



## California Sportfishing Protection Alliance

*"An Advocate for Fisheries, Habitat and Water Quality"*

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3 June 2007

Dr. Karl Longley, Chairman  
Ms. Pamela Creedon, Executive Officer  
Mr. Kenneth Landau, Assistant Executive Officer  
Mr. Jim Pedri, Principle WRCE  
Mr. Bryan Smith, Sr. WRC Engr.  
Regional Water Quality Control Board  
Central Valley Region  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, CA 95670-6144

VIA: Electronic Submission  
Hardcopy if Requested

RE: Waste Discharge Requirements (NPDES No. CA0078051) for City of Mt. Shasta and U.S. Department of Agriculture, Forest Service, City of Mt. Shasta Wastewater Reclamation Plant, Siskiyou County

Dear Messrs. Longley, Landau, Pedri, Smith and Ms. Creedon:

The California Sportfishing Protection Alliance and Watershed Enforcers (CSPA) have reviewed the Central Valley Regional Water Quality Control Board's (Regional Board) tentative NPDES permit for the City of Mt. Shasta Wastewater Reclamation Plant (Discharger) and submits the following comments.

CSPA requests status as a designated party for this proceeding. CSPA is a 501(c)(3) public benefit conservation and research organization established in 1983 for the purpose of conserving, restoring, and enhancing the state's water quality and fishery resources and their aquatic ecosystems and associated riparian habitats. CSPA has actively promoted the protection of water quality and fisheries throughout California before state and federal agencies, the State Legislature and Congress and regularly participates in administrative and judicial proceedings on behalf of its members to protect, enhance, and restore California's degraded surface and ground waters and associated fisheries. CSPA members reside, boat, fish and recreate in and along waterways throughout the Central Valley, including Siskiyou County.

- 1. The groundwater monitoring well network is an absurdity and is in no way capable of determining whether the discharge of wastewater by percolation has degraded groundwater quality contrary to the Finding in the proposed Permit and Fact Sheet. Without sufficient groundwater quality the Regional Board cannot make an accurate statement regarding compliance with the Antidegradation Policy (Resolution 68-16).**

The proposed Permit, Groundwater Limitations, Fact Sheet page F-38, and Attachment B discuss and show three groundwater “monitoring” wells; the Tillman well (MW-1), the Needland well (MW-2) and MW-3. Using the scale on Attachment B, the closest distance between two wells is 3,000 feet and the third well is a minimum of 7,000 feet away. First, it would be quite unusual for pollution to migrate over a mile away.

The topography between the wells as shown in Attachment B is not flat; to the contrary it is quite steep in some areas. It is highly unlikely that the “monitoring wells” are screened in the same water-bearing zone. From the names of two of the wells, the Tillman well (MW-1) and the Needland well, one can assume that these are domestic or irrigation wells. Again it is doubtful that domestic or irrigation wells would be screened in the first shallow aquifer as a typical “monitoring” well.

The monitoring well system described in the proposed Permit, Fact Sheet, and Attachment B, is not capable of monitoring any impacts to groundwater from the disposal of wastewater. The monitoring well system described in the proposed Permit, Fact Sheet, and Attachment B does not meet the requirement of the Groundwater Monitoring requirements (page 23, No. d) which requires “...a sufficient number of designated monitoring wells downgradient of every treatment, storage, and disposal unit that does or may release waste constituents to groundwater.” There are no monitoring wells downgradient of the treatment plant unlined ponds. Since a minimum of three wells is necessary to determine the direction and gradient of groundwater flow at each unit, there are not adequate monitoring wells downgradient of any treatment, storage, or disposal unit, including the ponds, the leachfield and the golf course.

**2. The proposed Permit does not adequately assess whether the discharge of wastewater has degraded groundwater quality as is required by the Antidegradation Policy (Resolution 68-16)**

The proposed Permit (Fact Sheet page F-38) discusses that: “...there is no reasonable potential for contamination of usable groundwater...” (emphasis added). From the citation of “usable” groundwater, it can be assumed the permit writer, and not the Regional Board, has determined that shallow groundwater is not usable. There is no antidegradation analysis of the underlying groundwater quality that would be necessary to conclude that the underlying groundwater is not “usable”. There has not been a formal process to dedesignate the beneficial uses of groundwater in the area.

