



## California Sportfishing Protection Alliance

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

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2 September 2009

Ms. Jeanine Townsend  
Clerk to the Board  
State Water Resources Control Board  
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VIA: Electronic Submission  
Hardcopy if Requested

RE: **Comments to A-1967– September 15, 2009 Board Workshop:** Proposed Order:  
Petitions of California Sportfishing Protection Alliance Regarding Waste Discharge  
Requirements for Tuolumne Utilities District, Sonora Regional Wastewater Treatment  
Plant, and Jamestown Sanitary District Jamestown Wastewater Treatment plant, Central  
Valley Water Board

Dear Ms. Townsend and Board:

Thank you for the opportunity to comment on the Draft Order SWRCB/OCC File No. A-1967 regarding our petition in the above referenced matter. While the California Sportfishing Protection Alliance concurs with the findings in the Draft Order with regard to chlorine, we are concerned that a number of significant issues were not addressed in the Draft Order.

The State Board's Draft Order for TUD Sonora and Jamestown (File A-1967) is dated 4 August 2009, the same date as the Draft Order for the City of Stockton (File A-1971). This is relevant since the issues regarding mixing zones are common to both Dischargers and the facts in the cases are quite similar. The City of Stockton mixing zone discussions and ultimate remand to the Regional Board rely heavily on previous State Board Orders (Tracy cited at pp 10-13). The Draft Order for TUD Sonora/Jamestown however ignores the mixing zone issue altogether and is inconsistent with both the Draft Stockton and precedential Tracy Orders.

- 1. The Draft Order fails to address that the Permit allows for mixing zones for chloroform (cancer potency factor), manganese and nitrate and nitrite in violation of the requirements of the Central Valley Regional Water Quality Control Board's Basin Plan, page IV-16.00, which requires the Regional Board use EPA's *Technical Support Document for Water Quality Based Toxics Control (TSD)* in assessing mixing zones and the State's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (SIP)*, Section 1.4.2.2, which contains extensive requirements for a mixing zone study which must be analyzed before a mixing zone is allowed for a wastewater discharge.**

A “completely mixed discharge” is defined by the SIP, Appendix 1-1, when a pollutant concentration is less than 5% different across a transect of the waterbody at a point within two stream/river widths from the point of discharge. The SIP, Section 1.4.2, requires that for incompletely mixed discharges; mixing zones will only be considered following the completion of a mixing zone study by the Discharger. The Permit, page F-14, contains the following statements regarding mixing of the discharge with receiving waters:

- For human health criteria: “For human health criteria it is a valid assumption that the discharge is completely mixed with the receiving water. This approach is appropriate for long term human health criteria where critical environmental effects are expected to occur far downstream from the source.”
- For acute and chronic aquatic life criteria: “The discharge to Woods Creek is via a side channel, therefore, complete mixing may not occur.”

The Permit allows for mixing zones for human health based criteria absent any mixing zone analysis. Woods Creek is defined in the Permit; page F-11, as “...a small ephemeral stream ranging in width between 3 ft. to 4 ft...” Therefore per the SIP definition; “complete mixing” must occur within 8 ft of the point of discharge. The Permit was modified by late revision to state that the discharge is completely mixed within 87 to 135 feet downstream of the discharge; clearly not mixed within the terms required by the SIP. Based on the facts presented in the Permit, there is no diffuser and the discharge simply flows into the creek via a side channel, and the statements contained in the Permit; the discharge is not “completely mixed” as defined in the SIP. In accordance with SIP Section 1.4.2, a mixing zone cannot be granted, including for human health criteria, absent a complete and independent mixing zone study. The dilution credits for human health criteria must be removed from the proposed Order and end-of-pipe limitations based solely on the criteria or standards must be developed, specifically for chloroform (cancer potency factor), manganese and nitrate and nitrite.

Woods Creek flows into New Don Pedro Reservoir within a relatively short distance. The Permit was revised by late revision to state that the discharge enters Don Pedro Reservoir approximately two miles downstream of the discharge; and claims absent any documentation that there are no drinking water intakes within this two-mile stretch of the creek. There is no information in the record documenting the absence of drinking water intakes, especially potential riparian intakes by adjacent landowners. In any case, such an allowance would at a minimum degrade and eliminate the drinking water beneficial use for two miles of a California waterbody. There is no mixing zone analysis as required for incompletely mixed discharges as required by the SIP and there is no Antidegradation Policy analysis for what is at a minimum removal of the drinking water beneficial use for a two mile stretch of Woods Creek.

