



California Sportfishing Protection Alliance

"An Advocate for Fisheries, Habitat and Water Quality"

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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 95812-010
commentletters@waterboards.ca.gov

VIA: Electronic Submission
Hardcopy if Requested

RE: **Comment Letter: Proposed Recycled Water Policy**

Dear Ms. Townsend:

Thank you for the opportunity to review the State Water Resources Control Board's proposed *Recycled Water Policy* ((proposed Policy) Draft November 4, 2008), the accompanying Staff Report (November 19, 2008) and the enclosed proposed *Certified Regulatory Program Environmental Analysis*. We also took the opportunity to review the existing *Policy with Respect to Water Reclamation in California* (SWRCB Resolution No. 77-1).

In general the proposed Policy appears to be focused on issues related to salt and reduced (streamlined) regulatory requirements and does not address fundamental reclamation, wastewater reuse, issues that are the cornerstone of the existing policy. While the Staff Report in broad terms discusses "reducing regulatory uncertainty" for the regulated community the specific needs or deficiencies with the existing Resolution 77-1 are not addressed. In short, there is no identification of how Resolution 77-1 is broken or the need to "fix" it. Staff training programs or written guidance documents may best address regulatory uncertainty or uniform interpretation of the State Board's Policies.

The "need" for the proposed Policy rests on one conclusion; that standards and objectives for salts and nutrients cannot be met utilizing best practicable treatment and control (BPTC) of domestic wastewater discharges. Although this appears to be the underlying basis for the proposed Policy, this statement is not clearly articulated in the document. It is our position that this conclusion is not based on the facts or good civil engineering practice and in short is incorrect. The proposed Policy proposes to convene a "blue ribbon" panel of experts to study constituents of emerging concern. We suggest that, in addition, a complete and unbiased analysis by experienced civil engineers of what constitutes BPTC for nutrients and salt from domestic wastewater treatment plants is needed.

A negative declaration, or equivalent, is not sufficient to detail the statewide impact of allowing degradation to California's groundwater aquifers. In addition to the potential degradation allowed under the "salt and nutrient plans" the policy would allow 10% to 20% degradation in groundwater quality while the plans are being developed. Such potentially massive degradation of California's vital water resources can only be evaluated in a full EIR.

Our specific comments are as follows:

1. Reading the proposed documents one gets the impression that only tertiary (filtered and disinfected) wastewater is being discussed; however the proposed Policy does not discuss or define the level of treatment for “reclamation projects”. For example; Title 22 allows for the use of undisinfectated secondary recycled water for the irrigation of fodder crops, orchards and similar uses. The analyses of best practicable treatment and control of the discharge (BPTC), the issues related to the Antidegradation Policy and costs are tied to the level of treatment being applied or required. The broad comments and conclusions in the proposed Policy and Staff Report regarding BPTC and the Antidegradation Policy are largely dependent on the level of treatment provided by the wastewater producer.

The proposed Policy also does not discuss or define that only “domestic” sewage discharges are regulated under California Code of Regulations (CCR) Title 22 (Title 22) reclamation regulations; wastewater discharges such as those from food processors is not covered by the proposed Policy.

2. CCR Division 2, Title 27 (Title 27), Section 20090, exempts wastewater discharges to land only if waste discharge requirements have been issued; the discharge is in compliance with the applicable water quality control plan (Basin Plan), and; the waste is not “hazardous”. The proposed Policy discusses the need to amend Basin Plan to accommodate and include salt management plans. The proposed Policy also discusses an allowance to degrade groundwater quality by 10% and/or 20% until a Basin Plan amendment to include a salt management plan can be completed. Such degradation would conflict with the existing Basin Plans, hence the need for an amendment. It appears that the proposed Policy directly conflicts with the regulatory requirements of Title 27. Title 27 requirements override Policy decisions. Compliance with Title 27 requirements are not discussed in the proposed Policy, the Staff Report or the Environmental Analysis.
3. The proposed Policy mentions stormwater use, including dry weather urban runoff, in developing a sustainable water supply. US EPA’s website describes stormwater runoff as one of our major sources of pollution. Our review of stormwater runoff data does not indicate that significant progress has been made in reducing pollutant concentrations. It is probable that any use of this water would require capture, storage and treatment. No mention is made of the current quality of stormwater runoff or the means of producing and storing a usable supply.
4. The proposed Policy mentions water conservation in developing a sustainable water supply. The Policy does not discuss the fact that wastewater treatment plants are designed based on hydraulic and organic flow rates. Water conservation reduces the hydraulic flows, which produces a stronger organic strength wastestream that is typically outside the design parameters of the plant which may lead to violations or at a minimum operational difficulty. Mention should be made of the difficulties in treating a higher organic wastestream.
5. In discussing the *mandate* to use reclaimed water it should be recognized that it is typically the costs associated with the transport of recycled water that has reduced its use. Wastewater treatment plants are typically built at the edge of a community at the lowest possible elevation to utilize gravity to the greatest extent possible for sewerage conveyance. For recycled water deliveries this means increased pumping costs and typically construction of new segregated pipelines through existing communities for delivery to the point of use. When potable supply already exists at the project site; it is typically the costs of delivery that stops the use of reclaimed water.

