



California Sportfishing Protection Alliance

"An Advocate for Fisheries, Habitat and Water Quality"

3536 Rainier Avenue, Stockton, CA 95204

Tel: 209-464-5067, Fax: 209-464-1028, E: deltakeep@aol.com

26 June 2006

Mr. Robert Schneider, Chairman
Ms. Pamela Creedon, Executive Officer
Mr. Kenneth Landau, Assistant Executive Officer
Mr. Jim Marshall, P.E.

Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6144

VIA: Electronic Submission
Hardcopy to follow

RE: Waste Discharge Requirements for City of Tracy Wastewater Treatment Plant,
NPDES No. CA0079154

Dear Messrs Schneider, Landau, Marshall and Ms. Creedon;

The California Sportfishing Protection Alliance, Watershed Enforcers and San Joaquin Audubon (hereinafter "CSPA") has reviewed the Central Valley Regional Water Quality Control Board's (hereinafter "Regional Board") tentative NPDES permit (hereinafter "Order" or "Permit") for the City of Tracy's wastewater treatment facility (hereinafter "Discharger") and submits the following comments. The Order contravenes state and federal regulations and is not protective of severely degraded fisheries and receiving waters. We also note that the new format is needlessly confusing, redundant and complex and represents a backward step from previous NPDES permit packets.

South Delta waterways are crucial habitat and migration corridors for a number species protected under federal and state endangered species acts. Species include: Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha* - federal and state listed as threatened); Central Valley steelhead (*Oncorhynchus mykiss* -federal listed as threatened); Delta smelt (*Hypomesus transpacificus* - federal and state listed as threatened); Sacramento splittail (*Pogonichthys macrolepidotus* - California species of concern); winter-run Chinook salmon (*Oncorhynchus tshawytscha* - federal and state listed as endangered); fall/late-fall-run Chinook salmon is both a federal and California species of concern; Green sturgeon (*Acipenser medirostris*) is federally listed as threatened and is a California species of concern and longfin smelt (*Spirinchus thaleichthys*), hardhead (*Mylopharodon conocephalus*) and Sacramento perch (*Archoplites interruptus*) are identified as California species of concern. Further, a number of non-special status species, including striped bass, largemouth bass, smallmouth bass, catfish and panfish are found throughout the South Delta.

The Delta's pelagic fisheries are experiencing catastrophic collapse. The California Department of Fish and Game's Delta smelt index, a measure of relative abundance, was only 26 in last fall's mid-water trawl survey compared to 899 in 1995 (the lowest in the 43 years of record). Longfin smelt abundance index was 129, the second lowest on record (it was 81,790 in 1967). The striped bass index was 121 (it was 20,038 in 1967). The Threadfin shad population index was 2866 (as recently as 2001, it was 14,402). Adult white sturgeon numbers have dropped from an estimated 144,000 in 1998 to a 50-year low of about 10,000 in 2005. Estuary phytoplankton production has decreased about one order of magnitude while zooplankton production is down one to two orders of magnitude.

The special team of federal and state scientists investigating the pelagic organism decline in the Delta has identified toxic pollutants as one of the three major suspected causes of the collapse of the pelagic fishery. For example, recent U.C. Davis studies of Delta species such as striped bass found all of the fish tested had gastric inflammations, parasitic infestations, liver lesions, infections or a combination. These findings are consistent with earlier work that found nerve damage and developmental abnormalities among newborn bass. Scientists attribute these problems to a chemical stew of pesticides, herbicides and cancer-causing elements in Delta waterways, which in addition to fish habitat serve as drinking water for two-thirds of Californians. Indeed, samples of Delta water collected by U.C. Davis' Aquatic Toxicology Laboratory, as part of its role in evaluating the pelagic fish decline, was found to be toxic to test species. Monitoring by the San Joaquin County and Delta Water Quality Coalition during 2005 found significant toxicity to zooplankton, fish and invertebrates in South Delta waterways. Monitoring by U.C. Davis, pursuant to the Irrigated Lands Monitoring Program, during 2004 and 2005 likewise identified significant aquatic life toxicity. Pesticides and other contaminants routinely found in POTW effluent have also been found in fish tissue, placing subsistence-fishing communities at risk.

The Little Hoover Commission found last fall in its CALFED analysis that "*The Delta is so critical to California's future that no water policy will be successful if the estuary is not restored.*"

Receiving waters in the vicinity of the Discharger's outfall are degraded and included on the California 303(d) list of impaired waterways as incapable of supporting identified beneficial uses because of diazinon, chlorpyrifos, organo-chlorine Group A pesticides, DDT, mercury, electrical conductivity, unknown toxicity and dissolved oxygen deficiencies. Elevated temperatures are increasingly acknowledged to be a limiting factor to critical life stages for a number of species.

Given the depleted fisheries and degraded state of South Delta waters, any permit regulating the discharge of pollutants must stringently comply with federal regulations, contain protective limits and not allow increases in concentration or mass loading of pollutants. Unfortunately, the Order falls woefully short in this regard.