The proposed Permit (Fact Sheet page F-38) correctly states that: “Treated domestic wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the leachfield has the potential for increasing the concentration of these constituents in groundwater.” The permit writer fails to discuss that the percolation from the unlined ponds at the wastewater treatment plant have the same capability to degrade groundwater quality. The permit writer fails to discuss that the percolation at the golf course, which is irrigated with treated domestic wastewater, also

has the same capability to degrade groundwater quality as irrigation water percolates to groundwater.

Actions that trigger use of the antidegradation policy include issuance, re-issuance, and modification of NPDES and Section 404 permits and waste discharge requirements, waiver of waste discharge requirements, issuance of variances, relocation of discharges, issuance of cleanup and abatement orders, increases in discharges due to industrial production and/or municipal growth and/or other sources, exceptions from otherwise applicable water quality objectives, etc. (State Antidegradation Guidance, pp. 7-10, Region IX Guidance, pp. 2-3). For groundwater, even a minimal antidegradation analysis would require an examination of: 1) existing applicable water quality standards; 2) ambient conditions in groundwater compared to standards; 3) incremental changes in constituent loading, both concentration and mass; 4) treatability; 5) best practicable treatment and control (BPTC); 6) comparison of the proposed increased loadings relative to other sources; and, 7) an assessment of the significance of changes in ambient water quality. A minimal antidegradation analysis must also analyze whether: 1) such degradation is consistent with the maximum benefit to the people of the state; 2) the activity is necessary to accommodate important economic or social development in the area; 3) the highest statutory and regulatory requirements and best management practices for pollution control are achieved; and 4) resulting water quality is adequate to protect and maintain existing beneficial uses. The proposed Permit does not contain an adequate antidegradation policy analysis regarding the impacts of the wastewater discharge to groundwater.

**3. The proposed Permit contains an inadequate antidegradation analysis for the surface water discharge that does not comply with the requirements of Section 101(a) of the Clean Water Act, Federal Regulations 40 CFR § 131.12 and State Board's Resolution 68-16. Bypass of treatment processes are strictly prohibited by Federal Regulations 40 CFR 122.41(m) but apparently allowed by the proposed Permit.**

The proposed Permit allows for an increase in the effluent flow rate from the previously permitted flow limit of 0.7 mgd to 0.8 mgd. The antidegradation analysis in the proposed Permit is not simply deficient, it is literally nonexistent, and the antidegradation analysis in the proposed Permit does not discuss the impacts of discharging additional pollutants, which are allowed by increasing the permitted flow rate. The brief discussion of antidegradation requirements, in the Findings and Fact Sheet, consist only of skeletal, unsupported, undocumented conclusory statements totally lacking in factual analysis.

The proposed Permit requires full tertiary treatment of wastewater (10 mg/l for BOD and TSS as a monthly average with a disinfection requirement to 2.2 MPN/100 ml) for reclamation and irrigation of a golf course. Yet the proposed Permit allows secondary wastewater (30 mg/l for BOD and TSS as a monthly average with a disinfection requirement to 23 MPN/100 ml) to be discharged to surface waters. The Discharger is not providing best practicable treatment and control (BPTC) of the discharge by

bypassing the tertiary components of the facility during periods of discharge to surface waters. There is no discussion of bypass of treatment processes or allowing a lower protection of surface waters in the antidegradation discussion. Bypass of treatment processes are strictly prohibited by Federal Regulations 40 CFR 122.41(m) but apparently allowed by the proposed Permit.

Section 101(a) of the Clean Water Act, the basis for the antidegradation policy, states that the objective of the Act is to “restore and maintain the chemical, biological and physical integrity of the nation’s waters.” Section 303(d)(4) of the Act carries this further, referring explicitly to the need for states to satisfy the antidegradation regulations at 40 CFR § 131.12 before taking action to lower water quality. These regulations describe the federal antidegradation policy and dictate that states must adopt both a policy at least as stringent as the federal policy as well as implementing procedures (40 CFR § 131.12(a)).

The Regional Board must apply the antidegradation policy whenever it takes an action that will lower water quality (State Antidegradation Guidance, pp. 3, 5, 18, and Region IX Guidance, p. 1). Application of the policy does not depend on whether the action will actually impair beneficial uses. (State Antidegradation Guidance, p. 6. Actions that trigger use of the antidegradation policy include issuance, re-issuance, and modification of NPDES and Section 404 permits and waste discharge requirements, waiver of waste discharge requirements, issuance of variances, relocation of discharges, issuance of cleanup and abatement orders, increases in discharges due to industrial production and/or municipal growth and/or other sources, exceptions from otherwise applicable water quality objectives, etc. (State Antidegradation Guidance, pp. 7-10, Region IX Guidance, pp. 2-3). Both the state and federal policies apply to point and nonpoint source pollution (State Antidegradation Guidance p. 6, Region IX Guidance, p. 4).

