



california water impact network

May 31, 2007

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Lester Snow, Director
Department of Water Resources
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Dear Mr. Snow,

I am writing to recommend a reduction in State Water Project (SWP) Table A Allocations from 4.1 million acre feet a year (MAFY) to a level that ensures the average annual delivery does not exceed 1.17 MAFY. This letter will explain why this is necessary and how we arrived at this figure.

On March 22, 2007, Alameda Superior Court Judge Frank Roesch ordered the State Department of Water Resources (DWR) to shut down its Harvey O. Banks Pumping Plant, the major facility that pumps water to Southern California, in 60 days unless DWR obtains a long-required permit to kill endangered fish. *Watershed Enforcers v. Dept. of Water Resources*, Case No. RG06292124. On April 18, 2007, Judge Roesch affirmed his earlier order and started the 60 day clock. Regardless of the outcome of DWR's pending appeal from this decision, the case provides DWR a unique opportunity to capitalize on the current political will to tackle the growing crisis in the San Francisco-San Joaquin Delta.

The California Water Impact Network (C-WIN) is a statewide organization dedicated to promoting equitable and environmentally sensitive uses of California's water. We would like to suggest a solution to the crisis in the Delta that may help satisfy Judge Roesch, thereby avoiding a complete shutdown of the Banks pumps, while also addressing other long-neglected issues.

The ultimate question raised by the *Watershed Enforcers* is: What is the sustainable safe yield of the SWP? In light of recent fish population surveys, it is clear that current pumping far exceeds the safe yield, and that pumping will need to be permanently reduced.

At the same time, it is widely known that the SWP is not able to deliver the full Table A allocations that were proposed in 1960 when the project was first approved. DWR's 2005 Reliability Report, used by planners to justify development activities throughout Southern California, indicates that 77% of the current Table A allocation will be available for use. Yet, this 77% figure is deeply flawed, particularly in light of recent information concerning the health of the Delta. The problem with proceeding under an unrealistic assumption of future delivery capabilities is that planners are relying on the promise of "reliable" water supplies that cannot be delivered without bending (or breaking) environmental requirements.

We propose that the Table A allocations be permanently reduced from the current 4.1 MAFY to reflect the biologically safe yield of the Delta. This will permanently eliminate all "paper water" from the system, enabling planners to make rational decisions about future development activities in Southern California. If DWR fails to do this, it will be setting the stage for yet another round of pumping wars as municipal users begin to demand the promised "paper water" that cannot be delivered.

The rest of this letter will discuss the problems in the Delta, the problems with the reliability of the SWP as it is currently being managed, and why the reduction of the Table A allocations is a good solution.

Problems in the Delta

It is now widely recognized that several species of fish in the Bay Delta, including the Delta smelt, splittail, winter run salmon, and several others, are on the verge of extinction. It is also virtually undeniable that one of the causes of fish decline is excessive export pumping from the Delta.

Several judicial rulings have found current and proposed approaches to managing the impacts of export pumping to be inadequate. For example, an October 2005 ruling by the Third District Court of Appeal overturned the CALFED Record of Decision. *In Re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings*, (2005) 133 Cal. App. 4th 154. That decision requires analysis of an alternative that would reduce the export of water south of the San Francisco/San Joaquin Delta. If implemented, this alternative would curtail deliveries from the SWP. Similarly, a February 9, 2006 Third District Court of Appeal ruling, *State Water Resources Control Board (SWRCB) Cases* (2006) 136 Cal. App. 4th 674, in which Golden Gate Audubon prevailed, requires that existing salinity standards in the Bay Delta be upheld.¹ The courts are giving a clear message to DWR; the Delta crisis requires less pumping at Banks.

On April 26, 2007, a group of environmental organizations, led by the California Sportfishing Protection Alliance (CSPA), submitted a letter to Department of Fish and Game Director Ryan Broddrick, urging Fish and Game to deny DWR's pending request for a consistency determination under the California Endangered Species Act. (Attachment #1.) This letter very clearly delineates the fish crash in the Delta and why it is happening.

Despite crashing fish populations and continued rebukes from the courts, DWR and the Bureau of Reclamation propose to pump up to 27% more water out of the Bay-Delta as part of the South Delta Improvement Project (SDIP). This proposal is soundly critiqued by the CSPA in their comments submitted to DWR February 7, 2006. (Attachment #2.) In addition, the National Marine Fisheries Service has suspended formal consultation on the SDIP until more studies have been completed. (Attachment #3.) DWR should abandon this untenable plan in favor of a sustainable way forward, by setting a cap on Table A allocations that corresponds with a safe level of pumping at Banks.