6. In establishing the respective agency roles the proposed Policy appropriately directs the Regional Boards to rely on the California Department of Public Health (CDPH) for permit conditions necessary to protect public health. CDPH has developed excellent guidance documents: Uniform Guidelines for Wastewater Disinfection and a Final Statement of Reasons for Water Recycling which should be incorporated into the policy.

It must be noted that CDPH is guided and may be limited by CCR Title 22 for protecting drinking water supplies. For example; chloroform is regulated in Title 22 as a part of total trihalomethanes at 80 ug/l; however the Cal EPA cancer potency factor as a drinking water level is 1.1 ug/l and Integrated Risk Information System (IRIS) and US EPA Drinking Water Health Advisory (SNARL) levels have also been developed and recommended for chloroform. According to the technical advice and recommendations from Cal EPA and US EPA reliance on CDPH's Title 22 for the regulation of chloroform would not be protective of the public health. Many of the maximum contaminant levels (MCLs) in Title 22 for the protection of drinking water are outdated; as another example the California Toxics Rule (CTR) has significantly lower standards for the regulation of wastewater discharges for individual trihalomethanes than are included in Title 22.

7. The proposed Policy mandates the management of salts and nutrients on a watershed or basin wide basis. The mandate to manage of salts and nutrients on a watershed or basin wide basis mandates the granting of dilution in groundwater of pollutants from individual projects; an equivalent to mandating a mixing zone without any analysis.

Analysis of salts and nutrients solely on a basin wide basis would allow substantial plumes of these pollutants above water quality standards underlying the individual project site which could be diluted as they reach the limits of a basin. The proposal to mandate the management of salt and nutrients on a basin wide basis, or mandating the granting of dilution in groundwater, conflicts with the Antidegradation Policy. The Antidegradation Policy requires that:

- a. "Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies became effective, such existing high quality 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 such water and will not result in water quality less than prescribed in the policies."

Analysis of salts and nutrients on a basin wide basis will allow for exceedance of water quality standards underlying an individual project site. The size and magnitude of the pollutant plume would be undefined and will make this water unfit for beneficial use without extraction and treatment. The proposed Policy and the accompanying Staff Report and Environmental Analysis have not assessed the extent of pollution that would be allowed. While the stated intent of the proposed Policy is to make available water sustainable in California, the proposal to allow pollution underlying individual projects may degrade a greater volume of groundwater than is reclaimed. The allowance to degrade and pollute unspecified volumes of groundwater is not in the interest of the people of California.

- b. "Any activity which produces or may produce a waste or increased volume of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality

consistent with maximum benefit to the people of the state will be maintained.”

Pollution is defined as exceedance of water quality standards. Analysis of salts and nutrients on a basin wide basis will allow for exceedance of water quality standards underlying an individual project site. Large areas of underlying aquifers may exceed water quality standards under the proposed Policy contrary to the Antidegradation Policy.

Nitrification and denitrification are routinely practiced in the wastewater treatment industry in California and could be considered best practicable treatment and control (BPTC). There is nothing in the proposed Policy or the accompanying Staff Report or Environmental Analysis showing that the removal of nitrogen is not BPTC for wastewater treatment systems in California. While the removal of phosphorus is not as common, a similar argument can be made regarding BPTC. There is no reason to allow for the discharge of nutrients to groundwater for reclamation projects. Failure to provide nutrient removal at the wastewater treatment plant would not be providing BPTC and would not comply with the Antidegradation Policy.

