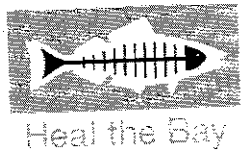
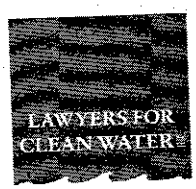
Public Workshop
Landscape Irrigation
Deadline: 6/26/08 by 12 p.m.





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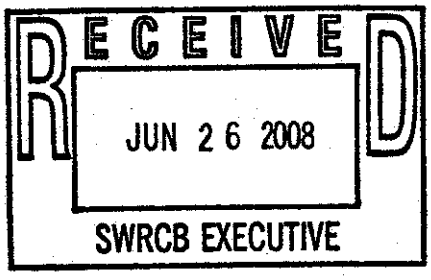

Tam Doduc, Chair and Members
State Water Resources Control Board
1001 I Street
Sacramento, California 95814

VIA EMAIL: commentletters@waterboards.ca.gov

Re: Statewide General Permit for Landscape Irrigation Uses of Recycled Water:
State Board Notice of Workshop/California Environmental Quality Act Scoping Meeting

Dear Chair Doduc and State Board Members:

California Coastkeeper Alliance, Heal the Bay, and Lawyers for Clean Water, Inc. are pleased to submit these comments in response to the State Water Resources Control Board's (State Board) request for public input on the development of a Statewide General Permit for Landscape Irrigation Uses of Recycled Water (General Permit), as required by Assembly Bill 1481 (De La Torre) (AB 1481). As the Project Discussion Paper accompanying the request for public input stated, "the intent of the new law is to develop a uniform interpretation of state standards to ensure the safe, reliable use of recycled water for landscape irrigation uses, consistent with state and federal law." Accordingly, the State Board must ensure that the General Permit fully implements the requirements of the federal Clean Water Act and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

We take this opportunity to remind the State Board that the mandate to develop a General Permit is <u>not</u> a mandate to weaken existing requirements to protect the beneficial uses of the waters of the state. Rather, the law invites the State Board to develop clear, generally applicable requirements that are both consistent with the existing laws' mandates to protect water quality and ensure that water is not wasted, either by polluting water supplies with waste or by wasting water that could be safely reused. The adoption of this General Permit should be seen as an opportunity for the State Board to provide consistency in the regulation of landscape irrigation. This consistency will ensure that suppliers and those wishing to use recycled water to irrigate parks, street medians and other municipal properties, industrial and commercial centers, cemeteries, and other appropriate locations, can easily understand what is required and how those requirements can be met.

Our comments, which address the various specific questions presented in the Project Discussion Paper, provide in brief:

- A discussion of what recycled water is, what it contains, and the methods by which it can reach surface waters and ground waters (which establishes the foundation for State Board regulation of its use).
- An explanation of the need for the General Permit to be a joint NPDES permit/WDR and contain provisions that protect all potential receiving waters.
- Suggestions for the structure and required elements of the Permit.
- A discussion of which discharges should be eligible for Permit coverage.
- Insights on coordination of agencies with responsibilities for recycled water and the necessary means to ensure that all beneficial uses of the State's waters are protected.
- Emphasis on the need for full compliance with State Board Resolution No. 68-16, and some necessary elements of the State Board's antidegradation analysis for the General Permit.

I. Background on Recycled Water Use in Landscape Irrigation

The Project Discussion Paper notes that recycled water, as that term is anticipated to apply in the context of the General Permit, refers to water resulting from the treatment of municipal wastewater.[1] Before embarking towards the adoption of a General Permit that regulates the discharge of this treated wastewater, the State Board must engage in a thorough examination of what this water is, what it contains, and how its use to irrigate landscapes will impact groundwater and surface waters downstream from its application.

Though subjected to various levels of treatment, municipal wastewater contains pollutants, including pollutants from industrial operations that discharge to the treatment works. Many of these pollutants are common, well-understood elements and compounds such as copper, lead, zinc, and other heavy metals, oil and grease, suspended and dissolved solids, and nutrients (especially nitrogen) found in biosolids that enter the waste stream.[2] Others are equally well-known but present a greater challenge to treat since they are alive or are otherwise able to adapt to treatment processes, and over time can escape treatment by conventional methods.[3] These pollutants include viral and biological pathogens, including fecal coliform.[4] Municipal wastewater treatment operations have improved considerably in recent years, but even with these gains, wastewater leaving the treatment works contains pollutants that must be carefully managed to prevent environmental degradation.

Municipal wastewater also contains many compounds and substances that are not well-understood, and that conventional treatment systems are not designed to address. These compounds are commonly referred to as emerging contaminants.[5] Emerging contaminants include

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[1] *See also* Section (2)(a)(1) of AB1481.

[2] Municipal wastewater treatment plants require routine monitoring for all these pollutants by dischargers of secondary and tertiary treated wastewater. *See e.g., Revised Monitoring and Reporting Program for Rancho Murieta Community Services District and Rancho Murieta Country Club Wastewater Treatment and Reclamation*, California Regional Water Quality Control Board Central Valley Region, Monitoring and Reporting Program No. 5-010124.