The discharge is not completely mixed within the within 8 ft of the point of discharge as is required by the SIP. Confirming this: the Permit was modified to state that the discharge is mixed within 87 to 135 feet of the point of discharge (without any supporting documentation). In defense of an incompletely mixed discharge/receiving stream:

- The Central Valley Regional Water Quality Control Board's Basin Plan, page IV-16.00, requires the Regional Board use EPA's *Technical Support Document for Water Quality Based Toxics Control (TSD)* in assessing mixing zones.
  - Section 4.4.1 General Recommendations for Outfall Design. Of the three types of outfalls, the surface water type is the least favorable for toxic discharges since it offers the least initial mixing. In particular, surface water discharges at the shoreline of a waterbody usually have an impact along the shoreline when there is significant cross flow and thus yield high surface concentrations.
  - Section 4.4.2, 2) Lakes and Reservoirs. All seasonal analyses should assume an ambient velocity of zero unless persistent currents have been documented. Special attention should be given to periods of rising water level since pollutants can move back into coves and accumulate under these conditions.
- The SIP, Section 1.4.2.2 requires that the Regional Board shall consider, if necessary to protect beneficial uses, the level of flushing in water bodies such as lakes and reservoirs where pollutants may not be readily flushed through the system.
  - This Section of the SIP also requires that if a Regional Board allows a mixing zone and dilution credit, the permit shall specify the point in the receiving water where the applicable criteria/objectives must be met. In this case the Permit does not specify where the objective must be met, but states that: "... environmental effects are expected to occur far downstream..."
- The Basin Plan, Page IV-17.00, allows the Regional Board to grant mixing zones provided that the Discharger has demonstrated that the mixing zone will not adversely impact beneficial uses. The beneficial uses of the receiving stream include municipal and domestic uses. The Permit's mixing zone allowance does not specify the point of compliance but the mixing zone would apply "far downstream." The municipal and domestic beneficial uses would be adversely impacted within the mixing zone, which extends "far downstream." The Permit was modified by late revision to state that drinking water beneficial uses do not occur for two miles downstream. The point of compliance was not specified by late revision and the Permit does not require monitoring to confirm compliance. A complete mixing zone analysis for an incompletely mixed discharge was not conducted.
- According to faculty at UC Davis, Don Pedro Dam releases water into the Tuolumne River and water is diverted to Modesto and Turlock Irrigation Districts (MID and TID respectively). TID delivers drinking water to about 70 people in La Grange and over 99% of the allocated water is delivered to farmers. MID provides irrigation water to approximately 64,000 acres and a small percent of the water is delivered to supply drinking water in Stanislaus County. Don Pedro reservoir attracts over 400,000 recreational visits per year.

“A mixing zone is an area where an effluent discharge undergoes initial dilution and is extended to cover the secondary mixing in the ambient waterbody. A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely toxic conditions are prevented” according to EPA’s *Technical Support Document for Water Quality-based Toxics Control* (TSD) (USEPA, 1991), (Water quality criteria must be met at the edge of a mixing zone.) Mixing zones are regions within public waters adjacent to point source discharges where pollutants are diluted and dispersed at concentrations that routinely exceed human health and aquatic life water quality standards (the maximum levels of pollutants that can be tolerated without endangering people, aquatic life, and wildlife.) Mixing zone policies allow a discharger’s point of compliance with state and federal water quality standards to be moved from the “end of the pipe” to the outer boundaries of a dilution zone. The CWA was adopted to minimize and eventually eliminate the release of pollutants into public waters because fish were dying and people were getting sick. The CWA requires water quality standards (WQS) be met in all waters to prohibit concentrations of pollutants at levels assumed to cause harm. Since WQS criteria are routinely exceeded in mixing zones it is likely that in some locations harm is occurring. The general public is rarely aware that local waters are being degraded within these mixing zones, the location of mixing zones within a waterbody, the nature and quantities of pollutants being diluted, the effects the pollutants might be having on human health or aquatic life, or the uses that may be harmed or eliminated by the discharge. Standing waist deep at a favorite fishing hole, a fisherman has no idea that he is in the middle of a mixing zone for pathogens for a sewage discharger that has not been required to adequately treat their waste.

In 1972, backed by overwhelming public support, Congress overrode President Nixon’s veto and passed the Clean Water Act. Under the CWA, states are required to classify surface waters by *uses* – the beneficial purposes provided by the waterbody. For example, a waterbody may be designated as a drinking water source, or for supporting the growth and propagation of aquatic life, or for allowing contact recreation, or as a water source for industrial activities, or all of the above. States must then adopt *criteria* – numeric and narrative limits on pollution, sufficient to protect the uses assigned to the waterbody. *Uses + Criteria = Water Quality Standards (WQS)*. WQS are regulations adopted by each state to protect the waters under their jurisdiction. If a waterbody is classified for more than one use, the applicable WQS are the criteria that would protect the most sensitive use.

All wastewater dischargers to surface waters must apply for and receive a permit to discharge pollutants under the National Pollutant Discharge Elimination System (NPDES.) Every NPDES permit is required to list every pollutant the discharger anticipates will be released, and establish effluent limits for these pollutants to ensure the discharger will achieve WQS. NPDES permits also delineate relevant control measures, waste management procedures, and monitoring and reporting schedules.

It is during the process of assigning effluent limits in NPDES permits that variances such as mixing zones alter the permit limits for pollutants by multiplying the scientifically derived water quality criteria by dilution factors. The question of whether mixing zones are legal has never been argued in federal court.