SWP Water Reliability

Determining what is a safe level of pumping must coincide with an acknowledgement that the SWP has been unable to deliver more than half of the 4.1 MAFY promised in the SWP contracts.

The 2005 SWP Delivery Reliability Report is full of "paper water." "Paper water" is water that exists as "little more than a wish and a prayer." *Planning and Conservation*

¹ A subsequent order by the SWRCB requires DWR and the CVP to shut down their pumps if the salinity standards are not met. SWRCB Order WR 2006-0006. This means that more water must be left in the San Joaquin River and the Bay-Delta and, consequently, that there will be less water to pump to southern California.

League v. DWR, (2000) 83 Cal. App. 4th 892, 915. While the SWP contracts promise allocations of up to 4.1 MAFY, in reality the average actual annual delivery between 1990 and 2004 was a mere 2.0 MAFY. However, rather than relying upon the average historical annual delivery of slightly less than half the promised allocation, the 2005 Reliability Report projects that, on average, 77% of the SWP Table A Allocation will be available. This projection, relied upon by planners throughout the state, is deeply flawed.

We have attached the December 19, 2005 comments on the deficiencies of the 2005 SWP Reliability Report submitted by Physicist and Systems Analyst Arve Sjovold. (Attachment #4.) Also attached are the December 22, 2005 comments on the deficiencies of the 2005 SWP Reliability Report submitted by PCL Water Program Manager Mindy McIntyre. (Attachment #5.)

One of the central flaws with the Reliability Report is its reliance on **CALSIM II**, a computer model that has been widely criticized by peer review studies. See "A Strategic Review of CALSIM II and its Use for Water Planning, Management, and Operations in Central California," by J. R. Lund, et al, December 4, 2003 (Attachment #6). Among other things, CALSIM II presumes groundwater is an unlimited resource. This leads to a false impression of what water is actually available.² More recently, "An Environmental Review of CalSim II" by Jeffrey T. Payne and David R. Purkey, November 2005, concludes "...we are left with the profound impression that [CalSim II] is not a tool that can -- under its current formulation -- fully address the legally required water management objectives. CalSim II holds that the environment is a constraint on system operations, not one of the objectives for which the system should be managed." (Attachment #9.)³

In addition, the Reliability Report fails to take into consideration the potential **impacts of global climate change**. The growing consensus of experts studying this issue is that global climate change will result in less snow, earlier melting of the snowpack, and more rain, all of which will lead to higher spring flows, rather than the snowpack acting as a reservoir as it has in the past. Rising ocean levels, which may lead to greater influx of salt water into brackish ecosystems, is another problem exacerbated by global climate change. This is elaborated in "Emissions Pathways, Climate Change, and Impacts on California." (Attachment #14.)⁴

² See "Additional Comments on CalSim II Pertinent to the Temporary Restraining Order" by Arve Sjovold regarding the Injunction granted by the Court in the InterTie case. (Attachment #7.) In addition, we submit "Musings on a Model: CalSim II in California's Water Community," March 2005. (Attachment #8.)

³ Also attached is a critique of CalSim II by Jan de Leeuw, Distinguished Professor and Chair CLA Department of Statistics, dated October 23, 2005 (Attachment #10), as well as three comment letters concerning CALSIM II modeling by Arve Sjovold: "Response to Director Johns' letter of September 22, 2005 on CALSIM II" (Attachment #11); "Some Insights on Water Deliveries to Settlement Contractors", October 24, 2004 (Attachment #12); "On the Adequacy of CALSIM II for Environmental Impact Analysis and SWP Reliability Analysis," August 12, 2004 (Attachment #13.) All of these documents clearly lay out the problems with reliance on CALSIM II as the predictor of reliability for the SWP.

