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Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 "I" Street, 24th Floor [95814]
P.O. Box 100
Sacramento, CA 95812-0100
commentletters@waterboards.ca.gov

VIA: Electronic Submission
Hardcopy if Requested

RE: General Order WDRs for Recycled Water Use

Dear Ms Townsend and Members of the Board:

The California Sportfishing Protection Alliance appreciates the opportunity to comment on the proposed General Order Waste Discharge Requirements (WDR) for Recycled Water Use. Unfortunately, the proposed WDR is not protective of water quality and is contrary to requirements of the federal Clean Water Act.

Additionally, using the Governor's declaration of a state of emergency due to severe drought to avoid having to comply with the California Environmental Act (CEQA) is unacceptable and illegal. The provisions of the WDR will extend far into the future beyond the present drought period. Indeed, it is unlikely that water-recycling projects implemented pursuant to this WDR could be developed and implemented in time to have a material effect on the present drought. Given the potential threats to water quality, a Negative Declaration would be inadequate and a full CEQA document must be prepared.

Below are our specific comments.

1. Proposed WDR Prohibitions No. 6 "*The use of recycled water shall not cause rising groundwater discharging to surface waters to degrade surface water quality, exceed surface water quality objectives or adversely affect beneficial uses*" and No. 7. "*The incidental discharge of recycled water to surface waters shall not unreasonably affect present and anticipated beneficial uses of water, and not result in water quality less than that prescribed in water quality control plans or policies*" appear to allow reclaimed water to be discharged to surface water. The proposed Permit, Finding No. 25, which states in part that: "To the extent that the use of recycled water as a source supply results in point source discharges of used recycled water..." confirms that the intent of the proposed WDR is to allow for discharges to surface waters.

These Prohibitions must be amended to prohibit the discharge of treated wastewater (reclaimed water) to surface water or the proposed WDR must be modified to be an NPDES permit.

2. The proposed General WDR, Finding No. 3, states in part that: "*Because discharges to the ocean or brackish water bodies support few, if any, downstream beneficial uses, such discharges are excellent sources of wastewater for future recycling efforts.*" It would seem reasonable that most inland wastewater surface water discharges are to freshwater streams, which may eventually discharge into the ocean or brackish water bodies. A good example of this would be the numerous wastewater treatment systems located around Sacramento which discharge into the Delta or its tributaries. Although theses wastewater discharges ultimately reach saline waters and the ocean, significant and substantial beneficial uses exist in the freshwater streams and rivers. The existing downstream beneficial uses include municipal and domestic supply (MUN); agricultural supply, including irrigation and stock watering (AGR); industrial process supply (PROC); industrial service supply (IND); water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); migration of aquatic organisms, warm and cold (MIGR); spawning, reproduction, and/or early development, warm (SPWN); wildlife habitat (WILD); and navigation (NAV). The proposed WDR Finding does not quantify how many treatment systems fall into the category of discharging into the ocean or brackish waters; however the quoted statement alone seems quite misleading.

3. The proposed General WDR, Finding No. 4, states in part that: "*The feasibility of recycled water use depends on local circumstances, which affect the balance of costs and benefits. In drought conditions, recycled water can be particularly valuable, given the scarcity of alternative supplies. In normal precipitation years recycled water use can allow reduced groundwater extraction allowing aquifers to recharge.*"

   It should be noted that domestic wastewater treatment plants are typically constructed at a location downgradient of the served community. This is typically done to reduce pumping costs by making the most efficient use of gravity flow for sewage collection and delivery to the treatment plant. For recycled water, one of the most significant costs is constructing a dedicated distribution system and the operations and maintenance costs from pumping the water back uphill to the local community. For a community that has not already developed a dedicated water recycling distribution system the costs of construction and O&M often outweigh the benefits. Construction of a water recycling distribution system may also result in major disruption of the community while roads are torn up to lay pipelines and pumping facilities. It is at best naïve to think that a water recycling project with treatment plant modifications and construction of a distribution system could be built in relatively short order in response to an "emergency" drought.

The elimination of groundwater extraction would allow an aquifer to remain stable in terms of volume. Recharge would require that water percolate or be added to the aquifer. The statement that: "…*recycled water use can allow reduced groundwater extraction allowing aquifers to recharge"* does not seem to make technical sense; reduced extraction does not add water it just results in less being removed.