Mixing zones are never mentioned or sanctioned in the CWA. To the contrary, the CWA appears to speak against such a notion:

“whenever...the discharges of pollutants from a point source...would interfere with the attainment or maintenance of that water quality...which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water, effluent limitations...shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality.”

A plain reading of the above paragraph calls for the application of effluent limitations whenever necessary to assure that *WQS will be met in all waters*. Despite the language of the Clean Water Act; US EPA adopted 40 CFR 131.13, General policies, that allows States to, at their discretion, include in their State standards, policies generally affecting their application and implementation, such as mixing zones, low flows and variances. According to EPA, (EPA, Policy and Guidance on Mixing Zones, 63 Fed Reg. 36,788 (July 7, 1998)) as long as mixing zones do not eliminate beneficial uses in the whole waterbody, they do not violate federal regulation or law. California has mixing zone policies included in individual Water Quality Control Plans (Basin Plans) and the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005) permitting pollutants to be diluted before being measured for compliance with the state's WQS.

Federal Antidegradation regulations at 40 CFR 131.12 requires that states protect waters at their present level of quality and that all beneficial uses remain protected. The corresponding State Antidegradation Policy, Resolution 68-16, requires that any degradation of water quality not unreasonably affect present and anticipated beneficial uses. Resolution 68-16 further requires that: “Any activity which produces or may produce or increase volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with the maximum benefit to the people of the State will be maintained.”

- Pollution is defined in the California Water Code as an alteration of water quality to a degree, which unreasonably affects beneficial uses. In California, Water Quality Control Plans (Basin Plans) contain water quality standards and objectives, which are necessary to protect beneficial uses. The Basin Plan for California's Central Valley Regional Water Board states that: “According to Section 13050 of the California Water Code, Basin Plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives. State law also requires that Basin Plans conform to the policies set forth in the Water Code beginning with Section 13000 and any state policy for water quality control. Since beneficial uses, together with their corresponding water quality objectives, can be defined per federal

regulations as water quality standards, the Basin Plans are regulatory references for meeting the state and federal requirements for water quality control (40 CFR 131.20).”

- Nuisance is defined in the California Water Code as anything which is injurious to health, indecent, offensive or an obstruction of the free use of property, which affects an entire community and occurs as a result of the treatment or disposal of waste.

The Antidegradation Policy (Resolution 68-16) allows water quality to be lowered as long as beneficial uses are protected (pollution or nuisance will not occur), best practicable treatment and control (BPTC) of the discharge is provided, and the degradation is in the best interest of the people of California. Water quality objectives were developed as the maximum concentration of a pollutant necessary to protect beneficial uses and levels above this concentration would be considered pollution. The Antidegradation Policy does not allow water quality standards and objectives to be exceeded. Mixing zone are regions within public waters adjacent to point source discharges where pollutants are diluted and dispersed at concentrations that routinely exceed water quality standards.

The Antidegradation Policy (Resolution 68-16) requires that best practicable treatment or control (BPTC) of the discharge be provided. Mixing zones have been allowed in lieu of treatment to meet water quality standards at the end-of-the-pipe prior to discharge. To comply with the Antidegradation Policy, the trade of receiving water beneficial uses for lower utility rates must be in the best interest of the people of the state and must also pass the test that the Discharger is providing BPTC. By routinely permitting excessive levels of pollutants to be legally discharged, mixing zones act as an economic disincentive to Dischargers who might otherwise have to design and implement better treatment mechanisms. Although the use of mixing zones may lead to individual, short-term cost savings for the discharger, significant long-term health and economic costs may be placed on the rest of society. An assessment of BPTC, and therefore compliance with the Antidegradation Policy, must assess whether treatment of the wastestream can be accomplished, is feasible, and not simply the additional costs of compliance with water quality standards. A BPTC case can be made for the benefits of prohibiting mixing zones and requiring technologies that provide superior waste treatment and reuse of the wastestream.

EPA’s Water Quality Standards Handbook states that: “It is not always necessary to meet all water quality criteria within the discharge pipe to protect the integrity of the waterbody as a whole.” The primary mixing area is commonly referred to as the zone of initial dilution, or ZID. Within the ZID acute aquatic life criteria are exceeded. To satisfy the CWA prohibition against the discharge of toxic pollutants in toxic amounts, regulators assume that if the ZID is small, significant numbers of aquatic organisms will not be present in the ZID long enough to encounter acutely toxic conditions. EPA recommends that a ZID not be located in an area populated by non-motile or sessile organisms, which presumably would be unable to leave the primary mixing area in time to avoid serious contamination.

Determining the impacts and risks to an ecosystem from mixing pollutants with receiving waters at levels that exceed WQS is extremely complex. The range of effects pollutants have on different organisms and the influence those organisms have on each other further compromises the ability of regulators to assess or ensure “acceptable” short and long-term impacts from the

use of mixing zones. Few if any mixing zones are examined prior to the onset of discharging for the potential effects on impacted biota (as opposed to the physical and chemical fate of pollutants in the water column). Biological modeling is especially challenging – while severely toxic discharges may produce immediately observable effects, long-term impacts to the ecosystem can be far more difficult to ascertain. The effects of a mixing zone can be insidious; impacts to species diversity and abundance may be impossible to detect until it is too late for reversal or mitigation.