[3] *Id.; see also Emerging Technologies for Wastewater Treatment and In-Plant Wet Weather Management*, EPA 832-R-06-006, 6-2 (February 2008). *See also* http://toxics.usgs.gov/regional/emc/wastewater_treatment.html.

[4] *Id.*

[5] *Emerging Contaminants in the Environment*, United States Geological Survey, *available at* http://toxics.usgs.gov/regional/emc/; *Emerging Contaminants Sources and Source Pathways*, United States Geological

many compounds associated with common personal care products such as cosmetics and fragrances, as well as over-the-counter and prescription pharmaceuticals.[6] The potential effects of these emerging contaminants once introduced into the environment are not well understood.[7] However, research in the field demonstrates that the harm caused by these products is most severe to ecological receptors, including fish.[8] Especially in the context of developing a permit that will allow the spread of these contaminants throughout the environment into diverse ecological niches, the State Board must ensure that the General Permit contain appropriate controls to protect the environment from these contaminants from the various pathways that might bring them to water bodies. These controls must include consideration of the fact that many of these pollutants behave in complex and sometimes unpredictable manner once introduced into the environment.

The pathways by which pollutants may be introduced into the environment as a result of landscape irrigation with recycled water include:

- Runoff of pollutants in recycled water to surface waters during and immediately following irrigation.[9]
- Runoff of pollutants in recycled water applied during landscape irrigation that attach to sediments and later run off to nearby receiving waters during storm events.[10]
- Leaching of pollutants to ground water beneath the land irrigated with recycled water.
- Overflow of impoundments of recycled water awaiting use in irrigation due to improper management or as a result of rain or other storm events.[11]
- Leaching of recycled water to groundwater beneath these storage impoundments.[12]

Survey, *available at* http://toxics.usgs.gov/regional/emc/sources_pathways.html; *Emerging Contaminants – Wastewater Treatment Plants*, United States Geological Survey, *available at* http://toxics.usgs.gov/regional/emc/wastewater_treatment.html; *Pharmaceuticals in the Environment – Information for Assessing Risk*, National Oceanic and Atmospheric Administration, *available at* http://www.chbr.noaa.gov/peiar/.

[6] *Emerging Contaminants in the Environment*, United States Geological Survey, *available at* http://toxics.usgs.gov/regional/emc/index.html.

[7] *Pharmaceuticals and Personal Care Products as Pollutants*, United States Environmental Protection Agency, *available at* http://www.epa.gov/ppcp/; *Pharmaceuticals in the Environment – Information for Assessing Risk*, National Oceanic and Atmospheric Administration, *available at* http://www.chbr.noaa.gov/peiar/.

[8] *Id.*; *see also* "Fish Devastated by Sex-Changing Chemicals in Municipal Wastewater," National Sciences and Engineering Research Council of Canada (Feb. 2007, presented at 2008 AAAS Annual Meeting, Boston MA), *available at* http://www.nserc.gc.ca/news/aaas/2008/2008_02_15-4_e.asp.

[9] *See* Memorandum from State Water Resources Control Board Executive Director Celeste Cantú to Regional Board Executive Officers, Subject: "Incidental Runoff of Recycled Water," (February 24, 2004).

[10] *Id.*

[11] For example, the community of Rancho Murieta uses its treated municipal wastewater to irrigate golf courses within this planned community. *Cease and Desist Order Requiring Rancho Murieta Community Services District and Rancho Murieta Country Club Sacramento County to Cease and Desist from Discharging Contrary to Requirements*, California Regional Water Quality Control Board Central Valley Region, Order No. R5-2006-0001 (*Rancho Murieta CDO*). Several storage impoundments that also serve as landscape features on the golf courses retain treated wastewater prior to its uses for irrigation. *Id.* In the winter, these impoundments were allowed to overflow and the water, which includes up to 48% treated wastewater, flows to the Cosumnes River. *Id.* Rancho Murieta did not (and still does not) have an NPDES permit for these discharges, and as a result has been subject to enforcement by the Regional Board for discharging pollutants without an NPDES permit. *Id.* A General NPDES permit should be designed to address the issues faced by Rancho Murieta and other recycled water users.

[12] *Rancho Murieta CDO.*

All of these pathways for pollutants to enter the environment through the use of recycled water for landscape irrigation must be addressed by the General Permit.

II. To Meet the Statutory Mandates, the General Permit Must Be a Joint NPDES Permit/WDR

The text of AB 1481 and its legislative history, as well as the Clean Water Act and the Porter-Cologne Act, all mandate that the General Permit be issued as an NPDES permit that regulates discharges to surface waters and groundwater hydrologically connected to surface waters[13] using necessary conditions and effluent limitations on the discharges. Further, the State Board may always include provisions that are more stringent than those required by the Clean Water Act pursuant to its authority under Porter-Cologne Act.[14] Here, the State Board must also include provisions in the General Permit to protect all ground waters in the state, not just those within the jurisdiction of the Clean Water Act due to their hydrological connection to surface water.

