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9 January 2009

Mr. Ken Landau, Assistant Executive Officer
Mr. Jim Marshall, Sr. WRCE
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: Renewal Of Waste Discharge Requirements (NPDES No. CA0079464) for San Andreas Sanitary District Wastewater Treatment Plant, Calaveras County

Dear Messrs. Landau and Marshall,

The California Sportfishing Protection Alliance (CSPA) has reviewed the proposed Waste Discharge Requirements (NPDES No. CA0079464) for San Andreas Sanitary District Wastewater Treatment Plant (Permit) 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 water quality and fisheries. CSPA members reside, boat, fish and recreate in and along waterways throughout the Central Valley, including Calaveras County.

The San Andreas Sanitary District owns and operates a domestic wastewater collection, treatment, and disposal system, and provides sewerage service to the community of San Andreas, in Calaveras County. The treatment system consists of a pre-aeration basin, primary clarifier, recirculating trickling filter, secondary clarifier, sodium hypochlorite contact chamber, sodium bisulfite dechlorination unit, heated unmixed anaerobic digester, sludge drying beds, three post-secondary effluent polishing ponds, and a 6 million gallon storage reservoir. Secondary treated wastewater is discharged to the North Fork Calaveras River tributary to the New Hogan Reservoir, from 1 November through 30 April. Secondary treated wastewater is discharged to the Discharger's Designated Land Disposal Area (DLDA) from 1 May through 31 October.

The Discharger owns approximately 180 acres of land for disposal, which is known as the Dedicated Land Disposal Area (DLDA). The currently developed portions of the DLDA consist of 70 acres on which are located Pond D and about 32 acres of effective land disposal area. In

addition to these 70 acres, the DLDA also includes 110 acres of undeveloped land adjacent to the Facility referred to as the Nielson Property, which the Discharger purchased in 1992. Of the 110 acres, it is estimated that slightly less than 38 acres is useable disposal area with some provisions for storage on the site. A portion of the piping for transport of effluent to the Nielson Property has been installed; however, the Discharger does not plan to develop this portion of the DLDA further until effluent storage and disposal facilities are found to be needed and the parties needing the expanded effluent storage and disposal facilities have funded the design and construction of the facilities. Treated wastewater is first held in the effluent storage reservoir, and then pumped to on-site evaporation, transpiration, and percolation ditches. The disposal ditches have a total length of approximately 2 miles, and vary in depth from about 1.5 to 3 feet and in width from about 2 to 4 feet. Excess effluent from the trenches is returned to the storage reservoir via a return ditch.

The beneficial uses of the North Fork Calaveras River are Municipal and domestic supply (MUN); agricultural supply, including irrigation and stock watering (AGR); water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm migration of aquatic organisms (MIGR); warm and cold spawning, reproduction, and/or early development (SPWN); and wildlife habitat (WILD). The Lower Calaveras River is listed as a WQLS for diazinon, organic enrichment/ low dissolved oxygen, and pathogens in the 303(d) list of impaired water bodies.

The proposed Permit includes a prohibition of discharges of secondary treated wastewater to the North Fork Calaveras River, which do not receive a minimum of 20:1 dilution as a daily average.

Order No. R5-2003-0151 authorized the discharge of wastewater to San Andreas Creek and the North Fork Calaveras River. Order No. R5-2003-0151 required that discharges to San Andreas Creek that do no receive 20:1 dilution as a daily average after 1 April 2006 receive tertiary treatment. Order No. R5-2003-0151 also prohibited the discharge of secondary treated wastewater to the North Fork Calaveras River in quantities, which do not receive a minimum of 20:1 dilution as a daily average. During the term of Order No. R5- 2003-0151, the Discharger completed construction of an outfall pipeline to the North Fork Calaveras River and discontinued the discharge of secondary treated wastewater to San Andreas Creek as of 30 April 2008. The Discharger submitted an evaluation of the Dilution/Mixing Zone Study on 25 August 2008. Order No. R5-2003-0151 included a prohibition of discharges of secondary treated effluent to the North Fork Calaveras River, which do not receive a minimum of 20:1 dilution as a daily average. However, flow monitoring indicates that, at times, the discharge to the North Fork Calaveras River may not receive 20:1 dilution. Therefore, the Discharger has proposed to install tertiary treatment by the winter 2009/2010 surface water discharge season to adequately protect beneficial uses when 20:1 dilution is not achieved; however funding has not yet been secured. The Discharger requested that this Order require interim effluent limitations based on the protection of aquatic life and human health criteria be calculated using a dilution factor of 19 based on 20:1 dilution until upgrades to the Facility can be completed. The Discharger also requested that final effluent limitations be calculated using a dilution factor of 9 based on 10:1 dilution effective upon upgrades to the Facility.

The description of the Discharger's wastewater treatment and disposal system raises several questions:

- The discharge to San Andreas Creek was eliminated and moved to the North Fork Calaveras River. The North Fork Calaveras River at times during the period when discharge to surface waters is allowed the required minimum dilution ratio of 20-to-1 is not available and discharges are prohibited. The information that the required dilution flow was not available appears to only have come to light with submittal of a 25 August 2008 mixing zone report. Was the minimum dilution ratio available when the Discharger was discharging to San Andreas Creek? Since the Discharger apparently did not know that there was inadequate dilution flow in North Fork Calaveras River; was wastewater discharged to either San Andreas Creek or North Fork Calaveras River without adequate dilution during the life of the existing permit?