The State Board’s APU 90-004 specifies guidance to the Regional Boards for implementing the state and federal antidegradation policies and guidance. The guidance establishes a two-tiered process for addressing these policies and sets forth two levels of analysis: a simple analysis and a complete analysis. A simple analysis may be employed where a Regional Board determines that: 1) a reduction in water quality will be spatially localized or limited with respect to the waterbody, e.g. confined to the mixing zone; 2) a reduction in water quality is temporally limited; 3) a proposed action will produce minor effects which will not result in a significant reduction of water quality; and 4) a proposed activity has been approved in a General Plan and has been adequately subjected to the environmental and economic analysis required in an EIR. A complete antidegradation analysis is required if discharges would result in: 1) a substantial increase in mass emissions of a constituent; or 2) significant mortality, growth impairment, or reproductive impairment of resident species. Regional Boards are advised to apply stricter scrutiny to non-threshold constituents, i.e., carcinogens and other constituents that are deemed to present a risk of source magnitude at all non-zero concentrations. If a Regional Board cannot find that the above determinations can be reached, a complete analysis is required.

Even a minimal antidegradation analysis would require an examination of: 1) existing applicable water quality standards; 2) ambient conditions in receiving waters compared to standards; 3) incremental changes in constituent loading, both concentration and mass; 4) treatability; 5) best practicable treatment and control (BPTC); 6) comparison of the proposed increased loadings relative to other sources; 7) an assessment of the significance of changes in ambient water quality and 8) whether the waterbody was a ONRW. A minimal antidegradation analysis must also analyze whether: 1) such degradation is consistent with the maximum benefit to the people of the state; 2) the activity is necessary to accommodate important economic or social development in the area; 3) the highest statutory and regulatory requirements and best management practices for pollution control are achieved; and 4) resulting water quality is adequate to protect and maintain existing beneficial uses. A BPTC technology analysis must be done on an individual constituent basis; while tertiary treatment may provide BPTC for pathogens, dissolved metals may simply pass through.

Any antidegradation analysis must comport with implementation requirements in State Board Water Quality Order 86-17, State Antidegradation Guidance, APU 90-004 and Region IX Guidance. The conclusory, unsupported, undocumented statements in the Permit are no substitute for a defensible antidegradation analysis.

The antidegradation review process is especially important in the context of waters protected by Tier 2. See EPA, Office of Water Quality Regulations and Standards, Water Quality Standards Handbook, 2nd ed. Chapter 4 (2nd ed. Aug. 1994). Whenever a person proposes an activity that may degrade a water protected by Tier 2, the antidegradation regulation requires a state to: (1) determine whether the degradation is “necessary to accommodate important economic or social development in the area in which the waters are located”; (2) consider less-degrading alternatives; (3) ensure that the best available pollution control measures are used to limit degradation; and (4) guarantee that, if water quality is lowered, existing uses will be fully protected. 40 CFR § 131.12(a)(2); EPA, Office of Water Quality Regulations and Standards, Water Quality Standards Handbook, 2nd ed. 4-1, 4-7 (2nd ed. Aug. 1994). These activity-specific determinations necessarily require that each activity be considered individually.

For example, the APU 90-004 states:

“Factors that should be considered when determining whether the discharge is necessary to accommodate social or economic development and is consistent with maximum public benefit include: a) past, present, and probably beneficial uses of the water, b) economic and social costs, tangible and intangible, of the proposed discharge compared to benefits. The economic impacts to be considered are those incurred in order to maintain existing water quality. The financial impact analysis should focus on the ability of the facility to pay for the necessary treatment. The ability to pay depends on the facility’s source of funds. In addition to demonstrating a financial impact on the publicly – or privately – owned

facility, the analysis must show a significant adverse impact on the community. The long-term and short-term socioeconomic impacts of maintaining existing water quality must be considered. Examples of social and economic parameters that could be affected are employment, housing, community services, income, tax revenues and land value. To accurately assess the impact of the proposed project, the projected baseline socioeconomic profile of the affected community without the project should be compared to the projected profile with the project...EPA's Water Quality Standards Handbook (Chapter 5) provides additional guidance in assessing financial and socioeconomic impacts"

There is nothing resembling an economic or socioeconomic analysis in the Permit. There is nothing in the Permit resembling an alternatives analysis evaluating less damaging and degrading alternatives. Unfortunately, the Permit fails to evaluate and discuss why there is no alternative other than discharging to surface waters. Other communities have successfully disposed of wastes without discharging additional pollutants to degraded rivers. The discharger certainly has the option of purchasing offsets. A proper alternatives analysis would cost out various alternatives and compare each of the alternatives' impacts on beneficial uses.