The following set forth our principle concerns:

1. *The Order does not contain a protective or legal effluent limit for EC.*
2. *The antidegradation analysis is woefully inadequate and inconsistent with the state's antidegradation policy.*
3. *The flow limits in the Order fail to comport with federal regulations.*
4. *The limit for acute toxicity is inconsistent with Basin Plan and federal requirements.*
5. *The Order fails to contain an effluent limitation for chronic toxicity.*
6. *The Order violates state and federal endangered species acts.*
7. *Temperature limitations violate the Basin Plan, Thermal Plan and federal regulations.*
8. *The Order allows degradation of groundwater.*
9. *Failure to include an effluent limitation for dissolved oxygen violates federal regulations.*
10. *The ammonia limitation does not comply with the Basin Plan's narrative toxicity objective and fails to employ a "worst case" scenario.*
11. *The Order fails to include limits for methylmercury.*
12. *Monitoring requirements are inadequate.*
13. *The Order fails to adequately discuss CEQA.*
14. *A significant number of the effluent limitations are not limited for mass.*
15. *Reasonable potential exists for Bis(2-ethyl-hexyl)phthalate and an effluent limitation is required.*
16. *The Order allows the receiving water limit for turbidity to expire.*
17. *The Order allows 100% use of the assimilative capacity of the receiving stream with an adequate analysis or flow rates.*
18. *The Order's compliance schedule misapplies Title 22 disinfection requirements.*
19. *The Order illegally allows an unpermitted discharge to Sugar Cut Slough.*

Our detailed comments follow:

I. The proposed Order does not contain a protective or legal effluent limitation for EC

Federal Regulations, 40 CFR 122.44 (d)(i), requires that; "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or *contribute* to an excursion above any State water quality standard, including State narrative criteria for water quality." The Water Quality Control Plan (Basin Plan) for the Central Valley Region, Water Quality Objectives, page III-3.00, contains a Chemical Constituents Objective that includes Title 22 Drinking Water Maximum Contaminant Levels (MCLs) by reference. The Title 22 MCLs for EC are 900 $\mu\text{mhos/cm}$ (recommended level), 1,600 $\mu\text{mhos/cm}$ (upper level) and 2,200 $\mu\text{mhos/cm}$ (short term maximum). From the Fact sheet the wastewater discharge average EC level is 1753 $\mu\text{mhos/cm}$ and the maximum observed EC was 2419 $\mu\text{mhos/cm}$. Clearly the discharge exceeds the MCLs for EC presenting a reasonable potential to exceed the water quality objective. The proposed Order contains an interim

effluent limitation for EC of 2267 $\mu\text{mhos/cm}$, as a monthly average. The proposed EC limitation clearly exceeds every stage MCL for EC. The proposed Order fails to establish an effluent limitation for EC that are protective of the Chemical Constituents water quality objective.

The Basin Plan states, on Page III-3.00 Chemical Constituents, “Waters shall not contain constituents in concentrations that adversely affect beneficial uses.” The Basin Plan’s “Policy for Application of Water Quality Objectives” provides that in implementing narrative water quality objectives, the Regional Board will consider numerical criteria and guidelines developed by other agencies and organizations. This application of the Basin Plan is consistent with Federal Regulations, 40CFR 122.44(d).

For EC, *Ayers R.S. and D.W. Westcott, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985)*, levels above 700 $\mu\text{mhos/cm}$ will reduce crop yield for sensitive plants. The University of California, Davis Campus, Agricultural Extension Service, published a paper, dated 7 January 1974, stating that there will not be problems to crops associated with salt if the EC remains below 750 $\mu\text{mhos/cm}$.

The City’s wastewater discharge increases concentrations of EC to unacceptable concentrations adversely affecting the agricultural beneficial use. The wastewater discharge not only presents a reasonable potential, but actually causes, violation of the Chemical Constituent Water Quality Objective in the Basin Plan. The available literature regarding safe levels of EC for irrigated agriculture mandate that an Effluent Limitation for EC is necessary to protect the beneficial use of the receiving stream in accordance with the Basin Plan and Federal Regulations. Failure to establish effluent limitations for EC that are protective of the Chemical Constituents water quality objective blatantly violates the law.

Based on the information in the Antidegradation Analysis, Salinity, EC and TDS discussions of Attachment F, the significant portion of salinity is discharged by an industrial discharger, Leprino Foods. The salinity discussion of Leprino Foods states: “Leprino discharges an additional salt load to the Facility. Leprino provides preliminary treatment of its wastewater to reduce the high organic loading typical of food processing waste. However, no treatment is provided to reduce the high salt loading. The industrial wastewater is discharged to the Discharger’s industrial treatment facility, which includes 52 acres of unlined industrial ponds, and is returned to the main treatment facility at the primary sedimentation tanks. The industrial ponds provide significant residence time. While in the industrial ponds, salts are concentrated through the evaporation of the wastewater. In addition, the Discharger wastes high TDS process water from the main treatment facility to the industrial ponds, such as digester supernatant, pump seal water, boiler cooling water, etc. Based on data provided by the Discharger from January 2003 through December 2004, the industrial wastewater discharged to the industrial ponds has an average TDS of about 1000 mg/L, but triples to an average TDS of over 3000 mg/L by the time the wastewater is returned to the main facility. This results in a significant salt load to the main treatment facility, and ultimately to Old River.” Based on the municipal

drinking water supply average TDS concentration of 450 mg/l, without the significant industrial discharges of salt, the municipal wastewater could be very close to compliance with EC and TDS limitations.

