data should continue to be monitored to ensure continued river health.

In theory, water quality should degrade under levee conditions. This has led many people within the watershed to become concerned for the water quality of the Cosumnes River. Decreased water flow during slow periods, exacerbated by increased usage should lead to

increased sedimentation. Using the analogy of a pipe, after a storm event, large flows of water are piped to the ocean. Once the rain stops, a slower flow follows behind. The slower flow allows sediment to collect at the bottom of the river cementing gravel beds and changing habitat. Sedimentation can occur downstream as velocities slow, or over time as velocities slow. Increased sedimentation not only degrades water quality and habitat, but also threatens the stability of bridges, bank vegetation, and levees. Without significant water quality data, it has been assumed that this is occurring on the Cosumnes. There is no evidence that this is the case. Some sedimentation is found in gravel beds, but water quality is high and bridge stability remains intact.

Mercury is a large concern in the upper watershed as elevated levels have been found in the food web. Mercury is of particular concern in areas that were used for gold mining because it was commonly used to extract gold. While no data is available on mercury levels in the river, anecdotally there are significant amounts. Liquid mercury has been found in the water and traces of mercury have been found in soil samples throughout the watershed.

1.2.4 Land Use

Currently, a majority of the watershed is in agricultural production. Cattle ranches, orchards, dry or irrigated farmland, row crops, grain crops, nursery stock, and vineyards are the main agricultural products. Vineyards have increased over the last few decades creating a wine and related tourist industry within the valley and foothills. A majority of the remaining land is in urban use. As previously mentioned, the urban population is growing rapidly in the watershed.

There are two additional land uses of note. First, timber extraction is taking place in the upper watershed. Timber from the El Dorado National Forest and surrounding lands has been harvested commercially since the early 1900s. Most of the foothill and mountain towns were founded as camps for either timber harvesting or gold mining operations, sometimes both. Large amounts of lumber were needed to feed growing urban populations and for building sluice boxes and other mining equipment. The land surrounding mining camps was stripped of earth, timber and minerals. Another timber boom occurred from approximately 1950-1970 to feed growing urban populations. Clear-cutting was the common practice used until the 1990's. At that time, both the Forest Service and private logging companies operating near the forest switched from clear-cutting to thinning and smaller harvest sites, though clear-cuts do occasionally continue. In 2001, the forest service limited the amount of harvest in the El Dorado National Forest to extraction directly required for fire protection and ecosystem health. The impact of harvesting in the upper watershed has been greatly reduced in scope and size in the last few decades and is now focused on a small portion of the upper watershed. Given the high water quality in the river and the relatively small scope of the operations, timber does not appear to have a significant impact.

The main threat to the watershed from forest land is the potential for fire. The dry climate and large amounts of wood could create a potentially devastating situation. A fire could destroy large areas of land and property, be life threatening, and could dump large amounts of debris and soil into the water. Projects are being completed in the upper watershed to reduce the potential impacts, but more work should be done to coordinate efforts and remove potentially dangerous fuel loads.

The second land use of note is mining. Historically, gold, silver, copper, clay, coal, sand, shale, and limestone have all been mined in the watershed. Gold mining was widespread along nearly the entire Cosumnes River during the Gold Rush. Mining spurred timber harvesting and the creation of urban centers. Early land uses significantly impacted the river we find today. Mining and timber operations removed entire hillsides and dumped large amounts of sediment and debris into the river, raising the riverbed and depositing sand and gravel throughout the watershed. Some of this gravel was removed by dredging during the 1950s and 1960s.

Mining relics can still be found along the river. The section of the watershed just southwest of Michigan Bar road through Rancho Murieta was also an active mining area. Mine tillings can still be found in abundance in this area. Large piles that mimic rolling hills are the last remnants of days and dreams gone by. Since mercury use was widespread in the extraction of gold during this period, it is likely that mercury is located beneath the surface of the entire watershed. Mercury poses a potential threat anytime the soil or riverbed is disturbed.

Currently, two clay mines, five sand and gravel operations, two coal operations, two stone mines and a shale mine are located within the watershed. One sand mine is active in stream. Studies in the late 1990s showed evidence of diamonds in the upper watershed. While excavation has been completed, no diamond operations are active at this time. Anecdotally, gold mining still occurs as a form of recreation

1.2.5 Historic Agricultural Uses of Water @ 1955-1977

When the Omochumne-Hartnell Water District (OHWD) was formed in 1956 to promote the Nashville Dam Project and building of the Folsom South Canal, it gave them the ability to contract for the purchase of supplemental water supplies. They constructed four flashboard dams that could be put in place during the dry season and removed during the wet season. The dams were used to pool water to be provided to agriculturists for supplemental irrigation water and to provide groundwater recharge.

In 1959 the district became aware that the El Dorado Irrigation District could not use all of its allotted water from The Sly Park Reservoir. OHWD contracted with the US Bureau of Reclamation to release water into the Cosumnes River to provide diversions onto agricultural lands. Between 1959 and 1974 32,481 acre feet of water were purchased and sent downstream for water diversions onto individual properties. In 1975, that water became unavailable. However, water from the Folsom South Canal was available for use.

From 1975- 1987 OHWD purchased water from the canal in place of the water from Sly Park. During this period, 16,348 acre-feet of water was purchased and diverted to agricultural lands. Approximately 57% of the diverted water reached agricultural properties, the remaining 43% was captured by the river. For more data from the releases, please see appendix III.

1.2.6 Dams on the Cosumnes

The Cosumnes River is typically referred to as an "undammed" river. While in-effect this is true, in reality, the Cosumnes contains five minor dams all within the valley portion of the river and one major dam that sits on a tributary to the Cosumnes. At river mile 34.5 is the upper most minor dam, Grandlee Dam. Grandlee Dam is owned and operated by the Rancho Murieta Community Services District. The Dam is a fixed weir type and includes two fish ladders to facilitate fish passage. The Dam's function is creation of a pumping pond to facilitate water right diversions. The remaining four dams are owned and operated by the Omochumne-Hartnell Water District (OHWD). All are operated to facilitate groundwater recharge by creating pools to allow owners with riparian water rights to utilize surface water in lieu of pumping groundwater. Additionally, these extended pools provide extended surface contact with the pervious river bed that enhances peculation. The OHWD dams are all seasonally installed demountable type.

The dams are:
Granlee- river mile 34.5
Rooney – river mile 24.0
Blodgett – river mile 22.8
Elk Grove Hop Ranch – river mile 16.2
Mahon – river mile 12.5.

In addition, Sly Park reservoir and dam is located just off the Cosumnes and is a major contributor of water to the Cosumnes. Water from the reservoir is used by the El Dorado Irrigation District for drinking water that is supplied through much of the foothills and mountains. The Sly Park Reservoir is a major recreation site in the upper-watershed including camping, swimming, and boating.

1.2.7 Political Landscape

Water resources in the Cosumnes Watershed fall under the jurisdiction of the Army Corps of Engineers, the US EPA, the US Fish and Wildlife Service, local water agencies, The California State Water Resources Control Board, cities, counties, and private landowners. Multiple water districts and organizations service the Cosumnes River Watershed. In 1996, a total of 133 water diversion rights existed on the Cosumnes River. The majority of the diversions in the Cosumnes River Watershed are used for urban water needs. Grazing and agriculture primarily obtain water from underground wells.

Irrigation Districts, Water Districts, and Water Services

Many organizations provide water to residents of the Cosumnes watershed by various names. Here are the major suppliers of the Cosumnes Watershed:

Many of the residents in the upper watershed get water from personal wells. Those that do not are service by The El Dorado Irrigation District (EID). Established in 1925, EID is a public agency, located in Placerville that provides water to residential and agricultural land within the upper watershed. EID also manages Sly Park Recreation Area for the United States Bureau of Reclamation. Annually, EID produces approximately 25,350 acre feet of treated water and treats approximately 5.2 million gallons of sewage daily at two wastewater treatment plants. The water reclaimed from wastewater operations is either sold for irrigation or is discharged into the Deer Creek basin in compliance with the requirements of the California Water Resources Control Board.

The Omochumne-Hartnell Water District (OHWD) is a locally elected board that makes decisions that affect groundwater and attempts to manage water resources in the best interest of the community. They also provide water to residents East of Grant Line Road into the foothills. OHWD was originally formed in 1956 to promote the building of the Nashville Dam Project and the building of the Folsom-South Canal. The boards work closely with the SWRCB and local government entities to coordinate efforts. Recently, they have been working with the Southeast Sacramento Agricultural Water Authority to create a groundwater management plan for Sacramento County.

The Elk Grove Water Service (part of the Florin Resource Conservation District) provides water for the lower watershed. They serve 35,000 water customers in Southern Sacramento County throughout Elk Grove and surrounding areas up to Grant Line Road. They also provide many educational opportunities for citizens and promote water conservation throughout the region.

Reclamation District

The levees are privately owned and were privately maintained until 1997. After the floods of 1997 the cost of levee repair became unmanageable to landowners. Reclamation District 800 began managing and funding levee maintenance through tax assessments to the local owners of the levees. Levee maintenance costs vary by year depending on water levels. The Reclamation District is under-funded and necessary repairs often go unfunded. Jones and Stokes found a majority of the levee banks to be degrading at significant rates.

Cities and Towns

Multiple cities exist within the watershed including Wilton, El Dorado Hills, Diamond Springs, Plymouth, Rancho Murieta, and Ione. The city with perhaps the greatest impact on the watershed is located just outside of the watershed boundary. While not technically inside the watershed, the City of Elk Grove withdraws the most water from the aquifer. Overuse of the aquifer is leading to the reduction of flow in the Cosumnes River. This makes them a major part of groundwater management decisions. Elk Grove was recently

incorporated (in 2000) and has added complexity to the political landscape. Services that used to fall under water boards and RCDS are now coming under the jurisdiction of the city. However, the transition has not gone smoothly. The roles of the agencies are not clear and several lawsuits have been filed between the city and various agencies. This tension promises to increase as the City of Elk Grove recently released a plan to expand commercial and residential zoning to the Southeast of the city. All the proposed zoning is located within the Cosumnes River Watershed.

Water Quality Monitoring
Recently two efforts have been initiated to monitor water quality. The State Water Board completed a year long monitoring project on the Cosumnes as part of a monitoring effort on the San Joaquin River. In addition, production agriculturists have recently been asked by the state to monitor the outflow of water from their property. Because the expense of monitoring is significant, several RCDs have adopted an agricultural waiver program in which agriculturists pay into a collective monitoring pool. The monitoring pool pays for required monitoring collectively, data is not collected on individual properties. If the pollution increases, the sampling sites will increase in order to determine the cause of the problem. Sample sites move throughout the watershed and change on an annual basis to gain indications of watershed health throughout the entire watershed including tributaries. Only preliminary data is available from this program, but the data that does exist has shown very clean water.

Ground Water Management Plan
A ground water management plan is in the process of being developed. The plan will identify a sustainable groundwater yield as 273,000 acre feet per year. Each of the three sub-regions within Sacramento County is responsible for identifying their water needs and maintaining them within sustainable yields. The Southern region of Sacramento County contains the Cosumnes River and is lead by the Southeast Sacramento County Agricultural Water Authority (SESCAWA). The SESCAWA is in the process of creating a management plan to balance water needs within the Southeast Basin.

1.3 Historic Flood
While concerns over the health of the watershed had been growing for several decades, the watershed changed on January 2, 1997 when the Cosumnes River Watershed experienced the most extensive flood event in recorded history. Water flows were documented to exceed a 100-year storm event, though some reports suggest that the flows approached a 500 year flood event (the exact level cannot be determined because the water gauges were only designed to measure the 100 year flood event). In the upper-watershed, large amounts were carried downstream including gas storage tanks, sheds, cars, and portions of houses. In the lower watershed, twenty-four levees broke resulting in the inundation of eighty homes and 24,000 acres of agricultural land including orchards, vineyards, ranches and farms. The flood waters lasted just over 24 hours, but the damage took years to repair. Estimates of financial losses reached $10.5 million to

row, field and croplands, $2 million to orchards and vineyards and $.5 million to pasture and rangeland. This does not include damage to houses and structures.

The damage done was exacerbated by two factors. First, as property values and production costs increase, the cost of damages increase dramatically. Since values continue to rise, damages from future floods can be expected to be even greater. Second, the size of the flood was greater than has been experienced in recorded history. Flood levels are also predicted to increase in coming years.

The 1997 flood brought the issues of the watershed into the consciousness of every community member. It became clear that things could not continue as normal and something needed to be done.

1.3.1 The Response

After the floods of 1997, the community began to seek ways to ensure that such extensive damage would not occur again. The Cosumnes River Task Force was formed to provide guidance to decision makers, government agencies, non-profit organizations and community members in flood prevention and ensuring watershed health. The task force is headed by the County Supervisor and is composed of 16 volunteers representing various interests in the watershed. Their mission is to "develop a long term strategy to encourage restoration of watershed health and improve flood management."

The task force met regularly from 1997 through 2004. During this time, they conducted studies on the watershed, initiated restoration activities, provided guidance to local planning agencies, and worked on various initiatives to improve the watershed and reduce flood impacts. The most significant projects completed were a Phase I and Phase II assessment of the watershed designed to gather the pertinent information needed to guide restoration work. The Phase I inventory was completed under a grant from the SWRCB. The phase II inventory was completed under a grant from the CalFed Watershed Management Program. Citations for both documents can be found in the bibliography.

Cosumnes River Task Force
Chair Don Nottoli, County Supervisor
Sacramento County Water Resources Division
Sloughhouse Resource Conservation District (RCD)
Eldorado National Forest
Amador RCD
Florin RCD
USDA-Natural Resources Conservation Service (NRCS)
The Nature Conservancy
Cattlemen's Association
Sacramento County Farm Bureau
Reclamation District 800
US Bureau of Reclamation
Sacramento County Flood Control Agency (SAFCA)
US Army Corps of Engineers
Jones & Stokes Associates, Inc.
Amador County USDA-NRCS

Figure 1.3 Membership of the Cosumnes River Task Force

The amount of work completed by the task force became limited by the busy schedules of the volunteers. In order to complete the level of work necessary to protect the watershed, a full-time person was needed. Two different grants provided a full time staff person from 1998 through 2004. In 2004, the Sloughhouse RCD applied for and received a Department of Conservation Watershed Coordinator Grant to fund a full-time watershed coordinator. The coordinator's main focus was to write this watershed management plan, but she also implemented projects for the betterment of the watershed. Projects included educating farmers, ranchers, and community members about their impact on the watershed, coordinating the efforts of those working on the watershed, furthering the work of the Task Force, implementing a watershed council and assisting production agriculturists in obtaining cost share grants to improve production equipment and/or methods.

One objective of the RCD was the need to expand the role of citizen input into the watershed management plan beyond the task force. When writing the DOC watershed coordinator grant, they included the objective of creating a watershed council to be broader in focus and composition than the task force. The council aimed to bring the entire community together to identify watershed issues and work toward the betterment of the watershed. The community-wide effort included government agencies, community groups, private business representatives, producers, and citizens attended the meetings that convened in 2005 and 2006.

1.3.2 The Results

The task force and the council made several conclusions. The most significant conclusion was that a large amount of research was being completed or had been completed on the Cosumnes Watershed. Given its unique status as the last un-dammed river on the western slope of the Sierra Nevada Mountains and its proximity to UCD, over 60 studies have been completed on various aspects of the Cosumnes Watershed (see appendix II for a complete list). A majority of these studies were completed by the UCD Cosumnes Research Group. In addition, the Cosumnes River Preserve has spent many years assessing and cataloguing the biotic features of the watershed. Finally, with many active agencies and organizations in the watershed, many technical documents have been created.

The second most significant finding was how much is still unknown about the river. There is not enough information to solve many critical management decisions. While much remains to be learned about the Cosumnes River, the community has taken important steps through the studies, task force meetings and council meetings to identify the priorities, issues, and solutions that are meaningful to the community. They have outlined the important issues that need to be addressed in order to maintain a vibrant community, a healthy ecosystem, productive agricultural land, and a sufficient quantity and quality of water for all the members of the watershed. It is clear that the natural world, farming communities, and residential needs of the watershed are at a crossroads. Where we go from here is imperative to the livelihood of a time honored way of life, the health of the environment, the existence of endangered species and the productivity of a growing urban area.

2.0 Current Issues and Possible Solutions

The following section summarizes the major issues within the Cosumnes watershed. An attempt is made to list all practical solutions. They are listed in no particular order. The issues are grouped into four categories: Water Supply Reliability, River Conditions, Habitat and Coordination. The problems have been categorized for ease of presentation and to encourage action, however, they are intertwined. Thus their solutions are multi-faceted and often overlapping. In section 3.0 a recommended "package" of solutions will be outlined.

2.1 Water Supply Reliability

2.1.1 Flooding

The extreme nature of the floods of 1997 was devastating to the people living near the Cosumnes River. Over 13 million dollars of damage was done to homes and agricultural land and six million dollars were spent repairing levee breaches. Future flood events are predicted to be more catastrophic as citizens increasingly rely on levees to hold back floods as they build further into the floodplains. The impervious surfaces that accompany urbanization reduce the amount of ground water recharge and water storage in the watershed creating larger flood events. In addition, the damage associated with future floods will increase as the value of property and equipment rises.

Flooding is also predicted to occur more frequently in the future. A study by the UCD Cosumnes River Research Team characterized the types of flood events that have occurred and plotted their occurrence over time. The study showed that in the last two decades the years in which wet winters were followed by dry springs have increased. Years typified by this weather pattern are often years of heavy flooding. The occurrence and magnitude of flooding is likely to continue to increase.

Why Are Floods Increasing?

1. *Changing weather patterns-* The weather patterns have been changing over the last few decades making rainfall unpredictable. Overall, California has received significantly less water than was expected, but the cycles have been "boom and bust." The boom periods have far exceeded expected values. Human constructs like levees were not built to maintain such large levels of rainfall.

2. *Increased Impervious surfaces-* As the watershed urbanizes, larger percentages of land become covered in impervious surfaces (parking lots, driveways, roofs, sidewalks, etc.) Impervious surfaces concentrate water drainage into smaller areas. With less drainage to accommodate the heavy flows of water that follow a storm event, the water pools and floods.

Figure 2.1 Flood Increases

While the floods dramatically impact people and the production of the valley, high water levels offer an opportunity for groundwater recharge. Spreading the water contained in high water flows across large areas of land and allowing them to slowly drain into the river creating a sustained flow into the water table may be the only opportunity we have for groundwater recharge. If this water is not allowed to recharge groundwater systems, it will be sent directly into the bay delta much like letting water run down a sink.

Possible Solutions:

a) Build stronger levees

While levees could not be built high enough to maintain the highest magnitude floods, building stronger and higher levees would reduce the impact of many floods. However, the cost of building and maintaining levees becomes exponentially more expensive based on the amount of water they are built to hold. Levees built high enough to retain large flood events will be expensive and will need to be repaired more frequently. The current levees are already not maintained as well as they should be. Analysis of flood regimes compared with economic cost estimates of larger levees could be done to determine if higher and/or stronger levees would provide an economically beneficial solution.

In addition, further removing the floodplains from the river will perpetuate the cycle of water loss. As levees are built higher, more water leaves the system. As more water leaves the system, less water is available for groundwater recharge. As water becomes scarcer, water extraction will become more expensive and greater investments will be needed to obtain water. Thus building higher levees will result in higher water costs in the future.

b) Increase water storage

It would be nearly impossible to stop floods of the magnitude of 1997 from occurring, but the impact of smaller flood events may be reduced by increasing water storage. There are many ways to increase water storage ranging from building setback levees to encouraging water storage equipment on landowner's properties.

Setback Levees

Establishing set-back levees has been proposed as an alternative to traditional levees. By setting the levees at the edge of the natural floodplain rather than along the river bank, water storage capacity increases and natural river processes re-emerge. Habitat is reinstated and animals can exist more comfortably and compatibly with human uses of the river. In addition, removing levees from the constant flow of the river will likely reduce the necessity and magnitude of annual levee repairs.

Setback levees are calculated to be expensive. In 1999, the cost of building setback levees was estimated to be $2.5 million per river mile. Most of this expense is to buy rights to farmland. If the floodplains within the levees are able to be used for agriculture some of this expense may be reduced. The entire river wouldn't need to be setback at once. High priority sections of the levees could initially be setback. As practice informs process, building setback levees would become more efficient. If set-back levees prove to be beneficial, further setback levees can then be built. Since a majority of the land along the Cosumnes (including the levees) is privately owned, landowners would need to consent to and be compensated for any land that is established in setback levees.

Over time the setback levees may actually save money. Levees are broken down as water flows across them creating a need for annual repairs. Years of heavier rains translate to higher repair costs. With less contact with the river, costs for repair will likely be reduced. Economic analysis should be completed to determine the cost effectiveness of building set-back levees.

Two notes of caution need to be made. First, disturbing the river may cause more harm than the repairs would solve. Currently the Cosumnes has very high water quality. Disturbing levees may significantly degrade water quality. Large amounts of sediment added to the river may interfere with critical habitat (such as salmon spawning grounds) and may not provide significant benefits. It is also possible that mercury may be released into the water from disturbed areas. It is important that the goals of setback levies be identified clearly and weighed against the risks and alternatives before a decision is

made. If setback levees are selected to be a management tool, careful analysis should be completed to make sure this practice will be beneficial.

Second, the practice of setting back levees is still relatively new. The science has not yet been determined. Some of the initial projects that have built set-back levees on neighboring rivers have found that the scientifically established widths of floodplains have been too small to have significant impact on habitat and water storage. It is unclear whether the floodplains do not have as large an impact as predicted or whether the floodplains need to be much larger than expected. It would be a waste of sorely needed resources to setback levees at $2.5 million per river mile only to find that there is no significant impact. Two setback projects are being completed in the general area. Both the Feather and Bear Rivers are currently installing setback levees. These projects should be carefully examined before similar levees are placed on the Cosumnes.

Mitigated Floodplains

A much less expensive option than setting back levees would be to establish mitigated floodplains. During the wet season, water could be pumped over the levees into surrounding fields. Landowners could be paid to keep the land out of production during the wet season to allow water to recharge groundwater supplies and store water within the watershed. Careful analysis of the ground would need to be completed to ensure that toxins are not carried into the stream as part of sub-surface flows.

Most, but not all of the benefits that are associated with setback levees would also occur from flooding mitigated floodplains. The two exceptions would be the filtering of sediment from the river and an increase in habitat for young salmon. There are not sediment problems in the river making sediment filtering a non-issue. There are options to build shelter for growing salmon (such as in-stream eddies or habitat boxes) that should be researched if this option is selected.

Figure 2.3 Floodplains on the Cosumnes

Build wetlands
Wetlands can be built throughout the watershed to increase water storage. Unlike the mitigated floodplains, the proximity to the river would not be essential. Thus any land with depressions and low-lying areas can be transformed into wetlands of various sizes. Landowners in urban, agricultural and industrial areas can be encouraged in a variety of ways to develop wetlands to reduce the volume of water flowing into the river during peak flows. This option may be easy to implement because development has been rapid in the watershed. Development regulations require the establishment of mitigated lands at a 1:1 ratio. This land could be used to create wetlands.

Water Storage Equipment
Landowners can be encouraged to install water storage equipment based on the size of their land and water needs. Homeowners can install rain barrels to store water and reduce future water needs. Production agriculturists can build retention ponds or install water storage containers to store water within their property. Regulations apply to ponds that are built on agricultural land that should be followed. Cost-share assistance may be available to assist in installation.

This may be the only option available to the upper watershed and is of particular importance in this region. Water stored in storage tanks can be used for fire-safety.

not built with the capacity to control record floods both because floods were not expected to reach the levels found in 1997 and because the cost of building and maintaining levees increases exponentially with the amount of water they are designed to hold. As people have begun to rely on the levees as a form of flood prevention rather than flood reduction, they have begun to expect more from the levee system than it can provide. The current levee system was built to control a five year flood event (approximately 20,000 cfs). The flood event of 1997 was recorded at 93,000 cfs, but was likely much higher since it exceeded the capacity of the gauge.

Levee maintenance is required annually with more maintenance needed in high rainfall years. In 1999, maintenance costs per mile of levee ran between $3,500 and $20,000. The Cosumnes River levee maintenance usually runs on the low end of the scale. However, levee repairs and enhancement vary with the size of the project. Years with higher water levels cost more to repair. After the 1997 floods, 14 breaks along a 30-mile stretch of the Cosumnes were repaired at a cost of $6.3 million to the state, federal and county governments. This cost is underestimated because funding was only provided for the replacement of the levee system and not for enhancement. Individual landowners made additional levee enhancements. Maintenance is often delayed or not completed due to funding and strict permitting needs. Should levees fail due to poor maintenance, the results could be catastrophic.

Bank instability and streambed incision

Bank instability is often a concern associated with levees. This may or may not be an issue in the Cosumnes. Excessive bank erosion and streambed incision has occurred in the area between Twin Cities Road and Highway 16. Between 1957 and 1996, the Cosumnes River channel was downcut between 2 and 10 feet due to excessive erosion (information prior to 1957 is not available). It is suspected that the downcut has stabilized. If erosion were actively occurring at excessive rates, it would be expected that high levels of turbidity and sedimentation would be found downstream. This does not appear to be the case. The water quality data from the SWRCB in 2002 shows that when compared to the rest of the river, there is only a slight increase in turbidity and total organic carbon at Twin Cities Road which is consistent with wildlife uses. In addition, the bridge was inspected for stability in 2002. The stability of the structure was found not to be compromised. Thus while incision did occur at one point, it is not likely that the incision continues to occur at a significant rate.

The downcut should be monitored to see if it has stabilized. Monitoring will provide clues to the cause of the incision and data that will determine whether repair is necessary. If the downcut has stabilized, the best course of action is monitoring. Gravel may be added to the stream to supplement salmon beds and provide coarse sediment to the stream, but no major action would be needed. If the downcut is active, stabilization may be needed. In addition an aggressive supplanting of course debris may be needed to maintain channel stability. The major concern with the incision is that when a river

incises, the groundwater table also incises. This reduces the total storage capacity of the aquifer.

There are three possible explanations for the downcut that have been proposed. First, the downcut could be a result of the levees. The levees channelize the river, increasing the velocity of the current which scours banks and carries debris downstream. If the river were in a natural meandering pattern, the velocity would be slowed as would the rate of erosion. The result of constricting the channel with levees can be downcutting, bank erosion and flooding. Excessive erosion can cause the bank to collapse which dumps vegetation and sediment into the river channels and threatens downstream habitat and structures.

Second, it is possible that the downcut was caused by the constriction of the river by the building of several bridges. The bridges altered the flow of the river exposing previously protected areas to downcut and incision and increasing the velocity of the flow as it passes under constriction points (bridge structures).

Finally, it is possible that the river bed levels found in the 1950's were artificially high due to large amounts of sediment deposited in the river from gold mining. This has been found to be true in neighboring rivers. Since the Cosumnes was a highly active mining location, it is likely that large amounts of debris were deposited in the river. The excessive erosion and downcutting from 1957-1996 may have been a removal of mining debris. Most of the mining debris removal in neighboring rivers was completed by the mid-1960s. However, this was mainly completed by dredging in surrounding rivers. Given the timeframe, it is likely that the incision was a removal of mine debris.

Jones and Stokes found significant bank erosion throughout the foothills and valley regions of the river. A majority of the erosion is found on levees. This is due to a lack of funding for levee repair and maintenance. In addition, many of the areas they found to be eroded were covered in vegetation. Since the survey was completed by aerial methods, the banks were not always seen clearly. On visual inspection of the banks, the Jones and Stokes finding is likely over reported. However, there are areas of concern. The area below Michigan Bar Road to the top of the levees does contain sections of significant erosion. Some of these areas are of particular concern because they are located directly above salmon spawning habitat.

River meander

Another major concern of the levee system is that it affects the natural course of the river. Rivers meander. Levees were built to reduce meander as they provided shorter, faster flows to the outlet. The path of any unrestricted river is not exactly the same from one year to the next. The flood plain ecosystem (including habitat, river functioning and human health) relies on the fluctuation of the river. The meander is caused by the incremental erosion of consistent flows and the large change events of high flows. Only the lower reaches of the Cosumnes River naturally meander. The mountains and foothills

are lined by deep rock canyons and thus the riverbed is literally set in stone. The river from the end of the foothills to the convergence with the Mokelumne has potential for meander.

Meander is most prominent in the area of the convergence at the end of the valley floor. As the river spreads across the alluvial fan and flows overland into the Mokelumne, channels are constantly changing, converging, diverging and shifting. This meander is limited by low water flows. With the Cosumnes Preserve and several levee breeches in this region, the natural meander has come closer to retaining its natural course.

Meander also helps filter sediment by creating floodplains. The floodplains catch and retain sediment and pollutants, keeping them out of the river channel. In turn, deposited sediment provides nutrients that support plant communities. Levees impede the natural filtering process by physically preventing water from flowing onto floodplains. Meander also creates a diversity of habitats by varying the speed of water. Floodplains play a critical role in habitat and river health while encompassing a very small area of land (Seventy- two percent of riparian forest is found within 100 meters of the active channel). Floodplains would historically be found along the Cosumnes River from the foothills throughout the valley. When the levees were built they lined the banks of the river separating the river from the floodplains. As the river flows have decreased and as the river has incised, floodplains have developed within the levee walls. Riparian plant communities have established within the levee walls. This is called "terracing". The river has established its equilibrium at a new, lower elevation. Since the river rarely runs at high flows, the floodplains are active most of the year.

Groundwater recharge

The major challenge to groundwater recharge is that most of the soils in the valley are clay. Clay creates an impermeable layer that blocks water from seeping into the groundwater table. Floodwaters never sit long enough on open ground to filter down into the aquifer and even the highest flood events to drain in just a few days. However, once the river reaches the alluvial soils, the soils change from clay to sand. Sand allows for quick infiltration to the water table. The best opportunity for ground water recharge is to allow a slow consistent, steady flow of water to run through the alluvial soils.

Removing the levees would not change the pace of drainage in the river. High flow events would still run through the system quickly and low flows would move close to their current paces. Groundwater recharge needs a slow consistent flow to cross the alluvial fan where recharge occurs. One option that may support groundwater recharge and agricultural livelihood would be to flood the fields adjacent to the river during high water periods. Water would be pumped onto fields over the top of the levees. The levees would then hold water on the fields for an extended length of time. While some of the water would seep through the clay, the major benefit for groundwater recharge would come from the extended length of the flows. Water from the fields would slowly move into the river by subsurface flows extending the length and volume of river flow. Having

an extended flow of water over the alluvial soils would allow more water to seep into the aquifer. Agriculturists that own the fields would be compensated to keep winter crops out of production to allow flooding. Compensating farmers to keep land out of production would also increase the viability of agriculture in the basin.

The depleted aquifer in the lower watershed is exacerbated by the depleted granite-fissure aquifers in the upper watershed. During flood events, the granite-fissure aquifers should overflow creating a sub-surface flow. The sub-surface flow should create a baseline flow in the river that lasts year-round.

Why is meander so important to habitat?

River composition is based on the natural meander of a river. The meander is caused by upstream rock and soil being worn away and carried downstream by the flow of the river. Twists and turns slow the river making it unable to carry larger particles. Larger particles are dropped onto the bed of the river creating habitat. The flora and fauna of a river system have adapted to rely on the specific components of that river. When the river is restricted, the channel moves faster and natural sediments are often not deposited on the river bottom. The habitat that animals and plants rely on is significantly changed.

Speed of the water is also a form of habitat. Some animals, insects and plants are adapted to living in fast moving water, others in slow moving water. When a slow velocity river is accelerated, aquatic insects and young fish have trouble surviving. In turn, the species that eat insects and small fish lose their food source. Habitat is compromised along with the health of the populations that depend on it. Without a natural meander, rivers tend to adopt a uniform speed and support a uniform habitat rather than a diversity of habitats.

Figure 2.4 Meander and Habitat

Agricultural Productivity

Levees alter the productivity of agricultural land. The high productivity of the soil in the Central Valley is historically due to the annual influx of nutrient rich sediment from the Sierra Nevada Mountains. The river gathers mineral-rich silt from the bedrock of the mountains and deposits it onto the valley floor. Crops thrive on the constant renewal of minerals. When the land becomes removed from the river, the natural deposits of minerals are also removed. Farm land becomes less productive and more minerals are carried into the bay-delta, altering the composition of the delta. In order to compensate for the loss of productivity, expensive and sometimes damaging fertilizers are added to the land.

Possible courses of action:

a. Improve Levee Maintenance

Levee maintenance is currently under-funded and under-staffed which increases the likelihood of levee failure even in moderate flood years. Additional funding is needed to proactively identify and repair weaknesses, plan for future floods, and properly maintain existing infrastructure. Rip-rap or other structures can be placed along the levees to ensure stability. Professional consultation should be sought before work is completed on a levee. This is particularly pertinent in a climate of increased scrutiny following the levee failure associated with Hurricane Katrina. Great attention and funding are being given to levee system maintenance. There may be opportunities to receive funding to improve and restore the levee system. It should be noted that currently agriculturists living along the river entirely bear the cost of levee maintenance. While they directly benefit from the levee system, so do all of the property owners in the area, many of whom do not pay into levee maintenance.

b. Set back levees

Set back levees could be placed outside the edge of the flood plain. Floodplains would be reestablished, habitat would be restored, a natural meander pattern would return, and the levees would be able to hold more water. The river composition, health and stability would likely be improved and groundwater recharge would be increased. See section 2.1.1 for more detail and cautions about setback levees.

c. Mitigated Flooding

Mitigated flooding would pump water over the levees during high river flows onto surrounding fields. Mitigated flooding would allow groundwater recharge and remove nutrients from the river by placing them on agricultural fields. See section 2.1.1 for more detail on the benefits of mitigated flooding.

d. Non-repair of levee breaches

By letting the levees wash out, the river would return to its natural course. Once a wash-out occurs, the setback levees could be established without the cost of dismantling current levees. However, the results could be catastrophic for individual farmers and the random nature of the process would make it nearly impossible to study scientifically. Without the guidance of research, high restoration value areas may be neglected while less productive areas are restored. Alternative flood control would have to be instated to keep the river from causing significant damage to property on an annual basis, likely at a high cost. This is unlikely to happen unless significant amounts of funding could be found. Since the levees and surrounding land are privately owned, landowners would need to be convinced to and compensated for not restoring levee breeches.

2.1.3 Drought

As the "boom and bust" cycle of weather intensifies and as water is removed from the watershed, the likelihood of drought increases. Research from UCD has shown that the occurrence of wet winters followed by dry springs has increased in the last few decades. This means that drought years are likely to increase in the coming decades. Drought years are difficult for production agriculturists and habitat alike. Irrigation and obtaining feed

for livestock becomes more expensive. Most significantly, drought years deplete the aquifer at a faster rate and allow less opportunity for water recharge, diminishing crucial resources. The river dries up much earlier in the year reducing habitat. For example, salmon spawning habitat is reduced when the fall flows begin late or stop flowing early. Migrating birds also find a disruption of habitat. Drought places a great burden on all the inhabitants of the watershed.

Possible Solutions

a) Irrigating perched aquifers

A study published by UCD suggests that the highest potential for maintaining stream flow during critical salmon spawning periods is to target perched aquifers near the river. A perched aquifer is an area of land that has impermeable soils (like rock or clay) below the surface. Since water cannot seep through the rock or clay, it runs sideways into the river. Water temperatures, mineral composition and sustained flows will be more natural than putting water directly into the channel. Water can be drawn from the Folsom Canal. While this practice may be compatible with agriculture by growing water tolerant crops, the study suggests that the recharge land should be kept relatively free of vegetation in order to allow a maximum amount of water to reach the stream channel. Experimentation should be done to see if this practice is effective and can be compatible with production.

The fields selected for irrigation in spring and fall may be the same fields that are used to facilitate agricultural recharge in winter. Agriculturists that are already paid to keep land out of production during the wet season can begin the flooding in the fall timed with salmon runs.

b) Water storage in wet years

Water can be stored during years of high rainfall to replenish the water table. Holding water in pond basins, fields, and flood plains during high precipitation years will help recharge groundwater. Re-establishing wetlands would be an important part of this effort. Both urban and rural landowners can be encouraged financially and ethically to recreate wetlands on their property. Increasing water recharge will lessen the impacts of water use during drought years making them less significant to the overall aquifer overdraft. See section 2.1.1 for a more detailed explanation of storage options.