The *CALIFORNIA CONSTITUTION, ARTICLE 10, WATER, SEC. 2* states that: “It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled. This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained.” The granting of a mixing zone is an unreasonable use of water when proper treatment of the wastestream can be accomplished to meet end-of-pipe limitations. Also contrary to the California Constitution, a mixing zone does not *serve the beneficial use*; to the contrary, beneficial uses are degraded within the mixing zone.

The Central Valley Regional Water Quality Control Board’s Basin Plan, page IV-16.00, requires the Regional Board use EPA’s *Technical Support Document for Water Quality Based Toxics Control (TSD)* in assessing mixing zones. 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. 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. There are drinking water intakes, and proposed intakes, downstream of the wastewater discharge, which could be impacted before the pollutants from the discharge are completely mixed. 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 State’s *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (SIP)*, Section 1.4.2.2, contains requirements for a mixing zone study which must be analyzed before a mixing zone is allowed for a wastewater discharge. Properly adopted state Policy requirements are not optional. The proposed Effluent Limitations

in the 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:

1. Compromise the integrity of the entire waterbody.
2. Cause acutely toxic conditions to aquatic life.
3. Restrict the passage of aquatic life.
4. Adversely impact biologically sensitive habitats.
5. Produce undesirable aquatic life.
6. Result in floating debris.
7. Produce objectionable color, odor, taste or turbidity.
8. Cause objectionable bottom deposits.
9. Cause Nuisance.
10. Dominate the receiving water body or overlap a different mixing zone.
11. Be allowed at or near any drinking water intake.

The Permit's mixing zones have not provided a single technical defense to address a single required item of the SIP; the Permit was instead revised by late revision to include unsupported conclusory statements that the terms of the SIP were met.

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 Permit. The "edge of the mixing zone" has not been defined.

Few mixing zones are adequately evaluated to determine whether the modeling exercise was in fact relevant or accurate, or monitored over time to assess the impacts of the mixing zone on the aquatic environment. The sampling of receiving waters often consists of analyzing one or two points where the mixing zone boundary is supposed to be – finding no pollution at the mixing zone boundary is often considered proof that mixing has been "successful" when in fact the sampling protocol might have missed the plume altogether.

The dilution credits for human health criteria must be removed from the proposed Order and end-of-pipe limitations based solely on the criteria or standards must be developed: specifically for chloroform (cancer potency factor), manganese and nitrate and nitrite.

**2. The Draft Order fails to address that the 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 9.0 µg/l, above the CTR Water Quality Standard of 1.8 µg/l. Bis(2-ethylhexyl)phthalate has been detected in the wastewater effluent at 11.0 µg/l, also above the CTR Water Quality Standard. The 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. To the contrary, bis(2-ethylhexyl)phthalate is used in the formation of plastics and has been



documented in the available literature to be present in plastic pipes, bottles, bags and widely distributed throughout the environment. 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 Permit violates 40 CFR 122.44 and CWC 13377.

**3. The Draft Order fails to address that the Permit fails to contain mass-based effluent limits for chlorine, manganese, nitrate and nitrite, oil and grease, copper and zinc as required by Federal Regulations 40 CFR 122.45(b).**

Federal Regulation, 40 CFR 122.45 (b) requires that in the case of POTWs, permit Effluent Limitations, standards, or prohibitions shall be based on design flow. Concentration is not a basis for design flow. Mass limitations are concentration multiplied by the design flow and therefore meet the regulatory requirement.

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:
  - (i) For pH, temperature, radiation or other pollutants which cannot be expressed by mass;
  - (ii) When applicable standards and limitations are expressed in terms of other units of measurement; or
  - (iii) 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.”

There is no explanation in the Permit why mass limitations are infeasible.

Federal Regulations, 40 CFR 122.45 (B)(1), states the following: “In the case of POTWs, permit effluent limitations, standards, or prohibitions shall be calculated based on design flow.”

Traditional wastewater treatment plant design utilizes average dry weather flow rates for organic, individual constituent, loading rates and peak wet weather flow rates for hydraulic design of pipes, weir overflow rates, and pumps.

Increased wet weather flow rates are typically caused by inflow and infiltration (I/I) into the sewer collection system that dilutes constituent loading rates and does not add to the mass of wastewater constituents.

For POTWs priority pollutants, such as metals, have traditionally been reduced by the reduction of solids from the wastestream, incidental to treatment for organic material. Following adoption of the CTR, compliance with priority pollutants is of critical importance and systems will need to begin utilizing loading rates of individual constituents in the WWTP design process. It is highly likely that the principal design parameters for individual priority pollutant removal will be based on mass, making mass based Effluent Limitations critically important to compliance. The inclusion of mass

limitations will be of increasing importance to achieving compliance with requirements for individual pollutants.