It should be noted that existing water distribution systems cannot be easily converted for recycled water as "reclaimed" water pipelines must be purple in color and the potential for cross connections with the potable water supply would be great.

4. The proposed General WDR, Finding No. 4, states in part that: "The Recycled Water Policy promotes the use of recycled water to achieve sustainable local water supplies and reduce greenhouse gas emissions." Since the generation and use of recycled water typically entails additional wastewater treatment, construction of a distribution system and pumping to the point of use; a reduction in greenhouse gas emissions seems questionable. Also, while the use of reclaimed water promotes increased water efficiency, the question is whether or not it is protective of water quality. As written, the proposed WDR does not protect water quality.

5. The proposed General WDR, Finding No. 10, states in part that:

"*This General Order authorizes certain beneficial recycled water use consistent with title 22. Activities that are not authorized by this order include:*

> *a. Activities designed to replenish groundwater resources. Groundwater replenishment activities include surface spreading basins, percolation ponds, or injection through groundwater wells.*
>
> *b. Disposal of treated wastewater by means of percolation ponds, excessive hydraulic loading of recycled water in use areas, etc. where the primary purpose of the activity is disposal of treated wastewater.*"

The proposed WDR or the associated Fact Sheet does not state the reason for the prohibitions against groundwater replenishment projects or the disposal of wastewater by percolation. However, the California Department of Public Health (DPH) has drafted regulations for Groundwater Replenishment Reuse Projects which are projects involving the planned use of recycled municipal wastewater that is operated for the purpose of replenishing a groundwater basin designated for use as a source of municipal and domestic water supply. These draft regulations require additional treatment or dilution beyond tertiary (settled, oxidized coagulated and filtered) to achieve a greater log removal of pathogens to protect the drinking water beneficial use.

This is not a departure from the past policies of DPH taking the position that tertiary treated wastewater is not fit for drinking water purposes. This can clearly be seen by the requirement that golf courses using tertiary treated wastewater must clearly use signs to warn users that reclaimed water is not fit for drinking. 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 and tertiary treatment is provided.

The point is that tertiary treated water directly migrating to groundwater is not protective of the drinking water beneficial use unless additional treatment is provided or significant dilution is provided. The difference that the proposed WDR appears to put forth is whether the migration to groundwater is intentional or incidental, however from a prospective of protecting water quality it makes no difference. Either the migration of treated wastewater to groundwater is protective of the drinking water beneficial use or it is not.

6. The proposed General WDR, Finding No. 22, cites the Antidegradation Policy: "*State Water Board Resolution No. 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California (the Antidegradation Policy) requires that disposal of waste into the waters of the state be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state. The quality of some waters is higher than established by adopted policies and that higher quality water shall be maintained to the maximum extent possible consistent with the Antidegradation Policy. The Antidegradation Policy requires the following:*

   a. *Higher quality water will be maintained until it has been demonstrated to the state that any change will be consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of the water, and will not result in water quality less than that prescribed in the policies.*

   b. *Any activity that produces a waste or may produce waste or increased volume or concentration of waste and discharges to existing high quality waters will be required to meet waste discharge requirements that will result in the Best Practicable Treatment or Control (BPTC) of the discharge necessary to assure pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained*."

6A) As is cited from the Antidegradation Policy: "*Any activity that produces a waste or may produce waste or increased volume or concentration of waste and discharges to existing high quality waters will be required to meet waste discharge requirements that will result in the Best Practicable Treatment or Control (BPTC) of the discharge…"* Proposed WDR, General Provision No. 10 requires that: "*Users shall comply with all requirements of applicable WDRs or waivers of WDRs, including without limitation WDRs or waivers regulating agricultural discharges to irrigated lands.*"

It is assumed that General Provision No. 10 is a requirement that the wastewater treatment plant must be in full compliance with their WDR or NPDES permit which is necessary to meet the requirements of the Antidegradation Policy. For example, a wastewater treatment plant may have an effluent limitation for copper for which they are noncompliant. There is nothing else in the proposed WDR that would require compliance with the limitation for copper, which could allow unacceptable concentrations of a toxic substance to migrate to surface water or groundwater. General Provision No. 10 should be clarified to state that a user must be in full compliance with the WDR or NPDES permit for the wastewater treatment plant prior to allowing any reclaimed water use under the proposed WDR. Proposed WDR, "B. SPECIFICATIONS: 1. Recycled water production, distribution, and use shall be in compliance with all of the following requirements:" should be amended to require full compliance with the WDR or NPDES permit for the wastewater treatment plant.