There is nothing in the proposed Policy or the accompanying Staff Report or Environmental Analysis showing that the removal or reduction of salts is not BPTC. An Antidegradation Policy BPTC analysis must consist of a cost analysis, not just the cost to a wastewater Discharger, but also the costs to the environment. If areas of an aquifer are polluted with salts an appropriate cost analysis would include an assessment of the volume of groundwater that has been lost and the costs for extraction and treatment to regain is beneficial use. Once groundwater has been allowed to be polluted the costs for extraction and treatment can be overwhelming. For example: it is common for Industrial Supply groundwater users, such as cooling towers and boilers, to have to provide reverse osmosis (RO) treatment to remove salts which could damage their systems. The proposed Policy does not assess the costs to other users of groundwater that has been degraded under the proposed Policy.

Failure to require BPTC in accordance with the Antidegradation Policy and to allow the degradation of groundwater for mixing zones is an unreasonable use of groundwater contrary to the California Constitution, Article 10, Water, Section 2, which states that: “It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the

appropriator is lawfully entitled. This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained.”

The proposed Policy’s Environmental Analysis does not address the scope and impact of degradation of groundwater that would be allowed as mandated under the provisions to regulate wastewater reclamation projects on a basin wide basis. A full Environmental Impact Report (EIR) would be necessary to assess the impacts of this proposal.

8. It is unusual for a regulatory agency to abdicate its role in developing the technical basis for oversight and control to the ones being regulated. The proposed Policy states that: “...local and wastewater entities, together with local salt/nutrient contributing stakeholders have agreed to fund locally driven and controlled, collaborative processes open to all stakeholders that will prepare salt and nutrient plans for each basin/sub-basin in California...” With the provision to allow and mandate the regulation of salts and nutrients on a basin wide basis, mandating groundwater mixing zones, this appears to be a “pay to pollute” agreement. It would be unusual for the fox to refuse to pay for the key to the hen house. The proposed Policy’s stated intent is to have a consistent salt/nutrient management plan, but then abdicates the process to Dischargers on a local level. The local processes are unlikely to develop consistent plans throughout the state.

It would appear that the purpose of developing a basin specific plan is to determine the amount of dilution available for salt and nutrients in each groundwater basin and sub-basin, although the proposed policy does not contain any language that would limit the amount of degradation to below water quality standards (the definition of pollution). This approach prematurely concludes that nutrient removal and adequate treatment and/or control of salt is not BPTC. As is stated above, nutrient removal can be considered BPTC and is widely practiced in California. An assessment of groundwater basins is not necessary to develop a plan to manage nutrients from domestic wastewater discharges. If the SWRCB is unconvinced that nutrient removal is BPTC it would be relatively quick, easy and inexpensive to conduct an investigation by independent and existing staff. Although salt removal at domestic wastewater treatment plants is not as common, salt removal practices are widely implemented by industrial Dischargers. Salt levels may also be significantly controlled through effective industrial pretreatment programs. Undertaking the massive task of defining each groundwater basin and sub-basin in California based on a conclusion that nutrient removal and control and/or treatment of salt from domestic wastewater sources is not BPTC is at best premature.

9. The proposed Policy’s timeline for defining the water quality in each and every groundwater basin and sub-basin in California within 5-years is overly optimistic and reveals a lack of understanding of the scope of the proposed project. In many instances, individual wastewater Dischargers have been working with Regional Board staff and unsuccessful in determining “background” groundwater quality for decades. The proposal to utilize existing wells to define groundwater basins is also fraught with problems due to wells being screened in different zones, sometimes multiple zones, questionable construction and poor maintenance.
10. The proposed Policy would require sampling for priority pollutants and chemicals of emerging concern (CECs) but fails to mention or require sampling for significant non-priority pollutants; including but not limited to drinking water constituents in general, and iron, manganese, ammonia, nitrate, phosphorus, chloride, boron and arsenic.