Unless a joint NPDES permit/WDR is adopted, the State Board will fail in its mandate to protect water quality of all the State's waters. Moreover, owners and operators of landscape irrigation projects that use recycled water will be in violation of the Clean Water Act for their unpermitted discharges of pollutants to waters of the United States each and every time recycled water runs off due to over-application or mis-application, overflows a surface impoundment and flows to a downstream receiving water, or discharges to ground waters within the jurisdiction of the Clean Water Act. *See* 33 U.S.C. § 1311(a) (the discharge of pollutants to waters of the United States is prohibited without an NPDES permit).

AB 1481 accordingly calls for the issuance of a general NPDES permit. Section 1(a) of AB 1481, which sets forth the findings and legislative purpose and findings of the law, declares that U.S. EPA granted the State of California the authority to issue NPDES permits. The Legislature further found that federal regulations specifically allow for the issuance of general NPDES permits. AB 1481, Section 1(b). The Legislature concluded that in passing AB 1481 it intended to "ensure the safe, reliable use of recycled water for landscape irrigation uses *consistent with the state and federal water quality law*." (Emphasis added.)

The State Board accordingly must address all the regulatory requirements of all applicable laws to succeed in encouraging safe recycled water use without subjecting recycled water projects to duplicative, inconsistent regulation. This means including conditions that protect public health based on Title 22 criteria, conditions that protect all beneficial uses of all receiving waters (both surface water and ground water), the required antidegradation analysis, and the authorization (provided the necessary conditions are met) to discharge the recycled water to surface waters and

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[13] *Northern California Riverwatch v. City of Healdsburg* 2004 WL 201502, *12 (N.D. Cal. 2004); *Quivara Mining Co. v. EPA*, 765 F.2d 126 (10th Cir. 1985); *Idaho Rural Council v. Bosma* 143 F. Supp. 2d 1169, 1180 (D. Idaho 2001); *HECLA Mining Co.*, 870 F. Supp. 983, 990 (E.D. Wash. 1994); *MESS v. Weinberger*, 707 F. Supp. 1182, 1196 (E.D. Cal. 1988) *vacated on other grounds*, 47 F.3d 325 (9th Cir. 1995), *cert. denied*, 516 U.S. 807 (1995); *Friends of Santa Fe County v. LAC Minerals*, 892 F. Supp. 1333, 1357-58 (D.N.M. 1995).
[14] 33 U.S.C. § 1370.

ground waters. The necessary authorization for discharges to waters of the United States is an NPDES permit, the issuance of which is the only way to avoid duplicative regulation.

The Clean Water Act is clear – discharges of recycled water to waters of the United States are prohibited without an NPDES permit. Yet, as noted by at least one recycled water irrigator at the June workshop, these discharges are in application almost impossible to prevent. By authorizing these discharges with an NPDES permit that includes the conditions needed to protect water quality, the State Board both safeguards beneficial uses and relieves discharges of potential liability for violating the Clean Water Act (provided of course that these discharges are consistent with the terms of the permit, and the permit terms implement the requirements of federal and state law). Other states, including New Jersey and Hawaii, use NPDES permits to simplify permitting processes for recycled water irrigation projects.[15] More detail on how such a permit would be structured (taking cues from these states and other sources) can be found below.

Regulating discharges to surface waters, and hydrologically-connected ground waters, with something other than an NPDES permit will also subject the State Board to potential litigation for failing to comply with its duty as a delegated NPDES permitting authority. *See* 33 U.S.C. § 1342(b) (the NPDES permitting program is the only method available for regulating pollutant discharges to waters of the United States). A similar situation faced the Central Valley Regional Board when it issued WRRs for recycled water irrigation to the City of Roseville.[16] These WRRs were not issued as an NPDES permit, despite the fact that they contained effluent limitations on discharges to waters of the United States.[17] Citizen groups subsequently filed a petition for writ of mandate alleging the Regional Board violated its duty as a delegated NPDES permitting authority to regulate with NPDES permits.[18] The suit was settled with the Regional Board agreeing to amend the WRRs to make clear that any discharge from the landscape irrigation project to waters of the United States is prohibited without an NPDES permit.[19] As in the Roseville case, issuing a General Permit that regulates discharges to waters of the United States that is not an NPDES permit will potentially expose the State Board to litigation, while also leaving the regulated community without the certainty of compliance with the law that they would obtain through complying with a General NPDES Permit.

During the workshop on June 18, 2008, State Board staff proposed for discussion the idea of authorizing runoff from landscape irrigation projects under municipal separate storm sewer

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[15] *See NJDEP Technical Manual: Reclaimed Water for Beneficial Use*, New Jersey Department of Environmental Protection, at 15 (January 2005), *available at* http://www.state.nj.us/dep/dwq/techmans/reuseman.pdf; *see also NPDES General Permit Authorizing Occasional or Unintentional Discharges from Recycled Water Systems*, Haw. Code R. § 11-55 app. J *available at* http://oeqc.doh.hawaii.gov/sites/har/AdmRules1/11-55appj.pdf; *see also Guidelines for the Treatment and Use of Recycled Water*, Hawaii State Department of Health: Wastewater Branch, (May 15, 2002) *available at* http://hawaii.gov/health/environmental/water/wastewater/pdf/reuse-final.pdf.