⁴ DWR recently issued a report titled "Progress on Incorporating Climate Change Into Management of California's Water Resources" (July 2006). In this report, DWR attempts to incorporate climate change into CALSIM. Arve Sjovold reviewed that report and concluded, "that it too was seriously flawed for the purposes intended. It does a decent job on reviewing the extant literature on climate change but its quantitative analyses have very little to do with the issues that attend climate change. For example, when they attempt to calculate the effect on stream runoff in the northern Sierra, they take gross estimates from the climate change models, use a more detailed runoff model (which may or may not be a good model) to

Article 18 (a) & (b) of the SWP Contracts

Article 18(a) of the SWP Water Contracts requires that agriculture take the first cutbacks in SWP deliveries during drought years.⁵ **Article 18(b)** of the SWP Water Contracts states that DWR will only promise what it can actually deliver on a long-range basis, thus requiring the elimination of "paper water." The Monterey Amendments to the SWP Contracts attempted to eliminate both Article 18 (a) & (b) from the SWP Contracts without analysis of the consequences of doing so. The original Monterey Amendments were set aside in part for this very reason.

Permanently revising the Table A allocations to reflect the real environmental needs of the Delta will assist planners throughout the state by providing them a truly realistic picture of water supplies. Doing so will also go a long way toward resolving long-standing objections to the Monterey Amendments.

Solution to the Delta Problems

It is clear that the Courts and the scientific community both agree that too much water is being pumped from the Delta. We understand that the Metropolitan Water District (MWD), the largest SWP contractor with rights to half of the Table A allocations, recognizes that the Delta is in crisis and that new dams are not the answer. The SWP is the largest single user of energy in the state, reflecting the enormous amounts of energy required to pump SWP water up over the Tehachapi Mountains for Southern California. As global warming is caused in large part by CO₂ emissions, conservation of local water sources is the best way to cut back on these emissions and provide a cheaper and more reliable water supply. MWD recognizes this.

develop a scale factor to ramp up peak runoff forecasts, but use this scale factor as a multiplier on a base year that is one of the driest in history. In effect, they show that the increase in runoff is not very large and they use their estimates of this increase to drive their quantitative studies of Delta behavior. I found practically nothing of value in their quantitative studies that really goes to the heart of the climate change problem." (Attachment #15.) Also significant here is the report by Michael Dettinger of the U.S. Geological Survey entitled "Climate Change and the Water supplies in the West." Mr. Dettinger is an expert on snowpack storage and his report shows that snowpack in the Sierra is in steep decline. (Attachment #16.) Also relevant here is the report from NASA showing the temperature rise in California in the last half of the 20th Century. (Attachment #17.)

⁵ **Article 18(a)** is a very important safeguard for municipal water supplies. The California Water Code specifically states that urban users have a priority over agricultural users. Water Code Sections 106 and 106.5 provides:

106. It is hereby declared to be the established policy of this State that the use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation.

106.5. It is hereby declared to be the established policy of this State that the right of a municipality to acquire and hold rights to the use of water should be protected to the fullest extent necessary for existing and future uses, but that no municipality shall acquire or hold any right to waste water, or to use water for other than municipal purposes, or to prevent the appropriation and application of water in excess of its reasonable and existing needs to useful purposes by others subject to the rights of the municipality to apply such water to municipal uses as and when necessity therefore exists.

How should DWR come up with an appropriate Table A cap? First, it must be acknowledged that it is not enough to maintain Table A Allocations at or near 2.0 MAFY, the average pumped from 1990 through 2004. Pumping at those rates has had devastating effects on the Delta. This must stop if the Delta is to be restored. The courts are mandating that alternative pumping scenarios that require far less exports from the Delta be thoroughly considered. These scenarios must be evaluated using robust, scientifically justifiable modeling. The SWP contracts were always meant to be a reflection of the "true safe yield" or the "firm yield" of the project. It is time to cut back the Table A Allocations to reflect this.

One way to significantly lower the total Table A allocations, and thereby reduce the requirements for exports from the Delta, would be to pursue retirement of the drainage impaired lands in the Western San Joaquin Valley served by the SWP. Table 1 below portrays a preliminary estimate of potential water savings in Tulare and Kern County within the SWP service area.

Table 1⁶

	Total Irrigated croplands in 2002(acres)⁷	Drainage Impaired acreage in 2000 (acres)⁸	% of County Requiring Drainage Service	Estimated Contract Amounts (AF)⁹	Estimated Water Savings (AF)
Tulare County	652,385	291,000	44.60%	1,304,770	581,927
Kern County	811,672	313,000	38.56%	1,623,344	625,961
Total	1,464,057	604,000	N/A	2,928,114	1,207,888

The Pelagic Fish Action Plan, a March, 2007 document by DWR and the California Department of Fish and Game, recommends reductions in pumping from the Delta of 1.66 MAFY.¹⁰ **Both the SWP and the federal CVP are affected by these recommendations. Reducing the SWP 1990 -2004 average actual deliveries of 2.0 MAFY by 0.83 MAFY (half of the recommended cuts 1.66 MAFY cut), would give us a new average safe yield amount of 1.17 MAFY.**

It is widely known that there is no extra or "surplus" water any longer in California. In conjunction with the Table A reductions outlined above, it is essential to eliminate the concept of "surplus" water from the State Water Project contracts. Article 21 water, the so

⁶ This table is drawn from a January 1, 2005 letter sent by the Trinity County Board of Supervisors to the DWR regarding the Draft Environmental Impact Statement/Report for the SDIP.