11. The proposed policy establishes a goal to measure and manage salt to groundwater basins on a “sustainable” basis. Salt is conservative, it will not break down, it will accumulate and the goal for a sustainable discharge is not a realistic goal. The SWRCB’s *Training Handbook for Disposal of non-Designated Waste to Land Systems: Design, Operation, and Monitoring* (July 2004) should be consulted regarding salt balances.
12. The proposed Policy appropriately requires an Antidegradation Policy analysis demonstrating compliance with Resolution 68-16. However, as is stated above: The “need” for the proposed Policy rests on a seriously flawed conclusion; that standards and objectives for salts and nutrients cannot be met utilizing best practicable treatment and control (BPTC) of domestic wastewater discharges. Although this appears to be the underlying basis for the proposed Policy, this statement is not clearly articulated in the document. It is our position that this conclusion is not based on the facts or good civil engineering practice and is incorrect. The proposed Policy proposes to convene a “blue ribbon” panel of experts to study constituents of emerging concern. We suggest that, in addition, a complete and unbiased analysis by experienced civil engineers of what constitutes BPTC for nutrients and salt from domestic wastewater treatment plants is needed.

Nitrogen removal (nitrification/denitrification) at wastewater treatment plants is well understood and is widely practiced at facilities throughout California. The technology is readily available; therefore generally the issue for nitrification/denitrification and a BPTC analysis is costs. Is the cost to the utility ratepayer offset by an allowance to degrade water quality?

The analysis of BPTC for salts is more complex especially since the SWRCB has previously articulated that the costs of reverse osmosis (RO) treatment are unreasonable. RO is widely used in California for industrial water supply although the actual number of facilities utilizing this treatment is undocumented. Our experience is that many of the industrial dischargers also discharge the RO reject (brine) to domestic wastewater treatment plants or dispose of this waste under waste discharge requirements comingled with other wastestreams. Environmental cleanup projects or proper disposal of waste is never cost effective if the environmental impacts are not weighed or there is a regulatory mandate. In assessing salt removal and BPTC, one should also consider the means of compliance for other constituents such as CTR and “constituents of emerging concern.” Few facilities have fully assessed full compliance with CTR, upcoming standards and industrial pretreatment along with an assessment of salt, which could show membrane technologies are cost effective.

13. The *Landscape Irrigation Projects* section of the proposed Policy discusses “incidental runoff” and establishes a 25-year, 24-hour storm event as the design parameter for allowing storage ponds to overflow. A 100-year, 24 hour storm event is a more common design storm for “acts of god” in wastewater civil engineering projects. This section also requires prior approval by a Regional Board Executive Officer prior to allowing any discharge from ponds, presumably to surface waters, which under NPDES regulations appears to be beyond the authority of an Executive officer.

This section of the proposed Policy should address overflow or runoff from excessive irrigation or poorly managed irrigation areas. Are tailwater return systems required to prevent discharges to surface water or surface water drainage courses? Is secondary undisinfectated wastewater allowed to runoff the irrigation area to surface waters as soon as a precipitation event begins?

Golf courses, principal reclaimed water users, frequently add significant fertilizers,

herbicides, retain a significant chlorine residual in storage ponds and have been documented to use copper to keep algae level under control in pond systems. This presents a significant reasonable potential to exceed water quality standards if discharged to surface waters, even if by runoff from irrigation areas although direct storage pond discharges have been routinely observed. A General Order regulating discharges from Landscape Irrigation Projects should be adopted to control these discharges or potential discharges.

14. The proposed streamlined permitting component of the proposed Policy shifts the regulatory burden from the wastewater Discharger to the Regional Board. Rather than a Discharger having to show their project complies with the as yet undeveloped reclamation landscape irrigation General Order, the regional must make such Findings after public notice and a hearing. Water Board Staff should have the ability to determine that a Discharger has not submitted sufficient information to complete a Report of waste Discharge or assess “unusual circumstances”. Underlying fractured bedrock should be added to the list of “unusual circumstances” and the wastestream should be in compliance with all water quality standards and objectives prior to allowance of enrolment under a general order.
15. The SWRCB should recognize that land disposal of domestic wastewater where percolation is utilized as a part of disposal is a “groundwater recharge” and have to meet the same criteria as in the proposed Policy. The water quality implications of such wastewater disposal practices have the same potential impacts to groundwater as “groundwater recharge” projects.
16. The Antidegradation Policy provisions of the proposed Policy would allow a wastewater discharge (reclaimed water) to degrade groundwater aquifer quality by 10% until a salt/nutrient management plan for the basin is completed and approved by a Regional Board. An allowance to degrade waters of the state prior to showing that BPTC is being provided and that any degradation is in the interest of the people of California is not in compliance with the Antidegradation Policy. Once groundwater is degraded it is at best difficult to cleanup and generally extremely expensive. The burden of providing a complete Antidegradation Policy analysis showing PBTC is being provided and any allowance for degradation is in the interest of the people of California must be completed prior to allowing each and every project. The CEQA analysis accompanying the proposed Policy does not assess an allowance for potentially degrading each groundwater aquifer in California by 10 to 20 percent before undertaking an analysis to show compliance with the Antidegradation Policy.