2.1.4 Depleted Aquifer

The depleted aquifer is the most important issue facing the Cosumnes River. Due to the lowered water table, the river is running for shorter periods of time at lower velocities and the entire watershed is drying. The river is being sucked into the aquifer at a pace much greater than can be sustained. Without fixing this problem, the river may literally disappear. Thus it is essential that this issue be given the highest priority.

The causes of the dropping aquifer are two-fold. First, water is being extracted at an ever greater rate and second, water is not being replenished.

Increased water consumption
As urbanization increases water consumption, water is being removed from the aquifer at greater rates, reducing the level of groundwater. As the aquifer drops, the river becomes disconnected from the river as the two no longer touch. When the two become disconnected, initial rainfall must first flow underground to rewet the area below the river then begin to fill the channel creating a river flow. The result is a shorter and lower annual flow of the river. In many years, the flow of the river is shortened by a few months. The shorter flow affects habitat, especially for salmon. Salmon have two months less to spawn and face greater predation. Migratory birds also have a shorter availability of wetland habitat to complete their migration.

Reduced groundwater recharge
When the river becomes disconnected from the floodplain, the replenishment of groundwater is reduced. When water does not flow onto the floodplain, it moves to the ocean without much opportunity to seep into groundwater and the aquifer is not recharged. The river needs a prolonged, steady flow of water over the alluvial fan at the end of the river to recharge the aquifer.

Long-term impacts of a reduced aquifer could potentially be devastating to the communities that rely on it. It is not clear how long the aquifer will last if the water table continues to drop. Long –term effects of a dropping aquifer could include increased sedimentation in the water as it becomes harder to pump, sink-holes, salinization and greater expense in reaching needed water supplies.

Problems in the upper watershed are just as severe as problems in the lower-watershed. In the upper-watershed, rock fissure aquifers provide unreliable, inconsistent waterflows. As the aquifers are depleted, there are no alternative sources to rely on for water needs.

Possible Solutions:
a. Pre-wetting the river.
A coalition of agencies in the watershed led by The Omochumne-Hartnell Water District has undertaken a project to "pre-wet" the river in advance of fall rainfall. By pre-wetting the ground with water from the Folsom Canal, the area directly below the river becomes saturated. The first rains of fall can then initiate the flow of the river rather than being absorbed below the ground. The river will flow much closer to its natural rate and salmon will be able to migrate closer to their normal pattern. While promising, no data is yet available for this practice. In the first year that pre-wetting was to occur (2006), the Cosumnes River experienced an unusually wet season and the river ran all year long. The method was not needed.

b. Maintain the flow of the channel by irrigating land over perched aquifers.
(See section 2.1.3)

c. Change forestry practices.

The headwaters of the Cosumnes are located in the El Dorado National Forest. This area is heavily forested and used mainly for recreation but does have some forest harvesting as well. Scientific studies over the last few decades have tested the affects of forest management practices on the production of water with greater or lesser results. The Forest Service should establish water production as one of the key objectives of its management and adopt appropriate management practices. While just 16% of the water in the watershed comes from melting snow, this yield may be increased through forest management. Snow melt is particularly important because it feeds the river in late spring, a time when the river often dries up. More water present in this crucial time will extend the flow of the river, help replenish the aquifer, and allow salmon hatchlings more time grow before voyaging out to sea.

d. Reduce water consumption.
A reduction in water consumption will reduce the pressure placed on water resources. Municipalities, water districts, citizens, industrialists and agriculturists need to be encouraged to reduce their consumption of water. This can include financial incentives, education, mitigation, demonstrations of beneficial practices and a call to social responsibility. Education and incentives will be presented more comprehensively in section 3.4.

e. Replenish the aquifer.
Replenishing aquifers is still a relatively new field of study with mixed results. More research should be completed to determine the correct methods, location, timing and actions of replenishment. Current research results should be monitored in order to implement successful practices as they become available.

f. Increase water storage
The use of water storage options including rain barrels, water catchment systems, building wetlands, and restoration should be encouraged throughout the watershed. Maintaining water within the watershed, even if only for short periods of time, will help restore the natural functioning of the river and reduce water consumption. See section 2.1.1 for more details on water storage options.

2.2 River Condition

2.2.1. Erosion and Sedimentation

The Cosumnes River has a "boom and bust" nature that is characterized by intermittent flood events followed by low to no-flow periods that has significantly altered sedimentation and erosion. The "boom and bust" cycling would naturally occur in the river, however, it has been exacerbated by the drying climate, the levees, and the lowering of the aquifer. Rather than a consistent meander through the valley, the river has become a pipe moving at high velocities followed by low velocities. The result is two-fold. First, the high velocities of the current erode the stream banks. Second, during low velocities, sediment is deposited in the gravel beds of the river. This can occur over both time and space. Once the sediment deposits, it "cements" the beds making it difficult to

remove and compromising its ability to support salmon spawning. Future high water flows rarely clean out the beds.

While sedimentation and erosion has been altered in this river, it is not currently causing any significant problems. Water quality is high and with the exception of a few places along the river, erosion is not occurring at a rapid pace. It appears the most significant impact on the Cosumnes River from sedimentation may be the cementing of salmon spawning gravel beds. Action should be taken to ensure that the problem does not worsen, to stabilize the areas that are eroding, and to improve salmon habitat.

Possible Solutions:

a) Reconnect the floodplains

Reconnecting the channel to floodplains in strategic places will help maintain the levees that already exist, reduce the scouring of banks, and filter sediment before it cements gravel beds. Floodplains serve as natural filters and "speed bumps" for the river. Restoring high-ecological value floodplains in targeted areas can help restore the natural functioning of the river. See 2.1.1 for more discussion.

Figure 2.5 Floodplain in the Cosumnes

b) Gravel can be deposited in the river to compensate for the loss of salmon spawning habitat. The Granless dam currently serves as a catchment for gravel from higher

elevations. This gravel could be relocated to lower portions of the stream where salmon spawn. Research should be done to ensure that the disturbance caused by gravel removal will not have unintended consequences that outweigh the benefits from creation of habitat. For example, if removing gravel stirs up large amounts of sediment, the newly placed gravel could be cemented at faster rates making the practice irrelevant. If it appears that removing the gravel from the river will cause significant sedimentation or release stored mercury, gravel from other sources can be used. Demonstration sites should be attempted before large scale adoption of the practice.

A recent study in the Mokelumne River has show gravel transplant to be effective. Salmon were found to spawn in the transplanted gravel beds within 2 months of placement and the positive effects of transplanted gravel were found to last 3 years. The Mokelumne River has higher levels of sediment than the Cosumnes, so it can be expected that the Cosumnes may have an even longer lasting result in gravel transplant.

Figure 2.6 Gravel in the Cosumnes

c) Clean gravel beds

Gravel beds can be manually cleaned on an annual basis to ensure sufficient spawning habitat. This practice will be time consuming and may or may not be effective.

d) Restore plants in un-vegetated portions of the river

Restoring vegetation along the riverbanks will increase habitat, help to slow the velocity of the river, and filter sediment. Increasing vegetation will also help reduce water temperatures, stabilize banks, and increase storage capacity within the river. There are only a few places along the river that are not currently vegetated or are not lined with levees. These few places along the river should vegetated. Since almost the entirety of the river is privately owned, private landowners will need to be found that are willing to allow the plantings.

Restoration projects are generally expensive, but assistance is available. Grants may be available to help through programs like WHIP, CRP, and CSP and through federal, state and local restoration grants. In addition, groups like Tree Trust may be able to assist in obtaining vegetation. A private Cosumnes River fund could be established to help restore the river. Work should be done to identify areas in which landowners are interested in restoring habitat and community resources should be placed into restoring those properties.

2.2.2 Bank Instability

Channelization of the river has increased the velocity of the water during high flows causing bank instability. A fast moving river channel scours the banks carrying debris, sand and silt into the river. Bank strength is reduced, the bank is undercut and eventually bank failure results. Once bank failure occurs, large amounts of sediment and debris are carried into the river. Both water quality and bank stability are expensive and time consuming to repair once they have become compromised. The main way to increase bank stability is to reduce the velocity of the river.

Jones and Stokes found bank erosion throughout the watershed. The upper river was not a concern since most of the banks are bedrock. The main area of concern is the section southwest of Michigan Bar road past Rancho Murieta to the top of the levees. Within this area sections of bank are eroding into the river. Some of the eroding banks are located directly above salmon spawning habitat and could threaten gravel beds with sedimentation. If left as is, these sections have the potential to degrade water quality and threaten roads. Because of the expense of restoration including permitting, the banks have not been restored. These sections are small, could be easily repaired and should be a high priority area for restoration. While Jones and Stokes found severe degradation throughout this area, this result is over-reported. They completed their survey by aerial photos and did not verify by visual inspection areas that were covered in vegetation. Through informal inspection, these banks are in better condition than reported. The levees also have problems with erosion, but they are mainly caused by improper maintenance and thus have different solutions.

Figure 2.7 Sluffing bank on the Cosumnes

Possible solutions

a) River meander

A meander works like "speed bumps" to slow the flow of the river and reduce its impact on banks. By slowing the velocity of the river, banks become more stable. While restoring a natural meander would improve many rivers, it would likely not have much impact on the problems in the Cosumnes. The river flow is low and does not come in contact with the banks for most of the year. See section 2.1.1 for more details on restoring the river.

b) Restore vegetation on river banks

Increasing vegetation on river banks helps increase the stability of banks and reduces the speed of the riverflow. It also keeps the river narrower and deeper rather than broader and shallower which will increase the river's storage capacity. There are very few sites along the river that are not vegetated and are not in levees. Levees are not allowed to be planted in vegetation. This leaves several high priority restoration sites that could be easily planted. See section 2.2.1 for more details.

c) Increase large debris in the river

Increasing debris in the river will slow the velocity. Placing large items liked downed trees in the river may help slow the velocity of the river and provide habitat. While extra debris will help, it will provide only a minimal impact. It is important that the material entering the channel is compatible with the ecosystem and will not threaten banks and bridges if carried downstream. Rip-rap cages are often installed where debris is held in

place so that a natural filtering can occur and the velocity of the river can be lessened. If improperly placed, debris in the river may make the problem worse. Engineers should be consulted before implementation. Given the timing of high flows in the river, debris is likely to cause more harm than good.

d) Banks can be lined with biological material
Biological material could keep the river from coming in direct contact with a fast moving stream. By anchoring logs or equivalent material to the bank, the biological material will receive the impact of the river, not the bank. Care should be taken to ensure that the materials are compatible with the ecosystem. This method has been attempted across the country. Study results should be examined before installation is attempted. Levees can be included in such practices, however, an engineer should be consulted before performing work on levees.

2.2.3 Channel Constriction

Channel constriction can lead to bank erosion, sedimentation and damage to in-stream structures such as bridges. Constriction points on the Cosumnes River are a concern. During flood events, water backs up behind bridges and narrow points increasing water levels upstream placing pressure on the levee system. Four specific areas were identified by watershed stakeholders as possible river constriction areas: between Interstate 5 and the railroad crossing, between Highway 99 and the railroad crossing, Wilton Road Bridge and Dillard Road Bridge. In April 2000, at the request of the Cosumnes River Task Force project committee, the Dillard Road Bridge site was assessed by the Public Works Agency. The Dillard road site was found not to be a significant threat to the health of the river, stability of the bank, or bridge. Further studies are needed to determine if channelization threatens any additional structures. If these sites are found to significantly affect the river, appropriate restoration should be explored.

2.2.4 Water Quality

The main issue in addressing water quality is the lack of data. In order to better understand the problem, the State of California has recently required production agriculturists to test the water exiting their fields. Water quality testing is expensive. As a compromise, agriculturists and local RCDs have established a cooperative arrangement called "agricultural waivers" in which farmers contribute to a fund that collectively tests the water at various points along the river. Test sites move through the river and tributaries annually. If water quality problems are found, further test sites will be implemented to determine the cause of the water quality issues. Producers then have incentive to keep water clean in order to avoid increased expense of testing and/ or possible fines. Limited data is beginning to become available and show high water quality. If significant problems are found, further monitoring would be necessary.

Preliminary data from the agricultural waiver program and data collected from the SWRCB have shown that the river has very high water quality. TMDLs are only exceeded a few times a year at times when exceedences can be expected. The

exceedences that do occur are not extreme. Two areas of concern are slightly elevated, though are not in excess of TMDLs. First, pathogens are slightly elevated near the campground at Sly Park Reservoir. This is expected for a recreation area. Second, levels of nutrients increase slightly south of Twin Cities Road. This level is normal for a wildlife preserve and does not exceed TMDLs.

Part of the reason the river has such high water quality is due to proactive work of agriculturists in the watershed. Local agriculturists have received over $6 million dollars in EQIP CRP and CSP funds in the last 5 years to implement conservation practices on over 6,000 acres of land. Since this money comes through matching grants, local agriculturists have also spent $6 million dollars on conservation for a total of $12 million. Continued efforts will help preserve this valuable resource.

Possible Solutions:

a. Augment farmer incentive programs

Farmer incentive programs like EQIP, CRP, and CSP provide money for environmental projects on private lands. EQIP is a cost share program through the federal government that allows farmers to upgrade outdated equipment to reduce pollution and water use. CRP and CSP provide federal dollars to develop habitat on agricultural land. Locally, hundreds of projects are proposed for these programs every year, yet only about 20% are able to be funded. Farmer incentive programs are particularly useful since they require matching dollars which double the amount of money spent on conservation. Local supplemental funding would increase the impact of these programs, fund projects that would otherwise not be completed, and help ensure water quality. Money provided goes directly into practical conservation practices.

b. Increase outreach

An agricultural assistant could proactively seek out problems in the watershed in order to identify and assist producers in reducing negative impacts. While many producers have participated in restoration projects, many have not, leaving large potential for change. Outreach could be cost effective in seeking out new producers to participate in conservation programs. The assistant could help producers correct problems while they are eligible for cost share measures and before expensive fines are levied. It is important that this effort be lead through a special district like an RCD or outside actor rather than a regulatory agency so that the producers can seek help without threat of being penalized.

c. Increase water flow

Increasing water flow will dilute pollution in the waterway. Any of the proposed steps to reduce water consumption and increase water production (many examples have already been provided) should be thoroughly investigated.

2.2.5 Ground Disturbance and Fire Safety

When ground is disturbed, sediment, chemicals, and debris are carried into the river with rainfall runoff. A majority of ground disturbance occurring in the upper watershed is a

result of forest harvest and vineyard conversion. Forest harvest can cause large ground disturbance depending on the methods employed. If best management practices are used, limited impact should occur. Since harvest has been reduced significantly in the last two decades and water quality is high, it is not likely that this remains a large concern.

Conversion of land to vineyard has occurred rapidly in the watershed in the last decade. Vineyards can adversely affect the watershed in many ways including the erosion of soil that is open and exposed between the rows of vines. Fortunately, by implementing simple best management practices, the impacts can be significantly reduced. In response to potential hazards, the vineyards in the watershed have been held to rigorous BMPs including nitrogen fixing cover crops planted between the rows of grapes. Because water quality is high in the Cosumnes and there are no signs of ill-impact, it appears that the BMPs are working. In addition, vineyards are beginning to face greater financial difficulties and the trend toward vineyards is likely decreasing.

Figure 2.7 Vineyard

In the lower watershed, urbanization is causing large-scale soil disturbance. Every time a new building is built, the ground is disturbed. With rapid urbanization occurring in the watershed, a large amount of soil is being impacted. While builders are required by law to install best management practices to reduce impact, practices are not always installed

properly or maintained to the level necessary. The city of Elk Grove has education programs and permitting requirements to ensure compliance. However, this program is under-funded and enforcement is not adequate. Augmenting education and enforcement activities could lead to more consistent implementation.

Fire Danger
Fire is one of the greatest threats to residents and ecosystem health in the upper-watershed and could provide a future source of ground disturbance as the land in the upper watershed has not burned in recent times. In addition to threatening homes and public safety, fire could contribute large amounts of soil and debris to the river for many years to come and ecologic recovery could take decades. A large scale fire could prove devastating to the health of the watershed. This is a particular concern in a drying climate as drought years bring catastrophic fires to the Western States. Fuel load reduction in the form of woody debris removal is being completed by various agencies. Local fire councils have developed in most communities and federal agencies, state agencies, and RCDs are implementing projects. However, coordination and resource sharing does not appear to be occurring in any significant way. By combining efforts and sharing knowledge among active partners, the efforts could be much more effective.

Possible Solutions:
a) Increased monitoring of construction sites.
Ensuring that best management practices are being employed is crucial to the health of the watershed. It is important that construction sites are monitored often and builders are reminded of best management practices. Fines levied could fund additional education programs and outreach activities to builders.

b) Outreach to vineyards
BMPs for vineyards should be advertised and distributed widely. Surveys can be completed to identify future needs of vineyard owners and funding and technical assistance should be provided to the vineyard owners in correcting problems.

c) Develop a fire mitigation plan
A plan should be developed to ensure river health in the event of a fire. Fires happen quickly with little time for mitigation while mitigation often takes time and requires permits from multiple agencies. Quick action to mitigate damages (like placing structures in streams to capture debris) can reduce the overall impact. The quicker action is taken, the more likely the river is to recover.

d) Coordinate fire safe efforts
Increasing the coordination of various agencies working on fire issues will increase the effectiveness of all the efforts. Local volunteer efforts can be augmented with the technical knowledge of government agencies and government agencies can be more effective with local input and volunteer efforts.

2.3 Habitat

2.3.1 Levees and a lowered water table

Increased water use combined with the accelerated drainage caused by levees is dropping the water table at the rate of over a foot a year. The entire watershed is feeling the impact of a drying landscape and riparian habitat has been reduced. The loss of habitat has been particularly detrimental to native salmon. Salmon populations have dwindled and face further declines if the water table continues to drop.

More in-depth analysis and Solutions to this problem are presented in section 2.1

2.3.2 Urbanization

Habitat loss accompanies residential development. Because development is occurring at a dramatic pace, habitat is being reduced at record levels. While development can not be stopped, its impact on the environment can be reduced through simple actions by residents (such as planting native and low-wateruse plants). This issue is particularly ripe for change given the large number of new residents and general environmental attitudes. Seventy percent of Americans consider themselves to be environmentalists yet most do not know how their actions impact the environment. Education has the potential to significantly reduce urban impacts. In addition, as urbanization occurs, wildlife corridors are often blocked by fences, houses, and dense development. Corridors are particularly important in the upper-watershed given its interface with wildlife. Impacts of development on wildlife can still have an impact on protecting habitat.

Possible Solutions:

a. Educate homeowners

Many landowners live within a few miles of the Cosumnes River, the Mokelumne River or one of its tributaries, yet most people do not realize these rivers exist. It is important that residents become aware of their direct impact on the river and riparian habitat. By implementing simple practices like reducing the length of showers, providing backyard habitat, collecting rain water, creating rain gardens, not watering driveways and streets, and using chemicals sparingly and properly, residents can reduce their impact on the environment. The information can include tips on keeping animal corridors open on newly developed properties. Education should be intensive and comprehensive.

b. Encourage the use of native plants and low-water use plants

Lawns are the number one use of water in the urban landscape and use approximately 3 acre feet of water per year. By removing grass and planting grass alternatives, low-water use plants and native species, homeowners can significantly reduce water-use. Encouraging water-wise plants through incentives and education will help reduce water consumption and provide habitat.

Education can include the cost savings of water reduction, the benefit to wildlife, and practical strategies to maintain water-wise yards. It also should address the stigma many homeowners have about native gardens. Some homeowners do not want to plant native

species because they feel that native landscapes look unkempt or are labor intensive. Education should focus on ways to make native gardens look more traditional and illustrate how plants take less effort and resources than lawns.

Several decades ago, the Sloughhouse RCD sold low-water use plants at cost to the public. It may be appropriate to resume this practice.

c. Build the capacity of native plant nurseries
A network that connects native plant nurseries, homeowners, and agencies together would make water-wise gardening easier for homeowners. The network could create demonstration gardens, provide classes, develop a native plant tour, build the capacity of greenhouses that sell native plants, provide cost incentives for planting native species, show the beauty of natural landscapes and work with homeowners to connect them to resources. By establishing a support network, it will become easier and less expensive for homeowners to install and maintain native plants.

d. Incentives for water-saving practices
Incentives for low water-use appliances, rain barrels, and other water-saving practices should be provided. A rebate (possibly in coordination with water districts) could be provided to assist homeowners in installing water saving measures. Hard to find items like rain barrels could be offered through the water district at a low price. Advertising for these services should accompany the program.

e. Home audit personnel
While utility companies are required by law to provide home audit staff, these services are not well publicized and staffing is often minimal compared to the demand. The service should be more readily available, advertised at a greater rate, and more highly staffed. Personnel should be available to assist home owners in improving their practices, finding cost-share incentives, finding resources and designing water-wise gardens.

2.3.3 Fire Danger
Fire has the potential to destroy vast amounts of habitat throughout the watershed. Many animals would not be able to leave fast enough to escape the fire, those that did may not be able to find necessary resources such as food. The first impact would be on habitat directly destroyed by the fire, but a ripple affect would follow. The river would carry debris down the river and pollute habitats downstream. If significant rainfall followed the fire before vegetation could re-root, mudslides could follow.

Possible Solutions
Solutions to fire issues are presented in the previous sections.

2.4 Coordination
2.4.1 Management

The political atmosphere of the watershed is changing in pace with the growing urban population. This is especially true with the recent incorporation of the City of Elk Grove. Services that used to fall under water boards and RCDS are now coming under the jurisdiction of the city. However, the transition has not gone smoothly. In spring of 2007, the city filed multiple law suits against multiple agencies. It is not the intention of this report to place blame or dictate who should be in charge of the water. It is in the interest of the watershed, the water resources, and everyone who uses the water supply to establish a clear jurisdiction over water and to provide a forum in which all actors in the watershed can come together to share knowledge, resources, directions, and plans.

Possible actions:
a. The various agencies responsible for water resources need to establish an effective and clear chain of control for water so that it can be properly and effectively managed.

b. RCD coordination
The local RCDs can take a stronger role in watershed management by combining efforts. With joint efforts problems can be solved from a more holistic viewpoint. Issues can be addressed throughout the watershed with a greater potential for impact.

2.4.2. Activities
Many projects, policies, and activities affect water within the watershed. One of the strengths of having a watershed coordinator is the ability to streamline resources by bringing projects in coordination with each other. An actor working solely for the betterment of the watershed can greatly increase the effectiveness of everyone working in the watershed. By coordinating, sharing resources, linking the efforts of people working in the watershed and continuing to focus on the priorities and objectives of this report, the watershed will work much more effectively.

Possible Solutions:
a. The continuation of the watershed coordinator after the completion of the initial watershed coordinator grant ends would help to ensure the continuity of watershed efforts.

b. Reconvening the watershed council can help with the coordination of watershed activities and grow interest in watershed work. The council can provide a forum in which people can exchange ideas and share resources. Keeping key members of the watershed focused on its improvement will help to advance the restoration of the watershed.

c. RCD coordination
The local RCDs can take a stronger role in watershed management by combining efforts. With joint efforts problems can be solved from a more holistic viewpoint. Issues can be addressed throughout the watershed with a greater potential for impact.

2.4.3 Research

The work completed by the Cosumnes Research Team was informative and comprehensive in nature. Coordinating the efforts of many researchers helped with the effectiveness of the information to guide management decisions. However, the team released its final report in 2006. There are still questions that need further research. This will be particularly important as actions in the management plan are put into practice. Research can guide management by evaluating management strategies and developing further alternatives. Not only will this help guide efficient use of resources in restoring the Cosumnes River, but will also provide insight into restoring watersheds throughout the region and possibly throughout the world.

Possible Solutions:

A. Continue Cosumnes Research Team

Research needs and objectives should continue to be identified, prioritized and shared between researchers throughout the watershed. Effort should be made to further connect management with research.

B. Watershed coordinator involvement with research efforts

The watershed coordinator should work with the research team to ensure that management is being guided by research. Coordination between the two will make both more effective.

2.4.4 Recycled Water

Waste water is treated and converted to recycled water that can be used for irrigation and purposes that do not compromise human health. Using recycled water can greatly reduce the water needs of a watershed. Because of the potential for water conservation, many entities within the area have begun to produce recycled water including Rancho Murieta, Sacramento Regional Wastewater Plant, Freeport Sewage, the City of Plymouth and The Galt Treatment Plant.

All of the entities creating recycled water have found that their production far exceeds the demands. Because recycled water can not be discharged directly into rivers and streams, thousands of gallons of excess water are left in the hands of treatment facilities. While each plant has its own plan for distributing excess water, an overall scheme has not yet been developed to transport recycled water outside their immediate production area to reach agriculturists and others that could use that water. It is in the best interest of that watershed that this water be used efficiently. This problem could be easily remedied in the best interest of the producing entities, agriculturists and the watershed.

In addition, individual recycling equipment can be encouraged on individual properties. Water can be used for landscaping and as a resource for fire safety applications.

Possible Solutions:

A. A stakeholder group of local agriculturists, industrial interests and recycled water producing agency representatives should form an ad hoc committee to come to an agreement that would serve everyone's interests.

B. Individual recycling systems can be encouraged through technical and financial assistance.

3.0 Implementation Plan

3.1 Coordinated planning

3.1.1 Watershed Coordinator

The watershed coordinator is essential to completing the work outlined in this watershed management plan. Coordinating efforts helps with the efficient use of resources, communication among active groups in the watershed and streamlining efforts. It is important that this position is extended to lead the enactment of the watershed management plan.

3.1.2 RCD Coordination

The watershed would be improved by coordinating the RCDs that work along the Cosumnes River. Currently, the RCDs are each implementing projects and coordinating efforts within their own region. There is very little interaction or integration of activities. By sharing resources and addressing problems throughout the watershed rather than just locally, the efforts can be much more effective.

3.1.3 Watershed Council

The RCD led watershed council should be brought together to address the major issues of the watershed. Monthly meetings should resume to establish priorities, identify opportunities, and coordinate the enactment of the management plan.

3.1.4 Watershed Council Subgroups

Subgroups of the council can be established to guide the implementation of specific objectives. The council can identify needed subgroups and then the RCDs can take the lead in creating subgroups including: an education subgroup, a funding subgroup, and a restoration subgroup.

3.1.5 Landowner Council

The RCDs can take the lead in developing a council for landowners of river property. By bringing these landowners together, they would have the opportunity to share resources, identify work projects, set priorities, and inform each other of the challenges and opportunities they face on their land. It would also serve as an excellent forum to promote opportunities like EQIP grants and to educate landowners about new and emerging issues.

3.1.6 Ad Hoc Committees

Several ad hoc committees should be formed by the RCDs with the express purpose of addressing key river issues. Mitigating flood plains is one example. An ad hoc committee can be formed to identify partners, create strategies, find resources, and implement projects. The watershed coordinator can convene these committees. It also may be relevant to address these issues through the Cosumnes River Task Force. The Task Force is comprised of the constituents that would be needed to put a project of this type into action and has the credibility to work with the necessary landowners.

3.1.7 Watershed Level Planning Committee for Mitigated Lands

Mitigated lands are being implemented throughout the watershed largely spurred by development. Builders are required to establish habitat areas to mitigate the impacts of their developments. However, there is no coordination of the mitigated land to ensure that a variety of habitat types are being created. Coordination could help ensure that a mosaic of habitat types is created throughout the watershed to support a maximum number of species in the watershed.

An RCD led committee could create a database of potential mitigation land with suggested habitat types to make mitigation more efficient for animals, builders and landowners alike.

3.1.8 Fire Safety Coordination

Many groups in the watershed are removing brush, evaluating landowner properties and developing plans for fire safety. This work is both time and money intensive. These efforts could be greatly helped by coordinated efforts.

An RCD led committee of fire-safe agencies in the region could promote a more efficient use of resources.

3.2 Restoration and Prevention

The Cosumnes River is in relatively good health with just a few areas that are in need of restoration. The areas that are in need of restoration could be healed easily greatly increasing the viability of habitat for critical species like salmon. Restoration work should be a high priority for this river because the work that is needed is practical and large returns can be reaped from relatively minimal input. It is also important to the health of habitat and the Cosumnes River Preserve at the base of the river that the water quality does not degrade. Fixing the few problems that are occurring along the river will help to ensure the continued health of this river.

3.2.1 Reconnect the floodplains to the river

Effort should be made to reconnect floodplains to the river. Creating mitigated floodplains seems to be the best alternative as it will likely be the most cost-effective option. It is also reversible. If mitigated floodplains do not show significant changes in groundwater recharge and habitat, other alternatives can be sought with only a minimum of wasted expenditure. The only habitat that will not be improved by this plan will be the

habitat for fingerling salmon. Efforts should be made to recreate this habitat within the channel. Riprap cages or large woody debris could slow the velocity of the river in sections accessible to gravel beds.

The watershed coordinator can convene a committee of relevant interested parties to explore the best alternatives and form a coalition of agencies.

3.2.2 Restore habitat throughout the watershed

The highest yield restoration value will be in restoring the few sites directly adjoining the river that are in need of restoration. They should be the first priority. Once these are completed, a larger plan to reestablish a mosaic of habitats throughout the watershed should be explored.

River sites

There are two priorities for restoration in riparian areas. The first is restoring native vegetation for river health and to create habitat. With the exception of a few sites, most of the river is already in native vegetation. Since there are only a few sites in need of vegetation, it makes restoration much easier. These sites should be sought out and work should be done to make the projects amenable to landowners. Site-by-site restoration plans can be created with willing landowners that identify opportunities for work, restoration, and funding. No work can be attempted without the permission of landowners since a majority of the land is private property.

The second priority for restoration is the stabilization of river banks. Again, minimal work is needed, but the sites that do need work may provide a substantial improvement in habitat. Several of the unstable banks occur in the exact area where salmon are spawning. If the gravel beds become cemented with sediment, salmon will lose their habitat. In addition, roads and power lines may be affected if banks continue to slough into the river.

Restoration sites should be sought based on need and options for restoration should be negotiated with landowners. Landowner cooperation should not be a large obstacle as there are several projects that landowners would like to see completed. The large obstacles to these restoration projects will be cost and permitting. Permitting to complete bank restoration on even small sections of the river can cost significant amounts of money. Relevant agencies should be brought together to determine the most efficient way to achieve the desired results. It is likely that solutions can be found that allow the habitat to be restored without placing undue burden on those that wish to restore it. There are also several grant funding opportunities for restoration work of the magnitude needed on the Cosumnes that could be sought for restoration.

Mitigated lands

When new developments are built, builders are required to buy equal plots in other parts of the watershed to mitigate environmental impacts. This land can be turned into high quality habitat for endangered species including Swainson's hawks. Some of the land can

be used as research sites in which new methods of restoration can be tested or conservation practices can be demonstrated. Contact should be made with local builders to research the scope, magnitude and location of sites and a committee should explore restoration needs. A watershed focus should be taken on these lands to ensure that a mosaic of habitats is restored. Researchers should be part of this effort so habitat can be developed that can be used for critical research needs. Coordination will be essential to ensure a balance of habitat types.

3.2.3 Mitigated Lands Database

There are many landowners that have land that they would like to offer for mitigation projects and many builders looking for mitigation lands. A database could streamline these efforts and build restoration connections. A database could facilitate a diversity of habitats so that mitigation projects do not focus on one type of habitat, but rather create a mosaic of habitats throughout the watershed.

3.2.4 Potential Restoration Project Database

There are many landowners that have restoration projects they would like to see completed on their property. Often the projects are not completed due to a lack of funding, time, and technical knowledge. There are also many enthusiastic actors in the watershed that would like to complete restoration projects. This is particularly true on the Cosumnes given its unique status as a pristine, un-dammed river. A database of potential projects could connect restoration agencies with needed projects. This database could greatly advance restoration efforts and could build critical links of community throughout the watershed.

3.2.5 Increase water storage capacity

Increasing water storage is important in reducing the impact of flooding, decreasing water consumption and recharging groundwater. Water storage can be increased on both urban and production land. It can also be increased on lands adjacent to the river and land throughout the watershed.

Urban Landowners

Rain barrels

Rain barrels catch water from residential roofs that can later be applied to household uses, reducing overall household water consumption. In addition, rain barrels reduce the volume of water runoff in the crucial period of high-velocity currents that immediately follow a rain event. This is important because it reduces the channelization of the river caused by high water flows. Use should be encouraged by providing low-cost rain barrels, education and rebates. Rain barrels are particularly important in the upper-watershed.

Rain gardens

Rain gardens are small wetlands created in the middle of properties designed to catch rainwater. Storing rain water in rain gardens reduces the amount of water running off

wetlands. Additional money should be provided locally to supplement this funding or replace it when it's not available.

Streamlined permitting should be investigated to make catchment systems easier for agriculturists to implement. In addition, safe harbor laws may be essential to encourage agriculturists to install wetlands without fear of future ramifications.

Tailwater irrigation systems.
Tailwater irrigation systems reduce water consumption by recycling water back through fields rather than letting used irrigation water flow off-property. These systems reduce the amount of dirt and chemicals that are carried from fields into waterways with irrigation water. Tailwater systems should be a high priority in the watershed. The watershed coordinator or an agricultural assistant can work with agriculturists to provide information, find funding, and provide technical assistance. A set of voluntary BMPs should be created.

Maintain vegetation on fields during fallow periods
Maintaining vegetation on fields during fallow periods increases water storage in the region by increasing infiltration, decreasing run-off, and stabilizing soil. In addition, planting nitrogen fixing plants can improve the quality of soils. Agriculturists should be encouraged to adopt this practice through financial and technical assistance.

3.2.6 Salmon Habitat
The restoration of salmon habitat is important as salmon populations have been severely reduced due to the lower flows of the river.

Perched aquifer study
One of the barriers to salmon spawning is the shortened time period of river flow due to the dropping aquifer. The length of the salmon season can be extended by adding water to the river during the fall and late spring. UCD suggests irrigating over perched aquifers to maintain a constant, relatively natural flow into the river during critical salmon spawning times. Trial runs of this project should be developed. If successful, a plan should be established to perform this effort every year.

Gravel beds
The restoration of gravel beds is important to the survival of salmon. The gravel beds should be examined for viability to assess the need for restoration. If needed, a gravel augmentation project like the project completed on the Mokelumne River could be recreated on the Cosumnes. Potential spawning beds can be identified and gravel can be placed in stream. Consultation should be sought from the Mokelumne study team to identify an appropriate source of gravel (either in-stream source or other local source). If possible, historic information about spawning beds should be used. If this practice does not prove to be effective, cleaning existing gravel beds should be attempted. If neither of

these alternatives works in practice, further research should be done to find potentially beneficial practices.

In addition, deteriorating river banks in salmon spawning areas should be stabilized to reduce the amount of sediment deposited directly into gravel beds.

Flood plains
If flood plain restoration is implemented, it should occur near gravel beds to provide habitat for salmon hatchlings. Floodplain ecosystems are best for young salmon because the water is slow moving and provides ample food supplies. If floodplains can not be established, it may be possible to create side currents where waterflow can be slowed by installing rip-rap or other barriers. In effect "salmon nurseries" would be created. More research should be done to find ways to supplement floodplain habitat in the short run and restore floodplains in the long-run.

3.2.7 Fire Safety Efforts
Efforts should be coordinated to remove brush, establish fire evacuation and safety plans, and assist landowners with property safety and maintaining defensible space.

The RCDs should lead an effort to bring agencies to the table, catalogue efforts and identify areas where resources can be shared in order to prevent a duplication of efforts and create the most efficient strategy for fire management.

3.3 Funding
All of the projects suggested by this management plan will require economic resources. This section identifies funding sources.

3.3.1 Farmer Incentive Programs
Creating more environmentally friendly farmland has proven to protect small farmers and critical habitat. With both farmland and habitat facing record declines, their fate is becoming intertwined. It is therefore crucial to find ways to promote the interests of both. Programs like EQIP, CRP, and CSP are providing funding to support wildlife needs on agricultural lands. But these programs are under-funded and only sponsor about 20% of proposed projects in any given year. Many highly restorative projects are left undone due to lack of funding. Because EQIP grants require a 50% match from the agriculturist, unfunded projects leave private match dollars on the table that could be used for critical restoration projects. While the programs are under-funded, over 6 million federal dollars and 6 million private dollars have been spent on restoration projects in the watershed in recent years. Over 6,000 acres of farm land have been impacted. It is important that incentive programs continue to promote the health of the watershed. These programs are particularly important in the Cosumnes given that a large portion of the watershed is in agricultural production.