- Discharges of secondary treated wastewater, which do not receive a minimum of 20:1 dilution as a daily average, are prohibited to surface waters. Receiving water flow rates are measured daily during periods of discharge. Since the minimum flow rate of the receiving stream is not known until the end of the day of monitoring; how does the Discharger know which days they have the required minimum dilution available?

- Stream flow measurement is at best difficult unless the exact cross-sectional area is known or there is a physical flow measurement devise, such as a weir installed. In river systems cross sectional areas can change significantly in a short period of time. Government agencies are generally reluctant to allow installation of physical barriers in rivers. How is the flow at R-1 measured? What is an error factor or the accuracy of the measurement?

Our specific comments regarding the proposed Permit are as follows:

1. The proposed Permit contains an allowance for a mixing zone that does not comply with the requirements of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) or the Basin Plan. The proposed Permit contains mixing zones that are unaddressed in an antidegradation analysis and 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.

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.

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. 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 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 dominate the receiving water body. 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.

The proposed Permit allows a mixing zone for human heath based constituents but denies mixing zones for aquatic life based constituents due to an incomplete mixing zone analysis and contains the following:

- Fact Sheet, page F-4, "During the term of Order No. R5-2003-0151, the Discharger completed construction of an outfall pipeline to the North Fork Calaveras River and discontinued the discharge of secondary treated wastewater to San Andreas Creek as of 30 April 2008."

- *Special Studies, Technical Reports and Additional Monitoring Requirements, Effluent and Receiving Water Characterization Study.* **"**An effluent and receiving water monitoring study is required to ensure adequate information is available for the next permit renewal. The Discharger shall conduct monitoring of the effluent at EFF-001 and of the receiving water at RSW-001 for all priority pollutants and other constituents of concern as listed in Attachment H four times during the third surface water discharge season of this permit term (e.g., December, January, February, and March)."

    - Based on the above two statements it appears that the point of discharge has been changed, a diffuser has been constructed, but that the Discharger has not adequately characterized the new receiving stream; yet an allowance for human heath based constituent mixing zones has been granted.

- Fact Sheet, page F-22: "Based on a review of the dilution/mixing zone study and evaluation, it appears as if the discharge is completely mixed within two stream widths downstream of the diffuser. However, the study is inadequate in that it does not address all of the conditions required by section 1.4.2.2. of the SIP, which requires, in part, that a mixing zone shall not cause acutely toxic conditions to aquatic life passing through the mixing zone or restrict the passage of aquatic life and that the point in the receiving water where the applicable criteria/objectives must be met must be identified. The boundaries of the acute and chronic mixing zones have not been identified. Therefore, it is not appropriate to grant dilution credits for the protection of aquatic life at this time." (Emphasis added)

    - The statement "…it appears as if the discharge is completely mixed…" is not definitive confirmation of a completely mixed discharge as is required by the SIP.

    - The boundaries of the human heath mixing zone are undefined as required by the SIP.

- Fact Sheet, page F-22. "This Order allows for a dilution credit for human health related objectives. Effluent limitations based on the protection human health criteria have been calculated using a dilution factor of 19 based on 20:1 dilution. This approach is appropriate for long-term human health criteria where critical environmental effects are expected to occur several thousand feet downstream from the discharge. Downstream of the mixing zone is New Hogan Reservoir, which is wider and significantly higher in flows than the upstream section of the discharge."

    - The boundaries of the human heath mixing zone are undefined as required by the SIP.

Based on the statements in the proposed Permit it does not appear that there was sufficient information to grant mixing zones. The statement regarding complete mixing is at best ambiguous. There does not appear to have been adequate characterization of the receiving stream to confirm any assimilative capacity for mixing. The human health constituent point of compliance was not calculated and defined as required by the SIP. Actions that trigger use of the antidegradation policy include issuance, re-issuance, and modification of NPDES permits. The allowance for mixing zones has not been discussed with regard to the Antidegradation Policy. The requirements to provide BPTC, how an allowance for a mixing zone is in the best interest to the people of California, and the mixing zones economics compared to a requirements to design and implement better treatment mechanisms are not but should be a part of a complete antidegradation discussion. The antidegradation policy discussion must also address that the discharge is into a reservoir and the potential for an accumulation of pollutants. The proposed Permit discusses, in several sections, that the Discharger is required to construct a tertiary wastewater treatment plant and plans to do so in the near future. Granting mixing zones based on uncertainty for a wastewater plant that will soon be replaced due to its inadequacies is not in the best interest of the people of California.

2. The proposed Permit does not contain an Effluent Limitation for oil and grease in violation of Federal Regulations 40 CFR 122.44 and California Water Code Section 13377.

The proposed Permit is for a domestic wastewater treatment plant. Domestic wastewater treatment plants, by their nature, receive oil and grease in concentrations from home cooking and restaurants that present a reasonable potential to exceed the Basin Plan water quality objective for oil and grease (Basin Plan III-5.00). Confirmation sampling is not necessary to establish that domestic wastewater treatment systems contain oil and grease in concentrations that present a reasonable potential to exceed the water quality objective. It is not unusual for sewerage systems to allow groundwater cleanup systems, such as from leaking underground tanks, to discharge into the sanitary sewer. Groundwater polluted with petroleum hydrocarbons can also infiltrate into the collection system as easily as sewage exfiltrates. The Central Valley Regional Board has a long established history of including oil and grease limitations in NPDES permits at 15 mg/l as a daily maximum and 10 mg/l as a monthly average, which has established BPTC for POTWs.

