



California Sportfishing Protection Alliance

"An Advocate for Fisheries, Habitat and Water Quality"

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19 May 2007

Dr. Karl Longley, Chairman
Ms. Pamela Creedon, Executive Officer
Mr. Kenneth Landau, Assistant Executive Officer
Mr. Dave Carlson, Env. Program Manager, NPDES
Ms. Amy Simpson, WRC Engr.
Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6144

VIA: Electronic Submission
Hardcopy if Requested

RE: Waste Discharge Requirements (NPDES No. CA0079049) for City of Davis
Wastewater Treatment Plant, Yolo County

Dear Messrs. Longley, Landau, Carlson and Mesdames Creedon and Simpson:

The California Sportfishing Protection Alliance and Watershed Enforcers (CSPA) has reviewed the Central Valley Regional Water Quality Control Board's (Regional Board) tentative NPDES permit (Order or Permit) for City of Davis Wastewater Treatment Plant (Discharger) and submits the following comments.

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

- 1. The City of Davis' wastewater discharge is toxic to aquatic life, yet the proposed Permit fails to include prohibit toxic discharges, fails to assess violations for past and ongoing toxic discharges, fails to assess the impacts to endangered species and fails to require a remedy that will eliminate toxic discharges. The proposed Permit violates Federal Regulations 40 CFR 122.44 (d)(1)(i), the SIP, CWC Section 13377 and Federal Regulation, 40 CFR 122.4 (a), (d) and (g).**

A. Failure to Provide Compliance Assessment

The proposed Permit Fact Sheet finds that the City’s discharge of wastewater is toxic, beginning at page F-46, Whole Effluent Toxicity, states that: “A review of the Report of Waste Discharge indicates toxicity in the effluent. The percent survival of Ceriodaphnia dubia from the chronic toxicity test was 60 % in both June 2003 and May 2005. The chronic test for larval fathead minnow growth showed impacts from the effluent in August 2002 and October 2002. The chronic test for Ceriodaphnia dubia reproduction showed impacts from the effluent in August 2002, October 2002, February 2003, June 2003, August 2004, October 2004. The 4-day algal growth test showed impacts from the effluent on May 2002, June 2002, February 2003, June 2003, June 2004, and June 2005. Algal growth tended to be significantly greater than the control in Discharge 001 and significantly less than the control in Discharge 002. The toxicity tests conducted up to date have used 100 % effluent from the wastewater treatment plant. With a low available dilution and whole effluent testing results showing impacts to aquatic life, it is concluded that discharges from the WWTP have caused adverse effects on aquatic organisms. Therefore, this Order requires the Discharger to initiate a TRE to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.” (emphasis added)

The proposed Permit does not assess compliance with the existing Permit and it appears that the Regional Board has not undertaken any enforcement action with regard to toxicity. The “Compliance Summary” section of the proposed Permit does not discuss toxic discharges.

B. Failure to Adequately Assess or Remedy Toxic Discharges

The proposed Permit Fact Sheet shows the presence of toxic constituents in the existing wastewater discharge:

<u>Constituent</u>	<u>Maximum Concentration Observed</u>
Aluminum	700 ug/l
Ammonia	above toxic criteria
Chlorine	2.95 mg/l
Copper	13 ug/l
Cyanide	6 ug/l

The proposed Permit does not contain protective limitations for acute toxicity, allowing 30% mortality in the discharge to receiving waters with no dilution. The proposed Permit does not contain any limitations for chronic toxicity. The proposed Permit instead: “...requires the Discharger to initiate a TRE to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.” Regional Board staff apparently does not understand that the above cited toxic constituents are likely sources of the observed toxicity in the wastewater discharge and will cause interference, with attempts to conduct a TRE. Conducting a TRE does not prohibit toxicity.

C. Failure to Identify Listed Species and Require Discharger to Obtain Permits Pursuant to State and Federal Endangered Species Acts

The proposed Permit Fact Sheet, page F-4 No. 8 finds that: “The designated beneficial uses of the Yolo Bypass include warm freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat and potential cold freshwater aquatic habitat. The *Habitat Improvement for Native Fish in the Yolo Bypass*, states that “considering the four runs of salmon present, adult migration may occur in any month,” which indicates the presence of salmonids in the Yolo Bypass year-round.” Despite this Finding, the proposed Permit fails to discuss any impacts to endangered species; to the contrary the Endangered Species Act discussion finds no impacts to endangered species.