As systems begin to design to comply with priority pollutants, the design systems for POTWs will be more sensitive to similar restrictions as industrial dischargers currently face where production rates (mass loadings) are critical components of treatment system design and compliance. Currently, Industrial Pretreatment Program local limits are frequently based on mass. Failure to include mass limitations would allow industries to discharge mass loads of individual pollutants during periods of wet weather when a dilute concentration was otherwise observed, upsetting treatment processes, causing effluent limitation processes, sludge disposal issues, or problems in the collection system.

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.

**4. The Draft Order fails to address that the few mass limitations for BOD, TSS and ammonia, and the discharge flow limitation in the Permit are not based on design flow as is required by Federal Regulation 40 CFR 122.45 (B)(1).**

Federal Regulations, 40 CFR 122.45 (B)(1), states the following: "In the case of POTWs, permit effluent limitations, standards, or prohibitions shall be calculated based on design flow." Footnote No. 1 to Table 6 Effluent Limitations and Effluent Limitation No. e states that the mass limitations are based on a monthly average discharge flow of 2.9 mgd as limited by Effluent Limitation No. e. As is explained in the Permit Fact Sheet, Flow, page F-10, the flow rate of 2.9 mgd is the level of flow necessary to accommodate discharges from the effluent storage reservoir. The storage capabilities of the reservoir have no relationship to the mass of pollutants that can be treated at the wastewater treatment plant. The design flow of the wastewater treatment plant is 2.6 mgd (average dry weather flow (Fact Sheet F-10)). The Permit Effluent Limitations for mass and the discharge flow limitation is not based on the design capability of the wastewater treatment plant and violates the requirement of 40 CFR 122.45 (B)(1).

**5. The Draft Order fails to address that the Permit contains a requirement, Best Management Practices and Pollution Prevention, that the Discharger continue to spray or flood irrigate fodder crops and pasture lands with reclaimed water yet fails to contain limitations that are protective of the underlying groundwater or require compliance with applicable law (CCR Title 27).**

Existing WDRs, Order No. R5-2002-0202, for land disposal show that the soil mantle in the area is thin, approximately less than 5 inches and that the thin soil mantle overlies fractured bedrock. Quartz Reservoir utilized for the storage of treated wastewater is only partially lined and has been shown to percolate up to 258,600 gallons per day. The underlying groundwater is utilized for domestic and irrigation uses pumped from wells within the fractured bedrock.

The Permit requires that secondary wastewater discharges to surface waters can only occur when there is a minimum of a twenty to one dilution ratio available in the receiving waters to protect the public's health and the irrigated agriculture and contact recreational uses of the receiving stream. The Permit does not discuss the fact that an even higher level of treatment is necessary to protect domestic and municipal beneficial uses.

The Permit requires that wastewater with this same level of treatment be discharged to areas with high percolation rates and underlying fractured bedrock; the groundwater from these fractures is known to be the source water for drinking water and irrigation. There is no documented dilution available within the groundwater aquifer. The same level of protection provided surface waters is not being provided for groundwater quality and the beneficial uses of groundwater and that level of treatment would not be protective of the drinking water beneficial use of surface water or groundwater for pathogens.

CCR Title 27, §20090. SWRCB - Exemptions. (C15: §2511): The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed: (a) **Sewage**—Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division.

Region 5's Basin Plan, *Water Quality Objectives For Ground Waters*, The following objectives apply to all ground waters of the Sacramento and San Joaquin River Basins, as the objectives are relevant to the protection of designated beneficial uses. These objectives do not require improvement over naturally occurring background concentrations. The ground water objectives contained in this plan are not required by the federal Clean Water Act.

### **Bacteria**

In ground waters used for domestic or municipal supply (MUN) the most probable number of coliform organisms over any seven-day period shall be less than 2.2/100 ml.

### **Chemical Constituents**

Ground waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At a minimum, ground waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant Levels- Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain lead in excess of

0.015 mg/l. To protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

### **Tastes and Odors**

Ground waters shall not contain taste- or odor producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

### **Toxicity**

Ground waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s). This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

The exemption from CCR Title 27 requirements contains the precondition that the discharge does not degrade groundwater to levels that exceed water quality objectives of the Basin Plan. This precondition has not been met. The threat to the underlying groundwater quality is not assessed in the Permit although land disposal with resulting percolation is required. The failure to protect groundwater quality while requiring a wastewater discharge to groundwater violates California Water Code, section 13377, which 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.”

- 7. The Draft Order fails to address that the Permit establishes Effluent Limitations for metals based on the hardness of the effluent as opposed to the ambient upstream receiving water hardness as required by Federal Regulations, the California Toxics Rule (CTR, 40 CFR 131.38(c)(4)).**

Federal Regulation 40 CFR 131.38(c)(4) states that: “For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/l or less as calcium carbonate, the actual ambient hardness of the surface water shall be used in those equations.” (Emphasis added). Attachment G, of the Permit, is a summary of the reasonable potential analysis. Footnotes No. 8, 9 and 10, of Attachment G, state that the effluent hardness was used to calculate Effluent Limitations for metals (copper, cadmium, silver and zinc).