Federal Regulation, 40 CFR 122.44, which mandates an effluent limitation be established if a discharge exceeds a water quality objective. The discharge of EC from the City of Tracy clearly exceeds the drinking water MCLs that are incorporated into the Basin Plan by reference. The proposed Order cites a State Board Order for Manteca, (Water Quality Order 2005-005) states, “...*the State Board takes official notice [pursuant to Title 23 of California Code of Regulations, Section 648.2] of the fact that operation of a large-scale reverse osmosis treatment plant would result in production of highly saline brine for which an acceptable method of disposal would have to be developed. Consequently, any decision that would require use of reverse osmosis to treat the City’s municipal wastewater effluent on a large scale should involve thorough consideration of the expected environmental effects.*” The State Board does not have the authority to ignore Federal Regulation. Bay Area treatment plants have been utilized for RO brine disposal previously. In addition, a significant majority of the EC loading at Tracy can be attributed to Leprino Foods, an industrial discharger, which could negate the need for advanced treatment or modification of the water source. Based on the drinking water supply average TDS concentration of 450 mg/l, without the significant industrial discharges of salt, the municipal wastewater could be very close to compliance with EC and TDS limitations.

The special studies section of the proposed Order states that: “To comply with Resolution 68-16, the treatment or control of discharges of waste to waters of the state must be sufficient to provide the minimum degradation of such waters that is feasible, but in no case can the discharge cause the exceedance of applicable water quality objectives.” Clearly the proposed Order, which allows exceedance of water quality objectives, fails to comply with the Antidegradation Policy (Resolution 68-16).

II. The antidegradation analysis is woefully inadequate and inconsistent with the state’s antidegradation policy

The Antidegradation discussion does not discuss the fact that the industrial discharges likely contribute the principal salt load. The Antidegradation analysis does not state that with respect to salts that the EC, principally discharged by a local industry, is not a discussion of BPTC at the wastewater treatment plant, but instead a failure of the industrial pretreatment program. Failure to control local industries is not BPTC.

Two significant expansions of the wastewater treatment plant are discussed in the Order. The antidegradation discussion states that:

- a. The increase will not cause a violation of water quality objectives.
- b. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

- c. The receiving water may exceed applicable water quality objectives for certain constituents as described in this Order, and
- d. The Order requires the Discharger, in accordance with specified compliance schedules, to meet requirements that will result in the use of best practicable treatment or control of the discharge and will result in compliance with water quality objectives.

However, there are numerous constituents shown in Table F-1 that have significant increases in the mass of pollutants discharged that are not specifically discussed in the analysis. Nor does the antidegradation analysis discuss why the wastewater treatment plant is allowed expansion that does not result in full permit compliance and does not achieve best practicable treatment or control of the discharge.

For example, the antidegradation analysis fails to adequately discuss the significant increase in oxygen demanding substances or available best practicable treatment or control of the discharge of these substances. The Order allows a 78% increase in mass loading of nitrate and a 77% increase in mass loading of phosphorous. This translates to an additional 187 lbs/day of nitrate and 186 lbs/day of phosphorus discharged from the expanded wastewater treatment plant. The Order establishes that receiving waters are impaired for dissolved oxygen. Nitrogen and phosphorus are the primary contributors to eutrophication and increased mass loading of these constituents will cause a further oxygen demand on an already impaired waterbody. Nitrogen and phosphorus can be treated and removed from the discharge through readily available technologies. Failure to employ these commonly used technologies will cause, and significantly contribute to, violation of the water quality objective for dissolved oxygen.

The Order allows an expansion of the wastewater treatment plant. Compliance Schedules 4(b)(i) states that the permitted average dry weather discharge flow may increase to 10.8 mgd and the permitted peak wet weather discharge flow may increase to 26 mgd. However the Discharger is not required be in compliance with the effluent limitations for electrical conductivity (EC). The antidegradation analysis does not discuss why an increased flow is allowed until the Discharger confirms that an expanded wastewater system can comply with all effluent and receiving water limitations. Allowing an interim expansion without requiring complete compliance is contrary to the statement in the antidegradation analysis that the flow increase will not cause a violation of water quality objectives. The antidegradation analysis fails to discuss why the wastewater treatment plant is allowed any expansion that does not result in full permit compliance and does not achieve best practicable treatment or control of the discharge.

The above discussion also applies to temperature and apparently for bis(2-ethylhexyl)phthalate, copper, dibromochloromethane and bromodichloromethane which have compliance dates of 1 January 2008.

The accuracy of Table F-1 is questionable since mass limitations have been removed from the effluent limitations section of the proposed Order. The failure to include mass limitations for toxic pollutants would allow dumping of pollutants during

wet weather periods. The statement that the increase in toxic pollutants will not cause significant impacts to aquatic life, which is the beneficial use most likely affected by the pollutants discharged (e.g. from temperature and metals) conflicts with the information contained in Table F-1 which shows numerous toxic pollutants which would significantly increase, for example copper concentrations are projected to increase by 54%.