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

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

D. Failure to Provide a Limit for Chronic Toxicity

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 proposed Permit contains no such limitation for chronic toxicity as required by the SIP.

Federal regulations, at 40 CFR 122.44 (d)(1)(i), require that limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standard, including state narrative criteria for water quality. The Water Quality Control Plan for the Sacramento/ San Joaquin River Basins (Basin Plan), Water Quality Objectives (Page III-8.00) for Toxicity is a narrative criteria which states that all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. The Proposed Permit states that: “...to ensure compliance with the Basin Plan’s narrative toxicity objective, the discharger is required to conduct whole effluent toxicity testing...”. However, sampling does not equate with or ensure compliance. As is shown above, the discharge is currently toxic. The Tentative Permit requires the Discharger to conduct an investigation of the possible sources of toxicity. This language is not a limitation and essentially eviscerates the Regional Board’s authority, and the authority granted to third parties under the Clean Water Act, to find the Discharger in violation for discharging chronically toxic constituents. An effluent limitation for chronic toxicity must be included in the Order.

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

impacts are clearly defined in EPA's toxicity guidance manuals)) in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i) and the Basin Plan and the SIP.

E. Failure to Provide a Limits for Acute Toxicity

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

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

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. Accordingly, the proposed Permit must be revised to prohibit acute toxicity in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i).

F. Violation of the California Water Code

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." By failing to include adequately protective toxicity limitations for this toxic discharge the proposed Permit violates CWC 13377.

G. Violation of Federal Regulations

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. By failing to include adequately protective toxicity limitations for this toxic discharge the proposed Permit violates 40 CFR 122.4.

2. The proposed Permit fails to require that the City of Davis apply best practicable treatment and control (BPTC) and comply with the Federal regulations 40 CFR § 131.12 and State Policy (Resolution 68-16) regarding Antidegradation despite clear documentation that the wastewater discharge has degraded groundwater quality.

The proposed Permit documents that the City of Davis utilizes percolation from unlined wastewater and sludge disposal ponds, overland flow terraces and wetlands as a means of disposal. Wastewater percolates to shallow groundwater. The electrical conductivity (EC) of the wastewater has been measured as high as 3,688 umhos/cm. EC in downgradient monitoring wells has been measured as high as 7240 umhos/cm. The proposed Permit Fact Sheet contains the following discussion with regard to groundwater:

“Groundwater. The Discharger utilizes oxidation ponds, unlined sludge lagoons, overland flow fields, and wetlands. Domestic wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the ponds, sludge lagoons, overland flows fields, and wetlands 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.

Groundwater monitoring results indicates that electrical conductivity has degraded groundwater quality when compared to background. This Order requires the Discharger to evaluate the background groundwater quality to establish

effluent limitations for groundwater. This Order also requires the implementation of BPTC measures to minimize impacts to groundwater.” (Emphasis added)

The proposed Permit confirms that the wastewater discharge has degraded groundwater quality. The proposed Permit does not include an Antidegradation analysis despite the preceding paragraph discussing Antidegradation requirements. The treatment of domestic wastewater with surface water disposal (NPDES discharges) in the Central Valley of California is typically treated through wastewater systems that do not utilize percolation as a means of disposal; therefore it can be readily concluded that percolation is not BPTC. The proposed Permit does not discuss other pollutant migration, pathogens, volatile and semi-volatile constituent, metals, with regard to groundwater degradation. The proposed permit does not require cessation of the wastewater percolation to groundwater. The proposed Permit does not require cleanup of polluted groundwater. The proposed Permit does not include any discussion of or recommendation for enforcement action by the Regional Board to protect groundwater quality. The proposed Permit, as currently presented, does not protect groundwater quality and therefore does not comply with State and Federal Antidegradation regulations and policies.

3. The proposed Permit fails to meet Federal CWA Section 101(a) and 303(d)(4), Regulations at 40 CFR § 131.12 State and Basin Plan (Resolution 68-16) requirements for antidegradation.

Specifically, the proposed Permit Antidegradation Policy discussion does not discuss best practicable treatment and control (BPTC) of the wastewater discharge to surface waters and does not discuss the fact that the discharge “has” degraded groundwater quality. Both BPTC and groundwater degradation must be thoroughly analyzed with regard to Antidegradation requirements prior to permit consideration.