The Permit Fact Sheet goes into great detail citing the Federal Regulation requiring the receiving water hardness be used to establish Effluent Limitations. The Permit states that the effluent hardness and the downstream hardness were used to calculate Effluent Limitations for metals. The definition of *ambient* is “in the surrounding area”, “encompassing on all sides”. It has been the Region 5, Sacramento, NPDES Section, in referring to Basin Plan objectives for temperature, to define *ambient* as meaning upstream. It is reasonable to assume, after considering the definition of ambient, that EPA is referring to the hardness of the receiving stream before it is

potentially impacted by an effluent discharge. It is also reasonable to make this assumption based on past interpretations and since EPA, in permit writers' guidance and other reference documents, generally assumes receiving streams have dilution, which would ultimately "encompass" the discharge. Ambient conditions are in-stream conditions unimpacted by the discharge.

The Federal Register, Volume 65, No. 97/Thursday, May 18<sup>th</sup> 2000 (31692), adopting the California Toxics Rule in confirming that the ambient hardness is the upstream hardness, absent the wastewater discharge, states that: "A hardness equation is most accurate when the relationship between hardness and the other important inorganic constituents, notably alkalinity and pH, are nearly identical in all of the dilution waters used in the toxicity tests and in the surface waters to which the equation is to be applied. If an effluent raises hardness but not alkalinity and/or pH, using the lower hardness of the downstream hardness might provide a lower level of protection than intended by the 1985 guidelines. If it appears that an effluent causes hardness to be inconsistent with alkalinity and/or pH the intended level of protection will usually be maintained or exceeded if either (1) data are available to demonstrate that alkalinity and/or pH do not affect the toxicity of the metal, or (2) the hardness used in the hardness equation is the hardness of upstream water that does not include the effluent. The level of protection intended by the 1985 guidelines can also be provided by using the WER procedure."

On March 24, 2000 the US Fish and Wildlife Service (Service) and the National Marine Fisheries Service (NMFS) issued a biological opinion on the effects of the final promulgation of the CTR on listed species and critical habitats in California in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 USC 1531 et seq.; Act). The biological opinion was issued to the U.S. Environmental Protection Agency, Region 9, with regard to the "Final Rule for the Promulgation of Water Quality Standards: Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California" (CTR)". The document represented the Services' final biological opinion on the effects of the final promulgation of the CTR on listed species and critical habitats in California in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 USC 1531 et seq.; Act).

On Page 13 (C) and repeated on pages 216 and 232 of the biological opinion it is required that:

"By June of 2003, EPA, in cooperation with the Services, will develop a revised criteria calculation model based on best available science for deriving aquatic life criteria on the basis of hardness (calcium and magnesium), pH, alkalinity, and dissolved organic carbon (DOC) for metals."

The biological opinion contains the following discussion, beginning on page 205, regarding the use of hardness in developing limitations for toxic metals:

"The CTR should more clearly identify what is actually to be measured in a site water to determine a site-specific hardness value. Is the measure of hardness referred to in the CTR equations a measure of the water hardness due to calcium and magnesium ions only? If hardness computations were specified to be derived from data obtained in site water calcium and magnesium determinations alone, confusion could be avoided and

more accurate results obtained (APHA 1985). Site hardness values would thus not include contributions from other multivalent cations (e.g., iron, aluminum, manganese), would not rise above calcium + magnesium hardness values, or result in greater-than-intended site criteria when used in formulas. In this Biological opinion, what the Services refer to as hardness is the water hardness due to calcium + magnesium ions only.

The CTR should clearly state that to obtain a site hardness value, samples should be collected upstream of the effluent source(s). Clearly stating this requirement in the CTR would avoid the computation of greater-than-intended site criteria in cases where samples were collected downstream of effluents that raise ambient hardness, but not other important water qualities that affect metal toxicity (e.g., pH, alkalinity, dissolved organic carbon, calcium, sodium, chloride, etc.). Clearly, it is inappropriate to use downstream site water quality variables for input into criteria formulas because they may be greatly altered by the effluent under regulation. Alterations in receiving water chemistry by a discharger (e.g., abrupt elevation of hardness, changes in pH, exhaustion of alkalinity, abrupt increases in organic matter etc.) should not result, through application of hardness in criteria formulas, in increased allowable discharges of toxic metals. If the use of downstream site water quality variables were allowed, discharges that alter the existing, naturally-occurring water composition would be encouraged rather than discouraged. Discharges should not change water chemistry even if the alterations do not result in toxicity, because the aquatic communities present in a water body may prefer the unaltered environment over the discharge-affected environment. Biological criteria may be necessary to detect adverse ecological effects downstream of discharges, whether or not toxicity is expressed.