[16] *Master Reclamation Permit for City of Roseville Placer County*, California Regional Water Quality Control Board Central Valley Region, Order No. 97-147.

[17] *Id.*

[18] *Deltakeeper, et al. v. Regional Water Quality Control Board*, Case No.: 04CS01228 (Sacramento Superior Court)

[19] *Id.*; *See also* California Regional Water Quality Control Board Central Valley Region, Amendment No. 2 to Order No. 97.

system permits (MS4 permits). We strongly disagree with this proposal.[20] The Legislature recognized the unique nature of recycled water discharges and accordingly adopted legislation that specifically calls for a "general permit for landscape irrigation uses of recycled water" for which the CDPH has established recycling criteria. At a minimum, the special attention in AB 1481 to CDPH water recycling criteria make clear that many of the pollutants found in recycled water are unique to that waste stream and require specific attention if recycled water is to be spread on the land and local waterways through landscape irrigation projects. The current MS4 permit structure does not address the public health impacts, or many of the other issues specific to recycled water, such as the elevated salt and nutrient levels in these waters. Rather than reopening and strengthening every MS4 permit in the state as would be required to authorize these discharges under MS4 permits, we recommend that the State Board follow the direction of the Legislature in AB 1481 and develop a General Permit specific to landscape irrigation uses of recycled water.[21]

III. A Proposed Structure for the General Permit

In order to create a permit that can both be generally applicable and responsive to particular water quality protection concerns in specific areas, we offer the following proposal as a structure for the General Permit.

As a threshold matter, we recommend that the State Board adopt a General Permit that covers both the suppliers and users of recycled water. We suggest the State Board impose requirements similar to those currently required in master reclamation requirements, which obligate the supplier and user to enter into an agreement that will result in the appropriate and efficient use of the water supplied. Other states, including New Jersey and Hawaii, have adopted similar programs for permitting landscaping irrigation projects that use recycled water.[22]

In general, we propose a system where the recycled water supplier and users will be permittees with a requirement in the General Permit that users and suppliers for a particular project enter a contract that places responsibility for compliance with permit terms with the party best situated to ensure compliance. For example, development of and compliance with a site-specific pollution management plan (see discussion below) would lie with the user, while ensuring compliance with effluent limitations in the water supplied to the user would lie with the supplier. We recommend the General Permit require agreements between suppliers and users to ensure the recycled water is properly managed throughout the supply chain. The State Board should make both the supplier and the users jointly and severally liable for permit violations (subject to

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[20] During the June 18 workshop, we agreed that if a general recycled water NPDES permit did authorize these discharges, and the permit imposed the terms required by law to control pollutants in the discharges, then the unpermitted runoff problem associated with landscape irrigation with recycled water may be solved. We do not agree that existing MS4 permits, which do not consider the byproducts of recycled water treatment, would cover these discharges in compliance with AB 1481, the Porter-Cologne Act and the Clean Water Act. Further, addressing these discharges under MS4 permits would not solve the problem for discharges in areas without MS4 permits or those discharges from recycled water irrigation projects that go directly to surface waters.

[21] Moreover, as a practical matter, subjecting the runoff element of landscape irrigation projects to a separate permit would not simplify permitting requirements for these projects. Just the opposite, it would result in a situation where landscape irrigation projects would be required to comply with the General Permit while also having to seek separate approval for (and comply with separate conditions likely imposed on) their discharges to the MS4.

[22] *See supra*, fn. 15.

modification by written contract between the parties). Adoption of a permit with this structure is the only way the State Board can guarantee that appropriate measures will be taken through the entirety of a landscape irrigation project.

Both the user and the recycled water supplier would be responsible for applying for the permit, though some application requirements (such as demonstrating compliance with current wastewater treatment permits - see discussion below) would most likely only apply to the water supplier, while others such as development and implementation of the site-specific pollution management plan would rest in most cases with the user. Each new landscape irrigation project would require a new permit application, as discussed next.

Notification Requirements and Application Forms: AB 1481, Section 2(c) mandates a notification of intent to obtain coverage under the general permit (NOI), as exists for other general permitting schemes in the State. We recommend that the NOI include a requirement to submit forms necessary to facilitate agency review of the application, including at a minimum a form detailing the recycled water supplier's historical record of compliance with their current waste discharge requirements and/or NPDES permit, a detailed explanation of any compliance schedules in their current permits, the site-specific pollution management plan, any necessary storage impoundment management plans, and a copy of any agreements between suppliers and users regarding compliance obligations and liability apportionment.

Agency and Public Review Period: Section 2(d) of AB 1481 requires that the application be subject to a 30-day public review and comment period, and that the State Board consult with the appropriate regional board regarding the application. With respect to the public and agency review period, federal law requires a public comment and agency review period prior to permit coverage to be certain that permittees are not writing the terms of their own permits.[23] As explained below, we recommend adopting a pollution management plan requirement for the General Permit. Agency and public review of these pollution management plans will be critical in ensuring that permittees are not writing the terms of their own permits.