With respect to salinity, the proposed Order establishes an interim effluent limit of 2265 $\mu\text{mhos/cm}$ as electrical conductivity (EC) based on the Discharger's current level of performance. Considerable dilution is available prior to any downstream municipal supply intakes. These statements directly conflict with the Attachment F Salinity discussion which states: "The background receiving water EC averaged 640 $\mu\text{mhos/cm}$ in 277 sampling events collected by the Discharger from July 1998 through November 2003. These data show that the receiving water frequently has no assimilative capacity for EC." The proposed Order further states that the: "...interim effluent limit is essentially the same as the short-term secondary maximum contaminant level (MCL) for protection of municipal and domestic supply (2200 $\mu\text{mhos/cm}$)." The Order fails to mention the MCLs for EC are 900 $\mu\text{mhos/cm}$ as the primary water quality goal, 1,600 $\mu\text{mhos/cm}$ as a short-term level and 2,200 $\mu\text{mhos/cm}$ as a short term maximum. In addition, the proposed Order applies the 2,265 $\mu\text{mhos/cm}$ EC limit as a monthly average, not a short term. The Order does not apply the MCLs as this language would lead the reader to believe.

The proposed Order requires that: *prior to increasing the discharge to 16 mgd, this Order requires the Discharger to (1) evaluate and propose an appropriate numeric effluent limit to protect the beneficial use agricultural supply in the area of the discharge that will implement the Basin Plan's narrative chemical constituent objective, and (2) to evaluate and implement BPTC of salinity in the discharge, including source control.* However other parts of the proposed Order state that it is unlikely that the treatment plant will expand to 16 mgd, at least during the life of the proposed Order. Basing a limitation on an event that may not occur is not protective of water quality.

The proposed Order requires that: *Prior to the increase in discharge to 16 mgd, this Order will be reopened to include an effluent limit for salinity that is protective of the beneficial use of agricultural supply and will require implementation of BPTC.* The information provided in the Order indicates that the increase to 16 mgd may be far in the future, beyond the life of the proposed Order and perhaps beyond the next permitting cycle. Therefore BPTC is not being required in the proposed Order and according to the information provided may not be required in the next permitting cycle.

With respect to temperature, the Discharger must comply with a time schedule to reduce the effluent temperature to meet the Basin Plan standards or to comply with an exemption granted under the Thermal Plan.

The proposed Order allows a discharge that causes and contributes to a violation of water quality objectives, specifically Basin Plan Objectives for chemical constituents (Title 22 MCLs), irrigated agricultural goals, temperature and dissolved oxygen and

unreasonably affects beneficial uses, specifically aquatic life, irrigated agriculture and municipal and domestic supply. NPDES permits must include any more stringent effluent limitation necessary to implement the Regional Board Basin Plan (Water Code 13377). The Order fails to properly implement the Basin Plan's Antidegradation Policy. The discharge must be capable of achieving 100% compliance with Effluent and Receiving Water Limitations prior to allowing an expansion of the Waste Water Treatment Plant.

III. The flow limitations in the Order fail to comport with federal regulations

The Federal Regulations, at 40 CFR 122.45 (b), require that POTW effluent limitations, standards, or prohibitions be based on design flow. Virtually every engineering textbook includes *Ten States Standards* as standard engineering design and a recognized civil engineering basis for wastewater treatment plant (WWTP) design parameters. Pursuant to these standards;

- a. Average Dry Weather Flow (ADWF) represents the daily average flow when groundwater is at or near normal and runoff is not occurring.
- b. Maximum Wet Weather Flow (MWWF) represents the total maximum flow received during any 24-hour period when the groundwater is high and runoff is occurring.
- c. Peak Hourly Wet Weather Flow (PHWWF) represents the total maximum flow received during one-hour when groundwater is high, runoff is occurring, and domestic and commercial flows are at their peak.

The PHWWF must be used to evaluate the effect of hydraulic peaks on the design of pumps, piping, clarifiers, and any other flow sensitive aspects.

The discharge flow limitations in the Order are presented as average monthly for ADWF and as maximum daily for peak-wet weather flow (PWWF). Unfortunately, the technical basis for the flow limitations is not discussed in the Order. The federal definition of daily maximum is an average for the day. Therefore the PWWF limitation is actually a daily average. The monthly average ADWF and one day's average wet weather flow (PWWF) are not acceptable WWTP design parameters. Consequently, the flow limitations contained in the Order are not based on acceptable WWTP design parameters and therefore fail to comply with federal regulations.

IV. The limit for acute toxicity is inconsistent with Basin Plan and federal requirements

Federal regulations, at 40 CFR 122.44 (d)(1)(i), require that limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The Water Quality Control Plan for the Sacramento/ San Joaquin River Basins (Basin Plan), Water Quality Objectives (Page III-8.00) for Toxicity is a narrative criteria which states that all

waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This section of the Basin Plan further states, in part that, compliance with this objective will be determined by analysis of indicator organisms.

The Order requires that the Discharger conduct acute toxicity tests and states that compliance with the toxicity objective will be determined by analysis of indicator organisms. However, the Order contains a discharge limitation that allows 30% mortality (70% survival) of fish species in any given toxicity test.