As is discussed above, the City of Davis’ wastewater discharge degrades the beneficial uses of contact recreation and irrigated agriculture. The public existing and potential health costs and the costs to farmers alone warrant significant discussion and analysis in an Antidegradation assessment. The proposed Permit does not assess that the Discharger is currently not providing BPTC as is required by State and Federal Antidegradation requirements with regard to protecting the beneficial uses of contact recreation and irrigated agriculture.

As is discussed above, the City of Davis’ wastewater discharge is toxic to aquatic life. The impacts to aquatic life and endangered species is not discussed in any Antidegradation analysis. The proposed Permit does not assess that the Discharger is currently not providing BPTC as is required by State and Federal Antidegradation requirements with regard to protecting the beneficial use of aquatic life.

As is discussed above, the proposed Permit concludes that the City of Davis has degraded groundwater quality by allowing wastewater to percolate and by on-site sludge disposal. The proposed Permit does not assess that the Discharger is currently not

providing BPTC as is required by State and Federal Antidegradation requirements and has degraded groundwater quality.

The onsite disposal of sludge has degraded groundwater quality. Sewage sludge is not exempted from CCR Title 27 designated waste standards. The onsite disposal of sewage sludge is not BPTC. The onsite disposal of sewage sludge should be prohibited or required to meet the requirements of CCR Title 27 as a designated waste.

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

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 William Attwater, SWRCB to Regional Board Executive Officers, “federal Antidegradation Policy,” pp. 2, 18 (Oct. 7, 1987) (“State Antidegradation Guidance”).) As part of the state policy for water quality control, 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.)

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.

4. The proposed Permit, Compliance Summary, fails to summarize compliance.

The proposed Permit, Compliance Summary, Fact Sheet, page F-5, fails to summarize compliance. The failure to assess and discuss toxicity is discussed in detail above and is not addressed in the compliance summary. Proposed Permit Table F-2 shows the average monthly TSS in the wastewater discharge was 54.7 mg/l and the limitation is 50 mg/l. Compliance with existing waste discharge requirements is not discussed at all in the “Compliance Summary”.

5. The proposed Permit contains unsubstantiated and likely inaccurate information regarding the treatment capability of wetlands.

The proposed Permit, Fact Sheet, page F-4 No. 4, contains the following: “The Conaway Ranch Toe Drain and Willow Slough Bypass are used for the irrigation of crops and provide irrigation water to seasonal wetlands. The Davis Restoration Treatment Wetlands were created through the City of Davis, US Army Corps of Engineers, Yolo Basin Foundation, and California Waterfowl Association. These treatment wetlands were created to support restoration of wetlands in the northwestern flyway, provide advanced secondary wastewater treatment and stormwater treatment. In addition, the Treatment Wetlands were seen to enhance wildlife habitat. The wetlands are used for guided tours for school children and others interested in wildlife. Public access to the Restoration Treatment Wetlands is controlled through the City of Davis in conjunction with the Yolo Basin Foundation.” (Emphasis added) There is no information in the proposed Permit or Fact Sheet that indicates that “advanced” secondary treatment is provided. There is no information that the wetlands provide any “treatment” whatsoever. To the contrary, the monitoring assessment indicates that the level of treatment, identified as “equivalent to secondary” is below secondary standards and is certainly not “advanced”. The statement regarding “advanced” secondary treatment should be removed from the proposed Permit.

6. The proposed Permit does not contain an Effluent Limitation for EC in violation of Federal Regulations 40 CFR 122.44.

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

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

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

The wastewater discharge average EC level is approximately 1900 $\mu\text{mhos/cm}$ and the maximum observed EC was 3688 $\mu\text{mhos/cm}$. Clearly the discharge exceeds the MCLs for EC presenting a reasonable potential to exceed the water quality objective. The proposed EC limitation clearly exceeds the agricultural water quality goal for EC. The proposed Order fails to establish an effluent limitation for EC that are protective of the Chemical Constituents water quality objective. The City’s wastewater discharge increases concentrations of EC to unacceptable concentrations adversely affecting the agricultural beneficial use. The wastewater discharge not only presents a reasonable potential, but actually causes, violation of the Chemical Constituent Water Quality Objective in the Basin Plan. The available literature regarding safe levels of EC for irrigated agriculture mandate that an Effluent Limitation for EC is necessary to protect the beneficial use of the receiving stream in accordance with the Basin Plan and Federal Regulations. Failure to establish effluent limitations for EC that are protective of the Chemical Constituents water quality objective blatantly violates the law. Federal Regulation, 40 CFR 122.44 mandates an effluent limitation be established if a discharge exceeds a water quality objective. The proposed Permit must be amended to contain an Effluent Limit for EC.