6B) Many wastewater treatment facilities operate under compliance schedules to meet limitations contained in their WDR or NPDES permit. Under such conditions, the facility cannot currently meet the discharge limitation. The proposed WDR, in accordance with the Antidegradation Policy, should require that wastewater treatment plants be fully compliant with final effluent limitations prior to allowing any reclaimed water use under the proposed WDR.

6C) Many wastewater treatment plant WDRs or NPDES permits have effluent limitations that allow for mixing zones or water effects ratios (WERs) that were developed on the site specific conditions for the receiving stream. Reclaimed water discharges would likely be to a different water body or stream reach. In accordance with the Antidegradation Policy, the mixing zone or WER allowance would not be applicable to the reclaimed water discharge. The proposed WDR should prohibit the discharge of reclaimed water for wastewater treatment systems that are permitted relaxed discharge limitations based on mixing zone or WER allowances.

7. The proposed WDR should be amended to require compliance with reclamation requirements contained in the California Water Code and the Health and safety Code. For example, the Health and Safety Code, section 116815, requires the use of purple pipe for the delivery or distribution of recycled water. This requirement is absent in the proposed WDR.

8. The proposed WDR Antidegradation Policy discussion and several Findings discuss that "*Constituents of concern that have the potential to degrade groundwater include salinity, nutrients, pathogens (represented by coliform bacteria), and disinfection by-products.*" This fails to discuss priority pollutants, such as phthalates and toxic metals, and constituents of emerging concern (CECs). In the issuance of NPDES permits throughout the state, it is common that priority pollutants contained in the California Toxics Rule (CTR) have been found to present a reasonable potential to exceed water quality standards. These constituents also present a reasonable potential to degrade groundwater quality when reclaimed water migrates to groundwater. Failure to discuss priority pollutants and CECs leaves the Antidegradation Policy discussion incomplete. Certainly one cannot assess whether best practicable treatment and control of a wastewater discharge is provided without assessing compliance with water quality standards for priority pollutants.

9. The proposed Permit, Finding No. 23, part of the Antidegradation Policy assessment, states that: "*This General Order regulates discharges to numerous water bodies, each with its own chemical characteristics. There is not sufficient data to determine which receiving waters are high quality waters. To the extent a discharge covered under this General Order may be to high quality waters, this General Order is consistent with the Antidegradation Policy as described in the findings below. Salt and Nutrient Management Plans will require analysis on an ongoing basis to evaluate inputs to the basin, the salt and nutrient mass balance, and the available assimilative capacity*." However, the proposed WDR, General Provision No. 4, only requires development of a salt and nutrient management plan if directly required by a Regional Board. The Antidegradation Policy assessment is misleading by indicating that salt and nutrient plans <u>will</u> be required. The Antidegradation Policy assessment is inadequate and incorrect and will in most cases not lead to information capable of determining the quality of the receiving stream or any available assimilative capacity.

10. The proposed WDR Monitoring and Reporting Program is completely void of any meaningful monitoring. Monitoring and Reporting for full compliance with the wastewater treatment system's WDR or NPDES permit detailing the quality of water being "reclaimed" should be required. Monitoring for ammonia, nitrates and nitrites, as well as total Kjeldahl nitrogen is absent. Monitoring for salts is absent. Monitoring for toxic constituents, priority pollutants and CECs is absent. Groundwater sampling is absent. Sampling required in the proposed WDR is not adequate to determine compliance.

The proposed Reporting is inadequate. Noncompliance cannot be reported if sampling is not conducted. Incidents of noncompliance for visual observations, such as runoff of reclaimed water to surface waters should be reported to the Regional and State Water Boards immediately.