The Order acknowledges in detail that there is no assimilative capacity in the receiving stream for individual toxic pollutants. It further acknowledges that ambient waters are impaired for unknown toxicity. Allowing 30% mortality in acute toxicity tests allows that same level of mortality in the receiving stream, in violation of federal regulations and contributes to exceedance of the Basin Plan's narrative water quality objective for toxicity. Accordingly, the Order should be revised to prohibit acute toxicity.

V. The Order fails to contain an effluent limitation for chronic toxicity

Federal regulations, at 40 CFR 122.44 (d)(1)(i), require that limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standard, including state narrative criteria for water quality. The Water Quality Control Plan for the Sacramento/ San Joaquin River Basins (Basin Plan), Water Quality Objectives (Page III-8.00) for Toxicity is a narrative criteria which states that all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

The Order states that: "...to ensure compliance with the Basin Plan's narrative toxicity objective, the discharger is required to conduct whole effluent toxicity testing..." Attachment F, page 59. However, sampling does not equate with or ensure compliance.

The Order requires the Discharger to conduct an investigation of the possible sources of toxicity if a threshold is exceeded. This language is not a limitation and essentially eviscerates the Regional Board's authority, and the authority granted to third parties under the Clean Water Act, to find the Discharger in violation for discharging chronically toxic constituents. An effluent limitation for chronic toxicity must be included in the Order.

In addition, the Chronic Toxicity Testing Dilution Series should bracket the actual dilution at the time of discharge, not use default values that are not relevant to the discharge.

VI. The Order violates state and federal endangered species acts.

As discussed above, South Delta waterways are listed on the 303(d) list as impaired because of unknown toxicity and are home to species protected by state and federal endangered species acts. There is no remaining assimilative capacity for toxicity, toxic pollutants or oxygen demanding constituents. Astonishingly, the Order allows acute toxicity, fails to limit chronic toxicity and, as we discuss below, includes effluent limits that are not protective of listed species. The Order is likely to result in the illegal “take” of listed species and will likely result in the destruction or adverse modification of critical habitat in violation of Section 9 of the federal Endangered Species Act (ESA).

Federal regulation at 40 CFR § 122.49(c) state “[t]he *Endangered Species Act*, 16 U.S.C. 1531 *et seq.* section 7 of the Act and implementing regulations (50 CFR part 402) require the Regional Administrator to ensure, in consultation with the Secretary of the Interior or Commerce, that any action authorized by EPA is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat.”

The Order has been developed with federal funds and is issued pursuant to U.S. Environmental Protection Agency (EPA) authorization. Consequently, the Regional Board and/or EPA must enter into formal consultation with both the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the ESA. The discharge of toxicity and toxic pollutants by the Discharger is a violation of Section 9 of the ESA and requires an incidental take permit pursuant to Section 10 of the ESA. The Regional Board’s issuance of an Order that authorizes and/or “causes” an illegal “take” is also a violation of Section 9 of the ESA. Consequently, both the Discharger and the Regional Board must secure incidental take permits from NMFS and USFWS.

The Order will also likely result in an illegal “take” of listed species pursuant to Section 2080 of the California Fish and Game Code; i.e., the California Endangered Species Act (CESA). The Discharger must obtain a permit under Section 2081 or a consistency determination under Section 2080.1 of CESA. Unlike ESA, CESA requires that authorized take be “fully mitigated” and that all required measures be “capable of successful implementation.” Since there are no provisions for time schedules under CESA, the Discharger must comply with protective limits as soon as possible and certainly prior to any increase in the rate of discharge. The inadequate toxicity, temperature, ammonia, and dissolved oxygen limits in the Order should be revised to be fully protective of listed species. The Discharger and Regional Board must initiate consultation with the California Department of Fish and Game.

VII. Temperature limitations violate the Basin Plan, Thermal Plan and federal regulations

The Order contains an Effluent Limitation that states: “The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than

20°F.” It also includes a Receiving Water Limitation that states that the discharge shall not cause: “The creation of a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of the river channel at any point or a surface temperature rise greater than 4°F above the natural temperature of the receiving water at any time or place.”

Unless the Order is allowing a mixing zone, compliance with the proposed effluent limitation would cause immediate violation of the Receiving Water Limitations. The receiving water limitations are apparently based on Basin Plan water quality objectives, whereas the Effluent Limitation appears to have no technical or legal explanation. Federal Regulations, 40 CFR 122.44(d)(1)(i), requires an effluent limitation be adopted whenever a pollutant discharge has a reasonable potential to exceed a water quality standard or objective. Given the size and tidal characteristics of the receiving waters, a discharge at 20°F above the natural receiving water temperature will clearly cause exceedance of a 4°F Receiving Water objective and an exceedance of a 1°F limit for more than 25% of the cross-sectional area of the river channel. The Effluent Limitation allowing a 20°F increase in temperature violates federal regulations and must be removed and replaced with a protective limit that will ensure compliance.

The proposed Order language does not accurately reflect the Basin Plan and Thermal Plan objective for temperature, violates 40 CFR 122.44(d)(1)(i) and must be changed.