7. The proposed Permit fails to contain an Effluent Limitation for lead in accordance with Federal Regulations 40 CFR 122.44 and California Water Code, Section 13377.

Lead exceeds water quality standards in the effluent at 1.9 $\mu\text{g/l}$, above the CTR Water Quality Standard of 1.5 $\mu\text{g/l}$. 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 lead in the proposed permit violates 40 CFR 122.44 and CWC 13377.

8. The proposed Permit fails to contain an Effluent Limitation for nickel in accordance with Federal Regulations 40 CFR 122.44 and California Water Code, Section 13377.

Nickel exceeds water quality standards in the effluent at 40 $\mu\text{g/l}$, above the CTR Water Quality Standard of 32 $\mu\text{g/l}$. 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 nickel in the proposed permit violates 40 CFR 122.44 and CWC 13377.

9. The proposed Permit fails to contain an Effluent Limitation for zinc in accordance with Federal Regulations 40 CFR 122.44 and California Water Code, Section 13377.

Zinc exceeds water quality standards in the effluent at 80 $\mu\text{g/l}$, above the CTR Water Quality Standard of 73 $\mu\text{g/l}$. 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 zinc in the proposed permit violates 40 CFR 122.44 and CWC 13377.

10. The proposed Permit, *Other Plans, Policies and Regulations* Section, discusses exemption from CCR Title 27 for domestic wastewater, yet fails to assess that sewage sludge which is not exempt has degraded groundwater quality.

The onsite disposal of sludge has degraded groundwater quality. Sewage sludge is not exempted from CCR Title 27 designated waste standards. The onsite disposal of sewage sludge is not BPTC. The onsite disposal of sewage sludge should be prohibited or required to meet the requirements of CCR Title 27 as a designated waste.

11. The proposed Permit contains a compliance schedule for virtually all regulated constituents based on “a new interpretation of the Basin Plan” as detailed in the Fact Sheet. The Regional Board fails to provide any explanation or definition of the “new interpretation” of the Basin Plan.

In a memorandum, dated 19 July 2002, to NPDES Staff from Kenneth Landau; Mr. Landau states in part that; “The critical factor in use of this “new interpretation” is that the previous Permit contains something that clearly indicates that a reasoned decision was made by the Board to grant mixing zones or not protect certain beneficial uses. This can include standards which are not measured for a considerable distance downstream, effluent limits obviously too large to be protective, or statements that “the ditch contains no fish”. Just because an existing permit is silent on an issue (for instance nothing was mentioned about drinking water protection), does not mean a “new interpretation” can be considered to occur.” The simple unsupported claim that there is a “new interpretation” of the Basin Plan is insufficient to claim coverage under State Board Order WQ 2001-06 at pp 53-55. The Regional Board has included compliance schedules for aluminum in enforcement orders for several years. The Regional Board must, at a minimum, define the old interpretation of the Basin Plan with respect to each constituent and how has it changed. The permit must be modified to include the details of the “new interpretation” or the compliance schedules moved to an enforcement order.

12. Inadequate Tertiary Treatment Discussion.

The proposed Permit clearly documents that contact recreation and irrigated agriculture are designated and documented beneficial uses of the receiving waters where the City of Davis discharges their treated sewage. The City’s wastewater treatment system is an antiquated pond system that provides an “equivalent to secondary” level of treatment. The proposed Permit also clearly documents that without tertiary treatment, the downstream waters could not be safely utilized for contact recreation or the irrigation of food crops. The level of treatment provided now and historically by the City of Davis is substantially below tertiary treatment. The receiving water uses of contact recreation and irrigation of food crops is not protected. The Regional Board has apparently not notified the State or County Departments of Health Services of the situation. The Regional Board has not required that the waters be posted as containing inadequately treated sewage and contact or irrigation of food crops could cause illness. To the contrary, the proposed Permit documents that school children take field trips to wetlands where contact with the inadequately treated sewage is imminent. The schools and parents have apparently not been notified of the threat posed by the water quality. The recent news articles regarding significant illnesses after eating spinach should be sufficient to describe the impacts of irrigating crops with inadequately treated sewage. Yet, the