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. Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter. US EPA has interpreted 40 CFR 122.44(d) in *Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program* (Factsheets and Outreach Materials, 08/16/2002) that although States will likely have unique implementation policies there are certain tenets that may not be waived by State procedures. These tenets include that "where the preponderance of evidence clearly indicates the potential to cause or contribute to an exceedance of State water quality standards (even though the data may be sparse or absent) a limit MUST be included in the permit." Failure to include an effluent limitation for oil and grease in the proposed permit violates 40 CFR 122.44 and CWC 13377.

3. The proposed Permit fails to contain mass-based effluent limits for bis(2-ethylhexyl)phthalate, chlordane, copper, cyanide, dichlorobromomethane 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."

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.

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.

In addition to the above citations, on June 26th 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 proposed Permit contains an Effluent Limitation for acute toxicity that allows mortality to aquatic life that exceeds the Basin Plan water quality objective and does not comply with Federal regulations, at 40 CFR 122.44 (d)(1)(i) or the Clean Water Act.

Under the federal Clean Water Act (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. Federal regulations, at 40 CFR 122.44 (d)(1)(i), adopted to require implementation of the CWA, 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 (toxicity tests).

The proposed 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. Surely, mortality is a detrimental physiological response to aquatic life.

For an ephemeral or low flow stream, allowing 30% mortality in acute toxicity tests allows that same level of mortality in the receiving stream, in violation of federal regulations and contributes to exceedance of the Basin Plan's narrative water quality objective for toxicity. In receiving streams where dilution may be available 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. The allowance of 30% mortality will result in acute toxicity within the ZID. Before the discharge can be allowed a complete mixing zone analysis is required in accordance with the Basin Plan and the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) to show that discharge limitations prevent toxicity; such an analysis has not been completed. 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 SIP and the Regional Board is required to the Policy.

US EPA's *Technical Support Document for Water Quality-based Toxics Control* states, on page 104, that:

> "When setting a whole effluent toxicity limit to protect against acute effects, some permitting authorities use an end-of-pipe approach. Typically these limits are established as an LC50>100% effluent at the end of the pipe. These limits are routinely set without any consideration as to the fate of the effluent and the concentrations of toxicant(s) after the discharge enters the receiving water. Limits derived in this way are not water quality

based limits and suffer from significant deficiencies since the toxicity of a pollutant depends mostly upon concentration, duration of exposure, and repetitiveness of the exposure. This is especially true in effluent dominated waters. For example, an effluent that has an LC50=100% contains enough toxicity to be lethal up to 50% of the test organisms. If the effluent is discharged to a low flow receiving waterbody that provides no more than a three fold dilution at the critical flow, significant mortality can occur in the receiving water. Furthermore, such a limit could not assure protection against chronic effects in the receiving waterbody. Chronic effects could occur if the dilution in the receiving water multiplied by the acute to chronic ratio is greater than 100 percent. Therefore, in effluent dominated situations, limits set using this approach may be severely underprotective. In contrast, whole effluent toxicity limits set using this approach in very high receiving water flow conditions may be overly restrictive."

Following US EPA's rationale the limitations of allowing 70% survival (30% mortality) in acute toxicity tests, as is the case in the cited LC50, will result in the allowance of toxic discharges to ephemeral streams, which is representative of the receiving waters at Davis. While the State and Regional Board's method of prescribing an effluent limitation of 70% percent survival may be protective in waterbodies with significant dilution; such a limitation should be subject to a complete mixing zone analysis. For an ephemeral receiving stream a mixing zone analysis would not be applicable under worst-case dry stream conditions. The Order should be revised to require the Regional Board to prohibit acute toxicity (100% survival as compared to the laboratory control) in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i).

With regard to WET testing variability; US EPA's *Technical Support Document for Water Quality-based Toxics Control* states, on page 11, that:

"In summary, whole effluent toxicity testing can represent practical tests that estimate potential receiving water impacts. Permit limits that are developed correctly from whole effluent toxicity tests should protect biota if the discharged effluent meets the limits. <u>It is important not confuse permit limit variability with toxicity test variability</u>" (emphasis added)

The proposed Permit must be revised to prohibit acute toxicity, require 100% survival in toxicity tests, in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i), the CWA, the SIP, the CWC and the Basin Plan.

5. The proposed Permit does not contain enforceable Effluent Limitations for chronic toxicity and therefore does not comply with the Basin Plan, Federal Regulations, at 40 CFR 122.44 (d)(1)(i) and the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (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." The SIP is a state *Policy* and 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.

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. There has been no argument that domestic sewage contains toxic substances and presents a reasonable potential to cause toxicity if not properly treated and discharged. 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 contains a narrative Effluent Limitation prohibiting the discharge of chronically toxic substances: however a *Compliance Determination* has been added to the proposed Permit: "Compliance with the accelerated monitoring and TRE/TIE provisions of Provision VI.C.2.a shall constitute compliance with effluent limitations contained in sections IV.A.1.d and IV.B.1.d of this Order for chronic whole effluent toxicity ". The *Compliance Determination* nullifies the Effluent Limitation and makes toxic discharges unenforceable.

The proposed Permit requires that: "For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program."

The Basin Plan narrative Toxicity Objective states that: "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. Compliance with this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, and biotoxicity tests of appropriate duration or other methods as specified by the Regional Board."

According to the Basin Plan toxicity sampling is required to determine compliance with the requirement that all waters be maintained free of toxic substances. Sampling does not equate with or ensure that waters are free of toxic substances. 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 enforceable effluent limitation for chronic toxicity must be included in the Order.