VIII. The Order allows degradation of groundwater

The discussion concerning biosolids dewatering, in Attachment F, page 16, states that the facility currently degrades groundwater quality with their practice of discharging sludge to sand lined drying beds. It is proposed to pave the sludge drying bed with a “relatively impermeable” barrier of asphaltic concrete. A “relatively impermeable” barrier will still allow wastes to migrate to groundwater and is not best practicable treatment and control (BPTC) of the discharge. Completely impermeable lining materials are readily available and would prohibit pollutant migration to groundwater. . A “relatively impermeable” barrier is not BPTC. The Order should be revised to require BPTC for discharges to groundwater.

IX. Failure to include an effluent limitation for dissolved oxygen violates federal regulations

The Order states that the receiving waters are impaired for dissolved oxygen. The discharge contains oxygen-demanding substances. In numerous locations, the Order establishes that receiving water lacks assimilative capacity for additional oxygen demanding constituents. The proposed Order contains a Receiving Water Limitation for DO. The discharge presents a reasonable potential to cause or contribute to exceedance of the Basin Plan’s water quality objective for DO. In accordance with Federal Regulations, 40 CFR 122.44, the Order is required to contain an Effluent Limitation for DO.

X. The ammonia limitation is not protective of the Basin Plan’s narrative toxicity objective and fails to employ a “worst case” scenario

The toxicity of ammonia varies with pH and temperature. The proposed Order finds that there is a reasonable potential for ammonia in the discharge to exceed water quality standards, therefore in accordance with federal regulations an Effluent Limitation is required to be included in the Order. The Effluent Limitation must be adequate to maintain compliance with the narrative water quality objective 100% of the time.

In assessing acute toxicity, the Order states that the maximum observed pH was 9.3. The Order states that: “however, due to the variability of pH sampling, using the maximum pH may be overly protective. Therefore, the 90th percentile of pH readings was used to determine the acute design pH.” The final Effluent Limitations must be protective of all events over the five-year life of the Order; therefore the worst-case pH should be used in developing the final ammonia limitation. There is NO documentation that pH variability would not result in a recurrence of an effluent pH of 9.3 during the life of the Order and a resulting toxic discharge. To the contrary, a 9.3 pH has occurred and recurrence is statistically probable. The 90th percentile pH of 8.5 does not produce an ammonia effluent limitation that is fully protective over the life of the Order. There were 280 receiving water pH observations made from July 1998 through November 2003; 53 months or approximately 1,590 days. With this relatively infrequent sampling, there is no reason to assume that the worst-case pH during this period was actually detected. The effluent pH values were not even discussed in assessing the acute toxicity for ammonia, although the chronic limitations are being established without benefit of dilution. The permit writer does not provide any statistical or rhetorical evidence that use of a 90th percentile receiving water pH results in a protective effluent limitation for ammonia.

For chronic toxicity, a median of the 280 pH observations was utilized in developing an ammonia effluent limitation. The Order states that: “the median was chosen for chronic toxicity, because over a period of time receptors would be exposed to a more or less average ammonia concentration.” The median receiving water pH is then compared to the effluent median pH and the Order concludes that since the receiving water median pH is higher than the effluent median pH, that the critical pH was selected. The critical pH is the maximum observed value, not a relative median. The permit writer’s statement that: “... receptors would be exposed to a more or less average ammonia concentration” comparing an average time period to the use of a median has no statistical basis. The median pH value does not produce an ammonia effluent limitation that will be protective of all events over the five-year life of the Order.

With respect to chronic toxicity, a 30-day average temperature was used in developing the ammonia effluent limitation. The above discussions are also accurate for this use of temperature. The proposed limitation is not based on the worst-case discharge that has been observed in the discharge and is not protective of all conditions that will be observed over the life of the Order. The Order presents no technical explanation or statistical analysis in an attempt to justify the use of medians and average values as compared to worst case observed conditions.

The proposed ammonia effluent limitation is not protective of the Basin Plan's narrative toxicity objective and if not corrected using the worst case observed pH and temperature, will allow toxic discharges to a receiving stream with no assimilative capacity. The Order must be modified to include effluent limits that prevent acute and chronic toxicity from ammonia.

XI. The Order fails to include limits and monitoring for methylmercury

The Order includes an interim effluent mass limitation, or cap, for total mercury. Inexplicably, it ignores methylmercury; the bioaccumulative and biodamaging form of mercury. Regional Board TMDL staff has consistently maintained that the pending Delta Mercury TMDL will require substantial reductions in the mass loading of methylmercury from wastewater treatment plants. The Order must include an interim cap on methylmercury loading.

The Order states that, if the Regional Board determines that a mercury offset program is feasible, the Order may be reopened to reevaluate the interim mercury mass loading limitation(s) and the need for mercury offset program. An explicit permit re-opener to include final load reductions established in the Delta Mercury TMDL must be incorporated in the Order.

The Monitoring and Reporting Program does not contain monitoring for methylmercury. Sampling for methylmercury is critical to support the mercury TMDL and the allocation of loads.

The Order states, "The total pollutant mass load for each individual calendar month shall be determined using an average of all concentration data collected that month and the corresponding average monthly flow. Using average mercury concentration will not hold mercury loading to current levels because the average is not a measure of current loading. The total mass loading of mercury each month must be based upon the total accumulated monthly flow multiplied by a sum of the peak mercury concentrations in order to determine the total mass of mercury discharged. The Order illegally allows the Discharger to substantially increase mercury loading to mercury-impaired waters.