11. The proposed WDR, Finding No. 8 states that: "*The California Department of Public Health (CDPH) has primary statewide responsibility for protecting public health. It has established statewide water recycling criteria in California Code of Regulations, title 22, division 4, chapter 3 (hereafter referred to as title 22). Approved uses of recycled water under title 22 depend on the level of treatment, disinfection, and potential for public contact. CDPH has categorized recycled water based on treatment and disinfection levels. There are four categories of recycled water relevant to this General Order, they are listed here and defined in the indicated title 22 section:*

a. Undisinfected secondary recycled water (Cal. Code Regs., tit. 22, § 60301.900.)
b. Disinfected secondary-23 recycled water (Cal. Code Regs., tit. 22, § 60301.225.)
c. Disinfected secondary-2.2 recycled water (Cal. Code Regs., tit. 22, § 60301.220.)
d. Disinfected tertiary recycled water (Cal. Code Regs., tit. 22, § 60301.230.)"

The proposed WDR should, but does not, include any corresponding requirement or limitation where each of treated water may or may not be used. It is apparently up to the wastewater generator to interpret Title 22. The proposed WDR should specify and detail where wastewater may and may not be discharged based on the level of treatment provided.

12. As cited in the above comments, the proposed WDR makes a significant difference between intentional percolation of reclaimed for groundwater recharge and percolation for the storage or disposal of groundwater. From a water quality perspective no difference is documented; percolated wastewater to groundwater has a potential to degrade groundwater quality. There are issues where conditions may increase the potential for percolated wastewater to degrade groundwater quality that is not addressed by the proposed WDR: specifically highly permeable soils, fractured bedrock and shallow groundwater. Generally, land disposal of treated wastewater relies on plant uptake and soil column adsorption to remove additional pollutants when wastewater is allowed to percolate to groundwater. This is evidenced by the proposed WDRs requirement to apply wastewater at agronomic rates, particularly for nutrients. In areas with highly permeable soils or shallow groundwater there may be little or no plant uptake or soil filtration to remove any pollutants. The proposed WDR prohibits the intentional percolation of reclaimed water to groundwater. The California DPH is also recommending regulations that require additional treatment and/or dilution for groundwater recharge projects where the source water is reclaimed water. We also cite above that authorities have recommended that a tertiary level of treatment is not sufficiently protective for drinking water. The allowance to store and/or irrigate areas where the soils are highly permeable, overlie fractured bedrock or where groundwater is shallow will

allow pollutants to directly migrate to groundwater. The proposed WDR should prohibit the discharge, irrigation or storage or reclaimed water in areas with highly permeable soils that overlie fractured bedrock or where the groundwater is shallow.

13. The proposed WDR, Finding No. 14, states that: "*The Recycled Water Policy includes monitoring requirements for Constituents of Emerging Concern (CECs) for the use of recycled water for groundwater recharge by surface and subsurface application methods. The monitoring requirements and criteria for evaluating monitoring results in the Recycled Water Policy are based on recommendations from a Science Advisory Panel. Because this order does not authorize groundwater replenishment activities, monitoring for CECs is not required by this General Order.*"

    The statement "*this order does not authorize groundwater replenishment activities*" is quite simply wrong; percolation to groundwater is authorized under the proposed WDR. Recycled water used for irrigation and stored in unlined ponds will percolate and will therefore add to the volume of groundwater. Once again, the proposed WDR attempts to differentiate between intentional and incidental percolation of recycled water to groundwater. From a water quality perspective, there is no difference. The ignorance is bliss position in the proposed WDR is unacceptable.

    The proposed WDR also allows recycled water to be used for the irrigation of food crops. There is very little information regarding the potential uptake of CEC pollutants when food crops are irrigated with recycled sewage.

    Without information regarding the fate and transport of CECs the Antidegradation Analysis is incomplete. It cannot be concluded that CEC migration to groundwater is not degrading or polluting groundwater quality. It cannot be concluded that the beneficial uses of surface water and/or groundwater are protected since CECs present a potential to cause "toxicity" as defined in the Basin Plans.

In conclusion, the proposed WDR is not protective of human health or surface or groundwater and must be revised. Any WDR, whose provisions will extend beyond the present drought, must undergo a full CEQA analysis.

Thank you for considering our comments.

Sincerely,

Bill Jennings, Executive Director
California Sportfishing Protection Alliance