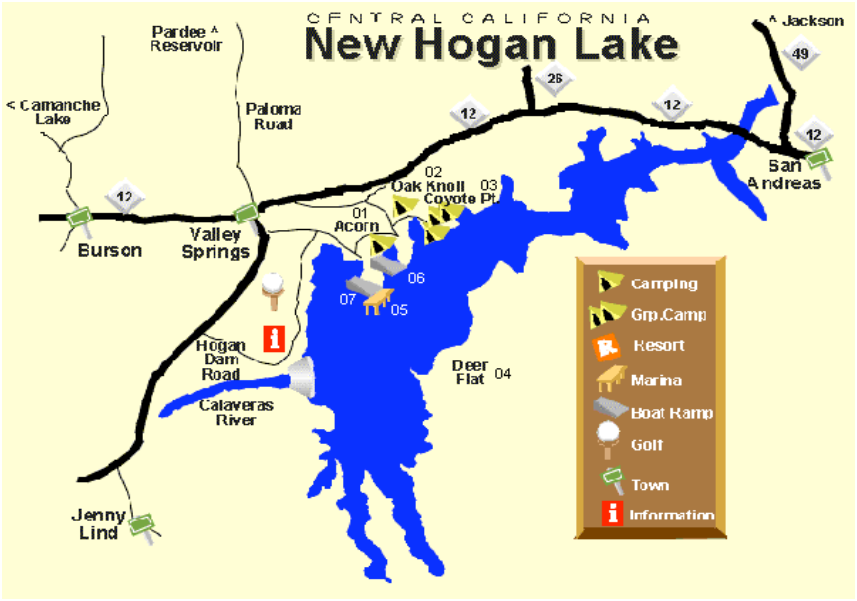
Effluent Limitations for specific conductivity (EC) and iron are improperly regulated as an annual average contrary to Federal Regulations 40 CFR 122.45 (d)(2) and common sense.

Federal Regulation 40 CFR 122.45 (d)(2) requires that permit for POTWs establish Effluent Limitations as average weekly and average monthly unless impracticable. The proposed Permit establishes Effluent Limitations for E and, iron as an annual average contrary to the cited Federal Regulation. Establishing the Effluent Limitations for EC and iron in accordance with the Federal Regulation is not impracticable; to the contrary the Central Valley Regional Board has a long history of having done so. Proof of impracticability is properly a steep slope and the Regional Board has not presented any evidence that properly and legally limiting EC and iron is impracticable.

6. The proposed Permit fails to require compliance with applicable regulations for the discharge of reclaimed water.

The proposed Permit contains *Reclamation Specifications*, which simply require compliance with CCR Title 22. The proposed permit does not require compliance with Health and Safety Code Chapter 5 Article 2 regarding cross connections and the use of purple pipe. The proposed Permit does not state whether the required Engineering Report has been completed and approved by DPH.

Attachment No. B does not adequately show that the discharge is virtually a direct discharge into a reservoir



7. The Proposed Permit Fails to Include Limitations that are Protective of the Municipal and Domestic Beneficial Uses of the Receiving Stream Contrary to Federal Regulations 40 CFR 122.4, 122.44(d) and the California Water Code, Section 13377.

The proposed Permit Fact Sheet *Pathogens* states that: **"**Municipal and domestic supply, agricultural irrigation, and body contact water recreation are beneficial uses of the receiving stream. Coliform limits are imposed to protect the beneficial uses of the receiving water, including public health through contact recreation and drinking water pathways. In a letter to the Regional Water Board dated 8 April 1999, the California Department of Public Health (DPH; formerly the Department of Health Services) indicated that DPH would consider wastewater discharged to water bodies with identified beneficial uses of irrigation or contact recreation and where the wastewater receives dilution of more than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and if the effluent coliform concentration does not exceed 240 MPN/100 mL more than once in any 30 day period. Furthermore, the DHS provided a letter dated 1 July 2003 that included clarification of the recommendations. The letter states, "*A filtered and disinfected effluent should be required in situations where critical beneficial uses (i.e. food crop irrigation or body contact recreation) are made of the receiving waters unless a 20:1 dilution ration (DR) is available. In these circumstances, a secondary, 23 MPN discharge is acceptable.*" This Order is consistent with these recommendations, considering site-specific factors. The coliform effluent limitations are adequately protective of the water contact recreation and agricultural irrigation supply beneficial uses of the receiving water in the vicinity of the discharge. In addition, for MUN-designated water bodies, DPH has not recommended treatment beyond secondary with 20:1 dilution, or tertiary without 20:1 dilution, where there were no known users of untreated water near a treatment plant outfall. Based on a review of the State Water Boards eWRIMS water rights database, there is no evidence of the untreated domestic use of the raw water in the vicinity of the discharge. Therefore, the coliform effluent limitations are also adequately protective of the MUN use."

The proposed Permit does not clearly state that the discharge is protective of the drinking water beneficial use; it more clearly states that: "… there is no evidence of the untreated domestic use of the raw water in the vicinity of the discharge." The lack of a drinking water intake does not equate to protection of the beneficial use of the receiving stream. It appears a game of semantics rather an attempt to protect beneficial uses.