There is nothing resembling an analysis buttressing the unsupported claim that BPTC is required. An increasing number of wastewater treatment plants around the country and state are employing reverse-osmosis (RO), or even RO-plus. NPDES permits must include any more stringent effluent limitation necessary to implement the Regional Board Basin Plan (Water Code 13377). The Tentative Permit 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 the expanded discharge.

**4. The proposed Permit fails to regulate surface water discharges in violation of federal and state law, federal regulations and discharge prohibitions.**

The proposed Permit (Fact Sheet page F-38) discusses that: "...there is no reasonable potential for contamination of usable groundwater because the discharge of groundwater in the immediate area is to the Sacramento River and any plume would extend only from the ponds to the river itself, approximately 300 yards. The effect of any such discharge on the Sacramento would also be negligible when compared to the magnitude of the NPDES discharge at 001. (The pond contents are higher in BOD, TSS and coliform than the discharge but these pollutants would be greatly reduced by the time they reached the river due to passing through many feet of soil. There would be little if any difference between the pond contents and the effluent with respect to salt and metal concentrations."

On August 10, 2006, in Northern California River Watch v City of Healdsburg, the US Court of Appeals, Ninth Circuit, issued an opinion, No. 04-15442 D.C., No. CV-01-04686-WHA, that in summary: "...made substantial findings of fact to support the

conclusion that the adjacent wetland of Basalt Pond has a significant nexus to the Russian River. The Pond's effects on the Russian River are not speculative or insubstantial. Rather, the Pond significantly affects the physical, biological and chemical integrity of the Russian River, and ultimately warrants protection as a "navigable water" under the CWA. Appellant's discharge of wastewater into Basalt Pond without a permit, therefore, violates the CWA."

The area between the wastewater ponds and the Sacramento River is described as steep terrain and the hydraulic gradient is described as toward the river. There is no evidence of several feet of soil in the area of the wastewater ponds, as the proposed Permit is void of any underlying geological discussion. It is likely that rock formations, likely fractured, would be necessary to support the "steep terrain" without failure. Therefore it is reasonable that the wastewater does, as the proposed Permit suggests, discharge to the Sacramento River.

Despite the proposed Permits unsubstantiated conclusions regarding the filtration capability of soils in the area, the likely discharge to the Sacramento River of wastewater which has percolated from the ponds has not been characterized and the discharge is not regulated under this or any other NPDES permit contrary to CWC Section 13376, the Clean Water Act and federal NPDES regulations. Any such discharge to the Sacramento River would also violate the Discharge Prohibitions of the proposed Permit.

**5. The proposed Permit fails to contain an Effluent Limitation for bis(2-ethylhexyl)phthalate despite a clear reasonable potential to exceed waste quality standards in violation of Federal Regulations 40 CFR 122.44.**

Bis(2-ethylhexyl)phthalate exceeds water quality standards in the receiving stream at 6.0  $\mu\text{g}/\text{l}$ , above the CTR Water Quality Standard of 1.8  $\mu\text{g}/\text{l}$ . Bis(2-ethylhexyl)phthalate has been detected in the wastewater effluent at 9.0  $\mu\text{g}/\text{l}$ , also above the CTR Water Quality Standard. The proposed Permit Fact Sheet states that the receiving water sampling data for bis(2-ethylhexyl)phthalate is subject to error and is being discarded without any supporting documentation from the laboratory quality assurance/quality control (QA/QC) documents. The Regional Board total disregards scientific methods, specifically sampling and laboratory QA/QC methodologies, in throwing out data points that would lead to a reasonable potential for a pollutant to exceed water quality standards when the burden should properly be placed on wastewater Dischargers to conduct proper sampling and analysis. The California Water Code (CWC), Section 13377 states in part that: "...the state board or the regional boards shall...issue waste discharge requirements...which apply and ensure compliance with ...water quality control plans, or for the protection of beneficial uses..." Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Failure to include an effluent limitation for bis(2-ethylhexyl)phthalate in the proposed permit violates 40 CFR 122.44 and CWC 13377.