Local funding

Local funding should be established to supplement the current programs. Funding additional projects will strengthen the impact of already successful programs and improve the watershed while supporting small farms. Sources of additional funding should be sought to supplement this critical work.

Agricultural assistant
An agricultural assistant could expand the scope of the programs by fund raising, advertising programs and seeking available funding opportunities. They can also provide technical assistance to agriculturists and identify important restoration projects on private lands.

3.3.2 Restoration Fund
Given that restoration is expensive and grant funding is unpredictable, private funding is crucial to the effort. Donations to a restoration fund should be sought through private donations, fund raising, corporate partnerships, and payment for services. A subgroup of the watershed council can identify the appropriate governing body to manage the fund and the appropriate guidelines and procedures for use. Active fundraising should then begin to provide funding for the efforts outlined in this management plan.

3.3.3 Grants
A majority of the efforts within the watershed will likely be grant funded. Federal, state and private grant monies can be obtained to complete work in the watershed. The watershed coordinator should identify potential funding sources and work with the council to establish priorities, submit grants, and complete the objectives of this management plan.

3.3.4 Partnerships
The watershed coordinator and council should seek out partnerships and engage the community around watershed issues. There are many natural partnerships in the watershed, some obvious, some more obscure. By combining efforts and resources, a greater amount of work can be completed.

3.4 Education
Seventy percent of Americans consider themselves to be environmentalists, yet most people do not realize the impact they are having on their immediate environment. Thus, educating landowners has the potential to be highly productive for relatively little expense. Education should be a high priority throughout the watershed.

3.4.1 Urban Land Owners
An extensive education program is needed to inform landowners about practices both inside and outside of the home that can reduce their impact on the watershed. Given that most of the people living in the urban environment have purchased their homes in the last ten years, they are particularly ripe for an education campaign. Topics should include: storm water pollution prevention, water catchment, water conservation, water-wise

gardening, appropriate use of chemicals, weed recognition and control, backyard habitat, and citizen water monitoring. A separate effort should be made to educate about maintaining wildlife corridors on newly developing properties.

Develop informational brochures
Informational brochures, door hangers, and top ten lists should be developed to inform homeowners about water pollution and conservation. The watershed coordinator can use existing materials to develop these brochures with the guidance of the watershed council.

Use existing networks to distribute information
In order to increase effectiveness, existing resources should be identified and used to distribute educational materials. Groups that already distribute information to the public can make the fliers available. Examples may include RCD offices, government agency offices, water providers, city offices, environmental groups, and homeowner associations. In addition, brochures can be distributed at nurseries including the nurseries at large stores like Target and Home Depot. Brochures about the proper use of chemicals can be distributed everywhere chemicals are sold. The watershed coordinator can identify specific outlets for distribution.

Include information in water bills
Information about water conservation and water pollution prevention can be included in water bills. By working with utility providers, education material can be distributed to every citizen in the watershed. This effort is already underway by the City of Elk Grove Storm Water Pollution Department. The Coordinator should work with the city to augment efforts and expand the reach outside Elk Grove City Limits to ensure that all members of the watershed are reached.

Press Coverage
Many local newspapers are in need of stories. By establishing relationships with reporters and developing press releases, information can be distributed via news outlets.

Door knocking campaign
Door knocking is the most time consuming and expensive method of distributing information. However, it can also be the most effective. Volunteers and interns can distribute information door to door and answer questions. The first priority should be areas in direct contact with waterways. Information regarding chemical application should be a high priority in these areas.

Sprinkler Adjustment Campaign
Drive down any street in the watershed and you will see improperly adjusted sprinklers sending thousands of gallons of water into gutters. Water that streams down driveways and gutters carries with it pollutants and sediment that drain directly into our rivers and streams. A sprinkler adjustment team can go door to door to properly adjust sprinklers. Education materials can be distributed that includes estimates of the cost and amount of

water lost through inefficient sprinklers. This program can be created in two ways. First, a grant or city funds can hire high school and college students as summer employment to go door to door. Second, the program can be used as a fundraiser for high school environmental clubs. Students can charge a nominal fee per homeowner to perform the service and use the fees to fund the club budget.

3.4.2 Schools

As water becomes scarcer, water conservation becomes an essential knowledge for every citizen. A comprehensive water curriculum should be developed and implemented in classrooms throughout the watershed.

Elementary schools

A storm water pollution and water conservation curriculum should be developed for the elementary schools within the watershed. The curriculum can be offered to every teacher in the district.

Junior and senior high schools

The junior and senior high school curriculums can be more in-depth versions of the elementary school curriculum. They should include practical applications like storm-water audits of the school, water testing, and a citizens' water quality monitoring program. Students can also be encouraged to start their own water conservation clubs and initiate water conservation activities on their campuses. Student clubs can be encouraged to participate in such events as enviro-thon and speak-off and scholarships can be established to help students attend enrichment activities. Interested students can be trained to present the elementary school curriculums. A sprinkler-adjustment campaign can be used as a fund raiser for clubs.

College campuses

The watershed coordinator should work with community college campuses to provide practical applications for classes that study watersheds. For example, classes that require water testing as a lab can put their work to practical use by taking samples in critical areas of the watershed. A citizens' water quality program can be established in the colleges to report findings. In addition, college students can serve as mentors to the high school groups. They can teach high school students how to take water samples and assist with club activities.

Connections should be made to UCD to see where educational opportunities overlap with watershed needs.

Education staff

Volunteers and interns can be drawn from high school and college groups as well as the public at large to perform classes that meet educational standards in elementary, junior high, and high school classes. Programs can also be offered to after-school programs and extra-curricular clubs (like the boy and girl scouts). Training educators will expand the

knowledge base within the watershed, build community connections and provide valuable educational opportunities to school programs.

3.4.3 Production Agriculturists

It is important that production agriculturists are updated on new technologies and new opportunities available to them.

Tours

Annual tours are currently being held that allow production agriculturists, agency staff and community members to tour farms and ranches that are implementing habitat restoration or conservation practices. Tours allow participants to share ideas, network, and become aware of resources that are available to them. The tours should continue on an annual basis.

Voluntary Best Management Practices

Voluntary Best Management Practices (BMPs) should be established for agricultural activities. A subgroup of the watershed council should be established to determine which practices are most in need of BMPs. These BMPs can then be distributed through groups that work with agriculturists, at trade shows, and through direct contacts.

Outreach

An agriculture assistant should be hired to outreach to agriculturists. The assistant should identify high priority restoration sites, work with landowners to help correct problems, answer questions, provide technical assistance and find funding sources. The assistant should work for an RCD or other non-regulatory group in order to insure that agriculturists can work without fear of enforcement.

If a landowner council is created, it can be used to distribute pertinent information, listen to concerns, and develop programs that support agriculturists in protecting the river.

Training workshops

Training workshops should be provided throughout the year on topics that are pertinent to agriculturists. Topics should be determined by talking with agriculturists to determine needs and through researching new technologies that producers may not be familiar with. The workshops should be free or low-cost. Tying workshops to the efforts of the NRCS would make them more efficient as the NRCS already has strong outreach and education programs within the watershed.

3.4.4 Native and low-water use gardening

Urban lawns are the number one use of water in any home and therefore have the most potential for water use reduction. As water prices rise, homeowners are looking for alternatives to water intensive lawns. That makes this issue ripe for change. Efforts to promote water-wise gardening can include efforts towards maintaining and providing wildlife corridors and habitat on urban lands.

Native Plant Network
A network should be established to link native plant nurseries, landscapers, agencies, the native plant society, and homeowners together. The network can provide advice, classes, services, and low-cost plants to make it easier for homeowners to make water-wise landscaping choices. Effort should be made to grow the capacity of small local nurseries that provide native plant services.

Low-cost Native Plants
The Sloughhouse RCD used to provide low-water use plants to the public at cost. An exploratory committee led by the RCD to determine whether this service would be appropriate to resume.

Demonstration gardens
Demonstration gardens can be created throughout the watershed. Mitigated land from new developments and willing landowners in high traffic areas should be sought to house demonstration gardens. Several styles of water-wise and native gardens should be represented including more traditional English-style gardens. Several types of lawn alternatives can also be shown. Self-guided and guided tours can be established that allow interested citizens to view multiple gardens, get ideas, and get more comfortable with the idea of planting native gardens.

The demonstration gardens can include ideas to maintain wildlife corridors and to provide habitat in urban lands.

Native plant day in the watershed
The native plant network can sponsor a native plant day in the watershed which includes tours of demonstration gardens, classes, plant sales, information booths, and equipment like rain barrels. Printed brochures of tour routes can be distributed and tours can be lead by master gardeners. The day can include a special focus on lawn alternatives.

3.5 Research
The research provided by the UCD Cosumnes Research Team has been invaluable in providing insight into the functioning of the Cosumnes Watershed as well as watersheds in general. This work should continue. In addition, the watershed coordinator should regularly communicate with the team in order to be able to apply the latest findings to a field setting and communicate needs for future research. This will be particularly important in guiding and evaluating restoration projects.

4.0 Appendixes

4.1 Appendix I – Glossary

Channelization- The confining of the river into a single channel by removing the natural meander. Many actions channelize a river, levees are one example.

Conservation Reserve Program (CRP)- A program administered through the USDA that pays farmers to remove marginal lands from production agriculture to place in habitat.

Conservation Security Program (CSP)- A program administered by the USDA that pays farmers to implement habitat on their production agriculture lands. Examples include creating hedgerows, altering harvest schedule around habitat needs, reducing the use of heavy equipment, and leaving grain in the field to provide food sources.

Environmental Quality Incentives Program (EQIP)- A program established by the US Department of Agriculture that provides matching grants to farmers that purchase equipment. The equipment must reduce the environmental impact of production on the environment.

Resource Conservation District (RCD)- Special Districts established by the State of California in 19 to serve as an intermediary between the state and private property owners. The districts have no enforcement capabilities and thus can provide information to agriculturists that want to take corrective action on environmental problems located on their properties.

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4.3 Appendix III Historic water diversions

A tabulation of historical purchases and diversions of supplemental water supply for the Cosumnes River area within Omochumne-Hartnell Water District is as follows:

HISTORICAL PURCHASES AND DIVERSIONS OF
SUPPLEMENTAL WATER SUPPLY FOR THE
COSUMNES RIVER AREA WITHIN OHWD

YEAR	CVP SLY PARK (A.F)	FOLSOM-S. CANAL (A.F.)	RIVER DIVERSIONS (A.F.)	DELIVERY EFFICIENCY %
1959	2,610		1,411	54
60	3,150		1,825	58
1961	3,474		1,950	56
62	1,116		316	28
63	0		0	0
64	2,027		1,220	60
65	0		0	0
66	5,300		1,980	37
67	0		0	0
68	4,000		1,430	36
67	0		0	0
70	3,271		1,757	54
1971	0		0	0
72	4,006		2,684	67
73	2,737		2,261	83
74	790		808	102
75		500	343	69
76		8,697	6,350	73
77		0	0	0
78		785	306	39
79		371	371	100[1]
80		72	72	100[2]
1981		2,950	1,539	52
82		107	107	100[2]
83		40	40	100[2]
84		86	86	100[2]
85		2,048	791	39
86		648	648	100[2]
87		44	44	100[2]
TOTAL	32,481	16,348	28,339	57%[3]

1 Early storm commingled with purchased water, unable to determine losses.

2 Direct diversion from Folsom-South Canal via siphons, not delivered into river channel.
3 Excludes footnoted years.

4.4 Appendix IV Complete list of species within the watershed

(Species list thanks to the Cosumnes River Preserve, updated 2002)

Fish

Native

california roach (*Lavinia symmetricus*)
chinook salmon (*Oncorhynchus tshawytscha*)
hardhead (*Mylopharadon conocephalus*)
hitch (*Lavinia exilicauda*)
pacific lamprey (*Lampetra tridentata*)
prickly sculpin (*Cottus asper*)
pikeminnow (*Ptychocheilus grandis*)
rainbow trout (*Oncorhynchus mykiss*)
sacramento sucker (*Catostomus occidentalis*)
splittail (*Pogonichthys macrolepidotus*)
tule perch (*Hysterocarpus traski*)

Non-native

american shad (*Alosa sapidissima*)
bigscale logperch (*Percina caprodes*)
black bullhead (*Ictalurus melas*)
bluegill (*Iepomis macrochirus*)
brook trout (*Salvelinus fontinalis*)
brown bullhead (*Ameiurus nebulosus*)
brown trout (*Salmo trutta*)
carp (*Cyprinus carpio*)
channel catfish (*Ictalurus punctatus*)
crappie (black) (*Pomoxis nigromaculatus*)
fathead minnow (*Pimephales promelas*)
golden shiner (*Notemigonus crysoleucas*)
goldfish (*Carassius auratus*)
green sunfish (*Lepomis cyanellus*)
inland silverside (*Menidia beryllina*)
largemouth bass (*Micropterus salmoides*)
western mosquitofish (*Gambusia affinis*)
redear sunfish (*Lepomis microlophus*)
smallmouth bass (*Micropterus dolomieu*)
spotted bass (*Micropterus punctulatus*)

striped bass (*Morone saxatilis*)
threadfin shad (*Dorosoma petenense*)
wagasaki (*Hypomesus nipponensis*)
warmouth (*Lepomis gulosus*)
white catfish (*Ameiurus catus*)

Amphibians and Reptiles

Native

California Tiger Salamander *Ambystoma californiense*
California Whipsnake *Masticophis lateralis*
Common Garter Snake *Thamnophis sirtalis*
Common Kingsnake *Lampropeltis getulus*
Giant Garter Snake *Thamnophis gigas*
Gopher Snake *Pituophis catenifer*
Pacific Tree Frog *Hyla regilla*
Racer *Coluber constrictor*
Southern Alligator Lizard *Elgaria multicarinata*
Western Fence Lizard *Sceloporus occidentalis*
Western pond turtle *Clemmys marmorata*
Western Rattlesnake *Crotalus viridis*
Western Spadefoot Toad *Spea hammondii*
Western Toad *Bufo boreas*

Non-Native

Bullfrog *Rana catesbiana*
Eastern Box Turtle *Terrapene*
Painted Turtle *Chrysemys picta*
Slider *Pseudemys scripta*

Birds

Acorn Woodpecker
American Avocet
American Bittern
American Coot
American Crow
American Goldfinch
American Kestrel
American Pipit
American Robin
American White Pelican
American Wigeon
Anna's Hummingbird
Ashthroated Flycatcher
Baird's Sandpiper
Bald Eagle
Bank Swallow
Barn Owl
Barn Swallow
Barrow's Goldeneye
Bell's Vireo
Belted Kingfisher
Bewick's Wren
Blackandwhite Warbler
Blackbellied Plover
Blackchinned Hummingbird
Blackcrowned Night Heron
Blackheaded Grosbeak
Blacknecked Stilt
Black Phoebe
Black Swift
Black Tern
Blackthroated Gray Warbler
Blue Grosbeak
Bluegray Gnatcatcher
Bluewinged Teal
Bonaparte's Gull
Brewer's Blackbird
Brown Creeper
Brownheaded Cowbird

Bufflehead
Bullock's Oriole
Burrowing Owl
Bushtit
California Gull
California Quail
California Towhee
Canada Goose
Canvasback
Caspian Tern
Cattle Egret
Cedar Waxwing
Chipping Sparrow
Cinnamon Teal
Cliff Swallow
Common Goldeneye
Common Merganser
Common Moorhen
Cooper's Hawk
Common Snipe
Common Yellowthroat
Darkeyed Junco
Doublecrested
Cormorant
Downy Woodpecker
Dunlin
Dusky Flycatcher
Eared Grebe
Eurasian Wigeon
European Starling
Ferruginous Hawk
Forster's Tern
Fox Sparrow
Gadwall
Glaucouswinged Gull
Grasshopper Sparrow
Great Blue Heron
Great Egret
Greater Roadrunner
Greater Yellowlegs
Greater Whitefronted
Great Horned Owl
Goldencrowned Kinglet
Goldencrowned
Sparrow
Goose
Green Heron
Greenwinged Teal
Hairy Woodpecker
Hammond's Flycatcher
Hermit Thrush
Hermit Warbler
Herring Gull
Horned Lark
Hooded Merganser
Hooded Oriole
House Finch
House Sparrow
House Wren
Hutton's Vireo
Indigo Bunting
Killdeer
Lark Sparrow
Lazuli Bunting
Least Sandpiper
Lesser Goldfinch
Lesser Scaup
Lesser Yellowlegs
Lincoln's Sparrow
Loggerhead Shrike
Longbilled Curlew
Longbilled Dowitcher
Longeared Owl
MacGillivray's Warbler
Mallard
Marbled Godwit
Marsh Wren
Merlin
Mew Gull
Mountain Bluebird
Mourning Dove
Nashville Warbler
Northern Flicker
Northern Harrier
Northern Mockingbird
Northern Pintail
Northern Roughwinged-
Swallow
Northern Shoveler
Nuttall's Woodpecker
Olivesided Flycatcher
Orangecrowned Warbler
Osprey
Pacificslope Flycatcher
Palm Warbler
Pectoral Sandpiper
Peregrine Falcon
Piedbilled Grebe
Pine Siskin
Plain Titmouse
Prairie Falcon
Purple Finch
Purple Martin
Redbreasted Sapsucker
Redhead
Redshouldered Hawk
Redtailed Hawk
Ringnecked Duck
Ross' Goose
Roughlegged Hawk
Ruddy Duck
Sandhill Crane
Semipalmated Plover
Sharpshinned Hawk
Shortbilled Dowitcher
Snow Goose
Snowy Egret
Sora
Swainson's Hawk
Redbreasted Nuthatch
Rednecked Phalarope
Redwinged Blackbird
Ringbilled Gull
Ringnecked Pheasant
Rock Dove
Rock Wren
Rubycrowned Kinglet
Ruff
Savannah Sparrow
Say's Phoebe
Shorteared Owl
Solitary Sandpiper
Solitary Vireo
Song Sparrow
Spotted Sandpiper
Spotted Towhee
Steller's Jay
Swainson's Thrush

Swamp Sparrow
Thayer's Gull
Townsend's Solitaire
Townsend's Warbler
Tricolored Blackbird
Tree Swallow
Tufted Duck
Tundra Swan
Turkey Vulture
Varied Thrush
Vaux's Swift
Vesper Sparrow
Violetgreen Swallow
Virginia Rail
Warbling Vireo
Western Bluebird
Western Kingbird
Western Meadowlark
Western Sandpiper
Western ScreechOwl
Western ScrubJay
Western Tanager
Western WoodPewee
Whimbrel
Whitebreasted Nuthatch
Whitecrowned Sparrow
Whitefaced Ibis
Whitetailed Kite
Whitethroated Sparrow
Whitethroated Swift
Wild Turkey
Willet
Willow Flycatcher
Wilson's Phalarope
Wilson's Warbler
Winter Wren
Wood Duck
Wood Thrush
Wrentit
Yellowbilled Magpie
Yellowbreasted Chat
Yellowgreen Vireo
Yellowheaded Blackbird
Yellowrumped Warbler
Yellow Warbler

Mammals

Native

Badger *Taxidea taxus*
Beaver *Castor Canadensis*
BlackTailed Hare *Lepus californicus*
Bobcat *Lynx rufus*
Botta's Pocket Gopher *Thomomys bottae*
California Ground Squirrel *Spermophilus beecheyi*
California Mole *Scapanus latimanus*
California Vole *Microtus californicus*
Coyote *Canis latrans*
Desert Cottontail *Sylvilagus auduboni*
Gray Fox *Urocyon cinereoargenteus*
Heermann's Kangaroo Rat *Dipodomys heermanni*
Hoary Bat *Lasiurus cinereus*
Mexican FreeTailed Bat *Tadarida brasiliensis*
Mink *Mustela vison*
Mountain Lion *Puma concolor*
Mule Deer *Odocoileus hemionus*
Ornate Shrew *Sorex ornatus*
Raccoon *Procyon lotor*
River Otter *Lontra Canadensis*
Western Gray Squirrel *Sciurus griseus*
Western Harvest Mouse *Reithrodontomys megalotis*
Western Striped Skunk *Mephitis mephitis*

Non-Native

Black Rat *Rattus rattus*
Domestic Cat *Felis cattus*
Eastern Fox Squirrel *Sciurus niger*

House Mouse *Mus musculus*
Muskrat *Ondatra zibethica*
Norway Rat *Rattus norvegicus*
Virginia Opossum *Didelphis virginiana*

From: <jmmynrrs@att.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/20/2009 10:27 AM
Subject: mining/porspecting

Its a dam shame we are loseing every thing we in america hold dear.just because some EPA thinks we'll hurt a wittle fish,,,mabe some of you jerks that pass all these law need to go out and try it...and watch the wittle fishees swim around...while your dredge..only one hurting the wittle fishees is the EPA..this earth has been here a heck of a lot longer than a wacko EPA and it be hear when there gone..

and the gold we find would help our econimy...the land will heal. will people when there starving...stop the banning and help the cause...I hear leave some of the nxt gineration ha ha ha what by the time the EPA get though the nxt gineration want have any thing...

STOP STEALING OUR RIGHTS...

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Chapter 26 Water-Dependent Recreation

A Multitude of Recreation Opportunities

With its temperate climate, over 1.3 million acres of water surface, 2,600 miles of waterways, and 3,427 miles of coastline, California offers a variety of water-dependent recreation opportunities in any season. Each year millions of California residents and visitors come to California waterways seeking recreation experiences. In 2006, beach and waterfront activities helped make California the most visited state in the nation.

California residents and visitors can choose from a variety of *water-dependent* recreation activities. They may enjoy recreation activities that are dependent on water, including fishing, swimming, waterfowl hunting and birding, boating, canoeing, and kayaking. They also may participate in recreation activities that can be enhanced by water, such as wildlife viewing, picnicking, camping, and hiking, biking, and riding on trails. While the latter activities do not depend on water, they are frequently enjoyed near water.

California also has a variety of water-dependent recreation facilities with differing levels of public access. Protected status designations for the state's reservoirs, for example, range from prohibiting all public access, prohibiting any body contact with the water, to allowing swimming, fishing and boating.

A number of surveys validate the importance of water in Californians' outdoor recreation activities. For example, the 2007 survey of Public Opinions and Attitudes on Outdoor Recreation in California, conducted by California State Parks every 5 years to better understand residents' recreation habits, found that 59% of California's adults participated in beach activities, 31% swam in freshwater lakes, rivers, and/or streams, and 21% fished in freshwaters. Over 39% of Californian adults used a beach or water recreation area during their most recent park visit. Significant numbers of Californians also enjoyed water-enhanced nature-based activities such as wildlife viewing (47%), hiking on trails (46%), and camping in developed sites (39%).

The same survey also reveals the importance of recreation facilities at lakes, rivers, and reservoirs: about 60% indicated that recreation facilities, such as day-use, picnic, or camping sites are needed at lakes and reservoirs. And 78% felt that the government should place more emphasis on cleaning-up the pollution of the ocean, lakes, rivers, and streams in park and recreation areas. In the 2002 survey, about 79% of the respondents indicated that the availability of lakes, reservoirs, rivers, and wetlands was an important factor in their overall enjoyment of their favorite recreation activity.

Water Managers' Role in Recreation Planning

By incorporating planning for water-dependent recreation activities in water projects, water managers play a critical role in ensuring that Californians today and into the future are able to enjoy such activities. For example, acquiring land for picnic tables and accessible trails near a planned reservoir can provide visitors a relaxing day by the water. If a picnic area and accessible trails were not included in planning, a valuable water-dependent recreation opportunity is missed.

Leisure experiences such as these help improve cultural understanding and strengthen social bonds.

- A young couple observing nature as they walk or bike along a shady path near a river is making a meaningful connection with the natural environment. Such activities encourage an appreciation for water resources and wildlife. In turn, this can lead to an increase in volunteerism and stewardship of natural resources and help strengthen communities.

- Led by an interpretive specialist, a boy and his classmates learn about the importance of watersheds and water-related environments; experiences such as these can supplement a formal education, helping instill life-long positive values and detering negative behavior.

One example of how water-dependent recreation opportunities can provide health, social and environmental benefits is Sacramento's American River Parkway that parallels about 30 miles of the American River. Visitors may participate in a variety of activities – they walk, run, bike, or horseback ride, picnic, fish, swim, and can motor-boat or paddle along a boating trail. The Parkway also provides a rowing facility and a salmon fish hatchery.

Economic Benefits

Water-dependent recreation has a major influence on California's economy. In 2008, the estimated direct and indirect economic benefit of recreational boating alone was more than $19 billion. As one of the most popular recreational pursuits among California travelers, water-dependent recreation helped attract millions of tourists to California in 2006, making it one of the most visited states in the nation. During 2007, travel spending in California directly supported 924,100 jobs with earnings of $30 billion. Travel spending generated the greatest number of jobs in arts, entertainment and recreation (226,500), and accommodation and food services (534,000).

Commercial businesses offering recreation equipment, programs, and services also boost local economies and create jobs. For example, visitors to Sacramento County's American River Parkway frequently combine a trip to the parkway with eating and shopping at local businesses. Such activities generate about $260 million annually for the local economy.

In addition to the many benefits enjoyed by recreationists, water-dependent recreation facilities help preserve open spaces and view sheds, which in turn prompts long-term investments and increases land and property values. Water-dependent recreation also generates significant revenue for the state through fees, permits and licenses:

- In 2007, 964,881 boats were registered in California generating nearly $2 billion for the state.

- Sales of sport fishing and hunting licenses and stamps generated more than $84 million in revenue for the Department of Fish and Game in 2007. Fishing-related expenditures are included in Table 26-1.

- In 2006, 7.4 million residents and nonresidents 16 years and older fished, hunted, or watched wildlife—spending a total of $8 billion.

recharge rates and wastewater filtration opportunities, while also filtering roadway pollution, and increasing carbon sequestration.

- The recent volatility in gasoline prices created a measurable spike in commuters using the American River Parkway as a travel alternative.
- A watershed "makeover" plan has been designed for the Los Angeles basin to expand the basin's permeable surface area and redesign the remaining impermeable surfaces to create urban green spaces. Storm water runoff will be guided into designated systems within the green spaces for reuse and groundwater recharge. The plan estimates that Los Angeles could reduce flooding and cut water imports by 50 percent by 2020.

Potential Costs of Water-Dependent Recreation

Information is not readily available on the statewide costs of water-dependent recreation. Yet there is a need to increase the available recreation facilities and services to accommodate population growth. However, it is difficult to translate this increased need into specific recreation costs. Since the population is estimated to nearly double, costs will likely escalate accordingly. But population growth is not the only concern. As California's climate continues to change, causing the varied impacts mentioned in the climate change section below, the public's demand for water resources will increase, and new facilities will also be necessary to meet that demand. The potentially larger costs due to climate change have also yet to be calculated. The bullets below include some examples of facility development costs:

Sample Costs for Facility Development

- The required FERC re-licensing Protection, Mitigation, and Enhancement (PM&E) measures typically cost $25 per kilowatt (kW) capacity of a hydroelectric project for wildlife, $95/kW for fisheries, and $22/kW for recreation. PM&E measures benefiting wetlands, aesthetics, cultural resources, and water quality cost about $24/kW. Recreation facilities include boat ramps, canoe portages, hiking trails, and fishing access areas as well as operational changes to augment downstream flows to create recreational opportunities, such as whitewater boating, and hydropower education programs.
- Between 2002 and 2004, the Department of Boating and Waterways funded 13 new boating-access projects ranging from $20,000 to $188,000. The department also spent almost $10 million in improvements to 26 projects on numerous bodies of water. Typically, improvements included adding launching ramps, parking lots, boarding floats, restrooms/floating restrooms, lighting, berthing, moorings, boat-in day-use, and camping/RV sites.
- The Tujunga Wash Greenway and Stream Restoration stream channel diversion project mentioned above cost $7 million to complete.
- A Sacramento-San Joaquin Delta Boating Needs Assessment estimated that repairing or replacing the existing facilities in all six Delta zones would cost between $107 million and $159 million, spread over 20 years.
- The 2002 California Boating Facilities Needs Assessment surveyed 646 of California's boating facilities which included marinas, launch ramps, dry storage facilities, resorts, recreational areas, and yacht clubs. Only about 75 percent of the respondents could provide cost estimates for upgrades and new facilities and so the cost figures provided here are low compared to potential needs.

Even though there are opportunities to provide recreation resources through projects like FERC license applications and a percentage of each water project's total costs are generally allocated for development of permanent recreation facilities, we must seek additional, stable sources of funding in order to provide for ongoing operations and maintenance costs. Concession agreements for recreation facility operations can provide additional income while reducing water managers' responsibilities. Revenue generated by recreation facilities and programs can also contribute toward the fiscal sustainability of the associated water facility.

Major Issues Facing Water-Dependent Recreation

Lack of Access

Capacity issues will be created due to the anticipated changes in demographics, population, and types of use. Population growth, accompanied by static recreation resources, will cause capacity issues at existing recreation areas. The Central Valley, for example, is experiencing a dramatic population boom but remains an area with insufficient access to water-dependent recreation opportunities. Changes in recreation preferences due to demographic shifts in California's cultural make-up could also cause capacity issues if the types of recreation resources that serve the preferences of growing ethnic groups are not available.

Table 26-3 CA Youths' top rated activities that they would like to do more often

Activity	Preference
Horseback Riding	47%
Sledding, Ice Skating, Snow Play	45%
Snowboarding	45%
Swimming in a Pool	45%
Jet Skis or Wave Runners	45%
Rock Climbing	44%
Beach Activities, Surf Play (including sunbathing, wading, playing on beach)	44%
Off-road vehicle use	43%
Surfing or Boogie Boarding	43%
Waterskiing or Wakeboarding	42%
Swimming in Ocean, Lakes, Rivers, and Streams	41%

2007 Public Opinions & Attitudes Survey

The economy can have a major impact on the visitor use and availability of recreation facilities. In a down economy, people have less money to spend on activities and vacations and tend to recreate closer to home, creating increased demand on existing facilities. Recreation providers, however, are also operating with reduced budgets; and may need to increase fees to the extent that activity costs become an access barrier for low-income residents at the same time that their demand is increasing.

Effects of Climate Change

As California's climate changes, so will the management of and demand for recreation resources. Climate change will have numerous potential impacts on water-dependent recreation, in fact, many are already evident. Changes in temperature, rainfall, and water-levels are impacting visitor use and their demands. Rising seas will damage the coast and its beaches, creating a higher need for coastal protection. And these changes are accelerating. As recreation demands shift to accommodate the new climatic conditions, more strain will be put on the other management strategies such as ecosystem restoration and water treatment. All of the above will increase costs for maintenance, restoration, and development and will impact the quality and availability of the recreation experience.

The table here shows some possible—and dramatic—effects of climate change on water-dependent recreation.

Table 26-4 Climate Change Impact

Impact	Effect on Water-Dependent Recreation Facilities and Amenities	Effect on Recreationists
Increased sea levels	Erosion and damage to coastal beaches, reefs, wetlands, archaeological and cultural sites	Coastal areas unavailable for recreation activities; coastal recreationists forced inland
Irregular seasonal precipitation	Less water available for natural groundwater and surface water systems	Less ability to swim, boat, fish or enjoy other water-dependent recreation
Higher temperatures	Warmer rivers and streams	Fewer coldwater fish (such as salmon, trout) available for anglers
Worse ozone air pollution	Worse ozone air pollution in public lands	Reduced outdoor recreation; health threats
Increased seasonal flooding	Amenities more likely to be flooded seasonally	Less ability to enjoy outdoor activities such as picknicking, camping, or trails
Less snow and more rain in winter	Less snow at winter recreation areas	Less ability to ski, snowboard, play in the snow or enjoy other winter recreation
Decreased river flows	Decreased water quality in rivers and streams	Less ability to boat, swim, fish or enjoy other river recreation
Increased fire danger	Possible closures of recreation areas	Inability to enjoy closed recreation areas

Source:

Solutions to Address These Issues

- Create facilities to accommodate environmental changes, including moveable facilities such as floating campsites and restrooms. Conduct systematic assessments of potential impacts of climate change on recreation resources and identify suggested adaptations.
- As coastal recreation areas become submerged due to rising sea levels, recreationists will be forced inland, creating an increased demand for inland water facilities. As reservoir levels drop, there may be a need to emphasize river recreation, such as through implementing California State Parks Central Valley Vision for increased river access and water trails for rafters and boaters.

Greatly reduced and sustained low reservoir water levels are exposing archaeological and cultural sites, thereby jeopardizing the cultural resources as well as requiring restrictions to public access in those areas. Some recreation activities are being curtailed to protect the cultural resources.

Solutions to Address These Issues

- Implementing the recommendations in the National Research Council's study findings that fair and science-based flow levels that provide for fish recovery can be part of a broader solution for the fish-kill problems in the Klamath Basin. Their suggested long term solution includes removal of the lower four Klamath River dams, a voluntary program to buy back water rights from Klamath irrigation interests and return these flows to rivers and streams, and a large-scale wetlands restoration program, starting with an end to commercial agricultural development on Tule Lake National Wildlife Refuge.
- To ensure that the Chumash Indians have access to the resources necessary to preserve and celebrate their heritage, the Wishtoyo Foundation helped fund a stream habitat restoration project at Nicholas Canyon Creek near a reconstructed Chumash village. Since water and plants play a central role in Chumash culture, teachings about creek and riparian ecosystems are incorporated into the Chumash village interpretive program.

Degradation of Natural Resources

Natural resource values often define the character and aesthetic appeal of a water-dependent recreation, making it desirable and interesting to visitors. Poor natural resource management can impact recreational experiences. Pollution of surface waters and groundwater can impair the natural functioning of aquatic and terrestrial ecosystems and diminish visitor use and enjoyment of park waters. Dams and other flood management measures can also impact recreation through decreasing the sediment supply to the coast, narrowing beaches and diminishing coastal access and recreation opportunities. Exceeding the use limits of what a natural environment can handle leads to recreation resource closures.

Without proper resource management, increasing numbers of outdoor recreation visitors can also threaten ecosystem functions, disrupt and displace wildlife, or degrade the natural, environmental, and aesthetic quality of an area. Visitor impacts are only going to increase due to population growth and climate change, Visitors unfamiliar with ecological processes or environmental ethics are often unaware of the consequences of their actions.

Solutions to Address These Issues

- River naturalization or de-channelization can provide urban open-space along the river or canal for recreation. The Guadalupe River Flood Control Project creates a linear urban park along the Guadalupe River that utilizes designs and materials to accommodate flood control without restricting human access.
- Creating flood control, water transfer and storage facilities that are closer to natural ecological systems could help mitigate some of the impacts of public-use. By building programs with natural processes and recreating water recreation facilities to better mimic a natural system, the local ecosystem will also be able to recover faster from the impacts of over-use.
- To help users better understand and accept why they are unable to access recreation resources, they need to be educated in environmental processes, and preservation and

Water Quality Impacts

Water quality can both affect and be affected by water-dependent recreation. Untreated sewage released into the ocean has led to highly publicized closures of public beaches. Fertilizers and chemicals from agricultural runoff also contribute to poor water quality in recreation areas. Contaminated lakes, rivers, and streams not only present health risks to those participating in water-contact recreation, but can significantly diminish the recreation experience. Conversely, water-dependent recreation can affect water quality. Human-source contamination, such as body contact, untreated sewage, and petroleum products discharged from houseboats and other pleasure craft can be a significant problem to reservoirs storing drinking water.

The condition of the water is not the only concern, but also the amount available. Low water levels and stream flows can significantly impact water quality, natural resources and the recreation experience. The amount or timing of streamflow is often regulated through water transfer schedules. These may have a good or bad effect on recreation. Inadequate stream flows affect rafting and other water sports as well as fish and waterfowl populations, impacting recreational fishing and hunting. Low flow releases from dams can also increase downstream water temperatures and fish densities, leading to increased aquatic pathogens. Early summer season water transfers can cause extremely low water levels at reservoirs later, impacting the water quality and availability of recreation opportunities.