XII. Monitoring requirements are inadequate

The Monitoring and Reporting Program requires collection and analysis of total mercury. It must also require that methylmercury samples be collected and analyzed. Since sulfate concentrations affect methylation rates, sulfate should be analyzed concurrently with total and methyl mercury. Monthly methylmercury and sulfate sampling should also be required for receiving water monitoring.

Grab samples for metals and semi volatile constituents are inappropriate for effluent monitoring. Flow proportional 24-hour composite sampling for metals and semi-volatile constituents is necessary. Continuous pH, EC and turbidity should also be required as they are inexpensive. The Order currently requires monthly grab samples for

EC. Continuous EC monitoring is especially critical to determine the critical values related to the numerous EC discussions and studies in the proposed Order.

XIII. The Order fails to adequately discuss CEQA

The Order states that the action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of Division 13 of the Public Resources Code in accordance with Section 13389 of the CWC. The action to adopt an NPDES permit may be exempt from CEQA; however the proposed Order discusses significant expansion of the wastewater treatment plant, which is not exempt from CEQA.

Later in the Fact Sheet, in discussing the temperature impacts of the discharge the Order discusses a CEQA document that was completed for the wastewater treatment plant expansion. The CEQA discussion within the Order must be expanded to discuss all of the water quality impacts discovered during the CEQA analysis.

For example in discussing temperature the Order states that: *modeling by the Discharger shows that the 1 °F limitation of Objective 5.A.(1)b of the Thermal Plan may be exceeded 3 months of the year. As described in the Final EIR for the expansion of the Facility, the Discharger has proposed mitigation measures to ensure that any thermal impacts will be less than significant. The Discharger proposes to conduct four years of intensive monitoring of thermal impacts in the vicinity of the outfall and develop an appropriate range of mitigation measures, if necessary.* The Discharger confirms that they exceed the thermal plan 3-months out of each year. The Order states Discharger has proposed mitigation measures in their EIR, yet no such mitigation measures are identified or discussed in the Order. Intensive sampling for four-years is not mitigation.

XIV. A significant number of the Effluent Limitations are not limited for mass

Most of the above effluent limitations do not have associated mass limitations. Mass limitations are required by Federal regulations, 40 CFR 122.45(f). 40 CFR §122.45(f) states that: *“All pollutants limited in permits shall have limitations...expressed in terms of mass except...[f] or pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass...Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations.”*

U.S. EPA’s Technical Support Document for Water Quality-Based Toxics Control (TSD), states in section 5.7.1, pp. 110-111 that:

“Mass-based effluent limits are required by NPDES regulations at 40 CFR 122.45(f). The regulation requires that all pollutants limited in NPDES permits have limits, standards, or prohibitions expressed in terms of mass with three exceptions, including one for pollutants that cannot be expressed appropriately as mass. Examples of such pollutants are pH, temperature, radiation, and whole effluent toxicity.

Mass limitations in terms of pounds per day or kilograms per day can be calculated for all chemical-specific toxics such as chlorine or chromium. Mass-based limits should be calculated using concentration limits at critical flows. For example, a permit limit of 10 mg/l of cadmium discharged at an average rate of 1 million gallons per day also would contain a limit of 38 kilograms/day of cadmium.

Mass-based limits are particularly important for control of bioconcentratable pollutants. Concentration-based limits will not adequately control discharges of these pollutants if the effluent concentrations are below detection levels. For these pollutants, controlling mass loadings to the receiving water is critical for preventing adverse environmental impacts.

However, mass-based effluent limits alone may not assure attainment of water quality standards in waters with low-dilution. In these waters, the quantity of effluent discharged has a strong effect on the instream dilution and therefore on the RWC [receiving water concentration]. At the extreme case of a stream that is 100 percent effluent, it is the effluent concentration rather than the effluent mass discharge that dictates the instream concentration. Therefore, EPA recommends that permit limits on both mass and concentration be specified for effluents discharging into waters with less than 100 fold dilution to ensure attainment of water quality standards.”

XV. Reasonable potential exists for Bis(2-ethyl-hexyl)phthalate and an effluent limitation is required

For Bis(2-ethyl-hexyl)phthalate the State MCL is 4 µg/l and the USEPA MCL is 6 µg/l and the CTR criterion for Human health protection for consumption of water and aquatic organisms is 1.8 µg/l and for consumption of aquatic organisms only is 5.9 µg/l. Based on 4 monitoring samples performed by the Discharger from January 2002 through December 2002, bis(2-ethylhexyl)phthalate was detected, but not quantified in all four samples. The concentration was estimated in each case, with a maximum estimated concentration of 2 µg/l exceeding the CTR water quality standard of 1.8 µg/l. According to the SIP procedures there is a reasonable potential for the discharge to exceed a water quality standard. The SIP and Federal Regulations, 40 CFR 122.44, require establishment of an effluent limitation where there is a reasonable potential for a discharge to exceed a water quality standard or objective. The failure to include an effluent limitation for bis(2-ethyl-hexyl)phthalate violates 40 CFR 122.44.