Fees: An additional component required prior to obtaining permit coverage is the payment of fees as required by AB 1481. We recommended that a tiered fee structure be adopted, perhaps based on complexity of the proposed project and volume of water to be discharged, and that these fees be set at a level that will cover the costs of developing, implementing and enforcing the permitting program.

Effluent Limitations and Pollution Management Plans: The General Permit must include effluent limitations applicable to all suppliers of recycled water. Since the General Permit will be a statewide permit, these effluent limitations must be set at levels that will be protective of water quality throughout the State.[24] More detail regarding how effluent limitations should be set is

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[23] *Waterkeeper Alliance, et al. v. U.S. EPA*, 399 F.3d 486, 503-504 (2nd Cir. 2005); *see also Environmental Defense Center V. U.S. EPA*, 344 F.3d 832, 855-856 (9th Cir. 2003).

[24] As explained below, the State Board should not use the General Permit to authorize discharges to impaired or protected water bodies (*e.g.* areas of special biological significance). Provided this course is taken, the General Permit may be able to avoid having to include effluent limitations for discharges to water bodies requiring special attention, maximizing the likelihood that generally applicable effluent limitations can be established.

provided below (*e.g.*, recommended use of Title 22 criteria). In general, the State Board must ensure that the effluent limitations in the General Permit address all pollutants likely to be present in the water supplied, including emerging contaminants, and are established at levels that will ensure protection of all beneficial uses in all receiving waters.

The General Permit should also require development of site-specific pollution management plans by recycled water users, similar to stormwater pollution prevention plans. As noted above, these plans would be submitted along with permit application forms and the NOI. Among other things, these plans must demonstrate that all salts and nutrients in the recycled water supplied will be applied at agronomic rates (*i.e.*, levels appropriate for the plants to minimize the likelihood that excess salts and nutrients leach to groundwater or discharge to surface water with runoff). Excess watering can also result in nuisance conditions such as the costly fungus growth observed on youth soccer fields in Brentwood last summer, exacerbated as a result of over-application of recycled water with high salt and nutrient content.[25] The management plans should include a description of the water needs of the plants being irrigated and the affected soils, to ensure that no more water than is necessary for plant growth will be supplied. These site-specific management plans must also address metals and other pollutants, including emerging contaminants, in the water supplied to prevent build up of harmful chemicals in the soil where they can be leached to groundwater or discharged with runoff. Enforceable terms that properly limit the amount of water to be applied also must be included in the General Permit.

Storage Requirements: The General Permit must include requirements to address storage of recycled water while awaiting application to the landscaping. Since recycled water is generated from municipal wastewater, it will be available at relatively constant rates year-round.[26] However, due to seasonal rainfall, irrigation is generally only required during certain times of the year, and even then at limited intervals during the irrigation season.[27] As a result, the efficient and widespread use of recycled water for irrigation will require the development and implementation of a storage system for this treated wastewater between generation and use. Several concerns, including the possibility for overflow from storage impoundments to surface waters, the leaching of pollutants in these storage impoundments to groundwater, and the impacts to animals (including amphibians, birds, and fish) that will use these storage impoundments as habitat, must be considered to ensure that storage of recycled water does not cause the degradation of water quality and the environment.[28] At a minimum, storage capacity requirements to minimize or eliminate overflow should be required in the General Permit, and the management plans should demonstrate how these requirements will be met. Likewise, the permittee must provide written documentation to show that leaching will not adversely affect groundwater (with a requirement for appropriate lining of impoundments to ensure such protection as necessary). Unless measures are included in the General Permit to address issues related to impoundment of recycled water prior to use, the General Permit will not be protective of water quality as required by state and federal law.

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[25] *Brentwood Soccer Fields Have Fungus*, Contra Costa Times (October 10, 2007) *available at* http://www.contracostatimes.com/news/ci_7045330.
[26] *See e.g.*, *Rancho Murieta CDO*.
[27] *Id.*
[28] *Id.*

Monitoring Requirements: To assist the dischargers and the Regional Boards in ensuring pollution control measures are effective, the General Permit must include monitoring and reporting requirements. The General Permit should require monitoring as the water is delivered prior to irrigation to evaluate compliance with the effluent limitations applicable to suppliers. It should also require regular monitoring of discharges to surface waters from the irrigated site, on a reasonably frequent basis, to evaluate compliance with effluent limitations applicable to the receiving waters and evaluate the effectiveness of site-specific pollution control plans.

To ensure that groundwater resources are not degraded, the General Permit should both require modeling to predict potential impacts and establish groundwater monitoring requirements that will provide sufficient information to detect problems that must be corrected. At a minimum, a basin wide monitoring program must be in place that includes nearby drinking water wells and adjacent to downstream receiving waters. The groundwater should be monitored at least monthly for salts and nutrients, and more often in the effluent for those constituents. CECs should be monitored at least annually in the effluent. Existing monitoring wells should be used as available to minimize the need for additional drilling, though that may be needed depending on the project. Overall, the monitoring requirements must be useful to both the regulated community as feedback for their operations and the regulators to assist in ensuring compliance.