Solutions to Address These Issues

- To improve poor water quality conditions, The Delta Vision proposes water management improvements that include gates with boat locks in order to avoid potential adverse effects on boaters.
- The State Water Resources Control Board is currently proposing a statewide policy for bacterial standards for water contact recreation in the fresh waters of California. Elements of the final policy may include a revised indicator organism (such as *E. coli*), risk protection level, and expansion and standardization of bacteria control implementation.
- Coordination with water transfer management is necessary to ensure adequate water supply is available for recreation users. This coordination could also help address issues with recreation users affecting water quality and natural resources.

Inadequate Agency Coordination

Funding and impacts to natural and associated recreation resources are exacerbated by the lack of coordination among agencies, both those who manage water resources and those who provide recreational services. Agencies are too often limited in scope and effectiveness in recognizing and mitigating trends affecting resource conditions, particularly those outside their immediate jurisdiction. While partnerships and cooperation among agencies, organizations and individuals have grown, efforts at the watershed or landscape level are often fragmented, and opportunities are missed to achieve broader goals, placing both resources and the public at risk. Poorly coordinated hydroelectric and flood management practices at reservoirs can impact upstream and downstream recreation opportunities. A lack of coordination between the managing agencies and the recreation providers can result in unreliable water recreation resources and missed partnerships that could provide expanded recreation opportunities.

Funding

- Coordinate with the Department of Fish and Game in exploring the use of funding from the Bay-Delta Sport Fishing Enhancement Stamp to integrate new and improved public angling opportunities.
- Pursue mitigation and environmental enhancement funding for recreation facilities through grant programs, such as those associated with the FloodSAFE program.
- Quantify how reduced water-dependent recreation opportunities can impact local economies, such as low lake/reservoir levels occurring during peak visitation periods affecting visitor spending.

Cultural Resources

- Research, identify and mitigate theimpact of low water levels and stream flows to fish habitat from dams and water transfer diversions that prevent Native Americans from participating in their traditional cultural activities.
- Continue inventories of archaeological and cultural resources associated with water facilities to identify and mitigate those in danger of exposure due to reduced and sustained low reservoir water levels.

Natural Resources

- Evaluate, and periodically reexamine, scientifically valid studies of the carrying capacity of proposed and existing sites for water-dependent recreation to help prevent degradation of water quality and wildlife habitat. Examine and utilize data collected by other agencies, such as the U.S. Bureau of Reclamation, U.S. Army Corps of Engineers, and the Federal Energy Regulatory Commission, such as the results of FERC Relicensing studies.
- Conduct flow assessments on the major river systems to analyze the impacts of flow levels on wildlife, habitats and recreation opportunities.

Invasive Species

- Inventory water facilities and measure their vulnerability to specific invasive species, prioritizing and developing preventive measures and response strategies for the most at-risk facilities.

Water Quality

- Develop a strategy to reduce impacts to water quality and recommend improvements in water recreation vehicles – such as stricter regulation outputs on gasoline driven engines on waterways.
- Enter into agreements with other agencies and governing bodies, as appropriate, to secure their cooperation in maintaining or restoring the quality of water resources.

Agency Coordination

- Develop closer working relationships among water managing agencies such as DWR, DFG, Cal-Boating, CSP, State Lands Commissions, and Ocean Protection Council so that recreation planning is incorporated appropriately into the Delta Vision program planning.

From: "Skipper Phagan" <den7cubs@hargray.com>
To: <mstopher@dfg.ca.gov>
Date: 11/27/2009 8:43 AM
Subject: EIR Study

Mark Stopher
California DF&G
601 Locust
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Nov. 27, 2009

California Department of Fish and Game
Suction Dredge Mining and Rule Making Process

Dear Mr. Stopher,

GENERAL COMMENT # 1

DFG has no legal mandate or statutory authority to perform a statewide CEQA study

SB 670 statewide suction dredge prohibition is in effect until;

(1) The department has completed the environmental review of its existing suction dredge mining regulations, as ordered by the court in the case of Karuk Tribe of California et al. v. California Department of Fish and Game et al., Alameda County Superior Court Case No. RG 05211597.

That court order in pertinent part reads; "THEREFORE, the Department is hereby ORDERED to conduct a further environmental review pursuant to CEQA of it's suction dredge mining regulations and to implement, if necessary, via rulemaking, mitigation measures to protect the Coho salmon and or other special status fish species in the watershed of the Klamath, Scott, and Salmon Rivers, listed as threatened or endangered after the 1994 EIR.".

The court order SB 670 relies on specifically covers only the three distinct watersheds, of the Klamath, Scott, and Salmon Rivers.

As such, DFG has no legislative mandate, nor statutory, or regulatory authority, to perform a statewide CEQA study of it's suction dredge mining regulations. Therefore, I "Protest" DFG illegal actions in implementing, and performing a statewide CEQA study of it's suction dredge mining regulations. And, as a "taxpayer" in the state of California, I demand DFG stop these illegal, wasteful actions. Otherwise, I have no recourse but to bring an appropriate action in law, to have it stopped.

GENERAL COMMENT #2

Enforces an unconstitutional "taking" of private property, without first paying compensation.

Almost all small scale suction dredge gold mining statewide in California occurs on valid unpatented, and patented (fee simple) mining claims spread statewide on federal public domain. Near forty five percent (45%) of California is federally owned public domain lands. Primarily managed by the U.S. forest Service (USFS), and Bureau of Land Management (BLM). Federal public domain lands, and all unpatented mining claims on it, are under express federal statutory jurisdiction of the U.S. Forest Service (USFS), or Bureau of Land Management (BLM).

Thus, express federal policy, jurisdiction, dominant governing law, land planning, mining law, and regulation are manifestly applicable to all small scale suction dredge gold mining on federal public domain lands in California. DGF as a CEQA "lead agency", if acting in "good faith" cannot arbitrarily ignore, or omit that paramount federal presence, physical circumstance, or legal fact. Unless, SB 670's intent is to foolishly cause a direct collision between dominant federal law, and subservient state law?

"Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States." (See, US Const, Art IV, § 3, cl. 2 (the "Property Clause"). This provision, combined with the Supremacy Clause of the United States Constitution (Art 6, cl 2), gives the federal government extremely broad authority to preempt the application of state laws to federal property when those state laws conflict with a federal mandate.

The General Mining Law (30 U.S.C. § 21 et seq.), in fact owes its origin to the discovery of gold in California, in 1848. The bulk of it's statutory construction resulted from local miners rules originating in California during the gold rush era. 30 U.S.C. § 21 et seq., is a direct federal mandate to all western states where federal mining claims may be initiated, worked, and held. California accepted that federal mandate, upon admission as state by legislative implementation of what is now Public Resource Code § 3900 et seq. Which, with very minor differences (not in conflict with federal law) mirrors the discovery, posting, recording, and annual work requirements for the maintenance of title of all mining claims existing in California.

The Supremacy clause of the U.S. Constitution (Art. VI, paragraph 2) mandates federal law "preempts" state law, where direct conflicts arise. No matter how meritorious the intent of CEQA is. It simply cannot preempt overriding federal law. Framers of SB 670, and CEQA obviously never contemplated direct collision, or preemption by dominant federal law. The winner in direct collision of state, and federal law is overwhelmingly obvious. Federal law is supreme.

If Congress has not entirely displaced state regulation over the matter in question, state law is still preempted to the extent it actually conflicts with federal law, that is, when it is impossible to comply with both state and federal law, or where the state law stands as an obstacle to the accomplishment of the full purposes and objectives of Congress, (See: California Coastal Comm'n v. Granite Rock Co., 480 U.S. 572, 581 (1987).

"Any state legislation which frustrates the full effectiveness of federal law is rendered invalid by the Supremacy Clause" regardless of the underlying purpose of its enactors." (See; Perez v. Campbell, 402 U.S. 637, 651-52, 91 S.Ct. 1704, 29 L.Ed.2d 233 (1971).

A conflict exists if a party cannot comply with both state law and federal law. In addition, even in the absence of a direct conflict between state and federal law, a conflict exists if the state law is an obstacle to the accomplishment and execution of the full purposes and objectives of Congress. Crosby v. Nat'l Foreign Trade Council, 530 U.S. 363, 372-73 (2000).

It has long been established that "a state statute is void to the extent that it actually conflicts with a valid federal statute" and that a conflict will be found either where compliance with both federal and state law is impossible or where the state law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress. (See; Edgar v. Mite Corp., 457 U.S. 624, 631 (1982), et al.).

As long as the Federal government retains title, the federal interest in providing free access to its own land in order to promote mining is sufficient to preempt any state law that fundamentally bans such use. Thus under standard preemption analysis any state legislation, or regulation that conflicts with this overriding federal purpose, must fail.

To anyone knowledgeable, it is utterly clear that, "State and local regulations which render a mine commercially impracticable cannot be enforced". (See; California Coastal Commission et al., v. Granite Rock Co., 480 U.S. 572, 592, 107 S.Ct.1419, 1425(1987).

South Dakota Mining Association Inc v. Lawrence County, 155 F.3d 1005 sets the precedent here, and reads as follows. "The ordinance's de facto ban on mining on federal land acts as a clear obstacle to the accomplishment of the Congressional purposes and objectives embodied in the Mining Act. Congress has encouraged exploration and mining of valuable mineral deposits located on federal land and has granted certain rights to those who discover such minerals. Federal law also encourages the economical extraction and use of these minerals.

The Lawrence County ordinance completely frustrates the accomplishment of these federally encouraged activities. A local government cannot prohibit a lawful use of the sovereign's land that the superior sovereign itself permits and encourages. To do so offends both the Property Clause and the Supremacy Clause of the federal Constitution. The ordinance is prohibitory, not regulatory, in its fundamental character. The district court correctly ruled that the ordinance was preempted. Accordingly, we affirm the judgment of the district court."

The California Statehood Admission Act (Sec. 3) expressly provides; ".said State of California is admitted into the Union upon the express condition that the people of said State, through their legislature or otherwise, shall never interfere with the primary disposal of the public lands within its limits, and shall pass no law and do no act whereby the title of the United States to, and right to dispose of, the same shall be impaired or questioned.".

Indisputably, the state of California, it's legislature, and all state regulatory agencies are expressly barred from impairing, or even questioning federal mining claim owners vested right to mine, and their private property rights held under federal law. Certainly, the state can "reasonably" "regulate" small scale suction dredge gold mining. But cannot make that regulation so onerous as to arbitrarily prohibit mining, even temporarily, without incurring monumental financial liability.

The U.S. Supreme Court has unwaveringly held that valid mining claims are a form of "private & real property" In ordinary English, a "claim" is merely a demand for something, or an assertion of a right where the right has not been established. The phrase "mining claim" therefore probably connotes to most laymen an unsupported assertion or demand from which no legal rights can be inferred. But that is emphatically not so.

"In law, the word "claim" in connection with the phrase "mining claim" represents a federally recognized right in real property. The Supreme Court has established that a mining "claim" is not a claim in the ordinary sense of the word--a mere assertion of a right--but rather is a property interest, which is itself real property in every sense, and not merely an assertion of a right to property." (See; Benson Mining & Smelting Co. v. Alta Mining & Smelting Co., 145 U.S.428 (1892)

Valid placer mining claims situated over California waterways grant the owners "vested" riparian water rights. The riparian owner is subject to the doctrine of reasonable use, which limits all rights to the use of water to, that quantity reasonably required for beneficial use and prohibits waste or unreasonable use or unreasonable methods of use or diversion. (See; Sec. 3, Art. XIV, Const. of Cal.; Peabody v. City of Vallejo, 2 Cal. 2d 351, 40 Pac. 2d 486; Tulare Irr. Dist. et al v. Lindsay Strathmore Irr. Dist., 3 Cal. 2d 489, 45 Pac. 2d 972; Rancho Santa Marqarita v. Vail, 11 Cal. 2d 501, 81 P. 2d 533).

Vested rights are fully protected from "taking" by the government under the fifth amendment to the Constitution. See Solicitor's Opinion M-36910 (Supp.), 88 Interior Dec. 909, 912 (Oct 5, 1981); Wyoming v. United States, 255 U.S. 489, 501-02 (1921); Appeal

of Eklutna, 83 Interior Dec. 619 (Dec. 10, 1976).

Section 104(B) of the California Revenue and Taxation Code defines real property in part as "All mines, minerals, and quarries in the land, and all rights and privileges appertaining thereto." The term "land" is defined in Property Tax Rule 121 in relevant part as "the possession of, claim to, ownership of, or right to possession of land; mines, quarries, and unextracted mineral products. All real property not exempt or immune from taxation is subject to property tax.

The terms "mineral rights" and "mining rights" as described in Section 607.5 include the right to enter in or upon the land for the exploration, development, and production of minerals. The taxability of unpatented mining claims was established more than a century ago by the California Supreme Court, in the case of the State of California v. Moore 12 Cal. 56 (1859), which stated in part: "The interest of the occupant of a mining claim is property, and, under the Constitution, it is in the power of the Legislature to tax such property."

This private property right entitles the owner to "the right to extract all minerals from the claim without paying royalties to the United States." (See; Swanson v. Babbitt, 3 F.3d 1348, 1350 (9th Cir. 1990). As such, the owners vested "right" to mine, as well as the mining claim, being "real property" itself is fully protected from uncompensated "taking" by provisions of the U.S. Constitution (Amend. 5). No one can rationally refute, ownership of a mining claim, containing a valuable mineral deposit, does not include the right to mine it. As one is absolutely premised upon the other. Otherwise, all private property protections provided by the U.S Constitution would be meaningless.

The California Constitution. (Art. I, § 19 (a), provides, ". Private property may be taken or damaged for a public use and only when just compensation, ascertained by a jury unless waived, has first been paid to, or into court for, the owner.". That also, would be meaningless. United States Court of Appeals, Ninth Circuit (1980). ".prospecting, locating and developing of mineral resources in the national forests may not be prohibited nor so unreasonably circumscribed as to amount to a prohibition."(See; Weiss, 642 F.2d at 299)

"Under our form of government, the legislature is not supreme. It is only one of the organs of that absolute sovereignty which resides in the whole body of the People. And like other bodies of government, it can only exercise such powers as have been delegated to it, and when it steps beyond that boundary, its acts are utterly void." (See; Billings v. Hall, 7 California 1.). Furthermore, "An act altering, or destroying the nature, or tenure of estates is void". (See; Dewey v. Lambier 7 Cal. 347)

SB 670 immediately inflicted an illegal compensable private property taking the day it became law. By arbitrarily prohibiting all placer mining claim owners in California, all beneficial use of their mineral estate for an indeterminate period of time. In effect "taking" everything they own. The monetary magnitude of which, is as of yet unascertainable. But, with assurance, annually could amount to fifty (50) times the 1.5 million dollar cost of funding this very CEQA.

Absurdly, the state legislature negligently failed to contemplate the compensable private property takings, SB 670 would arbitrarily inflict statewide. DFG is wrong to assume only three thousand two hundred (3,200) individuals are involved. That being the number of dredging permits, DFG usually issues annually. When, in fact SB 670, DFG, and CEQA actions here have, and continue to punitively destroy every fundamental attribute of ownership of near one hundred fifty thousand (150,000) mining claim owners statewide have.

Anyone thinking all mining claim owners in California will stand idly by, doing nothing, while SB 670 illegally deprives them of all use, utility, benefit, value, and profit derived from their private property is wrong. As doing so is a constitutionally forbidden de facto taking without compensation. Which, all mining claim owners throughout California will certainly never allow. That silent majority will in the foreseeable future, step forward in court, en mass to demand just compensation due them. Plus interest compounding from August 6th 2009, the day SB 670 caused this compensable "taking".

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California DF&G
601 Locust
Redding Ca. 96001

Nov. 27, 2009

California Department of Fish and Game
Suction Dredge Mining and Rule Making Process

ACTUAL & CONSTRUCTIVE NOTICE OF MATERIAL FACTS

Dear Mr. Stopher,

This is to give you "Actual" and "Constructive Notice" of the existence of approximately twenty four thousand (24,000) unpatented mining claims, as well as near four times that number of "patented" (fee simple) mining claims situated throughout California. All held, maintained or patented under provisions of General Mining Law (30 U.S.C. §§ 21 et seq.).

SB 670 irrationally ignores these material facts, as though they do not exist. But, DGF as the "Lead Agency" in this CEQA process cannot. As numerous CEQA provisions mandate these material facts, ramifications, and legal consequences of their existence, as well as their constitutional, and statutory protections must be included throughout this CEQA process.

The presence of federal mining claims situated statewide throughout California, and the constitutionally protected private property rights associated with them. As well as the Congressional policy, law and regulation to encourage, foster and provide for mining on applicable federal public domain lands nation wide, severely constrain the DFG, and CEQA regulatory jurisdiction, and actions here.

Skipper Phagan

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

December 1, 2009

Subject: Suction Dredge Mining Ban per SB 670 and Scoping Study for SEIR Purposes

I am writing to provide my observations of the effects of suction dredge mining on trout populations based on my personal observations. I do not own a dredge or a claim.

During the past two summers of 2008 and 2009, in July, I was invited to go to a gold mining claim in the Sierra Mountains near Downieville, California. On the first day of the 2008 visit, I was shown two pools that the claim holders/dredgers has made that year. In both cases, each pool contained 8-10 trout about 4 inches to 9 inches in size. I noticed small trout populations in the one-inch to three inch size swimming in smaller pools and near the banks of the creek.

Later in the day we went upstream to the next dredgers claim. As we walked along the creek bank I notices a pool that this dredger had made earlier in the season, it contained about 6-8 trout in the four to eight inch size category. Farther up stream we came to the dredger's current spot and pool that he was working in. The dredge was not in operation and I noted again 6 –8 trout in the four-inch to eight-inch category. Smaller trout in the one-three inch size category were again seen in the smaller pools and along the side of the stream bank. I asked both sets of dredgers if the dredging had any effect on the trout. They both replied that the dredging did not have any negative effect. Both sets of dredgers have had claims on this creek for over 10 years. The types of trout observed were Brook trout and Rainbow trout and the populations looked very healthy and active. Some members of this group also legally fished and caught trout out of the dredge pools.

In July 2009, as I was again invited to the gold camp, I went down to the creek and looked at the pool area where my hosts had dredged the year before. I observed 8 to 10 trout in the four to nine inch category swimming and looking very healthy. Later that evening we went again upstream to visit the next camp of dredgers. Again, I saw two pools where this dredger had been working. Again, in both cases, I observed about eight trout swimming in these pools in the four to eight inch size category and appearing healthy. Smaller trout were again observed along the stream bank.

The next day I was asked to assist my hosts with their dredging operation in a new pool location that they had started. Upon arriving at the pool I noticed the usual eight to ten trout about four to eight inches swimming in this pool. Again I asked if the trout would be disturbed and was told, "No, they do not appear to be" by my host. After placing the legally permitted dredge in operation for about 45 minutes, the host dredger stopped to clear a rock obstruction from his suction line. I looked at the end of the dredge where the gravel was being displaced and noticed trout eating the hellgramites and other insects that the dredge had vacuumed up. After another hour of dredging it was time to quit and

quit and put the dredge away for the weekend. About 20 minutes later, as we were leaving, I noticed eight to ten trout swimming in the pool we had just finished dredging in. They looked very healthy and active. It appeared that they stayed in the pool while the dredging operation was on –going. From first hand observation, the trout were not harmed in any way. I again observed smaller trout populations along side of the creek.

During my college years I worked two summers and one winter at Coleman National Fish Hatchery near Anderson engaged in raising salmon. As such, I can recognize sick and unhealthy fish when observed. The trout on this dredging stream, which I observed during the summer of 2008 and 2009, were healthy and were not impacted in any negative way by the activities of the two dredgers.

From direct observation, the dredging action loosed up the gravel to assist the trout in spawning and it certainly provided pools for the trout to congregate in during warmer weather and during storms. This is empirical evidence that dredging is not negatively impacting on trout populations in California's streams. Discussions with other dredgers From Shasta and Trinity Counties indicate that my observations also apply to salmon populations as well.

The issue at hand here is declining salmon populations experienced in California's fishery waters. Yes, some habitat along the Sacramento River can be brought back close to its native state. However, in all of this, the two major negative effects on salmon populations declining and not returning to our waterways are not being emphasized. The first is cyclical effect of ocean currents, in all likelihood caused by El Nino and other weather related causes. The second cause that the Department of Fish and Game and the State of California truly needs to address is the taking of native US salmon populations by Russian, Chinese, Japanese, and Korean fishing vessels with their 30 mile long drag nets. The aforementioned Countries have determined where the migration routes of our US salmon populations are while in the Pacific Ocean and simply wait for that specific run of salmon to appear. This is why the number of salmon per run is way down. Seek Federal assistance to set a 200-mile fishing limit for foreign fishing vessels.
A third factor not usually addressed is the encroachment of sea lions harvesting salmon in the Sacramento River as far inland as Rio Vista. Sea lions are also taking large numbers of salmon on other California tributaries also. Again, coordination with Federal hunters is needed to reduce sea lion populations that are impacting salmon populations on our inland waterways.

The Department of Fish and Game's definition of "Fish" needs to be changed to reflect aquatic life with gills and fins. Including other aquatic life causes confusion and mal assigns cause and effect.

The numerous litigations over the past decade filed by the Kurak Tribe in conjunction with several environmental entities and allies are truly the root cause of the California DFG conducting this Scoping Study to prepare a SEIR for the Suction Dredge Permitting Program. Northern California citizens recognize that this tribe is a vehicle for the "Soup de Jour"of the California Environmental movement. Is science and biology really the

issue here, or is it control over a stretch of the Klamath River? Have Kurak Tribe members been engaged in dredging on the Klamath River since August 2009? If so, they need to abide by the ban like the rest of the citizens of California.

Is there a bigger issue at work on the part of Environmentalists to shut down the use of natural resources by US citizens? I would request that the California DFG relay on science and previous studies conducted by the Army Corps of Engineers and not Political Correctness.

Respectfully,

Stan Neutze, BSc, MA, MBA
P.O. Box 1392
Anderson, California, 96007

From: Stan Ritchie <summagic@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/10/2009 11:00 PM
Subject: Talking the politics out of dredging

Dear Mr. Stopher,
Although I won't be able to attend any of the meetings I want to thank you and the DFG for the chance to express my opinion. I listened to the SB670 hearings and it was obvious to me that Senator Wiggins and others either do not know why the fish are depleted or they do (or think they do) and dredging is the most obvious target, so lets explore this a little more and see if there is a positive or negative impact.
1) Dredging season before spawning season.
Fish eggs are more easily hidden in loose gravels then in impacted gravels.
Dredging breaks apart impacted gravels giving eggs a better survival chance.
Impact; Positive
2) Dredgers don't fill in the holes that are dug getting to the bedrock as the gold is at the very bottom bedrock. Although some holes are filled in most are not because a large hole is safer to work in so rocks and the walls of the hole don't fall in on you so a large hole is preferred to a small straight down shaft. Five and six inch and larger dredges can accomplish this task in a safe way. Restrict the dredge size and hobby dredgers will have to make shaft style holes because they will want to get to the bottom quicker risking hole collapse. The holes provide deeper cooler pools for fish to congregate in during the summer months.
Impact; Positive
3) I saw the report on Mercury reclamation done by the DFG and in my opinion the test and the conclusions drawn from it were erroneous. First the Mercury used in the test was uncontaminated whereas the Mercury in the rivers and stream-beds is amalgamated. Gold is absorbed by Mercury and after years of being in the water this Gold Mercury combination doesn't exhibit the same dispersal characteristics as virgin Mercury would. The miners know this and therefore it is coveted. Because the Mercury is Gold laden allot more of it will stay in the sluice-box and be much less likely to become a parts per million contaminate to the degree that the test demonstrated. Much of the Mercury in the rivers has been removed by past dredging and it is becoming difficult to find it at all.
Impact; Positive
Utube has some great underwater dredging videos http://www.youtube.com/watch?v=2lPYg5U4P6s showing fish swarming around dredging operations. There are many types of small aquatic species that make up the food chain that are released from the gravels while dredging and the fish swarm to eat them.
Impact; Positive
Keeping gasoline out of the water is the biggest threat to fish not the actual dredging. Propane fueled engines, better portable tank to engine tank transfer systems, battery driven electrics ,or some type of inspection fee to make dredges compliant would be more prudent then shortening the season or reducing hose size.
Impact;Negative
Thank You,
Stan Ritchie

From: "Dan@Servpro9484" <Dan@Servpro9484.com>
To: Mark Stopher <dfgsuctiondredge@dfg.ca.gov>
Date: 11/17/2009 9:03 AM
Subject: Suction Drede Permit Program
Attachments: Dan.vcf

From: Stephen Fong <audiver@sbcglobal.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/4/2009 12:00 AM
Subject: DREDGING EIR

Hi Mark,
According to the Draft Subsequent Environmental Impact Report there is an average of approximately 3500 dredging permits issued each year. In my opinion that number should not be used as an indicator of the number of dredges on the water during the year. In my situation we run a six inch nozzle that may involve anywhere from 2 or more people. We typically have at least two people present for safety reasons, assist with relocating rocks larger than the nozzle intake, and/or oversight of dredge operations topside. Remember only one person can operate the nozzle at a time and the requirement states any person handling the nozzle must have a dredging permit to do so. Within our operation there are four of us who have permits in case we run the nozzle. Some of us can only make it on weekends as we also have full time jobs. In my view the number of dredges operating throughout a mining season is far less than the 3500, while the number of people
involved with dredging operations is far greater than 3500. This affects everyone from the miners to the rural communities that rely on this form of tourism.

From: Steve Collins <3dogfarm@wildblue.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/23/2009 1:32 PM
Subject: Fwd: Returned mail: see transcript for details

---------- Forwarded message ----------
From: Mail Delivery Subsystem <MAILER-DAEMON@dfg.ca.gov>
Date: Mon, Nov 23, 2009 at 9:46 AM
Subject: Returned mail: see transcript for details
To: 3dogfarm@wildblue.net

The original message was received at Mon, 23 Nov 2009 09:46:16 -0800
from mail-yx0-f175.google.com [209.85.210.175]

----- The following addresses had permanent fatal errors -----
<dfg.ca.gov/suctiondredge@dfg.ca.gov>
(reason: 550 No such recipient)

----- Transcript of session follows -----
... while talking to [205.225.241.60]:
>>> RCPT To:<dfg.ca.gov/suctiondredge@dfg.ca.gov>
<<< 550 No such recipient
550 5.1.1 <dfg.ca.gov/suctiondredge@dfg.ca.gov>... User unknown
>>> DATA
<<< 503 Bad command sequence

Final-Recipient: RFC822; dfg.ca.gov/suctiondredge@dfg.ca.gov
Action: failed
Status: 5.1.1
Remote-MTA: DNS; [205.225.241.60]
Diagnostic-Code: SMTP; 550 No such recipient
Last-Attempt-Date: Mon, 23 Nov 2009 09:46:16 -0800

---------- Forwarded message ----------
From: Steve Collins <3dogfarm@wildblue.net>
To: dfg.ca.gov/suctiondredge@dfg.ca.gov
Date: Mon, 23 Nov 2009 09:46:14 -0800
Subject: dredging
Mark:

My partner and I have 2 1/2" and 4" dredge. We are 70 & 65
respectively. We generally dredge a small portion of the Moke river
near Jackson. We only started dredging a couple of years ago. We are
"recreational" miners in that this activity is not part of our
livelihood. I am a member of GPAA, LDMA, Central Sierra Mining Assoc,
and The Delta Golddiggers out of Stockton. The other dredgers we have
encountered (6-7) at our location are very respectful of the river.
My partner an I make every effort to leave the river cleaner than we
find it by picking up beer cans and trash left by other (non-dredge)
users of the river.

While dredging, we suck up small amounts of mercury, large amounts of
leadshot and lead fishing weights and a very small amount of GOLD.
Believe me, this hobby costs us a lot more money than we make in

gold. In our case, the act of dredging, being in the river, and enjoying nature are more important than having the gold.

I personally have a lot more luck at finding gold by digging in pot holes and crevices in dry creeks.

In my opinion, the EIR will show that dredging has no significant impact on the environment.

Like other communities, the dredge community needs to monitor its own to see that DFG regulations are followed.

We can only hope that in the end the DFG will have as much common sense as technical sense. I feel confident that they do.

Thanks for listening!

Steve Collins
7301 Middle Bar Rd.
Jackson, Ca. 95642
(209)-765-9051
3dogfarm@wildblue.net

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name:	STEVE COLLINS
Mailing Address:	7301 MIDDLE BAR RD, JACKSON, CA. 95642
Telephone No. (optional):	209-765-9051
Email (optional):	3DOGFARM@WILDBLUE.NET

Comments/Issues:

See ATTACHED

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275

Mark:

My partner and I have 2 1/2" and 4" dredge. We are 70 & 65 respectively. We generally dredge a small portion of the Moke river near Jackson. We only started dredging a couple of years ago. We are "recreational" miners in that this activity is not part of our livelihood. I am a member of GPAA, LDMA, Central Sierra Mining Assoc, and The Delta Golddiggers out of Stockton. The other dredgers we have encountered (6-7) at our location are very respectful of the river. My partner an I make every effort to leave the river cleaner than we find it by picking up beer cans and trash left by other (non-dredge) users of the river.

While dredging, we suck up small amounts of mercury, large amounts of leadshot and lead fishing weights and a very small amount of GOLD. Believe me, this hobby costs us a lot more money than we make in gold. In our case, the act of dredging, being in the river, and enjoying nature are more important than having the gold.

I personally have a lot more luck at finding gold by digging in pot holes and crevices in dry creeks.

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Like other communities, the dredge community needs to monitor its own to see that DFG regulations are followed.

We can only hope that in the end the DFG will have as much common sense as technical sense. I feel confident that they do.

Thanks for listening!

Steve Collins
7301 Middle Bar Rd.
Jackson, Ca. 95642
(209)-765-9051
3dogfarm@wildblue.net

November 24, 2009

Mark Stopher
California Dept. of Fish and Game
601 Locust Street
Redding CA. 96001

Mark Stopher:

I am submitting this document per your request for economic impacts of the ban of suction dredging in Calif. I have been making 30% to 70% of my income from the production of gold by using a suction dredge since 1979, 30 years ago. I have personally recovered hundreds and hundreds of ounces of placer gold during that time to help support my family in El Dorado County. I have logbooks going back to 1984 and have income tax records dating back to 1987 verifying this production. This illegal ban on mining in California has cost my family and my partners no less than $32,500 considering the present price of gold in this year alone. This can be verified from reasonable estimates based on current financial statements, log book entries for 2009, testing logs and production logs from the mining of adjacent river gravels in recent years. Not included in this estimate are the weeks of extra labor that will be required next year, to remove the many yards of gravel that will inevitably infill and erase our work from this year. This infilling will most certainly occur during the first few major storm events of the coming winter. What do you think a months extra work for two professional divers and one other experienced miner is worth these days? I would say something on the order of $9,000 is a very conservative estimate. **WE ARE NOT** recreational gold miners. Any delay in the restoration of Federally and Constitutionally protected private property and mining rights will only add to an ever-increasing debt owed to gold miners in California by those obstructing this valuable work. Your efforts to restore these rights as soon as possible and produce an accurate, unbiased, factual EIR based on indisputable peer reviewed studies would be appreciated.

Thanks for your consideration.

Sincerely,

Steve Tyler
5601 Bumper Road
El Dorado CA. 95623

Enclosures
Cc: El Dorado County Board of Supervisors
Governor Arnold Schwarzenegger
Jerold Hobbs, PLP

November 25, 2009

Mark Stopher
California Dept. of Fish and Game
601 Locust Street
Redding, CA. 96001

Dear Mr. Stopher:

The following comment on your NOP SEIR is more specific to the South Fork American River, which empties into Folsom Lake. A significant portion of my income supporting my family has been derived from mining gold on the South Fork American River since 1981, 28 years ago. I have produced hundreds of ounces of gold, and have logged over 10,000 hours of dive time working in the streams and rivers of El Dorado County. **I AM NOT** a recreational miner, and have logbooks and tax records to prove it. My knowledge of the geology, hydrology and history of the South Fork American River Basin above Folsom Lake is extensive, much of which cannot be learned from a book. I am a very prudent gold miner and I might add, a true environmentalist. Unfortunately the SFAR has been environmentally compromised by the many dams that provide power-generating facilities. Chili Bar reservoir was wisely constructed to mediate the surging river flows created by these power-generating facilities. Sadly, the mediating purpose of Chili Bar reservoir has been negated for the sole purpose of providing daily surges of high water flows to directly benefit the profit based, rafting industry. Great fun and highly profitable, but tough on the environment! Enclosed is a graphic illustration of how the fluctuating river flows, from 200 cfs to 4000 cfs daily, negatively impact the aquatic habitat and also that of the normal river bank riparian environment, thus creating an abnormal, environmental dead zone in, and adjacent to, the river. I would strongly recommend the Department of Fish and Game to immediately restore year round suction dredge gold mining to the South Fork American River between Folsom Lake and Slab Creek Dam. DFG needs to encourage miners to do their economically beneficial work, and as a by-product to continue to remove in-stream trash that has been lost by other user groups, and at the same time removing toxic lead and mercury from our river. The economy and the environment are being negatively affected by this needless ban of suction dredge mining on the South Fork American River.

Also, I would like to work with some of your staff to help document what I have learned from my thousands of hours of work on 2 sections of private land just above the Gorge on the Vicini Ranch. I have been working the river channel adjacent to this ranch for 22 years. This valuable river work has revealed to me a definite story concerning historic mining activities, river morphology, and hydrological processes. With the owners permission of course, I could do a walk through with some of your staff to document what I have learned before I am gone and this knowledge is lost.

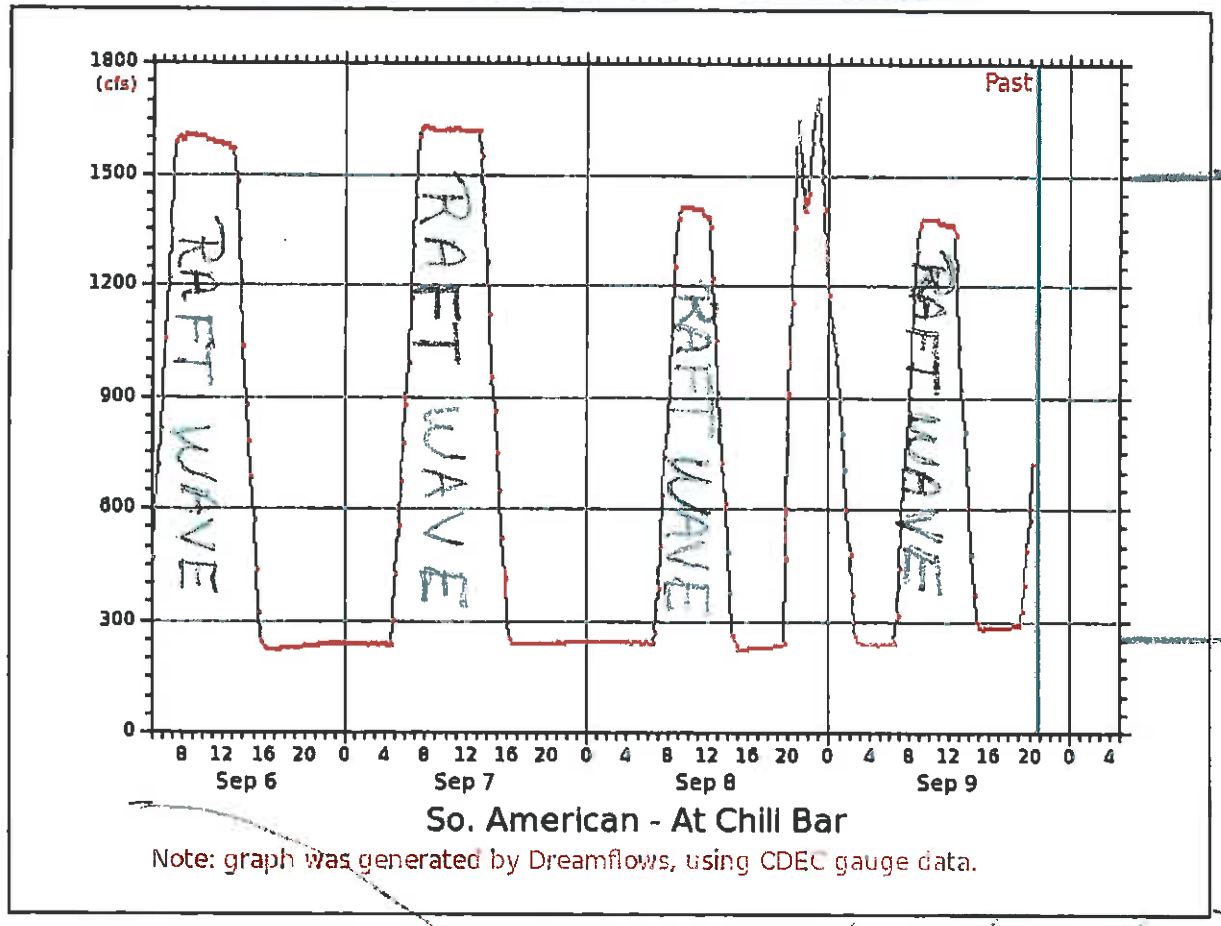
Thanks for your consideration.