Title 22 and other recommendations of the California Department of Public Health (PDH; formerly the Department of Health Services) generally recommend that it is necessary to treat wastewater to a tertiary level or provide 20:1 dilution for secondary treated wastewater in order to protect the public health for contact recreational activities or the irrigation of food crops. CCR Title 22 is cited in the proposed Permit as the source of information for requiring tertiary treatment to protect the contact recreation and food crop irrigation beneficial uses of the receiving stream. CCR Title 22 does not discuss or provide a level of treatment adequate to protect drinking water. To the contrary, Title 22 contains numerous requirements (60310) to prevent cross connections with potable water supplies, setback requirements from domestic supplies and wells, and warning signs not to drink the water: "RECLAIMED WATER DO NOT

DRINK" verifying that tertiary treated domestic wastewater in not fit for human consumption. Tertiary treated wastewater discharged to ephemeral streams is not of adequate quality for municipal use and is therefore not protective of the DOM beneficial use.

Direct ingestion is a more sensitive use of water than contact recreation uses or eating food crops irrigated with treated sewage. In 1987 DPH issued the *Uniform Guidelines for the Disinfection of Wastewater* (Uniform Guidelines) as recommendations to the Regional Water Quality Control Boards regarding disinfection requirements for wastewater discharges to surface waters. The Uniform Guidelines recommend a "no discharge" of treated domestic wastewater to freshwater streams used for domestic water supply. Where is not possible to prevent a wastewater discharge: the Uniform Guidelines recommend that no discharge be allowed unless a minimum of a twenty-to-one in stream dilution is available. The guidelines also recommend that no discharge of sewage be allowed into lakes and reservoirs. The DPH has reiterated the recommendations of the Uniform Guidelines to the Central Valley Regional Board on numerous occasions: specifically a 1 July 2003 letter to the Executive Officer (Thomas Pinkos); a 28 September 2000 Memorandum to regional and district engineers from Jeff Stone; and cite specific recommendations for the City of Jackson's wastewater discharge.

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. 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. 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."

The proposed Permit does not protect the drinking water beneficial use of the receiving stream as is required by Federal Regulations 40 CFR 122.4, 122.44(d) and the California Water Code, Section 13377 and in accordance with these requirements cannot be issued. At a minimum, 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.

8. The proposed Permit contains mass based Effluent Limitations for chlorine residual, copper and zinc less stringent than the existing permit and the chronic based Effluent Limitation for aluminum has been removed contrary to the Antibacksliding requirements of the Clean Water Act and Federal Regulations, 40 CFR 122.44 (l)(1).

Under the Clean Water Act (CWA), point source dischargers are required to obtain federal discharge (NPDES) permits and to comply with water quality based effluent limits (WQBELs) in NPDES permits sufficient to make progress toward the achievement of water quality standards or goals. The antibacksliding and antidegradation rules clearly spell out the interest of Congress in achieving the CWA's goal of continued progress toward eliminating all pollutant discharges. Congress clearly chose an overriding environmental interest in clean water through discharge reduction, imposition of technological controls, and adoption of a rule against relaxation of limitations once they are established.

Upon permit reissuance, modification, or renewal, a discharger may seek a relaxation of permit limitations. However, according to the CWA, relaxation of a WQBEL is permissible only if the requirements of the antibacksliding rule are met. The antibacksliding regulations prohibit EPA from reissuing NPDES permits containing interim effluent limitations, standards or conditions less stringent than the final limits contained in the previous permit, with limited exceptions. These regulations also prohibit, with some exceptions, the reissuance of permits originally based on best professional judgment (BPJ) to incorporate the effluent guidelines promulgated under CWA §304(b), which would result in limits less stringent than those in the previous BPJ-based permit. Congress statutorily ratified the general prohibition against backsliding by enacting §§402(o) and 303(d)(4) under the 1987 Amendments to the CWA. The amendments preserve present pollution control levels achieved by dischargers by prohibiting the adoption of less stringent effluent limitations than those already contained in their discharge permits, except in certain narrowly defined circumstances.

When attempting to backslide from WQBELs under either the antidegradation rule or an exception to the antibacksliding rule, relaxed permit limits must not result in a violation of applicable water quality standards. The general prohibition against backsliding found in §402(o)(1) of the Act contains several exceptions. Specifically, under §402(o)(2), a permit may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant *if*: (A) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation; (B)(i) information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or (ii) the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under subsection (a)(1)(B) of this section; (C) a less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy [(e.g., Acts of God)]; (D) the permittee has received a permit modification under section 1311(c), 1311(g), 1311(h), 1311(i), 1311(k), 1311(n), or 1326(a) of this title; or (E) the permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit, and has properly operated and maintained the facilities, but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

Even if a discharger can meet either the requirements of the antidegradation rule under §303(d)(4) or one of the statutory exceptions listed in §402(o)(2), there are still limitations as to how far a permit may be allowed to backslide. Section 402(o)(3) acts as a floor to restrict the extent to which BPJ and water quality-based permit limitations may be relaxed under the antibacksliding rule. Under this subsection, even if EPA allows a permit to backslide from its previous permit requirements, EPA may never allow the reissued permit to contain effluent limitations which are less stringent than the current effluent limitation guidelines for that pollutant, or which would cause the receiving waters to violate the applicable state water quality standard adopted under the authority of §303.49.

Federal regulations 40 CFR 122.44 (l)(1) have been adopted to implement the antibacksliding requirements of the CWA:

> (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under Sec. 122.62.)
>
> (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.
>
> (i) Exceptions--A permit with respect to which paragraph (l)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if:
> (A) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;
> (B)(1) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or (2) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b);
> (C) A less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;
> (D) The permittee has received a permit modification under section 301(c), 301(g), 301(h), 301(i), 301(k), 301(n), or 316(a); or

(E) The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

(ii) Limitations. In no event may a permit with respect to which paragraph (l)(2) of this section applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, issued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 303 applicable to such waters.