proposed Permit does not require the City to assess the public health impacts from the past decades and does not require the City of Davis to provide tertiary treatment until 5-years after this permit is adopted. The proposed Permit goes to great lengths to state that the City of Davis is unlikely to comply with the 5-year schedule. The proposed Permit does not discuss that it replaces Order No. 5-01-067 which was adopted in March 2001 and required tertiary treatment. The proposed Permit does not discuss that other than legal maneuvering, no progress towards improving water quality or the level of treatment provided by the City of Davis has apparently occurred since the previous permit was adopted in 2001. Regarding this wastewater discharge, the Regional Board has a dismal record and is doing nothing to protect the people of California from inadequately treated sewage for at least the next five years.

As is stated in the proposed Permit, the designated beneficial uses of the Yolo Bypass include water contact recreation and irrigated agriculture. The proposed Permit elaborates that a site specific December 2000 *Recreation, Land Use, and Dilution Study of the Tule Canal and Toe Drain* (within the Yolo Bypass) provided by the City of Woodland confirmed actual existing contact recreational and irrigated agricultural uses. Willow Slough Bypass and the Conaway Ranch Toe Drain have very low flow during the dry seasons, therefore at times; flow upstream of the wastewater discharge in the receiving waters is immeasurably small or nonexistent. During a past Regional Board meeting in consideration of the City of Woodland's NPDES permit renewal Mr. Christopher Cabaldon, a Regional Board member and the Mayor of the City of West Sacramento, stated that he regularly observed swimming in the Yolo Bypass.

The proposed Permit Fact Sheet, Section q. Pathogens, contains, in part, the following citations:

- ...Yolo Bypass has been used for water contact recreation and that crops grown in the area with the potential to be irrigated with Yolo Bypass waters include food crops that require the water be treated to a tertiary level to protect the public health.
- ...the wetlands at the WWTP are open to the public and used as an educational facility for schoolchildren.
- To protect these beneficial uses, the Regional Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease.
- The principal infectious agents (pathogens) that may be present in raw sewage may be classified into three broad groups: bacteria, parasites, and viruses.
- The wastewater must be treated to tertiary standards (filtered), or equivalent, to protect contact recreational and food crop irrigation uses.
- Title 22 is not directly applicable to surface waters; however, the Regional Water Board finds that it is appropriate to apply an equivalent level of treatment

to that required by DHS's reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes.

- This Order contains effluent limitations and a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water.
- Tertiary treatment will allow for the reuse of the undiluted wastewater for food crop irrigation and contact recreation activities that would otherwise be unsafe according to recommendations from the California Department of Health Services (DHS).
- The economic impact of requiring an increased level of treatment has been considered. The loss of beneficial uses within downstream waters, without the tertiary treatment requirement, which includes prohibiting the irrigation of food crops and prohibiting public access for contact recreational purposes, would have a detrimental economic impact.
- Without tertiary treatment, the downstream waters could not be safely utilized for contact recreation or the irrigation of food crops.

The proposed Permit documents the beneficial uses of the receiving stream and the need for tertiary treatment to protect those uses. The proposed Permit documents the public health threat from contacting or irrigating crops with the current level of treatment. California Water Code, section 13377, requires that: "Notwithstanding any other provision of this division, the state board and the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance." Federal Regulation, 40 CFR 122.4 (a), (d) and (g) require that no permit may be issued when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or regulations promulgated under the CWA, when imposition of conditions cannot ensure compliance with applicable water quality requirements and for any discharge inconsistent with a plan or plan amendment approved under Section 208(b) of the CWA. The proposed Permit does not assess the potential impacts to downstream growers, if an illness is reported from crops grown using this wastewater, as was the recent spinach incident. While the proposed Permit requires tertiary treatment be provided, within five years (or longer) the Regional has implemented no measures (Posting, closure to the public of downstream wetlands, notices to all downstream farmers) to protect and inform the public of the treat to their health in the mean time.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Jennings". The signature is written in a cursive style with a large initial "B" and "J".

Bill Jennings, Executive Director
California Sportfishing Protection Alliance