Sincerely,

Steve Tyler
5601 Bumper Road
El Dorado CA. 95623

Enclosures
Cc: El Dorado County Board of Supervisors
Governor Arnold Schwarzenegger

Daily Flows Realtime Flows Dreamflows Home



3,500 CFS
Some days

THE DEAD ZONE

No fish or animal create normal Life

River Banks

Show 30 Days
Show 3 Years

River BANK

No Normal Life cycles

River Channel

1,600 CFS

3,500 CFS

300 CFS

River BANK

November 12, 2009

Mark Stopher
California Department of Fish and Game
Regional Headquarters
601 Locust Street
Redding, CA 96001

Dear Mr. Stopher:

My name is Steve Tyler. I was born in Placerville and have spent most of my 59 years in the mountains of El Dorado County, fishing and prospecting for gold. Since 1979, thirty years ago, I have been making 30% to 70% of my income dredging for gold in order to support my wife and two boys. I have income tax returns and log books going back to 1983 to verify this fact! It is not for me just a fun hobby. I have been blessed by God to have been able to make a significant part of my living engaging in such an enjoyably challenging and yet environmentally positive endeavor.

Not only have I been able to reap the rewards of finding hundreds of ounces of gold, but have received a hands-on education in the fields of geology, hydrology, and mining history throughout the local foothill and mountains. I've personally have logged over 10,000 hours of diving in our local streams and rivers, enabling me to have a direct physical knowledge of our in stream fisheries and aquatic habitat that can't be learned from a book. Judging from the number of gold dredgers in this meeting I would conservatively estimate that there are over 200,000 logged hours of diving in the streams and rivers of California in this small gathering alone. The observations made and comments written by these men, who have spent hundreds of thousands of hours in our rivers, need to be used and not be disregarded if an accurate EIR is to be produced by your department.

On a personal level, the unwarranted ban on suction dredging last summer has cost my family over ten thousand dollars of lost income, which can be verified. In addition I had to lay off two other men employed in my seasonal dredging operation. Next season it will take us an additional month just to get to where I left off this season, as all of the work that we did in the river reaching our payoff will be completely erased by the first series of storms hitting the Sierra watershed this winter. That means more wasted labor.

On the South Fork American River on Jan. 1, 1997 there was a flood of nearly epic proportions when over 70,000 cubic feet per second of water flushed millions of cubic yards of sand, gravel and boulders as big as cars down the river canyons and all vegetation growing up a hundred feet on the canyon walls was stripped of leaves and thousands of trees were deposited on the banks of Folsom Reservoir along with many tons of man made debris. From man's point of view, this seemingly destructive high water event was just what the natural environment needed to cleanup and maintain a

healthy fisheries and natural environment. In the several years following this event the fishing on the South Fork American River has never in recent history been better. How can the use of suction dredges possibly be harmful to the environment when it merely duplicates, on a microscopic scale, what God does every winter during any high water event to the benefit of our environment? Numerous scientific, peer reviewed studies support these obvious facts! It is also a known fact that as a by product of our endeavors, those of us in the dredging community remove in stream trash lost by other user groups as well as toxic lead and a modern dredge has been proven by studies to effectively remove 98%+ of the elemental mercury that contaminate certain areas of our river systems. Maybe suction dredges should more appropriately be called river and stream cleanup machines. Please find enclosed pictures of in stream trash collected by several dredgers in past years on the South Fork American River. In one picture, 6 aluminum cans had drifted into our dredge hole just 2 days after the unwarranted dredge ban in August. These are facts! Suction Dredge users ARE good stewards of the environment! Also included are pictures of pounds of lead removed from S.F. American and several ounces of mercury recovered in the last three years of my operation there.

I don't know what has changed since your EIR in 1994 if anything, but this present EIR process cannot, BY LAW, have a predetermined agenda besides establishing facts. It must reflect only facts that have been peer reviewed, scientifically studied and proven. It can't include suppositions, assumptions or biased prejudices. There is NO room in this document for "MAY" or "MIGHT" or "COULD". Suction dredging has been going on for almost 60 years and there have been volumes of studies, which consistently conclude that this activity has little " IF ANY" deleterious effects on fisheries or aquatic habitat. In fact, the only good salmon fishing left in California this year, is on the Klamath and Trinity rivers. It seems ironic to me that these same two rivers have been dredged year, after year, after year, by many large dredges. It does not take much reasoning to figure out that dredging is good for the fisheries after all. I can only pray that those who work on this EIR document will keep one eye on the Constitution of the United States, which they have sworn to uphold, while they endeavor to create an honest, accurate environmental impact report on the effects of suction dredge mining. Thank you for your consideration.

Sincerely,

Steve Tyler
5601 Bumper Road
El Dorado Calif. 95623

Enclosures
Cc: El Dorado County Board of Supervisors
Governor Arnold Schwarzenegger

In stream trash and mercury recovered by gold dredgers on South Fork of the American River.
You can see the trash at the bottom of the river.

Removal of trash and mercury from our river beds by the local Gold Dredgers

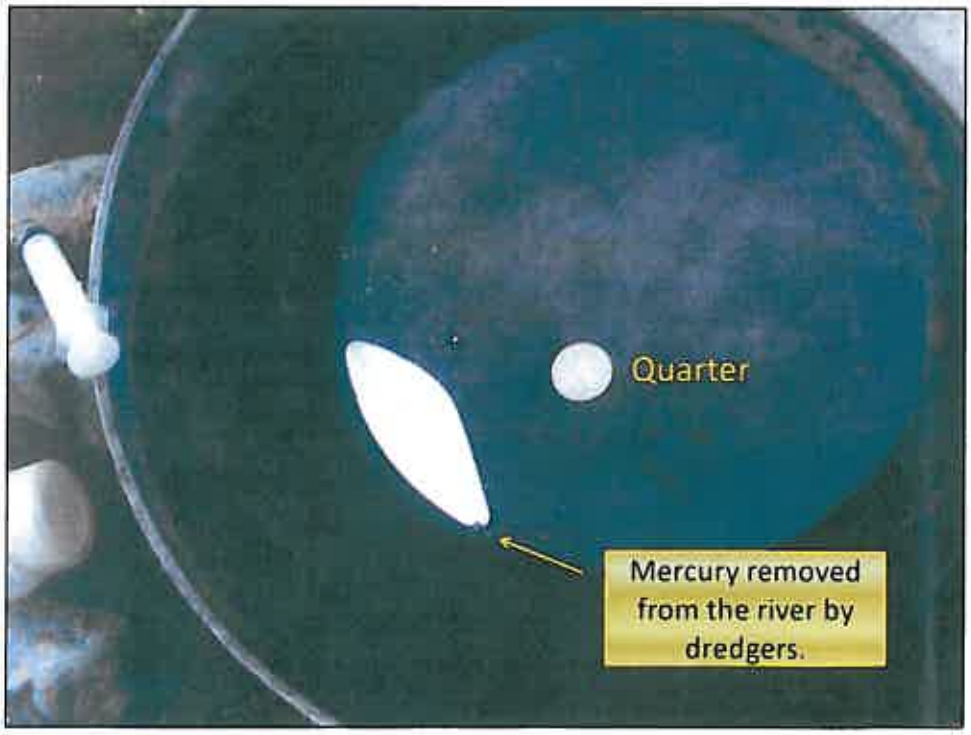
Removal of lost money and other lost items while suction dredging for gold.

Lead weights and other toxic and dangerous items.

Recycling should not be done within our rivers.

The trash from summers gone by is filling our rivers.

Trash removed.


Quarter
Mercury removed from the river by dredgers.

Who will take this trash out of the rivers with the suction dredgers gone?

November 16, 2009

Mark Stopher
California Department of Fish and Game
Regional Headquarters
601 Locust Street
Redding CA 96001

Dear Mr. Stopher

Elemental mercury in our rivers and streams is a subject of concern to all of the population in California today. Although some amount of naturally occurring mercury is present in our waterways, especially in streams originating in the coastal range, mining during the 19th century is the main source of the mercury load contained in our California Rivers at present. Year after year, sediments, sand and gravels containing this mercury are being transported toward the delta. These are known facts. A lesser known but obviously apparent fact is that the same hydrological forces that transport these materials year after year constantly grind and re-suspend floured mercury, not on, but in the gravels above bedrock. Only in certain areas of our streams and rivers, where there is a concentrating hydrological effect, is the mercury re-concentrated into larger droplets. The remaining floured mercury, which is the majority fraction, remains suspended in the gravels as it has a lighter specific gravity than gold and is in a liquid state, which prevents it from being wedged into bedrock unless amalgamated with gold. This is an obvious fact, which has been apparent to the many suction dredge gold miners who have collectively accumulated millions of hours of dredging in our streams and rivers for the last 50 years. The modern suction gold dredge is the perfect concentrator for removing mercury from the gravels of our rivers. The California Water Resources Control Board did a study, finding that a suction dredge removed 98% of the mercury in the gravel it processed and this study did not even employ a modern design gold dredge operated by a professional operator. The CWRCB then concluded that the 2% mercury lost was worse than the 98% recovered. What kind of twisted logic is that? To be a successful gold miner requires a considerable amount of common sense. Apparently that is not a requirement to be a member of the CWRCB.

A more common sense approach would be to work with the mining community and possibly provide periodical collection points where mercury and lead could be disposed of in a proper manner. Suction dredge miners are obviously the best-equipped group to facilitate the removal of metallic mercury in our rivers as an incidental by-product of their economically beneficial activity. At relatively little expense to our California government, a large portion of the mercury in our rivers could be taken care of before it is allowed to migrate on down to the delta. We need to work together to protect our environment and encourage the wise use of our resources.

Enclosed is a three-page challenge by the AD-Hoc Anti-Mercury Committee dated June 2009. Included in their list of possible solutions is the use of suction dredges as a partial answer to the removal of mercury from our environment. In Washington State, a program has already been successful in the collection of over 150 lbs of mercury removed from the waterways of their state in a short amount of time. Let's get it done. Thanks for your consideration of the facts.

Sincerely,

Steve Tyler
5601 Bumper Road
El Dorado, Calif. 95623

Enclosures
Cc El Dorado County Board of Supervisors
Governor Arnold Schwarzennegger

A Challenge to Remove Mercury from the California Environment

June 2009

The undersigned ad-hoc committee has been following the many research projects about mercury and other toxins in the environment. The scope of the research results have been a source of astonishment at their depth and admiration for the results that have been published.

Summary: The goal of the ad-hoc committee was to learn about the presence and effects of mercury(Hg) in the environment and to identify methods of removing such a health hazard from the environment. After following the published research and learning of advances in Hg removal technology, we have concluded that the possibility for realization of the stated goals is now in sight. Furthermore, the recent economic downturn, rather than decreasing the realization of Hg removal, may actually increase the possibilities of removal. The recent passage of economic stimulus legislation by Congress to provide employment opportunities should allow funding of Hg removal for reasons of providing employment with the added benefit of removal of a health hazard.

Background: The dispersal of Hg in the environment in earlier geologic times occurred only with earth movements such as volcanic eruptions. More recent industrial activities such as burning fossil fuels and mining, especially for use in gold extraction, and the process of gold extraction, have resulted in increased concentrations of HG (Sacramento River Watershed Program: www.sacriver.org/issues/mercury), especially in California, to the extent that environmental Hg is a recognized health hazard. The recent report, presented as an executive summary at the December 2008 meeting of the Delta Tributary Mercury Council, "Mining's Toxic Legacy" (Carrie Monohan, PhD, Sierra Fund: www.sierrafund.org) traces the development of gold mining and its environmental consequences. The report states that 26 million pounds of mercury were brought to the California Gold Country of which about half were never recovered and escaped into the environment. This is the source of the estimated several hundred pounds of Hg that flow into San Francisco Bay annually. The report stated that the gold rush benefitted the entire United States and that the Federal and State governments should be involved in the mitigation of the problems.

The path of mercury into the food chain has been the subject of many studies. The results of these studies have led the Ad-Hoc Committee to conclude that removal of the metallic Hg, which is the source of Methyl-Hg, would result in the significant reduction (not easily quantifiable) of Hg from the food chain. The downstream progress of Hg-containing sediments has been severely reduced by the use of the natural outflow for agricultural, industrial, and urban activities, and, as a result, the flushing action of river transport to the ocean has been prolonged. For that reason, we believe that any removal of Hg from the sources will reduce the time for the concentrations to be lowered to where they are not dangerous to health.

Possible Solutions: The small-scale mining community using suction dredges and sluices in Washington State has provided a partial answer. In the May 2007 issue of the ICMJ Prospecting and Mining Journal, it was reported that the Washington Department of Ecology has received over 150 pounds of Hg from this source. The Hg was accumulated in the sluice boxes alongside the gold. Also, Carrie Monohan in the December 2008 presentation stated that metallic Hg was visible in a creek near her residence and that it was removed by simply using a common turkey baster. These reports have led the Ad-Hoc Committee to conclude that establishment of a state wide program of buying Hg that was removed from

the environment by miners or others, would result in a significant amount of Hg being intercepted before it causes any more damage. The USGS in publication "Fact Sheet 2005-3041 Version 1.1; C. N. Alpers, M. P. Hunerlach, J. T. May, R. L. Hothem (http://pubs.usgs.gov/fs/2005/3014/) states "Today, mercury is recovered as a by-product from small-scale gold dredging operations; also, mercury and gold are recovered as byproducts from some gravel mining operations, especially in areas affected by historical gold mining." These methods of Hg extraction from the environment if encouraged by financial incentives could, as stated previously, result in removal of significant amounts of Hg from the environment.

The Sierra watersheds are the sites of many reservoirs installed for irrigation and/or hydro power electric generation. Over the years, the silt that would otherwise be carried downstream has become trapped, and as a result, the holding capacity of the dams has diminished, thus necessitating removal of the silt. One such project at the Combie Reservoir on the Bear River has recognized this as an opportunity to also remove the Hg (private communication to I. Sturman). The project goals are listed as: renewed storage capacity, Hg removal from the sediment, commercial use of the dredged materials, improved recreation, and public education.

Other possibilities of interception could benefit from the model of the interception ponds installed on Cache Creek. Although not in the gold country, the Coast Range is the site of numerous Hg deposits that were mined for gold extraction use and thus Hg was introduced into the local mine environment.

The interception process in the Gold Country and the Coast Range could be the subject of many site specific research projects that would result in new methods of interception and Hg extraction.

The previously described procedures are specific for remediation of water-borne Hg. It is likely that there are many non-water related sites (Hg mines, industrial facilities, etc.). A 73 page summary of other methods of Hg removal was published by the U.S. Department of Energy in 2001 as "Mercury Contaminated Material Decontamination Methods: Investigation and Assessment" by M.A. Ebadian, PhD; Marshall Allen; Yong Cai, PhD; John F. McGahan (www.hcet.fiu.edu). An eight page article "Extractability and Bioavailability of Mercury from a Mercury Sulfide Contaminated Soil in Oak Ridge, Tennessee, USA" by F. X. Han, S. Shiyab, J. Chen, Y. Su, D. L. Monts, C. A. Waggoner, and F. B. Matta was published in Water Air Soil Pollution (2008) 194:67-75. Also, a detailed description (seven pages) of "...removing contaminants from contaminated soils...", "...using electrokinesis..." is available as a patent description "Process and Apparatus for recovering Heavy Metals from Contaminated Materials" (www.wipo.int).

The previously described methods for Hg removal will reduce the amount of Hg entering San Francisco Bay. However, the bay contains significant amounts of Hg owing to the water flow from both the Sierra Gold Country and the Coast Range deposits that have been mined. The Hg deposits from the Gold Country should be accompanied by deposits of gold (Au) as indicated in previous references (because of their similarity in density). This opens the possibility of locating higher concentrations (concentrated by natural forces, wind, wave, and tidal action), in bay sediments and selectively dredging them to remove the Hg (and Au) bearing layers using techniques such as air lift suction to minimally disturb the sediments. It may be that the concentration of Au in bay sediments is low, but recently developed technology (heap leaching) can extract Au from ores at less than one part per million by weight ("Gold from Panning to High-Tech Mining" Tom Farley, Invention and Technology, Summer 2008, Volume 23, Number 2). At this writing (June 2009) the price of Au is about $900 per troy ounce. The price of Au has risen faster than the cost of extracting it. Any

recovery of Au would help mitigate the cost of Hg removal. The sediments from non-gold country sources, such as the Guadalupe River flowing into the south bay will require different methods for Hg extraction from the sediments, possibly centrifuge processing.

The previously mentioned economic stimulus plan was listed as a possible source of funds in "Cleanup of abandoned mines expected to continue", Joan Lowry (San Francisco Chronicle, February 16, 2009, page A11). "The final bill, approved by the House and Senate on Friday, contains more than $1.5 billion for construction and maintenance projects in the Bureau of Land Management, the National Park Service and the Forest Service. This includes addressing pollution and safety hazards caused by abandoned mines on public lands." "... Senator Dianne Feinstein, D-Calif., (was) one of the lawmakers who sought the money." The article states that projects other than mine cleanups are also eligible for the funds. However, the economic stimulus bill is limited to Federal lands and thus cannot solve the entire problem of Hg contamination in California. But, there already are Superfund projects active in California, at Clear Lake, near Redding, and near Davis, Jane Kay (San Francisco Chronicle, April 16, 2009) so there are precedents.

The Challenge: The Federal, State, and Local Environmental and Water Quality Agencies, volunteer, non-profit environmental organizations local citizens organizations, mining companies, and small-scale miners are the vehicles by which the Hg contamination in California can finally be mitigated. These organizations are challenged to form an umbrella organization with the common goal of removing the Hg from the California environment. The task requires the application of a "Super Fund" clean up effort applied to the entire state, not just to a specific site. The results will not be instantaneous, but applying the methodology selectively to the most contaminated sites first, possibly one or a few at a time, will have the potential of reducing the San Francisco Bay and other California environment concentrations of Hg in tens of years rather than hundreds of years if nothing is done.

As quoted previously, the entire nation benefitted from the Gold Rush, thus it is appropriate that the cost for the clean up come from the federal government.

The Ad-Hoc Anti-Mercury Committee:

Benjamin E. Gordon: BS 1940, MS 1943 Magna Cum Laude, University of Illinois: Shell Oil Company and Shell Development Company, 31 years: Lawrence Berkeley Radiation Laboratory; Analytical Chemist; Supervisor, Analytical and Radio chemistry, 19 years: Netherlands Shell, Supervisor and Radiation Safety Officer, 4 years: 273 research papers.

John Rasmussen: Professor of Chemistry, Emeritus, University of California, Berkeley; Author of Encyclopedia Britannica Article "Radioactivity": Also, Biographical Entries in "Who's Who in America" and "American Men and Women of Science".

Ivan Sturman: BSEE, Carnegie Institute of Technology (now Carnegie-Mellon University) California Registered Professional Engineer: Field Engineer, Quality Control Manager, Earth Sciences Application Engineer, Civil Defense Research Engineer; Marine Mineral Exploration Engineer, Hydrographic Survey Engineer; Nuclear Radiation Instrument Systems Engineer for Nuclear Power Plants, 19 Research Papers: Volunteer Creek Restorer: Volunteer Restorer Historic Victory Ship.

November 15, 2009

Mark Stopher
California Department of Fish and Game
Regional Headquarters
601 Locust Street Redding, CA 96001

Dear Mr. Stopher:

The following paragraph, about the great salmon fishing on the Trinity river, was submitted to the El Dorado County Board of Supervisors on Oct. 6, 2009 concerning the obviously discriminatory and illegal ban on suction dredge mining. The EDC Board of Supervisors unanimously passed a resolution containing many statements backed by facts and peer reviewed studies concluding that Suction Dredge mining has minimal, if any, deleterious effects on fisheries or aquatic habitat. In fact, the economic contributions as well as the environmental clean up of toxic lead and mercury and other user trash from our waterways are well established facts. The suction dredge mining community should be encouraged in their endeavors to create real wealth within our economies and as an incidental by-product, remediate the in stream negative environmental effects caused by other past and present user groups.

So, apparently the salmon fishing is great on the Trinity River in spite of it being one of the most heavily gold dredged rivers in Northern California. So, why has suction dredging been banned in the entire state under the guise of protecting salmon when, in fact, salmon runs don't exist on many rivers draining the Sierra Nevada Range and in fact on rivers where salmon runs are still healthy, the salmon seem to co-exist just fine alongside the gold dredging community. Something smells very fishy with this state-wide ban on suction dredging. Incidentally, this article on the great salmon fishing on the Trinity River was published exactly one week after the suction dredge ban was signed into law. The whole thing stinks. NOTE: See accompanying articles from the Sacramento Bee. Also, the Klamath River has been a heavily dredged river and with the Trinity, they are the only two north coast rivers with salmon runs healthy enough to permit fishing, which obviously does kill fish. It doesn't take a very large amount of common sense to conclude that suction dredge mining should be encouraged to help maintain a healthy fisheries. The evidence is staring us in the face! Thank you for considering the facts.

Sincerely,

Steve Tyler
5601 Bumper Road
El Dorado, Calif. 95634

Enclosures
Cc: El Dorado County Board of Supervisors
Governor Arnold Schwarzennegger

SALMON SEASON

THURSDAY: Salmon fishing is banned almost everywhere in California except on the Trinity and Klamath rivers, but local anglers will have a limited opportunity to land a salmon on a stretch of the Sacramento River between Red Bluff and Knights Landing, beginning Monday. **LIVING HERE: OUTBOUND**

A14 The Sacramento Bee | Tuesday, November 10, 2009

SACRAMENTO RIVER SALMON POPULATIONS HAVE COLLAPSED, BUT WAY UP NORTH THE TRINITY IS A GREAT PLACE TO ...

Fish on!

HOLLY A. HEYSER

Guide Jon Harrison rows and Hank Shaw anticipates the next action in the Trinity River during a salmon trip last month. Also aboard is Harrison's dog, also named Trinity.

By Holly A. Heyser
Special to The Bee

Our guide uttered the magic words on the drive home from a lackluster striped-bass fishing trip on the Sacramento River.

For my boyfriend, Hank Shaw – who is obsessed with cooking – the abracadabra moment came with a description of the fish: "They're so fat it's like they come with their own butter."

I was hypnotized by a description of the river: "The water is so clear you can see 20 feet down. Sometimes you can see the fish coming in to take your bait. And some days you don't see anyone else on the water."

"We're in," we told Jon Harrison of Five Rivers Guide Service in Orangevale. We were going salmon fishing on the Trinity River.

Salmon fishing was becoming a distant memory for us with the unexpected collapse of the Sacramento River Chinook salmon run in fall 2007. The fish count inexplicably plunged to barely half of what was needed for a sustainable population. State and federal agencies responded by drastically curtailing salmon fishing in 2008, and again this year.

But salmon runs on the Klamath River and its tributary the Trinity are in better shape, so riches await anyone willing to make the 3½-hour trip north. And for Harrison, nothing compares to the Trinity.

"It's my favorite of the rivers I fish," he said, naming waterways: Sacramento, American, Feather, Yuba and Trinity. "You can get away from people. It reminds me of my childhood fishing in the Sierras, but the fish are much larger."

When we fished the Trinity with Harrison a few weeks ago, we targeted the spring run, the first of two Chinook runs on the river.

The fall salmon run, which is projected to be quite robust this year, is what brings anglers out in droves in September and October.

But the spring run is unusual: Instead of heading upriver and spawning fairly quickly as the fall fish do, spring-run Chinook sprint up the Trinity as early as April and spend the summer lolling in deep holes until they reach sexual maturity. Then they move into spawning beds.

(The spring run begins in mid-June, when water flows drop to manageable levels, and continues through August. Fishers can catch and keep two salmon a day, starting in January. Possession is also limited to no more than two.)

Because salmon don't feed after they enter fresh water, these fish must pack on the fat before leaving the ocean for the last act of their lives. That's what Harrison meant when he said they come with their own butter: They're as good as, or better than, ocean-caught salmon.

That was appealing to me because I'd caught one salmon in my life – a 32-pound monster, just south of downtown Sacramento – and rather than

SALMON | Page D7

HOLLY A. HEYSER

It's hard to tell who's more excited about a 29-inch salmon hauled in by Holly Heyser – guide Jon Harrison or his dog Trinity.

almon: Barbless hooks help thrown-back and escaped fish stay alive

Salmon: Barbless hooks help thrown-back and escaped fish stay alive

FROM PAGE D1

being delighted with the feast I'd caught, I was put off. It tasted like the Sacramento River from which it had come.

Now we were just waiting for proof that the Trinity springers were everything Harrison said.

On the first morning of our two-day trip, we set out on the river at 5:30 a.m.

"You can't write where we are," Harrison said sternly, looking me in the eye.

We soon found out why: This stretch of the upper Trinity River was virtually deserted, even though there were plenty of anglers in the area. We knew from the empty trailer where we had parked that there was one boat in the water ahead of us, but in more than seven hours on the river that day, we saw just one other angler – a man fishing from the bank.

Soon after putting in, Harrison rowed us in his drift boat just a short way downstream before stopping just above a pool that was dotted with rocks covered by lush bunch grasses and Indian rhubarb. He spent a few minutes tying sardine filets onto Quikfish lures, trussing them up with fishing line. Because salmon don't eat in fresh water, the idea wasn't to tantalize their taste buds but to irritate them, prompting an attack.

HOLLY A. HEYSER

The spring-run chinook salmon is renowned for its high fat content.

Harrison dropped the first Quikfish into the water and let line out until the lure hit the spot where he knew the fish lay. Thunk! Thunk! A fish was on the line immediately. He handed the rod to Hank, who started reeling, and then just as quickly the fish was free.

What had happened?

Our barbless hooks, required on the Trinity and throughout the Klamath basin, would make it a challenge to land fish on this trip.

The hooks prevent killing the fish that anglers don't or can't keep, says Larry Hanson, a senior biologist for the State Department of Fish and Game.

When Harrison dropped our lures back into the water, we hooked two more fish immediately, a fourth a little later, but we lost all of them. At the next pool we fished, we hooked and lost one more.

Harrison was flabbergasted at the bad luck, and so was Hanson when I told him about it later.

"The hook-to-loss rate shouldn't be as high as you experienced," Hanson said.

Despite the lost fish, we were buoyed by having hooked so many. We knew they were there – and biting.

Harrison kept moving us down the river, and for the most part it was a soothing ride. We glided through clear waters, watched red alders dropping their first leaves in the light breeze, and spotted bald eagles and osprey overhead.

But occasionally he took us through rapids, the bottom of the aluminum boat thudding on the rocks underneath. No wonder there weren't many people around – this was not for an unskilled boatman.

Late in the morning, we arrived at Harrison's favorite hole, where submerged iron girders provided the structure fish love. By now our method had changed: Once the sun hits the water, the bright Quikfish are too flashy, so we were casting balls of vivid red salmon roe into known salmon lairs.

Why does roe work when salmon don't eat in fresh water? The theory is their memory of feeding on roe as juveniles makes them bite instinctively.

Thunk! Thunk! There was a fish on Hank's line.

He set the hook and began reeling. The fish bolted, stripping line from the reel. Hank reeled it in, and it raced back out. In, out, in, out. We could watch most of the battle play out in the deep, clear pool in front of us, and we could see that this fish was a monster. We prayed the barbless hook would hold.

All three of us held our breath as the fish zipped under the boat – increasing its odds of getting off the hook. But Hank brought it back, and after several attempts with the net, we finally got it on the boat. Thirty inches long, about 20 pounds – well worth the wait.

This was the only fish we would get that day, but the next day I caught my limit of two by 8 a.m., the first 25 inches long, the second 29 inches. It was a respectable haul for a season in which the spring run has been described as average.

So how do Trinity springers taste?

Harrison hadn't exaggerated a bit. They were rich and decadent, as good as the best salmon we've ever had. We feasted for days and froze what we knew we couldn't eat soon.

Even if the salmon run on the Sacramento River rebounds and provides good salmon fishing much closer to home, I suspect we'll head back to the Trinity with Harrison every summer. We've fallen under the river's spell.

Holly A. Heyser teaches journalism at California State University, Sacramento, and writes a blog about hunting. Read more about this fishing trip – including tales of what Heyser and Shaw did with their catch – on Heyser's blog, www.norcalcazadora.com, and Shaw's blog, www.honest-food.net.

SALMON FISHING ON THE TRINITY RIVER

Spring run: Mid-June through August. (You can catch and keep two fish per day. You can also have only two in your possession. The limits apply starting in January, though most spring-run fishing begins mid-June.)

Fall run: September and October (limit three per day, no more than two adult fish; possession limit of nine, no more than six adults)

Guides include:

- Jon Harrison of Five Rivers Guide Service, (916) 806-3119.
- You'll other Trinity River fishing guides at www.blm.gov/ca/st/en/fo/redding/recreationmain/fishguide.html.

Other salmon fishing in California:

- **Ocean:** Aug. 29-Sept. 7, north of Horse Mountain in Humboldt County, limit of two fish per day, minimum size 24 inches
- **Sacramento River:** Nov. 16-Dec. 31, from Highway 113 in Knights Landing to the lower Red Bluff (Sycamore) boat ramp, limit of one fish – per day and in possession.

Other things to do in Trinity County

- Visit the Trinity County Chamber of Commerce at www.trinitycounty.com, or (800) 487-4648.

November 28, 2009

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Dear Mr. Mark Stopher:

I am submitting this comment concerning your NOP SEIR on suction dredge mining. On page 61 of your NOP, the preparers of this document make blanket statements stating that this project would make potentially Significant Impacts on:

a. Historical resources.
b. Archaeological resources.
c. Buried human remains possibly interred outside of formal cemeteries.

Lets get this in proper perspective.

1. There were less than 3,500 dredge permits in 2009. Is that not true?
2. There were over 1,200,000 Sport Fishing licenses issued in California in 2009. That means for every single gold dredger there were 383 fishermen tromping over, around and through the rivers, streams and lakes of California in 2009.
3. Site Specific; on the river where I do my mining, the South Fork American, there were, in addition to fishermen, over 100,000 white water rafters in, and tromping around, the river banks in 2009, sharing this river with only 6 dredgers below Lotus, California. These numbers should also include the tens of thousands of hikers, campers, swimmers, and many others who recreate on the South Fork American River.

This seemingly obvious omission of proper perspective concerning the insignificant number of gold miners relative to the overwhelming numbers of other water resource recreationalists would appear to be a blatant attempt to vilify, and thus create false conclusions and ultimately illegal discriminating regulations placed upon the mining community. These accidental or purposeful omissions need to be addressed immediately in order to create a meaningful, truthful SEIR which is void of any predetermined, discriminatory and thus illegal findings.

In addition, the single most glaring omission is the fact that frequent high water events render ALL of the effects of mans'present activities to a microscopic level in comparison. For instance, on the South Fork American River, 3 high water events of monumental scale occurred in the last 30 years alone; in 1981, 1986 and on Jan1, 1997. Included in this comment are pictures of the SFAR taken from the same area of the Vicini Ranch in El Dorado County before, during, and after the flood the flood of Jan. 1, 1997. I hope to send to you a DVD, from which these pictures were copied, before Dec. 3, 2009. I

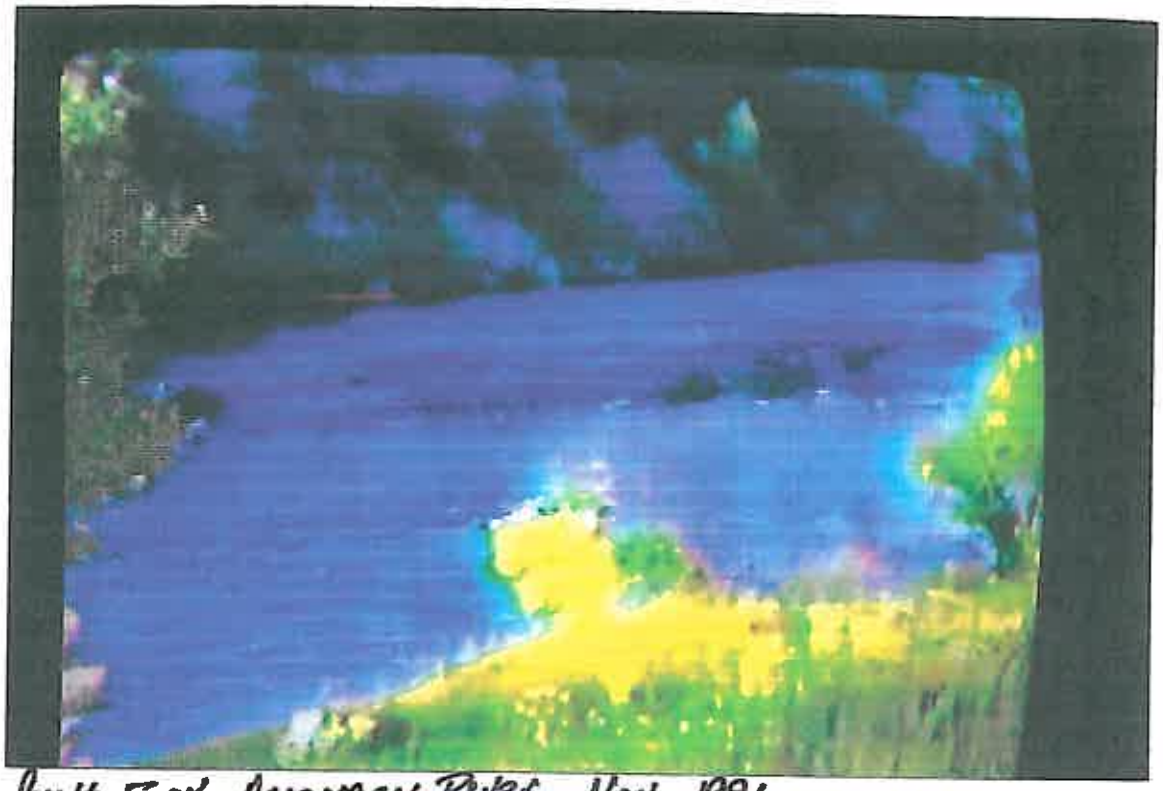
believe that you will find this DVD extremely interesting and useful for your department as it is one of the few video documents of the monumental flood of January 1, 1997.

In conclusion, I must repeat, any omission of the relative effects of other resource users compared to the effects, if any, of a few gold miners on our California waterways in your DSEIR will be indicative of a purposeful, political agenda to skew the truth and render your SEIR invalid and even fraudulent. Nor can the relative MONUMENTAL effects of periodic high water events be excluded from your documents. Thank you for your consideration.

Sincerely,

Steve Tyler
5601 Bumper Road
El Dorado CA. 95623

Enclosures
Cc: El Dorado County Board of Supervisors
Governor Arnold Schwarzenegger



South Fork American River Nov. 1996

Above picture is SAME North bank shows destruction from JAN 1, 1997 high water flood of over 70,000+ CFS.

View of North bank on the South Fork American River JAN. 1, 1997 70,000 + CFS

SAME VIEW ONE WEEK later at 10,000 CFS

SFAR 70,000 + CFS JAN 1, 1997

Above picture is the SAME SPOT one week later.

South Fork American River JAN. 1, 1997 River at 70,000+ CFS - securing dredge.