XVI. The Order allows the Receiving Water Limitation for turbidity to expire

The proposed Order states that the Receiving Water Limitation for turbidity expires when the Final Effluent Limitation for turbidity becomes effective. Receiving Water Limitations are directly based on Basin Plan Water Quality Objectives. Removal

of the Receiving Water Limitation for turbidity would potentially allow exceedance of the water quality objective. Federal Regulations, 40 CFR 122.44 (d)(1)(i), requires the Order contain a limitation if there is a reasonable potential for a discharge to exceed a water quality objective.

XVII. The Order allows 100% use of the assimilative capacity of the receiving stream without an adequate analysis of flow rates

The Human Health Dilution Credits section states that after the Phase 1 improvements are complete, it may not be necessary to grant the entire assimilative capacity of the receiving water for CTR human carcinogens. For example, the discussion regarding chlorodibromomethane states the background ambient concentration was nondetected. A reasonable potential to cause or contribute to an in-stream excursion of a water quality objective was found. Based on this information it was concluded that the ambient monitoring demonstrates the receiving water has assimilative capacity for chlorodibromomethane and a dilution credit up to 20:1 was granted. However, the *Evaluation of Available Dilution for Priority Pollutant Human Health Criteria* section of the Fact sheet states, in part that: “However, direct Old River flow measurements do not exist over the required period.” Flow rates are necessary to determine dilution ratios. The Fact Sheet further discusses that the receiving stream is tidally influenced and flow rates at the point of discharge may reverse. The Fact Sheet appears to indicate that modeling was used to determine the harmonic mean flow rate. The use of a model to determine the harmonic mean flow does not appear to meet the SIP definition (page Appendix 1-3) and does not appear valid absent measured flow rates. Most new treatment systems are utilizing ultraviolet (UV) disinfection to eliminate problems complying with chlorodibromomethane, which would appear to make UV best practicable treatment.

XVIII. The Order’s compliance schedule misapplies Title 22 disinfection requirements.

Region 5 has, in the past, gone to great lengths to state that Title 22 Reclamation Requirements do not apply to surface water discharges, but that the science used to develop Title 22 has applicable and necessary to protect the beneficial uses of contact recreation and irrigated agriculture. The proposed Order requires that: “By August 1, 2008, or upon compliance with Special Provisions VI.C.4.b. whichever is sooner, wastewater discharged to Old River shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DHS reclamation criteria, Title 22 CCR, Division 4, Chapter 3, (Title 22) or equivalent.” By directly requiring compliance with Title 22 requirements, the proposed Order would appear to be vulnerable to legal challenge in applying Title 22 requirements to surface water discharges.

XIX. The Order illegally allows an unpermitted discharge to Sugar Cut Slough

The previous tentative order contained a Provision (2d) and a Sugar Cut Slough Monitoring Study. The Provision stated: “In a June 1995 report prepared by CH2M Hill

for the Discharger, it was concluded that the ponds leak to the shallow groundwater and the groundwater is in hydraulic connection with Sugar Cut Slough.” The Provision then stated, in part: “...additional monitoring is necessary to determine if the unlined ponds are in hydraulic continuity and if they are affecting water quality in Sugar Cut Slough.” The Discharger’s consultants have already concluded that there is hydraulic continuity between wastes from the facility and with surface waters.

The present tentative Order seems to have deleted references to the pond leakage and any proposed workplan. Apparently, it will be addressed as a discharge to land. However, the Clean Water Act and California Water Code §13376 clearly requires submittal of a Report of Waste Discharge for a discharge of waste to surface waters. There is sufficient information to conclude that waste material, regardless of quality, is being discharged to surface waters from leaking wastewater ponds. The Order must be revised to require the Discharger to submit a Report of Waste Discharge for its illegal discharge to Sugar Cut Slough.

In summary, the Order is grossly nonprotective for discharges to seriously degraded waters and must be revised to:

1. Contain a protective limit for EC.
2. Comply with the antidegradation policy.
3. Include flow limits based on acceptable WWTP design parameters.
4. Prohibit all acute toxicity.
5. Include an effluent limitation for chronic toxicity.
6. Comply with state and federal endangered species acts.
7. Comply with temperature limitations in the Basin Plan, Thermal Plan and federal regulations.
8. Prohibit degradation of groundwater.
9. Include an effluent limitation for dissolved oxygen.
10. Restrict mass loading of impairing constituents to current levels and require compliance with effluent and receiving water limitations prior to expansion.
11. Comply with temperature limitations in the Basin Plan, Thermal Plan and federal regulations.
12. Include defensible effluent limits that prevent acute and chronic toxicity from ammonia.
13. Include an interim cap on methylmercury loading and an explicit re-opener to establish final methylmercury load reductions.
14. Require monitoring for methylmercury and sulfate, flow proportional 24-hour composite effluent sampling for metals and semi-volatile constituents and continuous pH, EC and turbidity monitoring.
15. Comply with CEQA.
16. Include mass limits for pollutants.
17. Include a limit for Bis(1-ethyl-hexyl)phthalate.
18. Include a receiving water limit for turbidity.
19. Require a Report of Waste Discharge for discharges to Sugar Cut Slough.

Thank you for considering these comments. If you have questions or require clarification, please don't hesitate to contact us.

Sincerely,

Original signed by Bill Jennings

Bill Jennings, Executive Director

California Sportfishing Protection Alliance