9. The proposed Permit contains an inadequate antidegradation analysis that does not comply with the requirements of the State Board's Antidegradation Policy (Resolution 68-16) and California Water Code (CWC) Sections 13146 and 13247.

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.

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/other sources, exceptions from otherwise applicable water quality objectives, etc. (State Antidegradation Guidance, pp. 7-10, Region IX Guidance, pp. 2-3).

The proposed Permit, page F-47 *Groundwater*, states that: "As discussed in section II.A of this Fact Sheet, the Discharger previously purchased the Nielson Property for the purpose of additional effluent storage and disposal. In the Discharger's December 2007 Initial Study/Mitigated Negative Declaration, the Discharger proposed the installation of three new storage ponds, installation of a spray irrigation system and an emergency run-off ditch berm system for water collection, and the installation of several groundwater monitoring wells. Domestic wastewater contains constituents such as TDS, EC, pathogens, nitrates, organics,

metals and oxygen demanding substances (BOD). Percolation from the proposed facilities may result in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with Resolution 68-16. Any increase in pollutant concentrations in groundwater must be shown to be necessary to allow wastewater utility service necessary to accommodate housing and economic expansion in the area and must be consistent with maximum benefit to the people of the State of California. Some degradation of groundwater by the Discharger is consistent with Resolution 68- 16 provided that: i. the degradation is limited in extent; ii. the degradation after effective source control, treatment, and control is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order; iii. The Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures; and iv. The degradation does not result in water quality less than that prescribed in the Basin Plan. Upon upgrades to the Facility and submission of a complete antidegradation analysis satisfying the requirements of Resolution 68-16, this Order may be reopened to allow for discharges to additional effluent disposal and storage facilities on the Nielson Property." (Emphasis added)

The proposed permit further states on page 16 that: "BPTC Evaluation Tasks. The Discharger shall propose a work plan and schedule for providing BPTC as required by Resolution 68-16 for total coliform organisms in the groundwater underlying the DLDA. The technical report describing the work plan and schedule shall contain a preliminary evaluation of each component and propose a time schedule for completing the comprehensive technical evaluation. Following completion of the comprehensive technical evaluation, the Discharger shall submit a technical report describing the evaluation's results and critiquing each evaluated component with respect to BPTC and minimizing the discharge's impact on groundwater quality. Where deficiencies are documented, the technical report shall provide recommendations for necessary modifications to achieve BPTC."

Page F-52 states that: "Order No. R5-2003-0151 contained groundwater limitations due to the potential of discharges to the DLDA to result in an increase in concentrations of pollutants in groundwater. Results of quarterly groundwater monitoring indicate periodic increases above background concentrations and the agricultural water goal of 450 mg/L for total dissolved solids at the downstream monitoring location GW-2. Increases were not observed at monitoring location GW-3. Results of monitoring also indicate several increases above background concentrations and the groundwater limitation for total coliform organisms at the downstream monitoring locations GW-2 and GW-3. Therefore, groundwater limitations are being retained from Order No. R5-2003-0151 to protect the beneficial uses of the underlying groundwater."

The proposed Permit *Groundwater Limitations,* prohibit: 1. The release of waste constituents from any storage, treatment, or disposal component of the wastewater treatment plant or DLDA shall not, in combination with other sources, cause the following in groundwater: a. Beneficial uses to be adversely impacted or water quality objectives to be exceeded; b. Any constituent concentration, when compared with background, to be incrementally increased beyond the current concentration; nor c. Total coliform organisms to equal or exceed 2.2 MPN/100 mL over any 7-day period. But do not appropriately prohibit degradation. The proposed Permit does not discuss that the Groundwater Limitations as proposed are currently being exceeded.

The Discharger has degraded and polluted groundwater for total dissolved solids and total coliform organisms. The proposed permit does not include any other details regarding land disposal of waste such as the depth to groundwater, the permeability of the soils or the underlying geology. The Antidegradation Policy is not satisfied with regard to BPTC or that an allowance to degrade groundwater is in the best interest of the people of California. The proposed permit is inappropriately silent with regard to detected pollution and the Antidegradation Policy. The proposal to conduct a study rather than assess compliance with the Antidegradation Policy is unacceptable in the proposed Permit.

The proposed permit states that: "Disposal of treated wastewater is accomplished exclusively to land from 1 May through 31 October of each year. Treated wastewater is first held in the effluent storage reservoir, and then pumped to on-site evaporation, transpiration, and percolation ditches. The disposal ditches have a total length of approximately 2 miles, and vary in depth from about 1.5 to 3 feet and in width from about 2 to 4 feet. Excess effluent from the trenches is returned to the storage reservoir via a return ditch. Storm water runoff from the effluent disposal area is returned to storage when the DLDA is in use. During the remainder of the year, storm water runoff is not contained. Vegetation control in the DLDA is accomplished through prescribed burns by the local public fire agency." Wastewater is prohibited during the wet weather months if a minimum dilution ratio of 20-to-1 is not available in the receiving stream. It must be assumed that during this period the storage area is not designed to accommodate all wastewater flows for what may be an extended period and wastewater is allowed to be applied to land. Once surface water discharges recommence and land disposal is suspended stormwater discharges from the land disposal areas are again allowed. There is no discussion of the quality of the "stormwater" runoff from the land disposal area. Virus and parasites are well documented as living for long periods in soils. Wastewater has also been recently documented to contain significant "constituents of emerging concern" (CECs) that may also remain resident in the land application area. The allowance for stormwater runoff from the land application areas has not been assessed with regard to remaining wastewater constituents. The failure to require retention of "stormwater" at the land disposal area rather than discharging it to surface waters must be addressed in the Antidegradation Policy discussion.