**6. The proposed Permit does not protect the designated beneficial uses of the receiving stream for contact recreation contrary to Federal Regulations and the California Water Code.**

The proposed Permit, Discharge Prohibitions, page 8, prohibits the discharge of wastewater to the Sacramento River during the recreation season (15 June through 14 September). This is interpreted that the wastewater discharge that would otherwise not be safe is allowed when there is no recreational activity, from 15 September through 14 June annually. The proposed Permit apparently assesses that the receiving stream need not be protected for this designated beneficial use during this period. The receiving stream is not swimmable from 15 September through 14 June annually contrary to the central tenants of the Clean water Act that all waters be fishable and swimmable. The Sacramento River has not been dedesignated for the Water Contact Recreation (REC-1) beneficial use during the period of discharge. The wastewater discharge and the proposed Permit do not protect REC-1 activities during the period of discharge as they are assumed to not exist. There is a specific Basin Planning process for dedesignating water bodies. It cannot be simply a part of the permitting process.

California Water Code, section 13377, requires that: “Notwithstanding any other provision of this division, the state board and the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” Federal Regulation, 40 CFR 122.4 (a), (d) and (g) require that no permit may be issued when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or regulations promulgated under the CWA, when imposition of conditions cannot ensure compliance with applicable water quality requirements and for any discharge inconsistent with a plan or plan amendment approved under Section 208(b) of the CWA. The proposed Permit essentially dedesignates the Sacramento River for REC-1 activities as a part of the permitting process and is not protective of the beneficial use contrary to CWC Section 13377 and Federal Regulation, 40 CFR 122.4 (a), (d) and (g).

**7. The proposed Permit establishes a mixing zone contrary to requirements of the Basin Plan and the SIP.**

The proposed Permit, *2 Special Studies, Technical Reports and Additional Monitoring Requirements*, states that: “The Regional Board has determined that a minimum 20/1 dilution exists at all times during effluent discharge to the Sacramento River, and that a dilution credit may be granted. No dilution will be granted for copper, zinc, ammonia or 4,4 DDT, however, until the Discharger submits a mixing zone study which demonstrates that complete mixing occurs within an appropriate length of the receiving stream, and that there will be no effects on aquatic life...An interim dilution credit of 10:1 has been granted in this Permit for chronic toxicity.” (emphasis added)

The Basin Plan, page IV-16.00, requires the Regional Board use EPA's *Technical Support Document for Water Quality Based Toxics Control (TSD)*. The TSD, page 70, defines a first stage of mixing, close to the point of discharge, where complete mixing is determined by the momentum and buoyancy of the discharge. Obviously the wastewater discharge here is not completely mixed in the first stage. The second stage is defined by the TSD where the initial momentum and buoyancy of the discharge are diminished and waste is mixed by ambient turbulence. The TSD goes on to state that in large rivers this second stage mixing may extend for miles. The TSD, Section 4.4, requires that if complete mix does not occur in a short distance mixing zone monitoring and modeling must be undertaken.

The extensive SIP, Section 1.4.2.2, requirements for a mixing zone study apply here and must be analyzed before a mixing zone is allowed for this discharge. The proposed Effluent Limitations in the proposed Permit are not supported by the scientific investigation that is required by the SIP and the Basin Plan.

SIP Section 1.4.2.2 requires that a mixing zone shall not:

- a. Compromise the integrity of the entire waterbody.
- b. Cause acutely toxic conditions to aquatic life.
- c. Restrict the passage of aquatic life.
- d. Adversely impact biologically sensitive habitats.
- e. Produce undesirable aquatic life.
- f. Result in floating debris.
- g. Produce objectionable color, odor, taste or turbidity.
- h. Cause objectionable bottom deposits.
- i. Cause Nuisance.
- j. Dominate the receiving water body or overlap a different mixing zone.
- k. Be allowed at or near any drinking water intake.

The proposed Permit's mixing zones have not addressed a single required item of the SIP or the Basin Plan. A very clear unaddressed requirement (SIP Section 1.4.2.2) for mixing zones is that the point(s) in the receiving stream where the applicable criteria must be met shall be specified in the proposed Permit. The "edge of the mixing zone" has not been defined.

Without a mixing zone study, the proposed Permit does not comply with the requirements of the Basin Plan and the SIP in allowing a mixing zone for chronic toxicity. California Water Code, section 13377, requires that: "Notwithstanding any other provision of this division, the state board and the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance." Federal Regulation, 40 CFR 122.4 (a), (d) and (g) require that no

permit may be issued when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or regulations promulgated under the CWA, when imposition of conditions cannot ensure compliance with applicable water quality requirements and for any discharge inconsistent with a plan or plan amendment approved under Section 208(b) of the CWA. Without a mixing zone study the proposed Permit cannot provide any assurance that the beneficial uses of the receiving stream are protected.