IV. Eligibility Criteria

Establishing appropriate eligibility criteria for the General Permit will be critical to ensuring that the General Permit effectively protects water quality. Compared with an individual permit, a General Permit contains fewer elements of Water Board oversight over specific discharges. As a result, the State Board must ensure that only those dischargers that can be expected to meet the necessary conditions, effluent limitations, and other protective requirements in the General Permit are eligible to obtain coverage. As explained above, we propose a system where both suppliers and users of recycled water will obtain permit coverage. Below are our recommendations regarding appropriate limits on which suppliers and which users should be eligible for permit coverage to ensure that the General Permit effectively protects water quality while at the same time provides for simplicity and consistency in the permitting process.

A. Limits on Supplier Eligibility

We recommend the following limits on suppliers who may obtain permit coverage. First, the General Permit should only be available to suppliers of recycled water who have a demonstrated history of compliance with the effluent limitations and other requirements in their current WDRs or NPDES permits. Given that coverage will be made simpler (and presumably easier) under the General Permit, then the State Board must build in requirements to guarantee that permittees will be capable of meeting the Permit's requirements. The law and regulations governing the issuance of general permits in California state, among other things, that a general permit is appropriate when "[t]he discharges involve the same or similar types of waste."[29] To be certain that the discharges covered by the General Permit do in fact involve the same or similar types of waste, the State Board should require that dischargers prove they are capable of currently

[29] Cal. Water Code § 13263(i); 40 C.F.R. § 122.28.

and regularly meeting the requirements applicable to their discharges. The most straightforward way to achieve this in a streamlined and efficient manner, without having to revisit a history of compliance analysis for every discharger, is to set a threshold requirement regarding history of permit compliance by dischargers.[30]

Second, coverage under the General Permit should be limited only to those dischargers who do not have compliance schedules in their current WDRs or NPDES permits. If the dischargers cannot presently meet the requirements necessary to ensure compliance with water quality standards in the waters receiving their discharges, they should not be able to supply water that will be subsequently discharged without individual attention from the permitting agency to ensure protection of water quality. Further, since suppliers of recycled water may be profiting while disposing this waste, there can be no excuse for not implementing the necessary controls to protect water quality.

B. Limits on User Eligibility

Both federal and state law place limits on areas where recycled water can be used in landscape irrigation. Since recycled water is a waste that contains pollutants, the State Board should be certain that the discharge of these pollutants will only occur in allowable amounts to areas that require special attention to prevent degradation, or will not occur at all to areas into which the law prohibits pollutant discharges. For example, the General Permit should not be available: (1) where discharges from landscape irrigation projects may reach areas of special biological significance (ASBS), (2) where they may reach water bodies on California's Clean Water Act section 303(d) list of impaired water bodies (303(d) List) for pollutants in the recycled water supplied, (3) where they may reach groundwater already impaired by pollutants in the recycled water supplied, or (4) when a receiving water requires special attention to ensure its protection. This last category can include situations where there is a shallow aquifer beneath the landscape irrigation project (*e.g.* the Santa Clara Valley Water District) or where very porous soil overlies the groundwater, where a surface water body is within a minimum distance from a recycled water irrigation project, or where pollutants may reach groundwater that is "pristine" (*e.g.* meets all primary drinking water MCLs). Further explanation regarding each of these necessary limits on the availability of a General Permit is provided below.

First, pollutants may not be discharged to an ASBS, except in limited circumstances after specific findings have been made in a public process.[31] In order to guarantee protection of ASBSs from pollutants from landscape irrigation projects using recycled water, the State Board must require individual permits be obtained when a discharge may reach an ASBS. The attention and care that the permitting agency must take when authorizing a waste discharge in an area that may impact an ASBS is not compatible with the efficiency and simplicity in permitting mandated by AB 1481. We therefore recommend that these discharges not be eligible for coverage under the General Permit.

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[30] We recommend that the State Board accord greater weight to history of compliance with substantive discharge limitations that it does to the history of compliance with reporting requirements or other similar elements of a discharger's permit.

[31] *See California Ocean Plan*, Item III.E.1.

Second, EPA regulations prohibit the State Board from authorizing any new discharges of impairment-causing pollutants to any water body on the 303(d) List.[32] In *Friends of Pinto Creek v. EPA*, the Ninth Circuit ruled that 40 C.F.R. § 122.4, which establishes prohibitions on permit issuance applicable to all NPDES permitting authorities, prohibits the issuance of permits for new discharges of pollutants to water bodies identified as impaired on a 303(d) list.[33] The Court affirmed the categorical prohibition on permitting new discharges in situations where a TMDL has not been prepared, and noted the limited exceptions provided for in situations where a TMDL has been prepared.[34] Under the limited exceptions applicable only when a TMDL exists, a permit authorizing discharges to an impaired water body is only allowed when the discharger can demonstrate that there is a sufficient load allocation to accommodate the discharge, and that all dischargers to the water body are subject to compliance schedules designed to bring the impaired water into compliance with applicable water quality standards.[35] The specific showings a discharger must make in order to obtain permit coverage when a TMDL has been prepared are not conducive to a general permitting scheme. In order to be certain that the State Board does not issue a permit that allows discharges when it should not (or when the required analyses to protect water quality have not been completed), the State Board should not make the General Permit available to cover discharges to 303(d)-listed water bodies that are listed for pollutants in the recycled water waste stream.