DAMAGED Dredge 40 feet up on New sandbar after river receded to 10,000 CFS JAN. 8, 1997

November 24, 2009

Mark Stopher
California Dept. of Fish and Game
601 Locust Street
Redding,CA. 96001

Mark Stopher

I am submitting this comment concerning your discussion on the potential loss of mineral resources from gold mining activities. Page 78 NOP SEIR 2009. What kind of ridiculous statement is that? Gold is one of the most valuable metal elements and has remained a medium of real monetary exchange throughout man's history because it cannot be lost or destroyed, only stolen. Our United States Government has encouraged miners to locate and produce gold for the wealth of our nation and economic welfare of its citizens. I am not a recreational gold miner. I have produced hundreds of ounces of gold in the last 30 years to support my family, create real wealth in the general economy, and have employed many in my mining activities. Obviously, a prudent man can only make a consistent living, with the best available equipment, by carefully working those areas that contain concentrations of gold that will pay decent wages after expenses are met. NO ONE can recover all of the gold left in our bountiful state. Or maybe you want to save the more valuable concentrations for the Chinese Government to collect, by any method, when our National Debt comes due.

Thanks for your consideration.

Sincerely,

Steve Tyler
5601 Bumper Road
El Dorado CA. 95623

Enclosures
Cc El Dorado County Board of Supervisors
Governor Arnold Schwarzennegger

November 12, 2009

Mark Stopher
California Department of Fish and Game
Regional Headquarters
601 Locust Street
Redding, CA 96001

Dear Mr. Stopher:

My name is Steve Tyler. I was born in Placerville and have spent most of my 59 years in the mountains of El Dorado County, fishing and prospecting for gold. Since 1979, thirty years ago, I have been making 30% to 70% of my income dredging for gold in order to support my wife and two boys. I have income tax returns and log books going back to 1983 to verify this fact! It is not for me just a fun hobby. I have been blessed by God to have been able to make a significant part of my living engaging in such an enjoyably challenging and yet environmentally positive endeavor.

Not only have I been able to reap the rewards of finding hundreds of ounces of gold, but have received a hands-on education in the fields of geology, hydrology, and mining history throughout the local foothill and mountains. I've personally have logged over 10,000 hours of diving in our local streams and rivers, enabling me to have a direct physical knowledge of our in stream fisheries and aquatic habitat that can't be learned from a book. Judging from the number of gold dredgers in this meeting I would conservatively estimate that there are over 200,000 logged hours of diving in the streams and rivers of California in this small gathering alone. The observations made and comments written by these men, who have spent hundreds of thousands of hours in our rivers, need to be used and not be disregarded if an accurate EIR is to be produced by your department.

On a personal level, the unwarranted ban on suction dredging last summer has cost my family over ten thousand dollars of lost income, which can be verified. In addition I had to lay off two other men employed in my seasonal dredging operation. Next season it will take us an additional month just to get to where I left off this season, as all of the work that we did in the river reaching our payoff will be completely erased by the first series of storms hitting the Sierra watershed this winter. That means more wasted labor.

On the South Fork American River on Jan. 1, 1997 there was a flood of nearly epic proportions when over 70,000 cubic feet per second of water flushed millions of cubic yards of sand, gravel and boulders as big as cars down the river canyons and all vegetation growing up a hundred feet on the canyon walls was stripped of leaves and thousands of trees were deposited on the banks of Folsom Reservoir along with many tons of man made debris. From man's point of view, this seemingly destructive high water event was just what the natural environment needed to cleanup and maintain a

healthy fisheries and natural environment. In the several years following this event the fishing on the South Fork American River has never in recent history been better. How can the use of suction dredges possibly be harmful to the environment when it merely duplicates, on a microscopic scale, what God does every winter during any high water event to the benefit of our environment? Numerous scientific, peer reviewed studies support these obvious facts! It is also a known fact that as a by product of our endeavors, those of us in the dredging community remove in stream trash lost by other user groups as well as toxic lead and a modern dredge has been proven by studies to effectively remove 98%+ of the elemental mercury that contaminate certain areas of our river systems. Maybe suction dredges should more appropriately be called river and stream cleanup machines. Please find enclosed pictures of in stream trash collected by several dredgers in past years on the South Fork American River. In one picture, 6 aluminum cans had drifted into our dredge hole just 2 days after the unwarranted dredge ban in August. These are facts! Suction Dredge users ARE good stewards of the environment! Also included are pictures of pounds of lead removed from S.F. American and several ounces of mercury recovered in the last three years of my operation there.

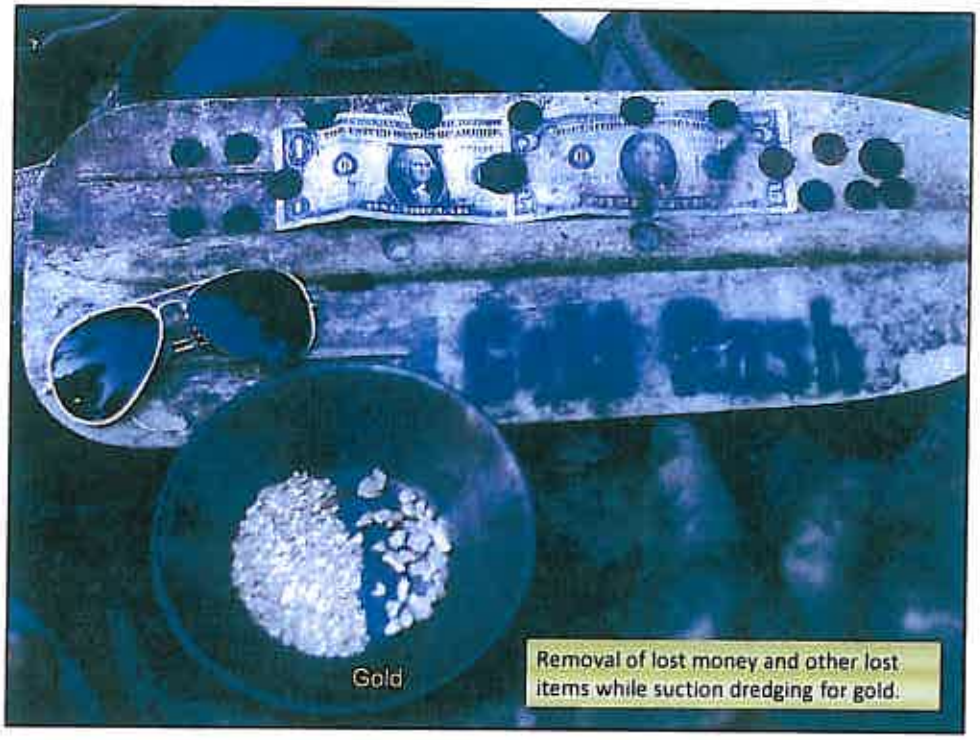
I don't know what has changed since your EIR in 1994 if anything, but this present EIR process cannot, BY LAW, have a predetermined agenda besides establishing facts. It must reflect only facts that have been peer reviewed, scientifically studied and proven. It can't include suppositions, assumptions or biased prejudices. There is NO room in this document for "MAY" or "MIGHT" or "COULD". Suction dredging has been going on for almost 60 years and there have been volumes of studies, which consistently conclude that this activity has little " IF ANY" deleterious effects on fisheries or aquatic habitat. In fact, the only good salmon fishing left in California this year, is on the Klamath and Trinity rivers. It seems ironic to me that these same two rivers have been dredged year, after year, after year, by many large dredges. It does not take much reasoning to figure out that dredging is good for the fisheries after all. I can only pray that those who work on this EIR document will keep one eye on the Constitution of the United States, which they have sworn to uphold, while they endeavor to create an honest, accurate environmental impact report on the effects of suction dredge mining. Thank you for your consideration.

Sincerely,

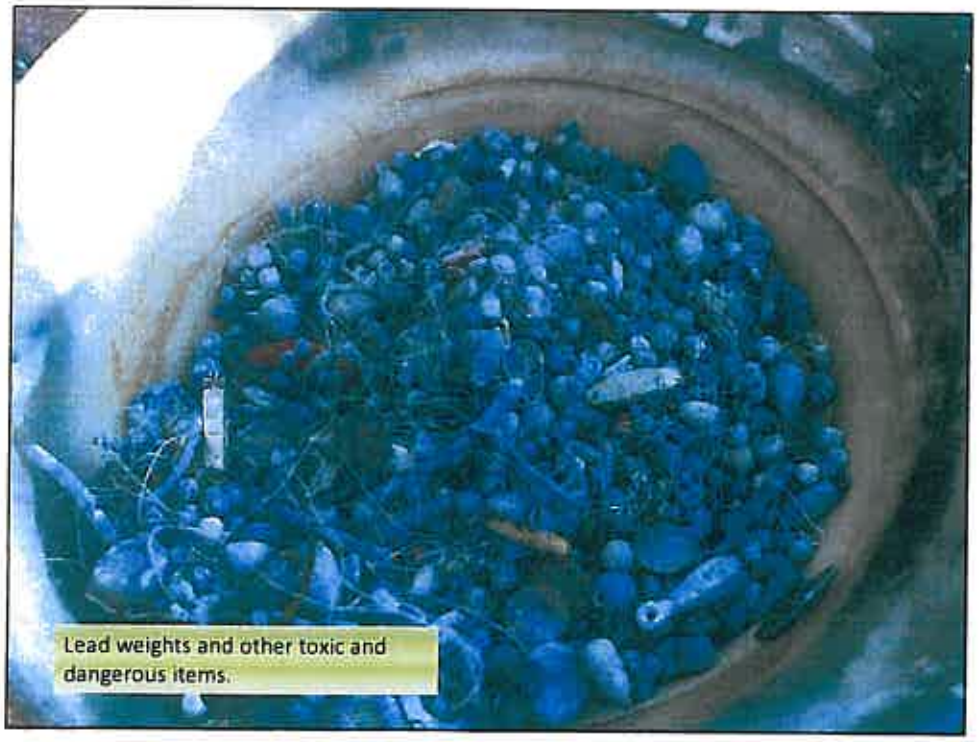
Steve Tyler
5601 Bumper Road
El Dorado Calif. 95623

Enclosures
Cc: El Dorado County Board of Supervisors
Governor Arnold Schwarzenegger

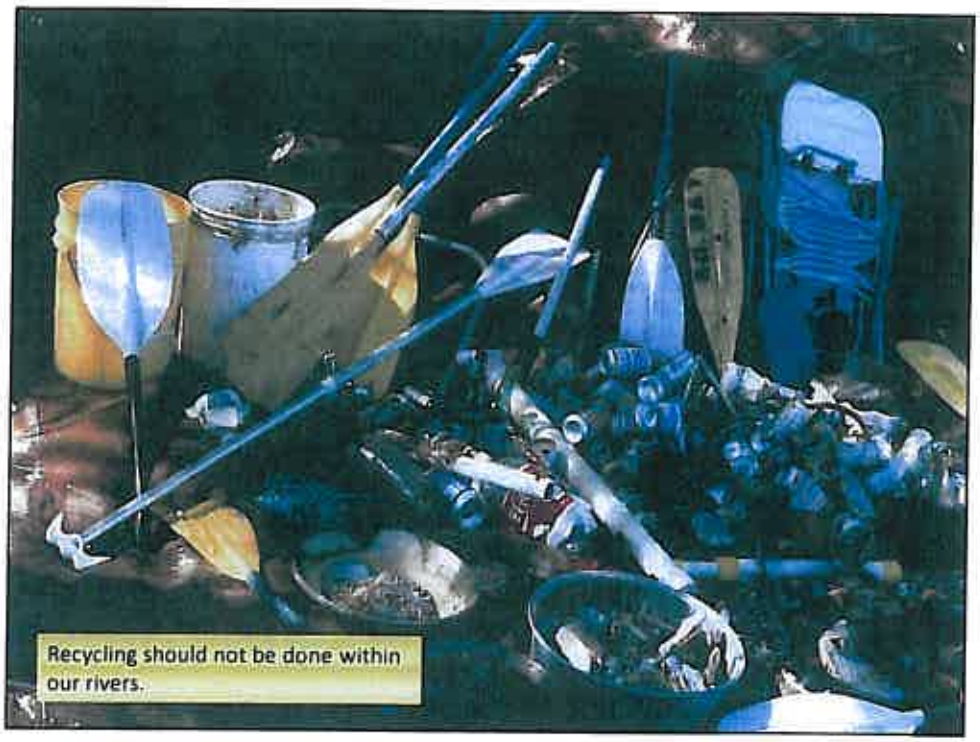
Six cans left by ratters in our dredge hole within two days.



Removal of lost money and other lost items while suction dredging for gold.

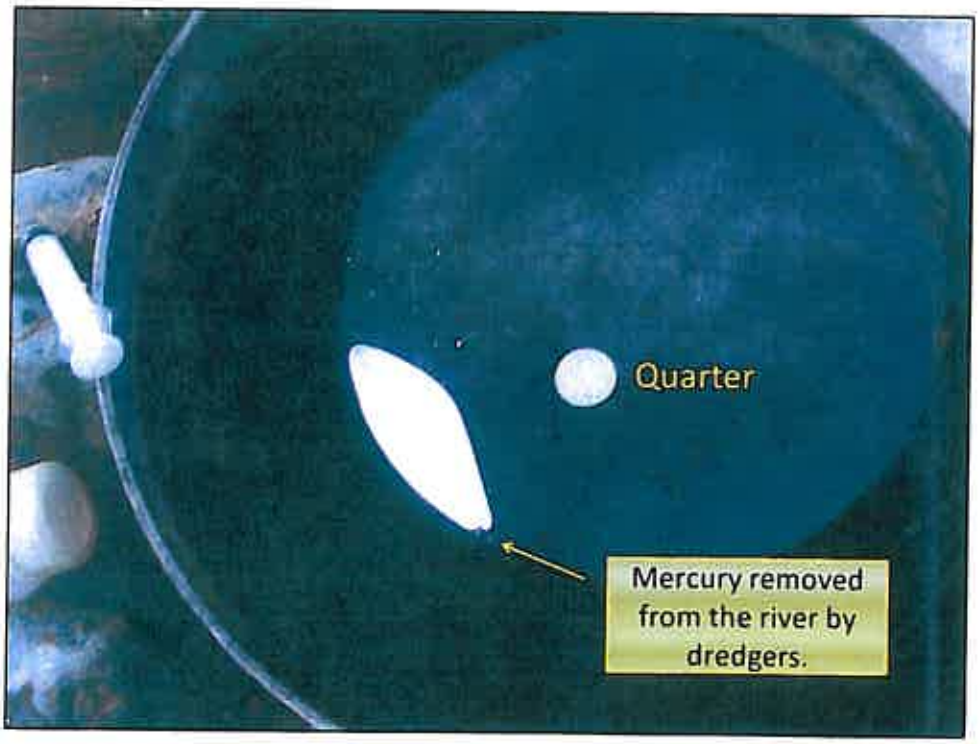


Lead weights and other toxic and dangerous items.


Recycling should not be done within our rivers.

The trash from summers gone by is filling our rivers.

Trash removed.


Quarter
Mercury removed from the river by dredgers.

Who will take this trash out of the rivers with the suction dredgers gone?

November 15, 2009

Mark Stopher
California Department of Fish and Game
Regional Headquarters
601 Locust Street Redding, CA 96001

Dear Mr. Stopher:

The following paragraph, about the great salmon fishing on the Trinity river, was submitted to the El Dorado County Board of Supervisors on Oct. 6, 2009 concerning the obviously discriminatory and illegal ban on suction dredge mining. The EDC Board of Supervisors unanimously passed a resolution containing many statements backed by facts and peer reviewed studies concluding that Suction Dredge mining has minimal, if any, deleterious effects on fisheries or aquatic habitat. In fact, the economic contributions as well as the environmental clean up of toxic lead and mercury and other user trash from our waterways are well established facts. The suction dredge mining community should be encouraged in their endeavors to create real wealth within our economies and as an incidental by-product, remediate the in stream negative environmental effects caused by other past and present user groups.

So, apparently the salmon fishing is great on the Trinity River in spite of it being one of the most heavily gold dredged rivers in Northern California. So, why has suction dredging been banned in the entire state under the guise of protecting salmon when, in fact, salmon runs don't exist on many rivers draining the Sierra Nevada Range and in fact on rivers where salmon runs are still healthy, the salmon seem to co-exist just fine alongside the gold dredging community. Something smells very fishy with this state-wide ban on suction dredging. Incidentally, this article on the great salmon fishing on the Trinity River was published exactly one week after the suction dredge ban was signed into law. The whole thing stinks. NOTE: See accompanying articles from the Sacramento Bee. Also, the Klamath River has been a heavily dredged river and with the Trinity, they are the only two north coast rivers with salmon runs healthy enough to permit fishing, which obviously does kill fish. It doesn't take a very large amount of common sense to conclude that suction dredge mining should be encouraged to help maintain a healthy fisheries. The evidence is staring us in the face! Thank you for considering the facts.

Sincerely,

Steve Tyler
5601 Bumper Road
El Dorado, Calif. 95634

Enclosures
Cc: El Dorado County Board of Supervisors
Governor Arnold Schwarzennegger

SALMON SEASON

THURSDAY: Salmon fishing is banned almost everywhere in California except on the Trinity and Klamath rivers, but local anglers will have a limited opportunity to land a salmon on a stretch of the Sacramento River between Red Bluff and Knights Landing, beginning Monday. LIVING HERE, OUTBOUND

A14 The Sacramento Bee | Tuesday, November 10, 2009

SACRAMENTO RIVER SALMON POPULATIONS HAVE COLLAPSED, BUT WAY UP NORTH THE TRINITY IS A GREAT PLACE TO ...

Fish on!

HOLLY A. HEYSER

Guide Jon Harrison rows and Hank Shaw anticipates the next action in the Trinity River during a salmon trip last month. Also aboard is Harrison's dog, also named Trinity.

By Holly A. Heyser
Special to The Bee

Our guide uttered the magic words on the drive home from a lackluster striped-bass fishing trip on the Sacramento River.

For my boyfriend, Hank Shaw – who is obsessed with cooking – the abracadabra moment came with a description of the fish: "They're so fat it's like they come with their own butter."

I was hypnotized by a description of the river: "The water is so clear you can see 20 feet down. Sometimes you can see the fish coming in to take your bait. And some days you don't see anyone else on the water."

"We're in," we told Jon Harrison of Five Rivers Guide Service in Orangevale. We were going salmon fishing on the Trinity River.

Salmon fishing was becoming a distant memory for us with the unexpected collapse of the Sacramento River Chinook salmon run in fall 2007. The fish count inexplicably plunged to barely half of what was needed for a sustainable population. State and federal agencies responded by drastically curtailing salmon fishing in 2008, and again this year.

But salmon runs on the Klamath River and its tributary, the Trinity, are in better shape, so riches await anyone willing to make the 3½-hour trip north. And for Harrison, nothing compares to the Trinity.

"It's my favorite of the rivers I fish," he said, naming waterways: Sacramento, American, Feather, Yuba and Trinity. "You can get away from people. It reminds me of my childhood fishing in the Sierras, but the fish are much larger."

When we fished the Trinity with Harrison a few weeks ago, we targeted the spring run, the first of two Chinook runs on the river.

The fall salmon run, which is projected to be quite robust this year, is what brings anglers out in droves in September and October.

But the spring run is unusual: Instead of heading upriver and spawning fairly quickly as the fall fish do, spring-run Chinook sprint up the Trinity as early as April and spend the summer lolling in deep holes until they reach sexual maturity. Then they move into spawning beds.

(The spring run begins in mid-June, when water flows drop to manageable levels, and continues through August. Fishers can catch and keep two salmon a day, starting in January. Possession is also limited to no more than two.)

Because salmon don't feed after they enter fresh water, these fish must pack on the fat before leaving the ocean for the last act of their lives. That's what Harrison meant when he said they come with their own butter: They're as good as, or better than, ocean-caught salmon.

That was appealing to me because I'd caught one salmon in my life – a 32-pound monster, just south of downtown Sacramento – and rather than

SALMON | Page D7

HOLLY A. HEYSER

It's hard to tell who's more excited about a 25-inch salmon hauled in by Holly Heyser – guide Jon Harrison or his dog Trinity.

almon: Barbless hooks help thrown-back and escaped fish stay alive

Salmon: Barbless hooks help thrown-back and escaped fish stay alive

FROM PAGE D1

being delighted with the feast I'd caught, I was put off. It tasted like the Sacramento River from which it had come.

Now we were just waiting for proof that the Trinity springers were everything Harrison said.

On the first morning of our two-day trip, we set out on the river at 5:30 a.m.

"You can't write where we are," Harrison said sternly, looking me in the eye.

We soon found out why: This stretch of the upper Trinity River was virtually deserted, even though there were plenty of anglers in the area. We knew from the empty trailer where we had parked that there was one boat in the water ahead of us, but in more than seven hours on the river that day, we saw just one other angler – a man fishing from the bank.

Soon after putting in, Harrison rowed us in his drift boat just a short way downstream before stopping just above a pool that was dotted with rocks covered by lush bunch grasses and Indian rhubarb. He spent a few minutes tying sardine fillets onto Quikfish lures, trussing them up with fishing line. Because salmon don't eat in fresh water, the idea wasn't to tantalize their taste buds but to irritate them, prompting an attack.

HOLLY A. HEYSER

The spring-run chinook salmon is renowned for its high fat content.

Harrison dropped the first Quikfish into the water and let line out until the lure hit the spot where he knew the fish lay. Thunk! Thunk! A fish was on the line immediately. He handed the rod to Hank, who started reeling, and then just as quickly the fish was free.

What had happened?

Our barbless hooks, required on the Trinity and throughout the Klamath basin, would make it a challenge to land fish on this trip.

The hooks prevent killing the fish that anglers don't or can't keep, says Larry Hanson, a senior biologist for the State Department of Fish and Game.

When Harrison dropped our lures back into the water, we hooked two more fish immediately, a fourth a little later, but we lost all of them. At the next pool we fished, we hooked and lost one more.

Harrison was flabbergasted at the bad luck, and so was Hanson when I told him about it later.

"The hook-to-loss rate shouldn't be as high as you experienced," Hanson said.

Despite the lost fish, we were buoyed by having hooked so many. We knew they were there – and biting.

Harrison kept moving us down the river, and for the most part it was a soothing ride. We glided through clear waters, watched red alders dropping their first leaves in the light breeze, and spotted bald eagles and osprey overhead.

But occasionally he took us through rapids, the bottom of the aluminum boat thudding on the rocks underneath. No wonder there weren't many people around – this was not for an unskilled boatman.

Late in the morning, we arrived at Harrison's favorite hole, where submerged iron girders provided the structure fish love. By now our method had changed: Once the sun hits the water, the bright Quikfish are too flashy, so we were casting balls of vivid red salmon roe into known salmon lairs.

Why does roe work when salmon don't eat in fresh water? The theory is their memory of feeding on roe as juveniles makes them bite instinctively.

Thunk! Thunk! There was a fish on Hank's line.

He set the hook and began reeling. The fish bolted, stripping line from the reel. Hank reeled it in, and it raced back out. In, out, in, out. We could watch most of the battle play out in the deep, clear pool in front of us, and we could see that this fish was a monster. We prayed the barbless hook would hold.

All three of us held our breath as the fish zipped under the boat – increasing its odds of getting off the hook. But Hank brought it back, and after several attempts with the net, we finally got it on the boat. Thirty inches long, about 20 pounds – well worth the wait.

This was the only fish we would get that day, but the next day I caught my limit of two by 8 a.m., the first 25 inches long, the second 29 inches. It was a respectable haul for a season in which the spring run has been described as average.

So how do Trinity springers taste?

Harrison hadn't exaggerated a bit. They were rich and decadent, as good as the best salmon we've ever had. We feasted for days and froze what we knew we couldn't eat soon.

Even if the salmon run on the Sacramento River rebounds and provides good salmon fishing much closer to home, I suspect we'll head back to the Trinity with Harrison every summer. We've fallen under the river's spell.

Holly A. Heyser teaches journalism at California State University, Sacramento, and writes a blog about hunting. Read more about this fishing trip – including tales of what Heyser and Shaw did with their catch – on Heyser's blog, www.norcalcazadora.com, and Shaw's blog, www.honest-food.net.

SALMON FISHING ON THE TRINITY RIVER

Spring run: Mid-June through August. (You can catch and keep two fish per day. You can also have only two in your possession. The limits apply starting in January, though most spring-run fishing begins mid-June.)

Fall run: September and October (limit three per day, no more than two adult fish; possession limit of nine, no more than six adults)

Guides include:

- Jon Harrison of Five Rivers Guide Service, (916) 806-3119.
- You'll other Trinity River fishing guides at www.blm.gov/ca/st/en/fo/redding/recreationmain/fishguide.html.

Other salmon fishing in California:

- Ocean: Aug. 29-Sept. 7, north of Horse Mountain in Humboldt County, limit of two fish per day, minimum size 24 inches
- Sacramento River: Nov. 16-Dec. 31, from Highway 113 in Knights Landing to the lower Red Bluff (Sycamore) boat ramp, limit of one fish – per day and in possession.

Other things to do in Trinity County

- Visit the Trinity County Chamber of Commerce at www.trinitycounty.com, or (800) 487-4648.

November 16, 2009

Mark Stopher
California Department of Fish and Game
Regional Headquarters
601 Locust Street
Redding CA 96001

Dear Mr. Stopher

Elemental mercury in our rivers and streams is a subject of concern to all of the population in California today. Although some amount of naturally occurring mercury is present in our waterways, especially in streams originating in the coastal range, mining during the 19th century is the main source of the mercury load contained in our California Rivers at present. Year after year, sediments, sand and gravels containing this mercury are being transported toward the delta. These are known facts. A lesser known but obviously apparent fact is that the same hydrological forces that transport these materials year after year constantly grind and re-suspend floured mercury, not on, but in the gravels above bedrock. Only in certain areas of our streams and rivers, where there is a concentrating hydrological effect, is the mercury re-concentrated into larger droplets. The remaining floured mercury, which is the majority fraction, remains suspended in the gravels as it has a lighter specific gravity than gold and is in a liquid state, which prevents it from being wedged into bedrock unless amalgamated with gold. This is an obvious fact, which has been apparent to the many suction dredge gold miners who have collectively accumulated millions of hours of dredging in our streams and rivers for the last 50 years. The modern suction gold dredge is the perfect concentrator for removing mercury from the gravels of our rivers. The California Water Resources Control Board did a study, finding that a suction dredge removed 98% of the mercury in the gravel it processed and this study did not even employ a modern design gold dredge operated by a professional operator. The CWRCB then concluded that the 2% mercury lost was worse than the 98% recovered. What kind of twisted logic is that? To be a successful gold miner requires a considerable amount of common sense. Apparently that is not a requirement to be a member of the CWRCB.

A more common sense approach would be to work with the mining community and possibly provide periodical collection points where mercury and lead could be disposed of in a proper manner. Suction dredge miners are obviously the best-equipped group to facilitate the removal of metallic mercury in our rivers as an incidental by-product of their economically beneficial activity. At relatively little expense to our California government, a large portion of the mercury in our rivers could be taken care of before it is allowed to migrate on down to the delta. We need to work together to protect our environment and encourage the wise use of our resources.

Enclosed is a three-page challenge by the AD-Hoc Anti-Mercury Committee dated June 2009. Included in their list of possible solutions is the use of suction dredges as a partial answer to the removal of mercury from our environment. In Washington State, a program has already been successful in the collection of over 150 lbs of mercury removed from the waterways of their state in a short amount of time. Let's get it done. Thanks for your consideration of the facts.

Sincerely,

Steve Tyler
5601 Bumper Road
El Dorado, Calif. 95623

Enclosures
Cc El Dorado County Board of Supervisors
Governor Arnold Schwarzennegger

A Challenge to Remove Mercury from the California Environment

June 2009

The undersigned ad-hoc committee has been following the many research projects about mercury and other toxins in the environment. The scope of the research results have been a source of astonishment at their depth and admiration for the results that have been published.

Summary: The goal of the ad-hoc committee was to learn about the presence and effects of mercury(Hg) in the environment and to identify methods of removing such a health hazard from the environment. After following the published research and learning of advances in Hg removal technology, we have concluded that the possibility for realization of the stated goals is now in sight. Furthermore, the recent economic downturn, rather than decreasing the realization of Hg removal, may actually increase the possibilities of removal. The recent passage of economic stimulus legislation by Congress to provide employment opportunities should allow funding of Hg removal for reasons of providing employment with the added benefit of removal of a health hazard.

Background: The dispersal of Hg in the environment in earlier geologic times occurred only with earth movements such as volcanic eruptions. More recent industrial activities such as burning fossil fuels and mining, especially for use in gold extraction, and the process of gold extraction, have resulted in increased concentrations of HG (Sacramento River Watershed Program: www.sacriver.org/issues/mercury), especially in California, to the extent that environmental Hg is a recognized health hazard. The recent report, presented as an executive summary at the December 2008 meeting of the Delta Tributary Mercury Council, "Mining's Toxic Legacy" (Carrie Monohan, PhD, Sierra Fund: www.sierrafund.org) traces the development of gold mining and its environmental consequences. The report states that 26 million pounds of mercury were brought to the California Gold Country of which about half were never recovered and escaped into the environment. This is the source of the estimated several hundred pounds of Hg that flow into San Francisco Bay annually. The report stated that the gold rush benefitted the entire United States and that the Federal and State governments should be involved in the mitigation of the problems.

The path of mercury into the food chain has been the subject of many studies. The results of these studies have led the Ad-Hoc Committee to conclude that removal of the metallic Hg, which is the source of Methyl-Hg, would result in the significant reduction (not easily quantifiable) of Hg from the food chain. The downstream progress of Hg-containing sediments has been severely reduced by the use of the natural outflow for agricultural, industrial, and urban activities, and, as a result, the flushing action of river transport to the ocean has been prolonged. For that reason, we believe that any removal of Hg from the sources will reduce the time for the concentrations to be lowered to where they are not dangerous to health.

Possible Solutions: The small-scale mining community using suction dredges and sluices in Washington State has provided a partial answer. In the May 2007 issue of the ICMJ Prospecting and Mining Journal, it was reported that the Washington Department of Ecology has received over 150 pounds of Hg from this source. The Hg was accumulated in the sluice boxes alongside the gold. Also, Carrie Monohan in the December 2008 presentation stated that metallic Hg was visible in a creek near her residence and that it was removed by simply using a common turkey baster. These reports have led the Ad-Hoc Committee to conclude that establishment of a state wide program of buying Hg that was removed from

the environment by miners or others, would result in a significant amount of Hg being intercepted before it causes any more damage. The USGS in publication "Fact Sheet 2005-3041 Version 1.1; C. N. Alpers, M. P. Hunerlach, J. T. May, R. L. Hothem (http://pubs.usgs.gov/fs/2005/3014/) states "Today, mercury is recovered as a by-product from small-scale gold dredging operations; also, mercury and gold are recovered as byproducts from some gravel mining operations, especially in areas affected by historical gold mining." These methods of Hg extraction from the environment if encouraged by financial incentives could, as stated previously, result in removal of significant amounts of Hg from the environment.

The Sierra watersheds are the sites of many reservoirs installed for irrigation and/or hydro power electric generation. Over the years, the silt that would otherwise be carried downstream has become trapped, and as a result, the holding capacity of the dams has diminished, thus necessitating removal of the silt. One such project at the Combie Reservoir on the Bear River has recognized this as an opportunity to also remove the Hg (private communication to I. Sturman). The project goals are listed as: renewed storage capacity, Hg removal from the sediment, commercial use of the dredged materials, improved recreation, and public education.

Other possibilities of interception could benefit from the model of the interception ponds installed on Cache Creek. Although not in the gold country, the Coast Range is the site of numerous Hg deposits that were mined for gold extraction use and thus Hg was introduced into the local mine environment.

The interception process in the Gold Country and the Coast Range could be the subject of many site specific research projects that would result in new methods of interception and Hg extraction.

The previously described procedures are specific for remediation of water-borne Hg. It is likely that there are many non-water related sites (Hg mines, industrial facilities, etc.). A 73 page summary of other methods of Hg removal was published by the U.S. Department of Energy in 2001 as "Mercury Contaminated Material Decontamination Methods: Investigation and Assessment" by M.A. Ebadian, PhD; Marshall Allen; Yong Cai, PhD; John F. McGahan (www.hcet.fiu.edu). An eight page article "Extractability and Bioavailability of Mercury from a Mercury Sulfide Contaminated Soil in Oak Ridge, Tennessee, USA" by F. X. Han, S. Shiyab, J. Chen, Y. Su, D. L. Monts, C. A. Waggoner, and F. B. Matta was published in Water Air Soil Pollution (2008) 194:67-75. Also, a detailed description (seven pages) of "...removing contaminants from contaminated soils...", "...using electrokinesis..." is available as a patent description "Process and Apparatus for recovering Heavy Metals from Contaminated Materials" (www.wipo.int).

The previously described methods for Hg removal will reduce the amount of Hg entering San Francisco Bay. However, the bay contains significant amounts of Hg owing to the water flow from both the Sierra Gold Country and the Coast Range deposits that have been mined. The Hg deposits from the Gold Country should be accompanied by deposits of gold (Au) as indicated in previous references (because of their similarity in density). This opens the possibility of locating higher concentrations (concentrated by natural forces, wind, wave, and tidal action), in bay sediments and selectively dredging them to remove the Hg (and Au) bearing layers using techniques such as air lift suction to minimally disturb the sediments. It may be that the concentration of Au in bay sediments is low, but recently developed technology (heap leaching) can extract Au from ores at less than one part per million by weight ("Gold from Panning to High-Tech Mining" Tom Farley, Invention and Technology, Summer 2008, Volume 23, Number 2). At this writing (June 2009) the price of Au is about $900 per troy ounce. The price of Au has risen faster than the cost of extracting it. Any

recovery of Au would help mitigate the cost of Hg removal. The sediments from non-gold country sources, such as the Guadalupe River flowing into the south bay will require different methods for Hg extraction from the sediments, possibly centrifuge processing.

The previously mentioned economic stimulus plan was listed as a possible source of funds in "Cleanup of abandoned mines expected to continue", Joan Lowry (San Francisco Chronicle, February 16, 2009, page A11). "The final bill, approved by the House and Senate on Friday, contains more than $1.5 billion for construction and maintenance projects in the Bureau of Land Management, the National Park Service and the Forest Service. This includes addressing pollution and safety hazards caused by abandoned mines on public lands." "... Senator Dianne Feinstein, D-Calif., (was) one of the lawmakers who sought the money." The article states that projects other than mine cleanups are also eligible for the funds. However, the economic stimulus bill is limited to Federal lands and thus cannot solve the entire problem of Hg contamination in California. But, there already are Superfund projects active in California, at Clear Lake, near Redding, and near Davis, Jane Kay (San Francisco Chronicle, April 16, 2009) so there are precedents.

The Challenge: The Federal, State, and Local Environmental and Water Quality Agencies, volunteer, non-profit environmental organizations local citizens organizations, mining companies, and small-scale miners are the vehicles by which the Hg contamination in California can finally be mitigated. These organizations are challenged to form an umbrella organization with the common goal of removing the Hg from the California environment. The task requires the application of a "Super Fund" clean up effort applied to the entire state, not just to a specific site. The results will not be instantaneous, but applying the methodology selectively to the most contaminated sites first, possibly one or a few at a time, will have the potential of reducing the San Francisco Bay and other California environment concentrations of Hg in tens of years rather than hundreds of years if nothing is done.

As quoted previously, the entire nation benefitted from the Gold Rush, thus it is appropriate that the cost for the clean up come from the federal government.

The Ad-Hoc Anti-Mercury Committee:

Benjamin E. Gordon: BS 1940, MS 1943 Magna Cum Laude, University of Illinois: Shell Oil Company and Shell Development Company, 31 years: Lawrence Berkeley Radiation Laboratory; Analytical Chemist; Supervisor, Analytical and Radio chemistry, 19 years: Netherlands Shell, Supervisor and Radiation Safety Officer, 4 years: 273 research papers.

John Rasmussen: Professor of Chemistry, Emeritus, University of California, Berkeley; Author of Encyclopedia Britannica Article "Radioactivity": Also, Biographical Entries in "Who's Who in America" and "American Men and Women of Science".

Ivan Sturman: BSEE, Carnegie Institute of Technology (now Carnegie-Mellon University} California Registered Professional Engineer: Field Engineer, Quality Control Manager, Earth Sciences Application Engineer, Civil Defense Research Engineer; Marine Mineral Exploration Engineer, Hydrographic Survey Engineer; Nuclear Radiation Instrument Systems Engineer for Nuclear Power Plants, 19 Research Papers: Volunteer Creek Restorer: Volunteer Restorer Historic Victory Ship.