10. The proposed Permit inappropriately exempts the land disposal discharge from California Code of Regulations (CCR) Title 27.

Page F-52 states that: "Order No. R5-2003-0151 contained groundwater limitations due to the potential of discharges to the DLDA to result in an increase in concentrations of pollutants in groundwater. Results of quarterly groundwater monitoring indicate periodic increases above background concentrations and the agricultural water goal of 450 mg/L for total dissolved solids at the downstream monitoring location GW-2. Increases were not observed at monitoring location GW-3. Results of monitoring also indicate several increases above background concentrations and the groundwater limitation for total coliform organisms at the downstream monitoring locations GW-2 and GW-3. Therefore, groundwater limitations are being retained from Order No. R5-2003-0151 to protect the beneficial uses of the underlying groundwater." The Discharger has degraded and polluted groundwater for total dissolved solids and total coliform organisms.

CCR Title 27 §20090 states that: 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. (b) **Wastewater—**Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met: (1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance; (2) the discharge is in compliance with the applicable water quality control plan; and (3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

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 proposed Permit is inaccurate in stating that: "1. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 *et seq*. (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following: a. The waste consists primarily of domestic sewage and treated effluent; b. The waste discharge requirements are consistent with water quality objectives; …" The Discharger has degraded and polluted groundwater for total dissolved solids and total coliform organisms clearly exceeding the Basin Plan water quality objectives. The groundwater has apparently not been evaluated for all drinking water MCLs, taste and odor and toxic constituents. The discharge does therefore not quality for an exemption to CCR Title 27.

11. The proposed 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). The proposed 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 18th 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."

The proposed Permit goes into great detail citing the Federal Regulation requiring the receiving water hardness be used to establish Effluent Limitations. The result of using a higher effluent or downstream hardness value is that metals are toxic at higher concentrations, discharges have less reasonable potential to exceed water quality standards and the resulting Permits have fewer Effluent Limitations. The comparative Effluent Limitation values presented to defend the unsupported statements regarding which is more protective. Once again the public is subject to a bureaucrat "knowing better" and simply choosing to ignore very clear regulatory requirements. The Regional Board staff have 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 proposed Permit failure to include Effluent Limitations for metals 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.

12. The proposed Permit fails to contain an Effluent Limitation for aluminum in accordance with Federal Regulations 40 CFR 122.44, US EPA's interpretation of the regulation, and California Water Code, Section 13377.

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 Basin Plan contains a narrative water quality objective for toxicity that states in part that "[a]*ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*" (narrative toxicity objective). Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter. U.S. EPA developed National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life for aluminum to prevent toxicity to freshwater aquatic life. The recommended ambient criteria four-day average (chronic) and one-hour average (acute) criteria for aluminum are 87 mg/*l* and 750 mg/*l*, respectively.

Aluminum in the effluent has been measured as high as 227 µg/l. Freshwater Aquatic habitat is a beneficial use of the receiving stream.

US EPA's 87 ug/l chronic criterion was developed using low pH and hardness testing. California Central Valley waters, the Sacramento River, at the Valley floor, have been sampled to have hardnesses as low as 39 mg/l $CaCO_3$ by the USGS in February 1996 for the *National Water Quality Assessment Program.* Contributory streams, especially foothill streams, have also

been sampled and shown to contain even lower hardness levels. US EPA recognized in their ambient criteria development document, (Ambient Water Quality Criteria for Aluminum, EPA 440/5-86-008) that the pH was in the range 6.5 to 6.6 and that the hardness was below 20 mg/l. Typical values for pH and hardness in the Central Valley alone warrant use of the chronic ambient criteria for aluminum. Despite the hardness and pH values used in the development of the criteria; U.S. EPA's conclusions in their Ambient Criteria for the Protection of Freshwater Aquatic Life recommends that application of the ambient criteria as necessary to be protective of the aquatic beneficial uses of receiving waters in lieu of site-specific criteria. The Regional Board goes to great length to cite the development document for aluminum being based on low pH and hardness but then fails to cite EPA's final conclusion in the development document; a bad case of cherry picking.

Based on information included in analytical laboratory reports submitted by the Discharger, aluminum in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life, and, therefore to violate the Basin Plan's narrative toxicity objective.

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." US EPA has interpreted 40 CFR 122.44(d) in *Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program* (Factsheets and Outreach Materials, 08/16/2002) that although States will likely have unique implementation policies there are certain tenets that may not be waived by State procedures. These tenets include that "where valid, reliable, and representative effluent data or instream background data are available they MUST be used in applicable reasonable potential and limits derivation calculations. Data may not be arbitrarily discarded or ignored." 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. A water quality standard for Failure to include an effluent limitation for aluminum in the proposed permit violates 40 CFR 122.44 and CWC 13377.

13. The proposed Permit fails to include an Effluent for manganese as required by Federal Regulations 40 CFR 122.44 and the permit should not be adopted in accordance with California Water Code Section 13377.