Third, the General Permit should also not be available to cover discharges to landscape irrigation projects above already-impaired ground water aquifers. Nitrate contamination of groundwater is already a serious problem in the state, and this Permit should not add to that. Consistent with our overall position that recycled water use only helps fill the State's water shortages when water quality is protected, if a groundwater aquifer is currently not fulfilling its capabilities as a clean, reliable source of water, then additional pollution of this aquifer should not be permitted without careful consideration – and certainly not under a General Permit. Instead, a separate permitting process (*i.e.* individual permits) that will result in appropriate, site-specific requirements to protect already impaired ground waters should be developed in that case.

Fourth, the General Permit should not be available when conditions are such that extraordinary care should be exercised to protect receiving waters. For example, the General Permit is not the appropriate permitting strategy to protect areas where groundwater resources are particularly sensitive to pollutant loading, either because hydrogeologic conditions make contamination highly probable or because the aquifer exhibits such high water quality that protection of this pristine resource should be paramount. Areas where contamination is highly probable include those where pollutants are far less likely to attenuate before they reach the groundwater table, such as areas with a shallow groundwater table and/or areas with very porous soils above the water table. When these conditions are faced, as articulated by the Santa Clara Valley Water District at the June workshop, a one-size-fits-all approach of a General Permit may not ensure the protection of this sensitive resource, particularly where it is also used for drinking water. We therefore recommend that the State Board exclude from eligibility under the General Permit discharges to areas with shallow ground water tables, areas with very porous soils above

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[32] 40 C.F.R. 122.4(i).
[33] *Friends of Pinto Creek v. EPA*, 504 F.3d 1007, 1012 (9th Cir. 2007).
[34] *Id.*
[35] 40 C.F.R. § 122.4(i)(1) and (2); *Friends of Pinto Creek*, 504 F.3d at 1012.

the ground water table, and other areas where there is a high risk for pollutant transport to ground water resources.

Similarly, landscape irrigation projects occurring within a minimum distance of a surface water body should not be eligible for coverage under the General Permit. The risk of pollutant loading in these waters from the landscape irrigation project is too high, and therefore an individual permitting process for these projects is recommended. The State Board should establish minimum setback criteria in the General Permit to set the threshold for eligibility under the permit.

Finally, landscape irrigation projects in areas with pristine ground waters, which could be defined as those meeting all primary drinking water MCLs, should also be excluded from eligibility under the General Permit. Along California's North Coast, 95% of groundwater wells tested met all primary MCLs.[36] Protecting these pristine waters should be of paramount concern to the State Board, and all efforts should be made to preserve this valuable resource for the future. These pristine ground water aquifers from eligibility under the General Permit.

C. Limits on Types of Projects Considered "Landscape Irrigation"

Our final comment regarding eligibility addresses the question of which uses of recycled water should be considered "landscape irrigation." During the June 18 workshop the State Board staff identified irrigation of "parks, playgrounds, school yards, residential landscaping and common areas, golf courses, cemeteries, and freeway landscaping" as proposed types of "landscape irrigation." Other commenters encouraged the State Board to add landscaping elements of industrial and commercial properties, and municipal infrastructure such as street medians to the list. While we generally agree that the uses identified by the State Board staff and other commenters seems reasonable, we remind that State Board that the regulations governing general permitting limit general permits to those discharges that "require the same or similar treatment standards." To the extent different treatments may be required, either because the susceptible receptors of pollutants in the waste will be different, or because the end-users can be expected to be more or less compliant with use requirements (consider the differences between a home user and a municipal landscaping department), the State Board must only make the permit available to cover discharges in areas it can be certain only require the same or similar treatment standards, and that it can ensure will be readily accessible for enforcement if needed.

V. Agency Coordination and Protection of All Beneficial Uses of All Waters

The request for comments asked for ideas on how the State Board should coordinate with other agencies and the public when issuing and implementing the General Permit. In general, the State Board should adopt a precautionary approach to recommendations from other agencies, and adopt a recommendation of a coordinating agency if that recommendation will result in a permit condition or requirement that is more protective of water quality than a State or Regional Board requirement. The State Board must implement its obligations to protect all beneficial uses, and

[36] *California's Groundwater – Bulletin 118 Update 2003*, California Department of Water Resources; *available at* http://www.groundwater.water.ca.gov/bulletin118/update2003/index.cfm.

therefore should not limit the effluent limitations and other conditions in the General Permit to only those levels suggested by other agencies, since those recommendations will be based on those agencies' mandates, not the State and Regional Boards'. Further detail and rationale regarding this recommendation is provided below.

During the June 18 workshop, many industry commenters urged the State Board to require nothing more of permittees than to meet the secondary or tertiary treatment requirements, as applicable, mandated by the Title 22 criteria established by the California Department of Public Health (CDPH). Title 22 criteria are designed to protect public health, and imposing effluent limitations in the General Permit commensurate with these criteria should protect public health for those constituents of recycled water that have Title 22 criteria. However, there are many constituents in recycled water that do not have treatment requirements under Title 22 (*e.g.*, emerging contaminants and contaminants subject to "notification levels"), and the State Board must ensure that the Permit protects public health beneficial uses for such contaminants.