From: Steve Wandt <sjwandt@yahoo.com>
To: <mstopher@dfg.ca.gov>
Date: 11/25/2009 5:00 PM
Subject: SB-670

Mark Stopher
California DF&G
601 Locust
Redding Ca. 96001

Nov. 25, 2009

California Department of Fish and Game
Suction Dredge Mining and Rule Making Process

ACTUAL & CONSTRUCTIVE NOTICE OF MATERIAL FACTS

Dear Mr. Stopher,

This is to give you "Actual" and "Constructive Notice" of the existence of approximately twenty four thousand (24,000) unpatented mining claims, as well as near four times that number of "patented" (fee simple) mining claims situated throughout California. All held, maintained or patented under provisions of General Mining Law (30 U.S.C. §§ 21 et seq.).

SB 670 irrationally ignores these material facts, as though they do not exist. But, DGF as the "Lead Agency" in this CEQA process cannot. As numerous CEQA provisions mandate these material facts, ramifications, and legal consequences of their existence, as well as their constitutional, and statutory protections must be included throughout this CEQA process.

The presence of federal mining claims situated statewide throughout California, and the constitutionally protected private property rights associated with them. As well as the Congressional policy, law and regulation to encourage, foster and provide for mining on applicable federal public domain lands nation wide, severely constrain the DFG, and CEQA regulatory jurisdiction, and actions here.

Steve Wandt
5873 Cold Springs Rd
Foresthill, CA
95631

From: Steve Wandt <sjwandt@yahoo.com>
To: <mstopher@dfg.ca.gov>
Date: 12/2/2009 7:24 AM

Mark Stopher
mstopher@dfg.ca.gov.

DFG is clearly acting unlawfully in this permitting process.
By enforcement of mining prohibitions of SB 670.

TAKE NOTICE:

You are acting in contravention of Federal law.

There is NO question that the General Mining Law (30 USC § 21-54) "preempts" SB 670 state law prohibiting small scale suction dredge gold mining in California.

There are 3 ways state law may be preempted.

1. Express preemption, occurs when a federal statute explicitly confirms Congress's intention to preempt state law.

2. Conflict preemption. Under the Supremacy Clause, any state law that conflicts with a federal law is preempted.

3. Field preemption, Even without a conflict between federal and state law or an express provision for preemption, the courts will infer an intention to preempt state law if the federal regulatory scheme is so pervasive as to "occupy the field" in that area of the law.

"Shall" is a word of command & means mandatory.

30 USC § 22. Lands open
"…all valuable mineral deposits in lands belonging to the United States, … SHALL be free and open to exploration … and the lands in which they are found to occupation … by citizens of the United States … under regulations prescribed by law, and according to the local customs or rules of miners in the several mining districts, so far as the same are applicable and not inconsistent with the laws of the United States.

30 USC § 26. Locators' rights of possession and enjoyment
The locators of all mining locations … situated on the public domain, their heirs and assigns, … so long as they comply with the laws of the United States, and with State, territorial, and local regulations not in conflict with the laws of the United States governing their possessory title, SHALL have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations …".

30 USC § 35. Placer claims; entry and proceedings
Claims usually called "placers," including all forms of deposit, excepting veins of quartz, or other rock in place, SHALL be subject to entry … under like circumstances and conditions, and upon similar proceedings, as are provided for vein or lode claims…".

The word "SHALL" in the federal General Mining Law statutes above preempts state law.

The word SHALL expressly preempts SB 670 mining prohibitions, even if they are imposed "temporarily".

The word SHALL overcomes any "conflict" in state law.

The word SHALL fully occupies the field of mining, over that of any conflicting state law.

The word SHALL is a direct federal command.

Given this utterly unambiguous unequivocal straight forward Federal Command, no State Governor, State Legislature, State Attorney General, or State, or Federal Judge can even attempt to argue otherwise, without offending the U.S. Constitution.

That same explicit Federal Command in the General Mining Law is fully bolstered by California's Legislature accepting Section 3 of the California Statehood Admissions act. Which, expressly provides; "…said State of California is admitted into the Union upon the express condition that the people of said State, through their legislature or otherwise, shall never interfere with the primary disposal of the public lands within its limits, and shall pass no law and do no act whereby the title of the United States to, and right to dispose of, the same shall be impaired or questioned…".

This statehood act provision directly applies to all locatable minerals under the General Mining Laws, on all applicable Federal public domain lands in California. As minerals are a part of that land, and the General Mining Law is how they are disposed of.

Steve Wandt
www.naturalgoldjewelry.com

From: Steve Wandt <sjwandt@yahoo.com>
To: <mstopher@dfg.ca.gov>

Date: 12/12/2009 9:37 AM
Subject: For the record

http://wdfw.wa.gov/habitat/goldfish/goldfish2009.pdf

Steve Wandt
www.naturalgoldjewelry.com

From: Fran Pearson <franp86@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/21/2009 4:53 PM
Subject: gold dredging in California

My name is Steven Rosenlund, I am a licensed California gold dredger. I am 62 years old and live in Rainier, Oregon. I spend about a month a year camping and gold mining on the Klamath River in the Happy Camp area. I have been dredging for many years. I am careful not to disturb the bank or vegetation. The gold is generally in the main channel of the river so that's where I try to stay. I am careful to obey all the current regulations. When I am done dredging in a hole I roll the boulders back into it and the river fills back in the fines.

Anyone who has seen spring runoff knows that nature is much harder on the creeks and rivers than we are. I think we need to look at the commercial and hobby fisherman. California issues 3,000,000 fishing licenses. Most fisherman catch more than one fish per year. We can't catch millions of fish and have them to.

I usually spend about $2500 on my vacation on equipment, food and fuel.

Thankyou for your consideration,

Steven Rosenlund
71151 Terry Rd
Rainier, Or 97048

California Dept. of Fish & Game Nov. 30, 2009
601 Locust St.
Redding, Ca. 96001

Dear Ca. Dept. of Fish & Game,

I bought my 1st suction dredge permit in 1982. - It is #08282, and was $5.00 !

This year, my sister & I bought a placer mining claim, and paid over $7,000 for a dredge to use on it. In all, well over $10,000 invested.....

This years Suction Dredge Permit was a contract between us, to allow me to recover our expenses, without harming any fish. I feel that the Cal. Dept. of F&G DEFAULTED in that contract, for Political reasons.

- Lets face it, there are over 3,000 dredge Permits this year that have not proved to harm any fish... and over 3 million fishing licenses issued THAT DO KILL FISH. We also know & understand that there are NO SALMON here (N. FORK FEATHER RIVER & YELLOW CREEK) where I dredge.... This is due to PG&E's first dam built in Oroville. PG&E killed ALL the Salmon then, that USED to come here..

There are many other issues. I am glad you are working on it.

- A PISSED OFF VETERAN DREDGER - Steven E. Sullivan

P.S. WASHINGTON STATES ONLY DREDGE PERMIT REQUIREMENT IS THAT YOU POSSESS A BOOKLET TITLED "FISH AND GOLD" - YOU SHOULD READ AND EMBRACE IT.

POB 102
Twain, Ca. 95984-0102

Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Listed below is a number of quotes from studies that have been done over the years, please keep in mind that some were done on large 50 + cubic yard per hour placer mining operations, others were done on a variety of suction dredges, and some were done in a laboratory environment. All were done by well respected and educated people only a few of which have had any practical experience with placer mining/prospecting. The quotes listed in this document were taken word for word out of the documents written by the scholars named above each quote.

A. By: Paul J. Badali - 1988

"Several federal and state laws charge various governmental agencies to provide for the protection of these habitats. Our nation's technology based society has an ever increasing need for mineral resources, gold included. An ever growing number of people enjoy Recreational Gold Dredging as a hobby. Suction dredge operators working valid federal mining claims have a constitutional right under the 1872 mining laws to recover the valuable minerals present in the substrate. Private property owners and holders of state minerals leases also have rights to recover gold and other minerals present in streams and rivers. How can the country's need for natural resources, the individual's right or desire to mine, and need to protect the environment all be realized and satisfied?"

II. ENTRAINMENT

A. By: Phillip A. North - 1993

"While adult fish did not show a sensitivity to entrainment it is unlikely that they would be sucked into a dredge in the first place. They have the ability to avoid entrainment in a suction dredge by moving to a safer location. All of the investigators who examined the impacts of suction dredges on adult fish concluded that this life stage was not acutely affected (Harvey 1986, Hassler et al. 1986, Summer and Hassler 1992). Harvey (1986) found this to be the case for rainbow trout on streams he studied in California."

III. FEED AND FISH

A. By Dr. Henry Baldwin Ward

"most significant is a possible relation of fine silt to the food of young fish. It has been shown that the presence of finely divided suspensoids of natural origin may be of advantage to the microbiota which constitutes the foundation element in the food supply of water. Studies on aquatic biology conducted by the Wisconsin Survey demonstrated that colloidal organic particles collect on carbon and sand grains to build a culture medium for aquatic bacteria".

B. By: Thomas J. Hassler, William L. Somer, Gary R. Stern - 1986

"During diving surveys, we observed Salmon gairdneri congregating and selectively feeding on benthic invertebrates displaced by dredging."

"Suction dredge mining at levels observed in Canyon Creek probably did not impact steelhead feeding. The mining did not significantly reduce the abundance of aquatic invertebrates (only species composition locally) and steelhead fed opportunistically. In fact , juvenile steelhead were observed feeding on invertebrates that had been entrained in and dislodged by dredge. Thomas (1985) observed cutthroat trout feeding on dislodged invertebrates in the dredge outfall. "However, weight of juvenile steelhead from Canyon Creek was greater than weight from other areas and production (kg/ha) was as good or better than in other areas (table 41)." "Ecological differences between Canyon Creek and BEF were also important in determining colonization of samplers. Overall, the impacts of suction dredge mining to benthic invertebrates at the study site were minimal."

C. From: Robert Lewis, Pollution Bioanalyst III - 1962

"Benthos survival is noted in Table 2. Insects with internal extrusions were listed as mortalities. The morality figure of 7.4 percent may be extreme because of confinement in the sack. Many caddis larvae were still attached to rocks after passing through the dredge. All insects except those with extrusions appeared lively and unharmed."

"To determine stream distance necessary for insects to settle back to the bottom, a net was placed 15 feet and 25 feet downstream from the outflow. After five minutes at the former distance, Trichoptera, Coleoptera and Diptera were prevalent in the net. Only one Plecoptera was noted. At 25 feet downstream only few insects were caught in the net after five minutes. Underwater inspection with a faceplate indicated that all insects settled within 40 feet. The approximate flow throughout this distance varied from 1 ft./sec. down to 0.5 ft./sec."

D. By: Phillip A. North - 1993

"If recolonization is slow the cumulative impacts of suction dredge mining could be significant over a period of seasons. However, in all of the studies on suction dredges that investigated this question the disturbed stream reach was relatively short (on the order of a few tens of meters) and recolonization proved to be rapid. Griffith and Andrews (1981) found that the dredged site was "substantially recolonized" after 38 days. The abundance within orders of invertebrates were the same before and after dredging and "key" taxa were also the same. Harvey (1986) found that recolonization was complete in terms of numbers of insects within 45 days of dredging. Thomas (1985) sampled the site 30 days after dredging and found, again, that colonization was "substantially complete" for most groups. The number of invertebrates colonizing the artificial substrates used by Somer and Hassler (1992) did not increase after the first sampling at two weeks. None of these investigators sampled their study site earlier than the reported time of recolonization. Recolonization may have occurred sooner than the time reported."

E. By: The U.S. Environmental Protection Agency - 2001

"The results from Resurrection Creek indicated that there was no difference in the macroinvertebrate community between the mining area and the locations

downstream of the mining area in terms of macroinvertebrate density and taxa richness. The sampling was done 35 days after mining had been completed for the season and shows a rapid recovery of the mined areas."

IV. FLUSHING FLOWS

A. By: Gary R. Stern - 1988

"The autumn, winter and spring peak flows of WY 1985 Canyon Creek were adequate to disperse dredge tailing piles and fill in dredge holes. Less than 9% of the holes and tailings from 1984 mining were visible at the start of the 1985 dredge season. Only two sites from 1984 had clear remnants of holes and tailings in 1985. Both of these were far from the stream's thalweg. At a few sites large cobbles and boulders piled along the shore remained visible one year later. Thomas (1985) reported that piles of cobbles remained along the shore one year later at Gold Creek, Montana, but holes and instream tailings had vanished. Harvey et al. (1982) found virtually no evidence of dredge mining the following year in the American River, California. Most streams with mobile beds and good annual flushing flows should be able to remove the instream pocket and pile creations of small suction dredges, although regulated streams with controlled flows may not."

V. SEDIMENT

A. By: Dr. Henry Baldwin Ward

"All of these tests show .That the amount of colloidal material in the water of the Rouge River and its tributaries below the point at which the run-off of placer mine workings has been added to the stream is to small to produce on the bottom a "blanket" which might affect adversely young fish eggs in the nests if present, or the fish food in the water." "Even below the points at which tributaries entered from areas in which placer mining had gone on at earlier months in the year, no change from normal conditions were observed. The pools sheltered migrating fish; they were also seen in the stream below the dams, and a normal supply of fish food was found at various points visited."

These studies were done on commercial placer mining!

"The supplementary report of Mr. A. M. Swartley, who aided me in the part of the survey made in September, 1937, is of value in giving the views of a careful and experienced geologist. He confirmed fully statements I had reached in my preliminary report as to the physical conditions found in the Rogue River drainage, and especially the small amount of clay and other material on shores and stream bottoms, in backwaters and otherwise in our examination of the river and its tributaries. He discussed fully the methods of rock disintegration and the transportation and ultimate character of the materials produced. He emphasized the fact that mining debris "is chemically inert, makes no oxygen demand on the stream and therefore takes away from the flowing water nothing which the fish require. This is equally true of this material whether placed in transit by nature or by man since (the products) are alike in nature, come from the same sources and are only being accelerated by man in their journey to the sea." Further he stated:" All these materials entering the streams, whether by natural or human activity, whether coarse or fine, whether traveling on the bottom, in suspension or solution ,are

almost altogether inert, suffer little change on their way to the sea, and having reached the end point of chemical change do not rob the water of oxygen which the fish demand, or add to the water toxic agents injurious to fish (fish food or other forms of life)."

VI. EFFECTS OF SILT ON FISH

A. By: Dr. Henry Baldwin Ward

"I have seen among these Alaska rivers in which salmon run and spawn some so heavily loaded with mud that one could not trace the body of an adult salmon ascending the river even when the dorsal fin cut the surface of the water. Yet the fish examined on the spawning grounds just before and just after death showed that the gills had suffered no injuries on the way though the body had met with conspicuous external damage through violent contact with sharp rocks at rapids or falls or along the shore. The examination was made in connection with the study on the cause of death after spawning and all organs were closely inspected. The gills were reported as apparently in perfect condition. Although the object of the investigation was not to determine the effect on the gills of silt loaded waters, still, if any evident injury had been present, it would have been noted. The journey up the Copper and its tributary was long and strenuous; the chance for damage to the salmon from muddy water was certainly large if any damage could be wrought by such conditions, and yet none was observed. Many other similar cases could be cited from printed as well as published records."

"Despite their far greater sensitiveness to changes in environment and susceptibility to injury, the young salmon lived heartily in a concentration of sediment which was at its minimum (760 ppm) twice as much as the maximum recorded at Agness (see Table II). Indeed the average amount of turbidity in Griffin's experiments was ten times the average recorded at Agness. Those who think that normal erosion products will prove injurious to such fish should examine carefully the records in these tables."

VII. EFFECT ON SPAWNING GROUNDS

A. By: Dr. Henry Baldwin Ward

"Normally the fish cover the eggs by a layer of sand or fine gravel; the fresh water carrying oxygen easily penetrates this cover and the young wriggle out after the eggs hatch. A thin, broken layer such as I have already described would not interfere with the permeation of fresh water with oxygen and the development of such eggs as might be present. But I am clear that this is not a true spawning area. As Mr. Joseph Wharton said in an admirable paper on the salmon of the Rogue River, "It is the ambition of all these species of anadromous fish to ascend the river to the highest point attainable before making their spawning beds, seeking the waters that are purest and coldest." This statement is absolutely correct; In difficult streams or when held behind man-made barriers, these fish struggle to the end to make their way upstream and will sacrifice life rather than accept spawning areas in the lower reaches of the river. The urge which drives them on is the basis for the safety of the race. For the straggler or the weakling who may find the achievement of headwaters impossible, an enforced spawning in the lower river is of no significance; the river level varies too widely and its current at full flood is too fierce. Eggs deposited at high water will be exposed and die when the water falls; or if the spawning occurs at

a lower water level, the next flood waters will bury the eggs or sweep them away. The suddenness, the violence and the irregularity of the changes in water level of the Rogue are conspicuous in the records of every year."

B. By: Thomas J. Hassler, William L. Somer, Gary R. Stern

"Dredge tailings are often referred to as good salmonid spawning substrate. In the Trinity River, chinook salmon have been observed spawning in the tailing piles of suction dredges (E. Miller pers. comm.). Steelhead in Idaho streams have been reported to spawn in gravels recently disturbed by human activities (Orcutt et al. 1968). In the American River , Prokopovich and Nitzberg (1982) have shown salmon spawning gravels have mostly originated from old placer mining operations."

"Anadramous salmonids held and spawned in Canyon Creek in close proximity to suction dredge activity. During the 1984-1985 spawning season, fall-run chinook salmon, coho salmon and steelhead spawned in areas actively dredged during the 1984 dredge season (fig.). In August 1985, spring-run chinook salmon and summer-run steelhead were holding near areas where suction dredges were being operated (fig. 23). During the 1985 spawning season, fall and spring-run chinook salmon spawned in areas actively dredged during the 1985 dredge season (fig. 24)."

C. By: Gary R. Stern - 1988

"Suction dredge mining did not appear to influence the locations of adult anadramous salmonid summer-holding areas. One spring-run chinook salmon was observed 50 m below an operating dredge and a summer-run steelhead was seen at the upper end of a 30 m-long pool while a dredge was operating at the lower end. Seven other adult salmonids were observed within 250 m of an active dredge operation and none appeared to be disturbed by mining activities. During a 1980 diving survey by Freese (1980), an adult spring-run chinook salmon was observed holding at the bottom of an abandoned dredge hole in Canyon Creek and other adult salmonids were found in close proximity to active dredges. No relation between holding areas of spring/summer-run fish and suction dredge mining operations was apparent during this study or in 1980 (L. Freese pers. comm.)."

VIII. CHANGES IN THE STREAM BED

A. By : Dr. Henry Baldwin Ward

"To be sure no one can think rightly of the stream itself as a constant environment. On the contrary it is undergoing continual change. The amount and location of winter's snowfall, the volume and time of seasonal rains, the duration and precise period of regional droughts, and other climatic variations produce variations in water level, in bank erosion, in growth of grasses, underbrush and trees in the drainage basin; thus sudden and often extreme changes in contours of the banks and surrounding country add sediments of different types to its waters and modify the conditions under which the fish it harbors are forced to live." Number one on the list of things that change the shape of the stream bed are DAMS!"

B. By: Thomas J. Hassler, William L. Somer, Gary R. Stern - 1986

"However during the suction dredge mining process, a new pool area is created by the cone shaped dredge hole. Dace, suckers and juvenile steelhead were observed feeding and resting in Canyon Creek dredge holes. Freese (1980) observed a small spring-run chinook salmon holding in a dredge-created pool on Canyon Creek".

"The majority of suction dredge operators in canyon creek did not work long periods or disturb large areas of the streamed. Dredging impacts upon the channel geomorphology were confined to the area dredged and the area immediately down stream."

"Winter and spring flushing flows filled in dredge holes and dispersed tailing piles." "Coho salmon and steelhead juveniles appeared to rear normally in the creek and were observed using dredge holes in the summer. Steelhead juveniles received the greatest exposure to dredging activity as they rear in Canyon Creek up to three years, but their feeding, growth and production did not seem to be impacted at the current level of dredge activity."

C. By: Somer and Hassler - 1992

"The effects of the two dredges on aquatic insects varied with taxa and were site specific. Dredging dislodged insects, and we observed young coho salmon and steelhead feeding on them. The stream underwent major but localized changes. Dredge hole were excavated to a depth of 2 m, and substrate was altered to bedrock and large cobbles-probably a poor habitat for colonization. However, the effects of dredging (at the operating level during the study) on insects and habitat were minor compared with those of bed-load movement due to large stream flows during storms and from snowmelt."

D. By: Gary R. Stern - 1988

"Lewis (1962) was the first to investigate the effects of the portable suction gold dredge on the aquatic habitat of fish and benthic invertebrates. He operated a 12.7 cm aperture dredge in Clear Creek, Shasta County, California and found that dredging could improve the intergravel environment for both fish eggs and benthos if the stream was mined in a uniform manner."

"If dredge mining regulations were expounded upon and miners were made aware of the instream habitat needs of salmonids, the most serious impacts of suction dredge mining could be reduced. Suction dredgers may even be able to enhance certain areas of the channel for rearing and spawning fish, if some of the limiting factors of a reach of stream are identified (ie. cover, woody debris, low velocity refuges, clean gravels). In Canyon Creek, current CDFG suction dredge regulations eliminate conflicts with salmonid spawning, incubation, and fry emergence by restricting mining to summer months. The 15.24 cm maximum aperture size for dredges is appropriate since stream substrate is large, but larger apertures may be too disruptive in the small channel."

E. By: Robert Lewis, Pollution Bioanalyst III

Results of Gold Suction Dredge Investigation;

"Table 1 lists stand pipe results. The site average indicates an improvement from dredging of 1 p.p.m. in DO and a threefold improvement in permeability and velocity. As indicated above, dredged sand settled within 12 feet of the sluice outflow. This occurrence tends to somewhat nullify removal of sediment, but dredged areas are definitely relieved of compaction. As a gross measure, the standpipe was much easier to drive in the dredged area. As evidenced by photographs the gravel appears much cleaner after dredging. Weighing all factors, dredging can improve the gravel environment for both fish eggs and aquatic insects, especially if the operator mined uniformly in one direction as opposed to a pocket and pile method."

F. By: Phillip A. North - 1993

"The four studies that I reviewed from journals subject to peer review consistently found that when certain limitations are placed on suction dredge activity the impacts on the stream ecosystem are local and of short duration."

G. By: Bret C. Harvey - 1986

"Fish and invertebrates displayed considerable adaptability to dredging, probably because the streams naturally have substantial seasonal and annual fluctuations (Moyle et al. 1982). These fluctuations, in the form of flushing winter flows, can greatly reduce the long term impact of dredging. Even during the relatively mild winter of 1980/81, high flows still filled the hole created by dredging on NFAR with a sand and gravel mixture and eliminated all sand from the main streamed. After the high flows in winter and spring of 1981/82, no substrate changes caused by dredging in the previous summer were evident on Butte Creek. Saunders and Smith (1965) observed a quick recovery in the trout population after scouring of a heavily silted stream, which, along with the quick temporal recovery of stream insects seen in this study, implies that suction dredging effects could be short-lived on streams where high seasonal flows occur."

IX. TEMPERATURE

A. By:Thomas J. Hassler, William L. Somer, Gary R. Stern - 1986

"and dredge mining had little, if any, impact on water temperature."

X. TURBIDITY

A. By: Dr. L. E. Giiffin

"When the test ended on Dec. 30, it was found that a much larger proportion of the fish in the sediment -containing trough had survived (56%) than in the clear water trough (10%). There was no noticeable difference in the color of the surviving fish in the two troughs, and the fish which had lived in the muddy water were as large as the survivors from the clear-water trough."

"The results of the experiments indicate that young trout and salmon are not directly injured by living for considerable periods of time in water which carries so much soil sediment that it is made extremely muddy and opaque. They also indicate that

cutthroat trout and salmon fingerlings can feed and grow apparently well in very muddy water."

B. By: Dr. Henry Baldwin Ward

"In contrast with all these the experiments of Dr. Griffin have shown that young fish live well up to 30 days in good water mixed with an amount of natural soil materials from two to three times as large as the extreme load of the materials contributed to the Rogue River by maximum conditions produced by placer mining."

"All the evidence that has been obtained justifies the conclusion that no present-day contributions of materials produced by bank erosion differ in character or exceed in amount those added periodically by purely natural processes in past times. Splendid runs of salmon and steelhead were established and maintained under truly natural conditions which certainly were on occasion more extreme and violent before man ever came into the picture than they are today. Furthermore, there is good reason to believe that placer mining run-off was larger in amount and more continuous in the early years of that industry when for a time at least greater areas were followed than are employed today."

This study was done to study the effects of large scale placer mining operations!

XI. WATER QUALITY

A. By: Thomas J. Hassler, William L. Somer, Gary R. Stern

Water quality was impacted only during the actual operation of a suction dredge. Since a full day of mining by most Canyon Creek operators included only 2 to 4 hours of dredge running time, water quality was impacted for a short time.

B. By: Gary R. Stern - 1988

"Turbidity plumes below suction dredges are often markedly visible due to extremely low ambient turbidity levels in mountain streams. The extent of the plume depends on the grain size and volume of the material passing through the dredge. Horizons of silt-laden substrate were disturbed at all dredge sites in Canyon Creek and created highly visible turbidity plumes. "

"Although distinct to even the most casual observer, dredge plumes in Canyon Creek were probably of little direct consequence to fish and invertebrates. Suspended sediment concentrations of 20,000 to 100,000 mg/l which impact fish feeding and respiration (Cordone and Kelly 1961) greatly exceed the highest level of 274 mg/l measured in Canyon Creek. In general, dredge turbidity plumes were highly localized and occurred during midday which is not a peak feeding period for steelhead (Moyle 1976). Laboratory studies by Sigler et al. (1984) found that steelhead and coho salmon preferred to stay in channels with clear water, and turbidities as little as 25 NTU's caused a reduction in fish growth. In contrast to Sigler's results, young steelhead in Canyon Creek appeared to seek out dredge turbidity plumes to feed upon dislodged invertebrates even though clear flowing water was available nearby."

C. By: Phillip A. North - 1993

"Most water quality studies of the effects of suction gold dredges on streams have focused on turbidity and suspended sediments. These studies have, with some exceptions, largely found that water quality is impacted for a distance downstream of the dredge ranging from a few meters to 30 meters."

"However, Huber and Blanchet (1992) found no evidence of cumulative impacts of mining on water quality in streams of the Chugach National Forest in Alaska. They monitored streams in the Forest over a period of three years and found no noticeable impact to water quality associated with suction dredges. All of the studies that I surveyed came to the same conclusion: suction gold dredging had localized and short term impacts. Caveats must be taken into account when coming to this conclusion:

All of these studies, except one involved small dredges, 6 inches or less. The one study that involved a larger dredge reported only a small amount of data. Five water samples were taken 500 feet below a six inch dredge and one sample was taken 500 feet below an 11 inch dredge."

D. By: The U.S. Environmental Protection Agency - 2001

"In the 1997 permit, EPA defined a small suction dredge as those with nozzles less than or equal to four inches. EPA is proposing to redefine the small suction dredge range as less than or equal to six inches. Information provided in EPA's suction dredge study and the United States Geological Survey (USGS) study support the conclusion that there are local but short term effects on both water quality and macroinvertebrate communities in the mining areas. On the Fortymile River, dredges larger than those proposed under this GP showed that turbidity was reduced to background levels within 250 feet. It is expected that small dredges would have even less impact on the downstream receiving water quality."

XII. REFERENCES

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The quotes listed in this document were taken word for word out of the documents written by the scholars named above each quote.

This information was compiled with the intent to inform and educate, so the true facts can be a part of the process in the rule/regulation making pertaining to small scale placer mineral/metal mining and prospecting in our rivers and streams.

http://www.akmining....ne/corp9410.htm

http://www.akmining....ine/fsyards.htm

http://www.ecy.wa.gov/pubs/0503007.pdf

http://www.akmining....mine/usgspr.htm

http://www.fs.fed.us...ey/Harvey99.PDF

http://yosemite.epa....termination.pdf

Thank you for your time to evaluate my concerns.

Steven J Wandt
5873 Cold Springs Drive
Forest Hill, CA
95631

530 367-5611

From: <NEPITZ@aol.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/4/2009 3:38 PM
Subject: Subsequent Environmental Impact

This email is concerning Suction Dredge Permitting Program Subsequent Environmental Impact Report.

There is no sense getting rude and name calling here. But, I just can not see how this EIR will be fair in any way, shape, or form. The Indians are netting fish by the millions with nets stretched all the way across the streams. That obviously will create a shortage of fish when the study is done. That should be addressed up front.

Also, why are the streams with no fish present also included in the dredging ban? I was considering spending the winter in CA. along with several prospecting friends but now that dredging is banned, we will have to change our plans. That results in a net lose to the economy of the state of California. Multiply that by the thousands of other prospectors that have changed their plans also, and it results in a massive amount of capital going elsewhere. Can California afford to alienate the prospecting community? I thought their budget was in the bred. Hmmmm.

Sorry to take up your time. Please help us.

From: <g.staffler@att.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 11:16 AM
Subject: Shame

M. Stopher et al:

How did dfg ever get caught up in the dredge debate? Your agency, stating it didn't have the funding to complete a timely E.I.R. to appease some left leaning judge is shameful. Arizona's fgd is completely subsidized by licenses and permits. They don't have the deep pockets your department used to have before all the entitlement programs left you with nothing more than excuses.

I don't want to bore you with repetitious statements of the benefits to habitat and community that dredgers bring. I would like to see some people out of your tribe get some life in their sacs and quit the pc crap. Speaking ot tribes,. How do a bunch of white men pass themselves off as native american indians? The Karuks should change the name to the Karupts. At least thier sovereignty hasn't been difiled as our laws have assured those rights. Its a shame no one will observe a law that protects my sovereignty. The 1872 Mining Law.

Ted Staffler
no one will observe the law to protect mine. The 1872 mining law.

Ted Staffler

From: Creek Hanauer <tcreek@sisqtel.net>

To: <dfgsuctiondredge@dfg.ca.gov>

Date: 12/2/2009 10:12 AM

Subject: inappropriate suction dredging

Attachments: DredgeLet12.09.docx

Mark Stopher,

Please find my comments in the attached Word document

I oppose suction dredging in all wild and scenic river systems

Terry M. Hanauer

November 30, 2009

To Mark Stopher, California Department of Fish and Game,

My name is Terry Hanauer, my wife, Elizabeth, and I have been residents of the Salmon River for over forty years, twenty eight of those years on a patented piece of property in the Knownothing Township, at the mouth of Knownothing Creek on the South Fork of the Salmon River, 2.3 miles upriver from Forks of Salmon. My wife and I have raised our family here and as twenty five and thirty year employees of the Forks of Salmon School District have been active members of our Salmon River community, which includes the towns of Cecilville, on the South Fork of the Salmon River, Sawyers Bar on the North Fork of the Salmon River, Forks of Salmon at the confluence of the North and South Forks and Somes Bar at the confluence of the Salmon River and the Klamath River.

For the last twenty eight years I have been a whitewater kayak instructor and river guide on the Salmon River, mid-Klamath River region and the Colorado River in Grand Canyon. This outdoor professional career has given me a unique perspective on river issues especially in my home region.

As a private river citizen, river user and board member of the Salmon River Restoration Council, I emphatically oppose suction dredging in the Klamath River basin, most especially on the Salmon River and its tributaries. I fully support the Karuk Tribe's stewardship efforts to stop the degradation of their salmon habitat.

The whole history of gold mining is one of rape of landscape while pillaging and plundering the natural resources, for the benefit of very few; whether directly by the mining

operations themselves or the clear-cutting of whole forests for mining timbers. Dredges and placer operations finally outlawed in the Sierra, were moved to remote places like the Klamath River (further from population centers and public notice) and then, in my lifetime on the area's rivers, to Brazil.

On the Klamath River the traditional salmon runs approach extinction due to rising river temperatures in large part caused by past logging and mining practices and currently because of the series of dams above I-5. Further fouling of an imperiled river through suction dredging is just another nail in the coffin of the spring and fall salmon runs.

On the Salmon River's pre-white man spring salmon runs of Chinook and Coho numbered a half a million; the fall run a hundred thousand fewer. Today we're lucky to see a spring run numbering above 100 SALMON TOTAL! The now bigger fall run has dropped below TWO HUNDRED in my river lifetime and we feel fortunate when the fall run gets above a couple of hundred. The Salmon River is the last and only natural river in the whole Klamath River basin.

The Salmon River drainage encompasses 750 square miles and is 98.5% federal land administered by the United States Forest Service.

The Salmon River has no major population congregations (the total population within the entire 750 sq. miles of the Salmon River drainage is around two hundred people.) There is no large agriculture or industrial operations. The Salmon River is host to the only remaining natural run of fish in the whole Klamath River basin.

In other words there is nothing to foul the river except the consequences of past mining, road construction and clear cutting.

How can we in our right minds condone an activity that pollutes the river system in any magnitude at the lowest, warmest time of the Salmon River's yearly cycle? We cannot! The salmon runs are the heart of the forest's health, this is a time for river restoration efforts such as those of the community based organizations like the Salmon River Restoration Council and Mid Klamath Watershed Council, not the further endangerment and loss of habitat.

My home is on Knownothing Creek near the mouth. The creek runs unusually flat, by local standard, for its first three miles, historically prime salmon spawning opportunity for returning spring and summer Chinook and Coho salmon. Knownothing flows into the South Fork in a way that naturally creates a yearly hole that supports the weary fish. There are spawning redds directly above and below the Knownothing Hole. Yearly fish dives have always found returning salmon and steelhead nosed into the creek's flow at the mouth. Knownothing Creek is one of only three summer creeks large enough to provide refuge to the spring and fall spawners and the only creek fed hole for the first six miles of the lower South Fork. Knownothing Creek's fresh, colder water is a major factor in the returning salmon's ability to survive summer temperatures. During the dredging season the river is at its lowest flows and Knownothing Creek flows at around two (2) or three (3) cfs; in good years. These last weather years have not been good.

Last summer, July 2009, a mining claim only two hundred yards up Knownothing Creek from its confluence with the South Fork of the Salmon River was rented out to people from

southern California who placed a SIX INCH DREDGE into one of the few holes on Knownothing Creek big enough at that time of year to hold it. They were outfitted in the very latest state-of-the-art diving gear designed for deep diving. Knownothing Creek at that flow wasn't deep enough for them to have to do anything but float on top while suctioning up the creek bottom; and there were already three more smaller dredges further up the creek! The few days before the ban that they ran the dredge turned the creek black with mud. With no real flow to push the muck down creek I watched as a thick pudding like flow seemed to ooze slowly down creek to the river. It filled every nook and cranny of the creek bottom with a thick layer of silty mud. When these flows reached the river they dumped this oxygen killing muck directly into the faces of the spring salmon nosed into the creek mouth for cool temperatures and oxygenated water. This should be a crime; to participate in the killing of the last struggling representatives of a species!

After witnessing this horror in my own home neighborhood I went and spoke to these folks about what was going on in the Salmon River drainage and where they were and the community they were invading. Nice folk. They had no knowledge of anything in the area, they were there just to "have fun together dredging in this beautiful place you have here." The owners of the claim gave them no information and nice as they were, if it wasn't for the ban, they would have continued destroying the Knownothing refugia.

Late history on the Salmon River system included a very few local folk doing a little plinking around and a few stalwart old-timers who returned to traditional claim every year. Not many as far as raw numbers went. Then came the invasion of "the recreational mining club." Four or five years back a mining claim on the main stem of the Salmon River was occupied by over two dozen recreational miners from the New 49er Mining Club out of Happy Camp (the New 49ers bought up every unclaimed foot of the Salmon River). Locals noted that the family that had lived there for over a decade had been forced off the claim when denied occupancy and now we had two dozen flatlanders crowding a flat that used to support an active family in our river community. **The New 49er's placed FOURTEEN DREDGES in the first half mile below Butler Creek!** Gas being poured into the river at refueling times (boating below the flotilla of dredges found a dirty river with hints of gas slicks in the small eddies below.) Toilet facilities were minimal and there was no concern for bathing, grey waste water or trash. This was an abomination to all local sensitivities, in particular to the Karuk Tribe. Fortunately we have fishery issues that shut that kind of travesty down. But, a pretty good example of these "wreck-reational" miner clubs stretching the regulations so a few at the top can make a buck; without a thought to the river's residents or communities. There oughta be a law.