The CTR proposes criteria formulas that use site water hardness as the only input variable. In contrast, over twenty years ago Howarth and Sprague (1978) cautioned against a broad use of water hardness as a “shorthand” for water qualities that affect copper toxicity. In that study, they observed a clear effect of pH in addition to hardness. Since that time, several studies of the toxicity of metals in test waters of various compositions have been performed and the results do not confer a singular role to hardness in ameliorating metals toxicity. In recognition of this fact, most current studies carefully vary test water characteristics like pH, calcium, alkalinity, dissolved organic carbon, chloride, sodium, suspended solids, and others while observing the responses of test organisms. It is likely that understanding metal toxicity in waters of various chemical makeups is not possible without the use of a geochemical model that is more elaborate than a regression formula. It may also be that simple toxicity tests (using mortality, growth, or reproductive endpoints) are not capable of discriminating the role of hardness or other water chemistry characteristics in modulating metals toxicity (Erickson *et al.* 1996). Gill surface interaction models have provided a useful framework for the study of acute metals toxicity in fish (Pagenkopf 1983; Playle *et al.* 1992; Playle *et al.* 1993a; Playle *et al.* 1993b; Janes and Playle 1995; Playle 1998), as have studies that observe physiological (e.g. ion fluxes) or biochemical (e.g. enzyme inhibition) responses (Lauren and McDonald 1986; Lauren and McDonald 1987a; Lauren and McDonald 1987b; Reid and McDonald 1988; Verbost *et al.* 1989; Bury *et al.* 1999a; Bury *et al.* 1999b). Even the earliest gill models accounted for the effects of pH on metal speciation and the effects of

alkalinity on inorganic complexation, in addition to the competitive effects due to hardness ions (Pagenkopf 1983). Current gill models make use of sophisticated, computer-based, geochemical programs to more accurately account for modulating effects in waters of different chemical makeup (Playle 1998). These programs have aided in the interpretation of physiological or biochemical responses in fish and in investigations that combine their measurement with gill metal burdens and traditional toxicity endpoints.

The Services recognize and acknowledge that hardness of water and the hardness acclimation status of a fish will modify toxicity and toxic response. However the use of hardness alone as a universal surrogate for all water quality parameters that may modify toxicity, while perhaps convenient, will clearly leave gaps in protection when hardness does not correlate with other water quality parameters such as DOC, pH, Cl- or alkalinity and will not provide the combination of comprehensive protection and site specificity that a multivariate water quality model could provide. In our review of the best available scientific literature the Services have found no conclusive evidence that water hardness, by itself, in either laboratory or natural water, is a consistent, accurate predictor of the aquatic toxicity of all metals in all conditions.

Once again the public is subject to a bureaucrat simply choosing to ignore very clear regulatory requirements. The Regional Board staff has chosen to deliberately ignore Federal Regulations placing themselves above the law. There are procedures for changing regulations if peer reviewed science indicates the need to do so, none of which have been followed. The Permit failure to include Effluent Limitations for copper, cadmium, silver and zinc based on the actual ambient hardness of the surface water is contrary to the cited Federal Regulation and must be amended to comply with the cited regulatory requirement.

**8. The Draft Order fails to address that the Permit contains an inadequate reasonable potential which resulted in Effluent Limitations for Aluminum, Foaming Agents (MBAS) and chloride being excluded from the Order by using incorrect statistical multipliers.**

Federal regulations, 40 CFR § 122.44(d)(1)(ii), state “when determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, **the variability of the pollutant or pollutant parameter in the effluent**, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.” Emphasis added.

Table F-5: The reasonable potential analyses for CTR constituents fail to consider the statistical variability of data and laboratory analyses as explicitly required by the federal regulations. The procedures for computing variability are detailed in Chapter 3, pages 52-55, of US EPA’s *Technical Support Document for Water Quality-based Toxics Control* and would have resulted in the addition of Effluent Limitations for aluminum, MBAS and chloride. 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 reasonable potential analyses for CTR constituents are flawed and must be recalculated. The fact that the SIP illegally ignores this fundamental requirement does not exempt the Regional Board from its obligation to consider statistical variability in compliance with federal regulations.

**9. The Draft Order fails to address that the Permit contains an inadequate antidegradation analysis that does not comply with the requirements of Section 101(a) of the Clean Water Act, Federal Regulations 40 CFR § 131.12, the State Board’s Antidegradation Policy (Resolution 68-16) and California Water Code (CWC) Sections 13146 and 13247.**