⁷ The acres of irrigated croplands is taken from the USDA farm census statistics report in 2002.

⁸ The acreage of drainage impaired acres is derived from a report by DWR produced as part of the 2000 San Joaquin Valley Drainage Monitoring Program. The acreages identified are for lands with high groundwater within 20 feet of the surface.

⁹ The contract amounts are figured by estimating 2 acre-feet per acre irrigated, most likely an underestimate.

¹⁰ 1.66 mafy is the sum of the estimated "costs" of those water operations actions recommended in the Pelagic Fish Action Plan at pages 5-6 and 43-48 (Attachment #18.)

called "surplus" water feature of the SWP contracts must be removed from the contracts. This Article 21 water has been used to "game the system" for too long and must be eliminated from the contracts.

Using DWR and Fish and Game's own data, we recommend that the Table A Allocations for the SWP be permanently reduced to a level that ensures average annual deliveries do not exceed 1.17 MAFY.

Sincerely,

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Cc: Bill Jennings, Executive Director, California Sportfishing Protection Alliance
Ryan Broddrick, Director Department of Fish and Game
Tim Brick, President Metropolitan Water District Board of Directors
Jeff Kightlinger, Manager Metropolitan Water District
Pam Doduc, Chair, State Water Resources Control Board
Darrell Steinberg, Chair, Senate Natural Resources & Water Committee

Attachments:

1. CSPA group letter to Ryan Broddrick, Director Department of Fish and Game April 26, 2007 (15 pgs.)
2. "CSPA Comments on the South Delta Improvement Program, Draft EIS/EIR" by Bill Jennings, chairman and Executive Director, CSPA, 2/7/06 (50 pgs.)
3. Letter from NOAA National Marine Fisheries Service 1/11/07 re: SDIP (2 pgs.)
4. "Comments on the Draft SWP Reliability Report 2005" by Arve Sjovold, 12/19/05 (6 pgs.)
5. "Comments on Public Review Draft of the SWP Delivery Reliability Report 2005" by Mindy McIntyre, PCL Water Program Manager, 12/22/05 (20 pgs)
6. "A Strategic Review of CALSIM II and its Use for Water Planning, Management, and Operation in Central California" by A. Close, W.M. Haneman, J.W. Labadie, D.P. Loucks (Chair), J. R. Lund, D.C. McKinney, and J.R. Stedinger, December 4, 2003 (129 pgs)
7. "Additional Comments on CALSIM II by Arve Sjovold, Feb. 7, 2006 (1 pg)
8. San Francisco Estuary & Watershed Science, March 2005 "Musings on a Model: CALSIM II in California's Water Community." (13 pgs)
9. "An Environmental Review of CalSim II" by Jeffrey T. Payne and David R. Purkey, 11/05 (65 pgs)

10. "Response to Gerald Johns' Memo" by Jan de Leeuw, 10/23/05 (3 pgs)
11. "Response to Gerald Johns' Letter on CalSim II", by Arve Sjovold, 10/2/05 (3 pgs)
12. "Some Insights on Water Deliveries to Settlement Contractors" by Arve Sjovold, 10/24/04 (1 pg)
13. "On the Adequacy of CalSim II for Environmental Impact Analysis and SWP Reliability Analysis" by Arve Sjovold, 8/12/04 (7 pgs)
14. "Emissions Pathways, Climate Change, and Impacts on California", August 24, 2004 (6 pgs)
15. "Comments on DWR's Technical Memorandum", "Progress on Incorporating Climate Change into Management of California's Water Resources", July 2006 by Arve Sjovold 9/2/06 (5 pgs)
16. "Climate Change and Water Supplies in the West", Michael Dettinger of the USGS, (24 pgs.)
17. NASA Images April 17, 2007 (3 pgs.)
18. "Pelagic Fish Action Plan", March 2007, California Department of Water Resources and California Department of Fish and Game (9 pgs)