Last summer when the dredging ban went into effect, there were three miners with Oregon plates on their rigs, dredging a mile up the North Fork from Forks of Salmon that thumbed their noses at the ban, F&G and the local community and kept right on dredging until a rumor that the F&G was finally going to put in a token appearance caused them to shut down. Letters to the editor in regional news papers made bold claims of not obeying the law; the prevalent statement of bravado identified the angry miner as an "outlaw."

The Salmon River may appear to these "outlaws" to be in the middle of nowhere, but the river has a long history of being the home to many families sprinkled along its banks. The Salmon River is my home. I take it personally when someone threatens to defy the law in my home, as would anyone in any neighborhood in the state.

In the last two decades the recreational uses of the Salmon River area have skyrocketed. Rafting, Kayaking, Mountain Biking, Four-Wheeling, Hiking, Motorcycling, Road Biking have all grown enormously. These are activities that do not use up the natural resources of the Salmon River drainage while infusing recreational dollars into local businesses.

It is long past time to put a stop to all dredging within the Salmon River Drainage. The Salmon River, of all the state's rivers and certainly as the only free-flowing river in the Klamath River basin deserves protection, not further degradation and endangerment.

Yours with Deep Concern,

Terry M. Hanauer
Elizabeth Hanauer
44631 Cecilville Rd
Forks of Salmon, CA 96031
530-462-4764

Nov. 30-2009
Box 132
2827 Indian Ck Rd
Happy Camp, Calif, 96039
ph: 530-493-2078
From: Thomas Evertsen

Calif Dept of Fish and Game
601 Locust Street
Redding, CA, 96001
attn: Mark Stopher

Dear Sir,

I am writing you about suction dredge mining. It is my expressed hope that, if the current moratorium on this particularly destructive form of mining is lifted, that DFG will put in place a stringent permitting program.

I have personally witnessed Salmon spawning areas turned into virtual 'moon scapes' of mounds and craters here on the Klamath River. I have seen that the fish are frequently absent from these worked-over areas for years following dredge mining.

Additionally, as I have been, in the past, employed in the field of occupational and environmental health, I am deeply concerned that the re-release of long sequestered mercury (from past periods of gold mining) poses a significant risk to human and animal health, and that this serious risk has been minimalized or ignored, in the past,

From: Thomas Evertsen
Box 132
2827 Indian Ck Rd.
Happy Camp, CA, 96039
530-493-2078

Calif Dept. Fish and Game
601 Locust Street
Redding, CA 96001
Attn: Mark Stopher

when reviews and permitting of dredge mining have been done.

I cannot help but think that the the recreational and commercial mining lobbies have been far too influencial in assessing the impacts of suction dredge mining on California's rivers and streams.

What I have personally witnessed occuring here on the Klamath River, and on Indian Creek (which is a major Salmon and Steelhead spawning ground), defies reason and imagination that it continues to go on so unregulated. The aftermath at some dreging sites is beyond belief!

Have you ever watched the fueling of dredge motors in mid-stream? I have. How can this go on without stringint permitting and inspection? I am really hoping that, given both the recent legislative and judicial attention given this activity that long-needed changes will occur.

Thank you for your attention to this letter.

Tom Evertsen

From: "Tim J Livingston" <TJLivingston@spi-ind.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/3/2009 4:10 PM
Subject: Suction Dredging Public Comments
Attachments: 20091203160010498.pdf

Please find attached our comment regarding the Suction Dredge Permitting Program.

Tim & Mary Livingston
(530) 378-0722

December 3, 2009

Tim & Mary Livingston
23904 Coleman Fish Hatchery Rd
Anderson, CA 96007

RE: Suction Dredge Permitting Program

We are submitting these comments as part of the public scoping process regarding the suction dredge permitting program. We support the continuation of a viable suction dredge permitting program. We are the owners of mining claims and have hands on experience with suction dredging. As this process continues forward we would like to see the following points examined. These points have grown out of our experience and observations.

- Sediments suctioned from stream bottoms tend to be coarse and settle quickly. The data based on the research in the literature review provide by DF&G seems to corroborate this.
- DF&G schedules the dredging seasons in a manner to prevent disturbance to the spawning beds. The fry have hatched and left by the time dredging begins.
- Fingerling fish will feed on the organic matter discharged from the sluice box. The action of the dredge frees the organic matter from the stream bottom that was otherwise unavailable the fish.
- Deep holes are often created during dredging. This type of streambed structure can be beneficial to fish.
- The gravel material freed up during dredging gets re-deposited in winter storm events and much like a gravel injection adds gravel for spawning beds when done by DF&G. Often the stream bottom materials are cemented together and are not as likely to be moved by storm flows in normal years. Since so many of our rivers are below large flood control dams the riverbeds are not turned over like they were before the dams were built. Dredging accomplished this in a small way.
- As we know mercury occurs naturally in many of the streams and was allowed to be deposited into them during the gold rush. As per the literature review dredging has the capacity to remove 98% of the mercury in areas that are worked. We recommend the DF&G sets up or, licenses a clearing house that would purchase contaminated mercury-gold and mercury, thus allowing for it's clean removal and discouraging processing of this material by the miners. In this manner a partnership between the agency and the miners would accomplish a common good.
- Any motorized activities whether it is suction dredging, atv riding or jet skiing will always be bothersome to some people. However, dredging equipment does not move through any given section of stream very fast and can easily be avoided by people who do not wish to be around it.

- While certain parties contend that suction dredging is destroying the stream ecosystems, we whole-heartedly disagree. Does catching and killing mature spawning fish whether by hook and line or, current gill netting practices have less impact to the fisheries than does suction dredging? In our experience we have never killed any fish while dredging. The conventional wisdom is that suction dredging is deleterious to streams and harmful to fish, but experience shows this not be true.

As life long residents of Northern California (Tim was born in Redding and Mary was born in Hoopa) our perspective on this extends beyond that of just miners. We appreciate this opportunity to comment.

Sincerely,

Tim & Mary Livingston.

From: Gilbride-Read <gilbr@humboldt1.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/3/2009 6:41 AM
Subject: Suction dredging on the Trinity

We are property owners on the Trinity river near Salyer, California. We spend a lot of time on the river and have seen first hand the destructive effects of the multiple suction dredges near us. We greatly appreciate the DFG efforts to regulate this practice and firmly support the permanent elimination of this practice. Our rivers are too precious a resource to turn over to the incredible disturbance and commodity extraction of a few.

Thank you,
Tim and Anita Gilbride-Read
#1 Eagle Pt., Salyer, CA
or 255 Wilson Ln, McKinleyville, Ca
707-839-4645

From: TIMOTHY LORI CONNELLY <connellyt@sisqtel.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 6:45 AM
Subject: Suction Dredging

In regards to suction mining:

I have operated a suction dredge on the Salmon River since the early 1980's. I have abided by all the laws and regulations set forth by California Fish and Game as well as the United States Forest Service. During the years of operation my seasons were reduced in time for protection of salmon and I agreed with these stipulations, however the complete closure is difficult to agree with. With close to 30 years of dredging experience, I have never once mined in an area that would have been considered prime salmon habitat. In fact I have avoided shallow salmon bedding locations mainly due to the fact that mining in these areas is difficult and very often not considered prime mining sites. Never once have I harassed fish; on the contrary, one can regularly see fish feeding in my tailings and the amount of mercury and lead I have removed from the river can only be measured in pounds. Contrary to what was printed during the closure last summer, I believe my dredge captures 100% of the mercury I encounter. It is observable in the 1st riffle of my sluice box and is easily removed. Since my dredging season ends in mid-September, and the Spring Run Salmon spawn in late October (observable) I don't see a contradiction between mining and the Salmon spawn. It takes but a few weeks once the mining season has ended for my dredging sites to no longer be visible and the entire eco-system recovers within a few months. The very best way to determine if suction dredge mining has any real negative impact on the river would be to observe my operation which I would welcome. An observer would see 2 well educated operators (my wife and I both possess graduate degrees) working diligently to obtain a few ounces of gold, enjoy the beautiful environment and act as stuards of the land. We have been very protective of our mining claims in regards to removing dangerous metals, including mercury, and we regularly remove roadside trash and have begun a thinning project to protect our area from wild fire. We have been proactive rather than reactive. Our mining claims are virtually spotless and our respect towards the forest and river is limitless.
If I can be of further service toward this issue, please don't hesitate to contact me and I look forward to hearing from you.

Sincerely

Timothy A. Connelly
Cecilville California

From: tina Bennett <tinabennett2@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/1/2009 4:42 PM
Subject: regarding suction dredging on on the salmon river

I feel that suction dredging has it benefits for the fish. I think that it should be monitored so that everybody doesn't have a dredge on the river every mile. I think that people who try to get rich by buying up all the claims and reselling them for a profit shouldn't happen because you get a whole handful of people over populating the mining claims as well as the river. We had dredger from as far away as Montana. I think that the permits should go to the locals because they are aware of the issues with the salmon. The locals are doing this for a living and not just recreation. I think you should do a lottery for the out of state miners. Which would limit the impact on the river. The out of state dredgers need to be responsible for port-a-pottys for their camp sites. I think that dredging does help loosen the gravel for the salmon so they can make their redds in the gravel that has been loosened up. This year where we where dredging we had three redds at the tailing pile (the tailing pile is the gravel that came out of the end dredge.) We also had salmon in the hole because is was cool water in the hole we made with the suction dredge. My brother and I our Karuk Tribal Members. We have lived here most of our lives we own two mining claims. I also think that either you do a lottery for telling miners that only odd numbers get Tuesdays and Sundays or something like that. I don't think that making it stop altogether is the answer. We need to work to come up with agreement. So that both parties agree on Locals and the Kaurk Tribe and Other organizations through out some ideas beside just stop it altogether. I feel that the who oppose this need to meet with locals and spend time with the people on the river. Thanks for letting me voice my thoughts and ideas.

Tina Bennett
14339 Salmon River Rd.
Forks of Salmon, Ca 96031
Email: tinabennett2@gmail.com

From: "Todd Lindseth" <tlindseth@sp3inc.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/1/2009 2:21 PM
Subject: Moratorium on instream suction dredging
Attachments: suction dredging letter3.doc

Mark Stopher
California Department of Fish and Game

Dear Mark,

Please see the attachment for some important comments on the recent moratorium on suction dredging in California streams.

Thank you,

Todd D Lindseth
890 Dearborn Place
Gilroy, CA 95020

Phone: (408) 848-5051
ttlindseth@verizon.net

11/30/09

To Whom It May Concern:

My family and I are very concerned over the recent decision to suspend all suction dredging activities in California streams. We believe that this decision will have a very negative impact on our ongoing environmental conservation efforts.

I guess we are somewhat of what you may call nature enthusiasts. We have owned property in the wilderness since 1968 and have a great love and respect for the outdoors. We take great pride and care in keeping our property and surrounding areas completely clean and free of any liter with as few signs of city life as possible.

After reading the Provided Suction Dredge Permitting Program, I've noticed that it only lists the possible negative effects that may derive from dredging, some of which are misleading or largely blown out of proportion. It goes into a lot of detail about noise and other harmful effects it has on wildlife, yet while I'm dredging, I often have fish and snakes coming up to me under water and looking me right in the face as I'm working. It seams they are not afraid of you while your under water. I have also had baby ducks swimming around my dredge (within 10 feet) while dredging. I recall bragging to my wife about how they remained there for up to 45 minutes just swimming around as I worked, stopping from time to time to just watch and enjoy them.

Anyway, nothing is said about the positive things that come from dredging. We have been gold mining (including dredging), for the past 15 to 20 years and have had a very positive effect on the environment. We are also in personal contact with numerous other

prospectors and property owners in the surrounding areas, most of which are also involved with some sort of gold mining activity, such as suction dredging. More importantly, all of these people share the same love and respect for nature with strong conservation values as we do. Everyone pitches in watching over the land and chasing off potential poachers. We could not think of one that does not have a positive effect on our environment.

All of us leave our properties cleaner than they were when we arrived. We are constantly picking up after the wayward trespassers and illegal snipers that abuse the land. Best of all, while performing any type of mining such as dredging, we are removing 10 to 20 lbs of old rusting steel, plastics, and other sorts of garbage, along with a good portion of mercury for every ounce of gold we retrieve. To discontinue the issuance of dredging permits would be doing a great injustice towards our environment as a whole. The amount of ongoing maintenance provided towards the well-being of our creeks and streams, from these simple mining efforts, should not be overlooked.

This moratorium on instream suction dredging would discourage some of the most ecologically minded nature enthusiasts of all from spending their time in the wilderness. These small scale, permitted miners are not the problem. They follow the laws, dredging only during the permitted seasons, etc. Taking them out of the streams would leave only the illegal prospectors who would in turn wreak havoc on the land with no one left to watch over them. This would be detrimental to our environment. We really need the law abiding, permitted citizens out there. There are simply not enough resources available from the Departments of Forestry or Fish and Game available to monitor all of California's wilderness.

These responsible property owners and prospectors are probably some of our most effective resources as far as driving out the illegal poachers, snipers, and irresponsible trespassers who do harm to the environment. They are also a great influence on others as far as respecting the wilderness.

The life lessons and respect for the outdoors we have instilled in our children will forever be a blessing on our environment. For they, along with all of our neighbors, are continually bringing new friends and families into the mountains where they are taught just how wonderful nature is and how best to keep it that way. They learn to camp safely, observe the wonders of nature and respect wildlife from a distance so that it will always be there.

We urge you to rethink this policy and return the issuance of dredging permits. It's a great way to clean up our streams and rivers and keep good, nature-loving people out in the wilderness. Here, they are best able to teach others and increasingly spread the knowledge that is so essential in preserving the environment. They also provide a great service in deterring unwanted poachers, illegal dredgers, snipers and other trespassers that might otherwise harm the environment.

Thank you for taking our thoughts into consideration.

Respectfully,

Todd Lindseth
Terri Lindseth
Ryan Lindseth
Alan Lindseth

11/30/09

ATTN: MARK STOPHER

To Whom It May Concern:

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from the Departments of Forestry or Fish and Game available to monitor all of California's wilderness.

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We urge you to rethink this policy and return the issuance of dredging permits. It's a great way to clean up our streams and rivers and keep good, nature-loving people out in the wilderness. Here, they are best able to teach others and increasingly spread the knowledge that is so essential in preserving the environment. They also provide a great service in deterring unwanted poachers, illegal dredgers, snipers and other trespassers that might otherwise harm the environment.

Thank you for taking our thoughts into consideration.

Respectfully,

Todd Lindseth
Terri Lindseth
Ryan Lindseth
Alan Lindseth

11-24-2009

To: Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding , Ca. 96001

Dear Mr. Stopher

Thank you for the opportunity to submit my comments.

There is an omission of material fact & FALSE statement in the initial study report CEQA check list.

The "Land Use / Planning" box is not checked.

45% of California is Federal public domain lands.
Much of which is open to mineral entry under the Federal mining laws.
Much of which is held by mining claims.
Where most small scale suction dredging takes place.

All USFS & BLM lands are under one form or another of Federal "Land Use / Planning" .
Which encourage, provided for & allow mining on Federal lands.

Consequently, under CEQA regulations, this study must take that into consideration.
If not, it is fundamentally & fatally flawed.

Another critical point for the DFG to consider.

The lead agency in a CEQA study "MUST" consult with pertinent agencies having statutory authority over land where the "project" takes place.

Since 45% of California is Federal public domain, mostly administered under jurisdiction of the USFS & BLM,

DFG must start formal consultation with them.

If not, that's another fatal error in this CEQA process.

USFS & BLM will then inform DFG, mineral extraction on a valid mining claim is a statutory right of the owner.

Another critical error for the DFG to consider.

DFG takes the position, "economic" impact need not be considered in this CEQA study.

WRONG ANSWER

CEQA law makes it mandatory they do.

Read it yourself.

CEQA Title 14. Natural Resources
Division 6. Resources Agency
Chapter 3. Guidelines for Implementation of the California Environmental Quality Act
Article 7. EIR Process
§ 15093. Statement of Overriding Considerations.
(a) CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a proposal project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."

Sincerely,

Tom Chambers

2126 Franklin Way

Hanford, Ca. 93230

11-27-09

To: Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding , Ca. 96001

Dear Mr. Stopher

Thank you for the opportunity to submit my comments

The legislative Act SB 670 covers suction dredge gold mining "in any river, stream, or lake of this state".
The clear intent, and unambiguous language of the Act specifically covers "in-stream" suction dredging activities only.

DFG's regulatory authority pursuant to DFG Code section 5653 et seq., pertains to the use of vacuum and suction dredge equipment in California for "in-stream" mining.
Related provisions of the DFG Code underscore that exact point.
Recently enacted DFG Code section 5653.1 covers the use of suction dredge equipment for in-stream mining.

The critical word in both the SB 670 law, and subsequent CDFG regulation is "in-steam".
In-stream clearly means in the waters of a stream, river or lake in California.
In effect, anything outside the water, not in-stream in waters of California, on dry land is beyond the scope of both SB 670 law, and subsequent DFG regulations.

Given that explicit statutory, and regulatory limitation pertinent to suction dredge gold mining in California,
DFG has no legal authority to regulate anything about suction dredge gold mining, not in-stream, or otherwise outside waterways in California.

The legal consequence of that is that DFG has no authority to let a contract to any firm to perform a California Environmental Quality Act (CEQA) environmental study, or report concerning anything not in-stream, in any steam, river, or lake in California.

Consequently, the SB 670 CEQA initial study report performed by Horizon Water & Environment greatly exceeds the boundaries of "in-steam" environmental impact.
As the initial study report, by both statutory law, and DFG regulation is expressly limited to in-stream environmental effects.

Thus, all matters within the initial study report relating to:
"Accessing the Site" (5.5.2)
"Delivering Equipment" (5.5.3)
Dry land "Processing of Material" (5.5.7)
"Encampments" (5.5.10)
Dry land "Aesthetics"
Dry land "Air Quality"
Dry land "Biological Resources"
Dry land "Cultural Recourses"
Dry land "Geology & Soils"
Dry land "Hazardous Materials"
Dry land "Noise"

Dry land "Public Services"
Dry land "Recreation"

Are all outside the scope of in-stream environmental impacts this initial study report is allowed to contain.
While SB 670 authorized this CEQA study.
No SB 670 statutory provisions, or DFG regulations exist to authorize the inclusion of any environmental effect anywhere other than "in-stream", in California waterways.

Sincerely,

Tom Chambers

2126 Franklin Way

Hanford, Ca. 93230

From: Fran Leftwich <feltel935@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
CC: Bill and Cheryl Dimmock <trapper101@aol.com>, Don and Deb Miller <danddm...
Date: 11/25/2009 8:48 PM
Subject: SEIR Response from Gold Dredging Taxpayers

To: Mark Stopher, Calif. Dept of Fish and Game

From: Tom Leftwich ,. JT3 LLC Field Engineer, Gold Miner 40 Years, Calif. Dredger 20 years, Gold Mining Resort Manager and Mining Instructor, Calif. Mining Claim Owner, ICMJ Writer, Book Author of "Gold Mining – Come Along for the Ride" and 55 yr. Tax Paying Citizen of Calif.

Subj: Response to Request for Comments as regards Suction Dredging in Calif.

Mark,

Thank you for soliciting inputs from the Gold Mining Community in developing a Subsequent Environmental Impact Report for the Suction Dredge Permitting Program. I represent a number of Dredgers and Gold Miners (San Diego to Redding) whose main interest involves submitting a request to your Department for early resolution of the court issues and restoration of Permitted Dredging . I and my associates find little fault with the current Fish and Game Permitting Program that has been in effect for the past twenty years governing the majority of Calif. Miners. We have participated , paid our dues, obeyed the rules and enjoyed this wonderful activity that provides a recreational, for some and income for others activity. We strongly and collectively feel that Regional Disputes require Regional Solutions without affecting the total State Community.

Please understand, that all of us have read the derogatory and unwarranted claims that have been attributed to all Gold Mining Dredgers in common and quite naturally resent these untruthful negative allegations. Gold Miners , as a whole; fully support a clean and well maintained environment. Our Mining Claims are kept in a clean condition while engaged in Dredging activities. Unfortunately, our Claim sites with entry roads, attract users and abusers during our absence and as a norm ,we all must spend a day or more every year cleaning up and hauling off trash and filth left by weekend abusers. It's unfortunate that the Federal Government won't permit us to fence our claims and keep abusers off. Personally I have welcomed fishermen and weekend campers to enjoy my claims.

I and my associates have reviewed your proposed EIR and wish to take issue with, rebut, or make recommendations; concerning the following statements.

Your original Literature Review Document of September 2009 pg. 4.6-3 paragraph 3 entitled; "Revenue Generated by Dredge Permit Fees" contained a statement indicating the cost of processing a Dredge Permit to be $450.00. This statement initiated a deluge of complaints to me and I have no idea how many complaints to the Calif. Assembly. I'm glad that you removed this from the current SEIR.
This in our mind, was either a misprint or totally ridiculous statement. If this cost of processing a Dredge Permit is factual, then our whole administration has totally missed out in this age of Technology and it's understandable why the State of Calif. is busted.

Your charts indicate a dredged volume of material under ideal conditions where all materials are ingested and transported without restriction. I operate a three inch dredge and every rock exceeding three inches requires hand removal. In all of the California rivers that I have dredged, rocks and boulders are the major impediments and we are lucky to process two yards of material in a full day of dredging. Frequently , boulder movement will require most of your vacation mining time. It is therefore incorrect to even infer that the Dredger contributes a major magnitude of Turbidity to Calif. Rivers based upon ingestion and delivery volume.

Current gold mining dredgers "DO NOT" introduce mercury into the Calif. Rivers. Your SEIR says that they do! They do not use mercury amalgamation while on the river!! Amalgamation and Retort extraction of gold, is a time consuming process relegated to a winter activity for cleaning black sand concentrates at

home .
Mercury content in our rivers either from early mining or natural deposit, pose a hazardous risk to humans and while agreeing that dredging will cause some flowering of resident Mercury, I can personally attest to 90% or better Mercury removal from the river material during normal dredging activity. This is a major improvement to aquatic life and human welfare provided by the Gold Mining Dredger at no cost to the State!! Please Note: The state of Virginia attempted to remove Mercury from their Rivers and aborted the project due to high cost and a number of agencies in other areas have experienced the same. The California Gold Mining Dredgers remove pounds of Mercury from our rivers every year at "No Cost to the State".

In our opinion everything in the proposed litigation and SEIR has been addressed in a manner or wording totally negative towards the Gold Mining Dredger. We feel that almost all of the issues under study would apply in a more significant and terribly destructive magnitude if addressed to Fishermen, Boaters, Rafting, Swimmers and Recreational Campers using our rivers and lakes. We, the Dredgers represent such a minority group of users and voters, through out the state; that we feel collectively that our Representatives, Lawyers and Bureaucrats have seized upon this Dredging issue and publicized it as a "Public Out Cry Bad Thing" to develop a "Self Feeding Frenzy for their own Political Welfare and Benefit" .

We are all responsible Taxpayers and at the very least deserve as much consideration as these other recreational activities . We feel that most of the issues directed negatively at dredging are Minimal, Far fetched and totally unsubstantiated possibilities, iffy issues; that are of such minor impact that they do not justify discussion. Any two inch rain fall on any river in the state will cause substantive river way changes far in excess of our Dredging activity that would have a deleterious effect to the local fish population.

Mark, Thank you and the Dept. of Fish and Game for your time and Attention to our Concerns. This response we hope, will serve; to bring to your attention those positive issues that we feel are important. We sincerely hope that you and your department will adjust your proposed document in correcting or clarifying some of the issues addressed in your SEIR. Please see Attachment; Resolution No. 223 -_2009 of the Board of Supervisors of the County of El Dorado entitled "Suction Dredge Gold Mining" I and all of the Dredgers and Gold Miner's that I represent, fully support the documented content and action of the El Dorado County , Board of Supervisors in requesting an immediate suspension of SB 670 which banned suction dredging in California. (see attachment below)

Respectfully, Tom Leftwich

ATTACHMENT-- RESOLUTION NO. 223- 2009

10-06-2009 Eldorado County, California, Board of Supervisors passed a resolution urging the California State Legislature and Governor Arnold Schwarzenegger to rescind or amend SB670, a bill that banned suction dredging in California waterways.
Resolution: http://www.co.el-dorado.ca.us/bos/wwwroot/attachments/6a4d4486-d831-4508-bd94-be91a14d2f1c.pdf
Agenda item with supporting documentation: http://www.co.el-dorado.ca.us/bos/wwwroot/detailreport/matter.aspx?key=108

TO:

MARK STOPHER
CALIFORNIA DEPARTMENT OF FISH & GAME
601 LOCUST STREET
REDDING, CALIF.
96001

FROM:

TOMMIE GRAVELY
POST OFFICE BOX 1641
QUINCY, CALIF.
95971

TO WHOM IT MAY CONCERN,

WHAT YOU DID BY TAKING ARE RIGHTS AWAY WAS WRONG BY TAKING THE DREDGING PERMITS AWAY. BECAUSE THE SALMON DO NOT RUN UP HERE. ENFORCING THE NO DREDGING LAW UP HERE IS ALL WRONG. THE SEASON WAS CUT IN HALF AND WE DID NOT GET ARE MONEY BACK, WHY!!! DREDGING DOSE NOT DAMAGE THE RIVERS & CREEKS & STEMS.

Tommie Gravely

Pear Mark

I have lived on the mouth of the Klamath River all my life. My X wife is a Yurok tribal member I also have to Yurok children my oldest daughter is half owner of our claim in trinity county. I'm 50 yrs old Ive watched this fishery deplete ever since the Yurok tribe organized. In my opinion this is a fish mafia half the native fish dont even get counted they get black marketed. Sturgeon are now very rare when I was a teenager their were sturgeon every where now your lucky to see one. If you get a chance ask Richard Banko or Paul Weldon what they have seen on the Klamath in their time of being D.F.G. in this area and Jet boats have a much bigger pump then I run on my dredge. Also alot of my native friends think the Yurok commercial fisherie is the ~~begining~~ begining of the end.

over

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name: Tony Sanderson

Mailing Address: 11 Del Ponte Dr.
Klamath Ca. 95548

Telephone No. (optional): 707-482-3474

Email (optional):

Comments/Issues: some rules perhaps good Ideas
1 no more than 4" dredge in streams called
a creek 4" max
2 no nonresident dredgers unless they
have a claim that is what oregon
is trying to do
3 The new 49er club has a monopoly
and needs about 5 miles instead of 60 mi
4 perhaps in time, maybe we should
have to take a dredging class like I
did for my timber operators ~~[illegible]~~ liscences
watch movies learn does and don'ts etc.
also pay for class.
note We need to protect small miners we
are low maintnence and we can make
money on little gold now with high price
also good luck Mr. Stopher if you have
to deal with Alemada Co. Liberalville that
will be hard they protest everything their

Please use additional sheets if necessary.

once again Good Luck
I will try to be
optimistic
Tony Sanderson

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

From: Bill Mayo <wj_mayo@yahoo.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 12/2/2009 1:56 PM
Subject: Environmental Impact Report

To whom it may concern:
I own two mining claims in Siskiyou County and belong to a consortium of miner who also own mining claims throughout California and we agree something needs to be done to help protect the fish, but stopping suction dredging is NOT the answer. I have watched and studied several programs on this. Man has changed the flow of Rivers to benefit him and not as the almighty had originally intended it. Buy building damns and such just buy building a damn you have now changed the flow of the river in which natural sediments will just lay in place covering up and choking off gravel beds in which the fish need to lay their eggs, while suction dredging displaces such sediments and hard pack to create loose gravel beds along with removing lead and mercury from the water. That right there should be enough to leave suction dredging in place to help revert the damage done by building damns
Here are some key factors that need to be taken into consideration when this issue is to be resolved

1. Past studies show have proven that there is no harm to aquatic life in rivers.
2. Past studies show aquatic life has improved due to suction dredging.
3. Current rules and regulation already in place already protect fish during spawning cycles and suction dredging is regulated based on these events
4. The State of California has no right to discriminate against this activity and terminate it state wide without just cause. Just because a few people think they are above the law you shouldn't punish everyone. The State needs to step up and enforce laws that were currently in place and nail the ones who think they are above it. Would it not be the same thing to ban driving a vehicle just because a few people drink and drive?

I live in the great state of Virginia and when we visit California we must fly in the state therefore we must travel light once we get there, we must stock up on food and other provisions, vehicle rental and other prospecting supplies this is multiplied by 4 just for my family , then there are county Taxes , rental storage fees from storing equipment, I have a upcoming visit to my claims just to give you a small idea of the monies spent plane ticket $450.00 car rental $600.00 motel $400.00 that is not including gas food and entertainment while there this is just to visit and check on my claims by myself not for the opportunity to prospect in which the whole family would adjoin me for two or three weeks
There were current rules and regulations set in place by the State of California to protect the fish and regulate suction dredging in which I am in agreement with but however I do have a federal mining claim in which I am entitled to recover minerals off of by banning suction dredging the State is now stopping me from recovering these mineral in which is in violation of federal law and I would be forced to join in on lawsuits to be able to mine my claims as deemed fit
Sincerely,
William J. Mayo
1139 Shiloh Church rd
Bedford Va. 24523

From: "Bill" <quakerrd39@verizon.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/18/2009 8:46 AM
Attachments: Letter to the CA F G.doc

To Mr. Mark Stoper:
Thank you for your time. Please read the attachment.
Bill

William J. McCracken
2031 Quaker Rd
Barker NY 14012
716 795 3655
716 998 8807 Cell.

Dear Mark,

I would like to make a statement to you and the State of California. As you can see I will not be able to attend any of you meeting due to the distance. But I would like to talk about the State of CA. and about the CA. fish and game.

Lets start out with the State and the reps that don't seem to care about the welfare of the state at all. It is obvious that the nitwits that pushed the law 670 through had no concern for thousands of the people in and out of CA. The loss of jobs and revenue is at a time when it is needed the most by all. And then the added costs to the State, WOW. What are the REP. for the state thinking. It looks like to me that money talks. If the people who want to save the salmon have all this money why don't they spend it on project that will save the Salmon, not harass the honest people who just want to be left alone and enjoy there last years on this earth.

I used to think Arnold had a lot of guts and would stand up for what is right and not bow down to a bit of pressure, Boy was I wrong about him. Every time I see his commercial coming on I turn to a cartoon show, as it is more realistic. So long Arnold S.

I see that the dams on the Klamath River may come down which will increase the Salmon runs from 3000 to 390,000. What does this have to say about Dredging!!! Some people sure are stupid. Then I think of the remark of how the wind and the solar will take up the slack for the loss of the Dams? Well the wind don't blow all the time and the sun don't shine all the time but the River runs all year all the time. And then again lets take a hard look at the loss of jobs and the costs of removing the dams let alone the clean up after wards. Where is this money coming from? I plan to write my Congress Persons and tell them to get the money from the environmentalists who have all the money to promote these Ideas. Let them pay for all of this. Why doesn't Ca pass a law to this effect so you don't go broke? These people need to live somewhere else other then in the U.S.A.

I dredge in the Merced River and I work hard for the gold I get. It is no easy task to get the Gold the Merced has. Yes I do take some Mercury out of the river and Copper and a lot of lead. Just to give you an idea of how much. 2 Years ago I took over 30 LBS out in less then a week of dredging. I hit a hot spot. This was the best I ever did for lead. But on the norm I take out about 3 to 4 lbs and most of that is sinkers and weights from people fishing. I find a lot of hooks and balls of line in the Merced River. This year I went back to check out last years dredge hole and found it to be full of Fingerlings and Tadpoles. Can any of the environmentalists do this to save the fish??? Of course not and if they could they are mostly too lazy to get out and help. All they want to do is make a name for them selves and set back and cause trouble, I say take away there power and return it to the honest people.

Now for the CA. Fish and Game.

Well lets look at you taking away our Dredging Permits and NOT Returning our money, What can I say about that, Cheep cheep. The least you can do is give us our next permits Free as we should have a right to at least this much. Especially us out of stated who are so loyal to dredging in CA. I have met some great people out in your state and do enjoy my stay In CA. But the costs are getting worse each year. This includes the costs of the permit you took away and refused to buy back. I'm sure some people have

problems sleeping at night. I still hope a class action law suite come up as I will sign up for it unless I get restution from the Fish and Game of CA. We had plans of looking for a place in CA and moving out your way but all of this has put a stop to that! When I come to CA, I spend in the area of $3700. 00 and about $600.00 more in fuel. I have a friend in CA. who needs a bit of help so I help him out each year while I'm out there. Can the environmentalists say this?? Of course not they are spending there money to hurt people not help them. And all I can say about the Indians is Meth!!! I sure did like Randolph Scott.

Well I have said to much now so I will say so long and I am looking forward to getting back into the river. So do what you can for us and turn this injustice around. We need some support out in CA. to help the honest people.

Bill McCracken

PS. I hope to some day meet you and some of the people who are trying to help us, the rest I don't need.

From: William Madison <bigwillmad@gmail.com>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/27/2009 9:37 PM
Subject: suction dredge addvocate

my name is william madison . i am a resident of auburn ca. i own a two inch dredge and i have bought a permit and dredged for the past two years. this was a short season as u know..i mostely dredge on the middle fork of the american river.i am no scientist but i feel i am doing more good than harm. while dredging i am recovering led and mercury and removing from the river and believe me ther is alot of it. i just wish it was gold haha. secondley ther are no salmon that spawn on many rivers in ca i dont c y if thats the reason the season is closed that dredging isnt allowed on these rivers.i believe the restrictions that are in place are enough to protect the native fish that live in these waters. i also am an aved fisherman and a steward of this great state and its waterways. i just wanted to put in my two cents and want to see this ban lifted. i would also like to see the department of fish and game offer a rebate on future permits to make up for this season. thank you for your
time.

From: "Yvonne Chase" <ychase@sisqtel.net>
To: <dfgsuctiondredge@dfg.ca.gov>
Date: 11/17/2009 3:57 PM
Subject: Scope Meeting on Suction Dredge Permit Program

Yvonne Chase
P. O. Box 9
Scott Bar, CA 96085

530-496-3430
ychase@sisqtel.net

November 17, 2009

Dear Mr. Mark Stopher
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

Re: Scope Meeting on Suction Dredge Permit Program

Dear Mr. Stopher:

I am co-owner with my husband Jack Chase of a gold claim on Scott River and reside near this claim. I am more than extremely disgusted with the manner in which the DFG authorized the closing of the mining on information that is totally untrue and without documentation.

We are an elderly low-income couple who have been, all of our lives, outstanding citizens in every community we have ever lived in. It is dastardly to imagine losing our mining rights when times are bad. The state of California has no valid proof that the few hours we spend in one year has endangered any living thing in this river. The state has been influenced beyond reason by the environmental attitude it continues to corrupt itself by refusing to listen to both sides of this issue.

We are being denied our rights. The state of California and the environmentalists remain secretly allied . The insanity of the politictions are paid for their votes and simply could care less. The environmentalists are larger in membership than any other similar organization. The story would be entirely different were they doing the same activity. This is unjust and the people must make themselves known to them and government.

Please include my comments during the meeting. I am unable to attend.

Yvonne Chase

SUCTION DREDGE PERMITTING PROGRAM
Subsequent EIR - CEQA Scoping Comment Form

Name: Yvonne Hayden

Mailing Address: 115 S. Fork rd.
Callahan, CA. 96014

Telephone No. (optional):

Email (optional): hlogging@Gmail.Com

Comments/Issues:

My husband + I filed a Mining claim for the first time this Summer. Not only did we go through all the work + expense just to be shut down. But we will not get re-imbursed for our Costs.
Unlike most claim holders our claim is ~~[illegible]~~ literally out of our back door. Part of it on our own Property! In [redacted] NO way would I want to Create a "dead zone". From what I've observed it created little ecosystems. In the little hole we created, (Before* being shut down) we had fish, snakes, crawfish. It seemed they were flourishing to me.
I don't Believe we are destroying anything.
I am concerned all of our rights are being taken away. We can't even fish in our back yard Now!

Please use additional sheets if necessary.

SUBMIT WRITTEN COMMENTS (POSTMARKED BY 12/03/09) TO:

Mail: Mark Stopher
California Department of Fish and Game
601 Locust Street
Redding, CA 96001

Email: dfgsuctiondredge@dfg.ca.gov

Website: www.dfg.ca.gov/suctiondredge

Questions? Please call us at (530) 225-2275