Additionally, even where they may protect public health, the Title 22 criteria do <u>not</u> automatically ensure the protection of all beneficial uses of the receiving waters. Indeed, current NPDES permits for the discharge of treated municipal wastewater already include effluent limitations to protect the aquatic life in the receiving water, and any other applicable beneficial use, that are often more stringent than those required solely by Title 22. For example, the aquatic life criteria for copper set in the California Toxics Rule is significantly lower than the Title 22 criteria for copper, which is set at the level safe for human consumption. Title 22 criteria cannot be substituted for an independent, rigorous examination by the State Board of all necessary effluent limitations for all contaminants likely to be in recycled water.

Both emerging contaminants and contaminants with notification levels pose a unique challenge for the State Board since we are just now beginning to understand the harmful effects of some of these substances. There is considerable scientific uncertainty related to emerging contaminants, both with respect to safe exposure levels and their persistence in the environment, though as noted above there is already clear evidence of their impacts on fish. The same is true of contaminants with notification levels, and though there is a greater understanding of health effects of these substances, there is still less certainty than exists for contaminants with MCLs. Considering the potentially devastating and long-term impacts of allowing the widespread release of pharmaceuticals, endocrine disruptors, reproductive toxins, and other emerging contaminants into the environment, the State Board must take a precautionary approach when setting permit limits and requirements in the General Permit for these contaminants. In other words, when the negative consequences to the public health and the environment of taking a certain action are potentially significant or irreversible, then the burden of proof to show the action is in fact *not* harmful should fall with the advocate of taking the action.

With respect to contaminants with notification levels, we recommend that the State Board consult with CDPH with respect to requiring at least those pollutant discharges that will reach drinking water aquifers or surface water drinking water supplies to meet notification levels in the water supplied for the projects.

Finally, the General Permit must contain a reopener clause that will allow the State Board to revisit any effluent limitation or other requirement in the event new or updated information regarding a contaminant, known or unknown, becomes available. This last point is especially important for emerging contaminants, since the uncertainty regarding them is particularly significant.

VI. Antidegradation Policy

The State Board is seeking comment on considerations that should be included in the General Permit regarding application of the state's antidegradation policy. As an initial matter, we note that since the permit will apply to discharges to waters throughout the State, there can be no doubt that high quality waters will be impacted by discharges authorized by the Permit. Resolution No. 68-16 itself provides the considerations that therefore must be included in adopting the General Permit. Among other things, the General Permit must contain findings that any degradation will be consistent with the maximum benefit to the people of the state, will not unreasonably affect beneficial uses, and will not result in water quality less than allowed in prescribed state policies.

Under Resolution 68-16, the State Board must ensure that waste discharge requirements implement the best practical treatment or control necessary to ensure the maintenance of the highest quality water consistent with the maximum benefit to the people of the State. In conducting this analysis, the State Board must consider not only the benefit of supplementing the State's water supply with recycled water, but also the benefit to the people of the State of not allowing any further degradation of the State's waters. The number of impaired water bodies on the 303(d) List is a testament to the shrinking number of water bodies in California that are capable of meeting all their designated beneficial uses. Protecting water bodies that are not already impaired, and helping ensure that impaired water bodies recover, will benefit all people of the State, and the State Board must consider these benefits when conducting the antidegradation analysis. Degradation of groundwater aquifers also presents a serious threat to the long-term sustainability of the State's water resources, and the benefits of maintaining water quality in these aquifers must also be included in the antidegradation analysis. As a result, the State Board must include at least a mass balance-focused analysis to ensure that assimilative capacity of the State's ground waters is not lost.

We agree that reuse water has the potential to alleviate strain on our already over-taxed water resources, reduce the costs associated with transportation of potable waters, and possibly even improve water quality in the source watersheds if potable water is allowed to remain in-stream. However, we caution the State Board not to oversimplify the cost-benefit analysis and fail to account for both the current and long-term impacts of allowing treated municipal wastewater to be spread throughout our entire environment in landscape irrigation projects, with unknown potential impacts. California has learned with experiments such as MTBE that allowing the spread of environmentally-persistent and toxic contaminants without full information and awareness of potential impacts can create enormous overall societal costs. The State Board must give appropriate consideration to the benefit to be gained by keeping these chemicals out of our waters in the first place when considering the maximum benefit to the people of the State of using recycled water for landscape irrigation.

VII. Conclusion

We thank the State Board for the opportunity to provide comments on the appropriate scope and elements to consider in developing the General Permit as required by AB 1481. We look forward to engaging with the State Board and other interested parties during the development of this Permit, and would welcome an opportunity for further public participation. Involving the public will be critical if the State Board is to be successful in issuing a General Permit that the public will trust is protective of our waters.

Sincerely yours,

Linda Sheehan
Executive Director
California Coastkeeper Alliance
lsheehan@cacoastkeeper.org

Mark Gold
Executive Director
Heal the Bay
mgold@healthebay.org

Drevet Hunt
Layne Friedrich
Lawyers for Clean Water
drev@lawyersforcleanwater.com