This section of the proposed Policy finds that landscape irrigation with reclaimed water is to the benefit of the people of California, while acknowledging degradation to groundwater will occur, absent an complete analysis of BPTC. Again, the primary assumption in the proposed policy that nutrient and salt removal and/or control is not BPTC has not been proven. Nitrification/denitrification is BPTC; there is no reason to allow groundwater degradation from nitrogen-based nutrients. It is likely that phosphorus treatment will also be BPTC. The proposed policy and the supporting documentation do not provide any evidence that nutrient removal is not BPTC as is required by the Antidegradation Policy.

17. The proposed Policy, the Staff Report and the Environmental Analysis discuss formation of a “blue ribbon” scientific advisory panel to guide future SWRCB actions regarding chemicals of emerging concern (CECs).

Our participation in permitting activities in Region 5 shows that there are very few

wastewater treatment plants that are currently in full compliance with California Toxics Rule (CTR) standards. The regulatory focus for CTR constituents appears to be on where to place compliance schedules rather than achieving compliance with the water quality standards. Although there is noncompliance with CTR water quality standards, each permit states that the wastewater Discharger is providing BPTC. While these are NPDES permits; the surface water Dischargers typically provide a higher level of treatment than those who utilize land disposal. The SWRCB should analyze compliance with existing water quality standards; excluding compliance schedules.

The proposed Policy only requires the “blue ribbon panel” conduct a literature review of CECs, a duplicative requirement of the work being conducted by other agencies. The proposed Policy also emphasizes consultation with the California Department of Public Health (CDPH), apparently ignoring potentially more sensitive environmental receptors such as toxicity. The long-range outcome one assumes, although not stated, is that water quality standards will eventually be developed for CECs. A review of the current literature reveals that although there is little progress on establishing water quality standards for most CECs, there is some knowledge of treatability. The State and Regional Boards currently have staff that have significant experience in the establishment of water quality standards and are closely following the developments for CECs. Use of existing and knowledgeable staff rather than development of an outside panel will produce faster and more technically and politically defensible results.

The current driving force for regulatory compliance is the CTR. We know of no analysis of the actual CTR compliance rates in California. Providing BPTC will ultimately include compliance with water quality standards. With CECs on the horizon, it would appear to be reasonable to at a minimum include this discussion in required CTR BPTC analyses. For example, if the utilization of activated carbon in the wastewater treatment process will assist in achieving compliance with CTR constituents and is also effective at removing numerous CECs; why would this level of treatment not be considered BPTC. The scope of the proposed CEC analysis is far too limited. The “need” for the proposed Policy rests on one conclusion; that standards and objectives for salts and nutrients cannot be met utilizing best practicable treatment and control (BPTC) of domestic wastewater discharges. Although this appears to be the underlying basis for the proposed Policy, this statement is not clearly articulated in the document. It is our position that this conclusion is not based on the facts or good civil engineering practice and in short is incorrect. The proposed Policy proposes to convene a “blue ribbon” panel of experts to study constituents of emerging concern; we suggest instead that what is needed is a complete unbiased analysis by experienced civil engineers of what constitutes BPTC for nutrients and salt from domestic wastewater treatment plants.

18. The Stormwater segment of the proposed Policy recommends that the Regional Boards require less stringent monitoring for stormwater treatment and use projects. Monitoring costs are minor compared to construction of treatment and conveyance systems. While federal regulations are not applicable to land disposal discharges, the regulations require monitoring sufficient to determine compliance with discharge limitations. This is reasonable and is not wasteful of limited resources. It should always be the goal of monitoring programs to provide sufficient monitoring to adequately determine compliance but not require excessive or unnecessary monitoring. Any required monitoring should be in accordance with CWC Section 13267 requirements regarding need and benefits. Any further reduction in monitoring would be unreasonable and would leave compliance in question.

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 fluid and cursive, with the first name "Bill" being more prominent than the last name "Jennings".

Bill Jennings, Executive Director
California Sportfishing Protection Alliance