There is nothing resembling an analysis buttressing the unsupported claim that BPTC is being provided. To the contrary, if the wastewater treatment system is currently providing BPTC, why does the Permit contain compliance schedules for copper, zinc and ammonia? The facility is not in compliance and meeting water quality objectives. The Antidegradation Policy discussion does not discuss underlying groundwater quality even though the Permit requires that wastewater be reclaimed in areas where there is hardly any soil structure and underlying fractures in bedrock may be carrying secondary quality wastes directly to drinking water wells. The Permit does not discuss the drinking water beneficial uses of receiving waters and the proposal to allow a mixing zone that would extend for miles downstream; degrading that use. There is nothing in the Permit resembling an analysis that ensures that existing beneficial uses are protected. In fact, there is almost no information or discussion on the composition and health of the identified beneficial uses. Any reasonably adequate antidegradation analysis must discuss the affected beneficial uses (i.e., numbers and health of the aquatic ecosystem; extent, composition and viability of agricultural production; people depending upon these waters for water supply; extent of recreational activity; etc.) and the probable effect the discharge will have on these uses. The Permit was revised by late revision to state that the discharge enters Don Pedro Reservoir approximately two miles downstream of the discharge; and claims absent any documentation that there are no drinking water intakes within this two-mile stretch of the creek. There is no information in the record documenting the absence of drinking water intakes; especially potential riparian intakes by adjacent landowners. In any case; such an allowance would at a minimum degrade and eliminate the drinking water beneficial use for two miles of a California waterbody. There is no mixing zone analysis as required for incompletely mixed discharges as required by the SIP and there is no Antidegradation Policy analysis for what is at a minimum removal of the drinking water beneficial use for a two mile stretch of Woods Creek. The antidegradation analysis in the Permit is not simply deficient, it is literally nonexistent. 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. NPDES permits must include any more stringent effluent limitation necessary to implement the Regional Board Basin Plan (Water Code 13377). The Permit fails to properly implement the Basin Plan’s Antidegradation Policy.

CWC Sections 13146 and 13247 require that the Board in carrying out activities which affect water quality shall comply with state policy for water quality control unless otherwise directed by statute, in which case they shall indicate to the State Board in writing their authority for not complying with such policy. The State Board has adopted the Antidegradation Policy (Resolution 68-16), which the Regional Board has incorporated into its Basin Plan. The Regional Board is required by the CWC to comply with the Antidegradation Policy.

Section 101(a) of the Clean Water Act (CWA), 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 CWA 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 (40 CFR § 131.12(a)) 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.

California’s antidegradation policy is composed of both the federal antidegradation policy and the State Board’s Resolution 68-16 (State Water Resources Control Board, Water Quality Order 86-17, p. 20 (1986) (“Order 86-17”); Memorandum from Chief Counsel William Attwater, SWRCB to Regional Board Executive Officers, “federal Antidegradation Policy,” pp. 2, 18 (Oct. 7, 1987) (“State Antidegradation Guidance”). As a state policy, with inclusion in the Water Quality Control Plan (Basin Plan), the antidegradation policy is binding on all of the Regional Boards (Water Quality Order 86-17, pp. 17-18).

Implementation of the state’s antidegradation policy is guided by the State Antidegradation Guidance, SWRCB Administrative Procedures Update 90-004, 2 July 1990 (“APU 90-004”) and USEPA Region IX, “Guidance on Implementing the Antidegradation Provisions of 40 CFR 131.12” (3 June 1987) (“Region IX Guidance”), as well as Water Quality Order 86-17.

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.

There is nothing resembling an economic or socioeconomic analysis in the Permit. There are viable alternatives that have never been analyzed. The evaluation contains no comparative costs. As a rule-of-thumb, USEPA recommends that the cost of compliance should not be considered excessive until it consumes more than 2% of disposable household income in the region. This threshold is meant to suggest more of a floor than a ceiling when evaluating economic impact. In the Water Quality Standards Handbook, USEPA interprets the phrase "necessary to accommodate important economic or social development" with the phrase "substantial and widespread economic and social impact."

The antidegradation analysis must discuss the relative economic burden as an aggregate impact across the entire region using macroeconomics. Considering the intrinsic value of the Delta to the entire state and the potential effects upon those who rely and use Delta waters, it must also evaluate the economic and social impacts to water supply, recreation, fisheries, etc. from the Discharger's degradation of water quality in the Delta. Nor has the case been made that there is no alternative for necessary housing other than placing it where its wastewater must discharge directly into sensitive but seriously degraded waters. It is unfortunate that the agency charged

with implementing the Clean Water Act has apparently decided it is more important to protect the polluter than the environment.

**10. The Draft Order fails to address that the Basin Plan, Implementation, Page IV-24-00, prohibits the discharge of wastewater to low flow streams as a permanent means of disposal and requires the evaluation of land disposal alternatives, Implementation, Page IV-15.00, Policies and Plans (2) Wastewater Reuse Policy.**

The Basin Plan, Implementation, Page IV-24-00, Regional Water Board prohibitions, states that: "Water bodies for which the Regional Water Board has held that the direct discharge of waste is inappropriate as a permanent disposal method include sloughs and streams with intermittent flow or limited dilution capacity." The Permit characterizes the receiving stream as low flow, or ephemeral, with no available dilution. The Permit does not discuss any efforts to eliminate the discharge to surface water and compliance with the Basin Plan Prohibition. Federal Regulation 40 CFR 122.4 states that no permit shall be issued for any discharge when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA and are inconsistent with a plan or plan amendment. The permit must be amended to require that the Discharger develop a workplan to eliminate the wastewater discharge to surface water in accordance with the Basin Plan.

Sincerely,



Bill Jennings, Executive Director  
California Sportfishing Protection Alliance

Cc: Service List  
Interested Parties