Federal Regulations, 40 CFR 122.44 (d)(i), requires that; "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." The Water Quality Objective drinking water MCL for manganese is 50 µg/l. The wastewater discharge annual average observed was 55 ug/l. Clearly

the discharge exceeds the water quality objective. The proposed Order fails to establish an effluent limitation for manganese.

The proposed Permit states that: **"**The Basin Plan water quality objectives for chemical constituents requires that water 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 Title 22 of the CCR. The Secondary MCL - Consumer Acceptance Limit for manganese is 50 µg/L. Based on input from DPH and the fact that secondary MCLs are designed to protect consumer acceptance, effluent limitations based on secondary MCLs are to be applied as an annual average concentration. The maximum annual average effluent concentration for manganese was 54 µg/L, based on 31 samples collected between 1 November 2005 and 30 April 2008. The maximum annual average upstream receiving water manganese concentration was 22 µg/L, based on two samples collected on 2 May 2007 and 2 January 2008. The maximum annual average receiving water and effluent concentrations were used in the RPA for evaluating the secondary MCL based on input from the DPH and the fact that MCLs are designed to protect human health over long exposure periods. Due to the low levels of manganese in the receiving water and the consideration of a minimum required dilution of 20:1, the effluent does not exhibit reasonable potential to exceed the Secondary MCL for manganese."

The proposed Permit attempts to allocate a mixing zone in the reasonable potential analysis, thereby eliminating an Effluent Limitation. Clearly the SIP allowance for mixing zones is for the establishment of Effluent Limitations once the reasonable potential analysis has been completed. The effects of mixing cannot be applied to determining if a constituent presents a reasonable potential to exceed water quality standards.

The proposed Permit also ignores that Federal Regulation 40 CFR 122.45 (d)(2) requires that permit for POTWs establish Effluent Limitations as average weekly and average monthly unless impracticable. The assessment of the annual average pollutant concentration minimizes the potential for effluent limitations when the maximum effluent concentration will be significantly higher.

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."

14. The proposed Permit fails to include an Effluent for Methylene blue active substances (MBAS) as required by Federal Regulations 40 CFR 122.44 and the permit should not be adopted in accordance with California Water Code Section 13377.

Federal Regulations, 40 CFR 122.44 (d)(i), requires that; "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the

Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." The Water Quality Objective drinking water MCL for MBAS is 500 µg/l. The wastewater discharge annual average observed MBAS concentration was 1,768 ug/l. Clearly the discharge exceeds the water quality objective. The proposed Order fails to establish an effluent limitation for MBAS.

The proposed Permit states that: "The Basin Plan water quality objectives for chemical constituents requires that water 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 Title 22 of the CCR. The Secondary MCL - Consumer Acceptance Limit for MBAS is 500 µg/L. Based on input from DPH and the fact that secondary MCLs are designed to protect consumer acceptance, effluent limitations based on secondary MCLs are to be applied as an annual average concentration. The maximum annual average effluent concentration for MBAS was 1,768 µg/L, based on 31 samples collected between 1 November 2005 and 30 April 2008. The maximum annual average upstream receiving water MBAS concentration was 19 µg/L, based on two samples collected on 2 May 2007 and 2 January 2008. The maximum annual average receiving water and effluent concentrations were used in the RPA for evaluating the secondary MCL based on input from the DPH and the fact that MCLs are designed to protect human health over long exposure periods. Due to the low levels of MBAS in the receiving water and consideration of a minimum required dilution of 20:1, the effluent does not exhibit reasonable potential to exceed the Secondary MCL for MBAS."

The proposed Permit attempts to allocate a mixing zone in the reasonable potential analysis, thereby eliminating an Effluent Limitation. Clearly the SIP allowance for mixing zones is for the establishment of Effluent Limitations once the reasonable potential analysis has been completed. The effects of mixing cannot be applied to determining if a constituent presents a reasonable potential to exceed water quality standards.

The proposed Permit also ignores that Federal Regulation 40 CFR 122.45 (d)(2) requires that permit for POTWs establish Effluent Limitations as average weekly and average monthly unless impracticable. The assessment of the annual average pollutant concentration minimizes the potential for effluent limitations when the maximum effluent concentration will be significantly higher.

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15. The proposed permit contains an inadequate reasonable potential by using incorrect statistical multipliers as required by Federal regulations, 40 CFR § 122.44(d)(1)(ii).

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. The reasonable potential analysis fails to consider the statistical variability of data and laboratory analyses as explicitly required by the federal regulations. The proposed Permit states that: "The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control. The SIP states in the introduction "*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency."* Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents." The procedures for computing variability are detailed in Chapter 3, pages 52-55, of USEPA's *Technical Support Document For Water Quality-based Toxics Control.* The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. The proposed Permit states that: "Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control" but fails to discuss compliance with 40 CFR § 122.44(d)(1)(ii). The State and Regional Boards do not have the authority to override and ignore federal regulation. A statistical analysis results in a projected maximum effluent concentration (MEC) based on laboratory variability and the resulting MEC is greater than was obtained from the actual sampling data. The result of using statistical variability is that a greater number of constituents will have a reasonable potential to exceed water quality standards and therefore a permit will have a greater number of effluent limitations. The intentional act of ignoring the Federal regulation has a clear intent of limiting the number of regulated constituents in an NPDES permit. 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. The failure to utilize statistical variability results in significantly fewer Effluent Limitations that are necessary to protect the beneficial uses of receiving waters. The reasonable potential analyses are flawed and must be recalculated.

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