**8. The proposed Permit contains an Effluent Limitation for acute toxicity that allows mortality that exceeds the Basin Plan water quality objective and does not comply with Federal regulations, at 40 CFR 122.44 (d)(1)(i).**

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 Tentative Permit 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 Tentative Permit contains a discharge limitation that allows 30% mortality (70% survival) of fish species in any given toxicity test.

The Regional Board has looked hard and long to find some citation as to the source of the limitation that would allow or recommend 10% and 30% mortality, such a find however does not eliminate the more restrictive applicable Basin Plan objective that simply prohibits the discharge from causing mortality in the receiving stream. Accordingly, the proposed Permit must be revised to prohibit acute toxicity in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i).

**9. The proposed Permit does not contain Effluent Limitations for chronic toxicity and therefore does not comply with Federal regulations, at 40 CFR 122.44 (d)(1)(i) and the SIP.**

Proposed Permit, State *Implementation Policy*, states that: “On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria

promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.” The SIP, Section 4, Toxicity Control Provisions, Water Quality-Based Toxicity Control, states that: “A chronic toxicity effluent limitation is required in permits for all dischargers that will cause, have a reasonable potential to cause, or contribute to chronic toxicity in receiving waters.”

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 Proposed Permit states that: “...to ensure compliance with the Basin Plan’s narrative toxicity objective, the discharger is required to conduct whole effluent toxicity testing...”. However, sampling does not equate with or ensure compliance. The Tentative Permit 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.

Proposed Permit is simply wrong; by failing to include effluent limitations prohibiting chronic toxicity the proposed Permit does not “...implement the SIP”. The Regional Board has commented time and again that no chronic toxicity effluent limitations are being included in NPDES permit until the State Board adopts a numeric limitation. The Regional Board explanation does not excuse the proposed Permit’s failure to comply with Federal Regulations, the SIP, the Basin Plan and the CWC. The Regional Board’s Basin Plan, as cited above, already states that: “...waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses...” Accordingly, the proposed Permit must be revised to prohibit chronic toxicity (mortality and adverse sublethal impacts to aquatic life, (sublethal toxic impacts are clearly defined in EPA’s toxicity guidance manuals)) in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i) and the Basin Plan and the SIP.

**10. The proposed Permit fails to include mass based Effluent Limitations for most constituents contrary to federal regulations and technical advise from EPA.**

Section 5.7.1 of U.S. EPA's *Technical Support Document for Water Quality Based Toxics Control* (TSD, EPA/505/2-90-001) states with regard to mass-based Effluent Limits:

“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 by 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 upon the RWC. At the extreme case of a stream that is 100 percent effluent, it is the effluent concentration rather than the 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.”

Federal Regulations, 40 CFR 122.45 (f), states the following with regard to mass limitations:

- “(1) all pollutants limited in permits shall have limitations, standards, or prohibitions expressed in terms of mass except:
  - a. For pH, temperature, radiation or other pollutants which cannot be expressed by mass;
  - b. When applicable standards and limitations are expressed in terms of other units of measurement; or
  - c. If in establishing permit limitations on a case-by-case basis under 125.3, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation (for example, discharges of TSS from certain mining operations), and permit conditions ensure that dilution will

not be used as a substitute for treatment.

- (2) 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.”

Mixing zone allowances will increase the mass loadings of a pollutant to a waterbody and decrease treatment requirements. Accurate mass loadings are critical to mixing zone determinations. Once toxicity numeric limitations (TUs) have been established, it is necessary to convert toxicity units that can be directly related to mass.

In addition to the above citations, on June 26<sup>th</sup> 2006 U.S. EPA, Mr. Douglas Eberhardt, Chief of the CWA Standards and Permits Office, sent a letter to Dave Carlson at the Central Valley Regional Water Quality Control Board strongly recommending that NPDES permit effluent limitations be expressed in terms of mass as well as concentration.

**11. The proposed Permit contains absurd time schedules for the installation of critical monitoring equipment that is necessary to determine compliance.**

The proposed Permit contains absurd time schedules of two-years for the installation of critical 24-hour composite and continuous chlorine monitoring equipment that is necessary to determine compliance. There is no justification for such a lengthy time schedule for the installation of relatively inexpensive and readily available monitoring equipment.

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

Sincerely,



Bill Jennings, Executive Director  
California Sportfishing Protection Alliance