



March 27, 2007

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



VIA EMAIL: [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

Re: March 20, 2007 SWRCB Meeting, Agenda Item #8: Comments on Development of Statewide Water Recycling Policy

Dear Chair Doduc and State Board Members:

California Coastkeeper Alliance, Santa Monica Baykeeper, and Lawyers for Clean Water 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 Water Recycling Policy. We thank the State Board for taking on the important task of developing a Water Recycling Policy. Developing a statewide policy is a critical component in fostering effective and efficient use of California's scarce and precious water resources. We look forward to working with the State Board to craft a Water Recycling Policy that encourages recycled water use without sacrificing water quality in the process.

A statewide Water Recycling Policy on an issue as significant as the use of recycled water in a state with water demand outpacing supply must be comprehensive to be effective. Over the past few years the State Board and staff, the Recycled Water Task Force,<sup>1</sup> and the various regional boards have identified several issues that a statewide Water Recycling Policy should address. We agree that the issues identified by these groups, and reiterated in the agenda item description and discussion available on the State Board website ("Agenda Description"), are vital to the development of an effective Water Recycling Policy. However, an essential issue is absent – namely how the Recycled Water Policy will ensure protection of water quality and, in particular, address and comply with the Clean Water Act. Inclusion of the mandates of the Clean Water Act in overall statewide Water Recycling Policy is required by state and federal law and will provide the Regional Boards with the guidance they need to make appropriate and consistent decisions on recycled water projects that fulfill their legal mandates.

<sup>1</sup> The Recycled Water Task Force was established by Assembly Bill 331 (2001) to evaluate, among other things, the framework of State statutes and regulations applicable to recycled water projects.

Our comments first explain the need for the statewide Water Recycling Policy to acknowledge that recycled water projects will impact surface waters and then discuss how Clean Water Act requirements will be met. Next, we explain why modifying the Anti-degradation Policy, or weakening it through the Water Recycling Policy to encourage the use of recycled water, is inappropriate, since the Anti-degradation Policy already establishes an appropriate balance for weighing conflicting needs and uses for water with protecting water quality. We also provide our general comments on the issues identified in the Agenda Description: Irrigation Projects and Salts; Groundwater Recharge Reuse; Impoundments; Agency Coordination; and Aquifer Storage and Recovery Projects. The theme running through each of our comments, and which the statewide Water Recycling Policy must embody, is this: **water recycling helps California meet its water needs only when water quality is protected.**

### **Statewide Water Recycling Policy Must Address Clean Water Act Requirements**

The Agenda Description seems to be limited to providing direction to the regional boards on how to interpret state statutes and regulations. We are confused as to why the Agenda Description only focuses on state law issues implicated by a Recycled Water Policy that, as explained below, will address discharges to surface water as well as to groundwater. Adopting an approach that limits the discussion to state law relegates federal law requirements regarding water quality, particularly those established by the Clean Water Act, to the background and thus ignores essential issues that must be addressed in a policy designed to guide regional board decision making. Unless the statewide Water Recycling Policy includes guidance regarding federal requirements that the regional boards must follow when permitting recycled water projects, the policy will not generate the consistent and appropriate application of legal requirements, which is the primary purpose of adopting the Water Recycling Policy in the first place. Further, a statewide Water Recycling Policy that does not address federal law will not help ensure that the regional boards are complying with their mandate under the Clean Water Act to regulate discharges to surface waters with National Pollution Discharge Elimination System (“NPDES”) permits.<sup>2</sup>

When the State Board sought and was granted approval to administer the Clean Water Act’s NPDES program in California, it made assurances to the U.S. Environmental Protection Agency (“EPA”) that it would do so consistent with the requirements of the Clean Water Act. Central to the implementation of an effective NPDES program is requiring that discharges to waterways be regulated in compliance with NPDES permits.<sup>3</sup> In fact, the Clean Water Act provides that “each State desiring to administer its own permit program for discharges into navigable waters” must establish a program to “issue permits which apply, and insure compliance with, any applicable requirements of sections 1311, 1312, 1316, 1317, and 1343 of

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<sup>2</sup> We recognize that the NPDES program is administered under Sections 13770-13777 of the Porter-Cologne Act. However, these provisions of state law require that the State Board and regional boards act in conformance with federal law. More to the point for these comments, the Agenda Description fails to raise for discussion those issues related to discharge of recycled water to surface water under either federal law or its Porter-Cologne counterpart.

<sup>3</sup> 33 U.S.C. § 1342(b).

the [Clean Water Act].”<sup>4</sup> Section 1311(a) mandates that discharges to waters of the United States are prohibited unless authorized by, and in compliance with, an NPDES permit.<sup>5</sup>

Even under state law, the requirements related to recycled water projects require consideration of the Clean Water Act’s mandate. In pertinent part, the Porter-Cologne Act states the Regional Board “shall ... issue waste discharge requirements ... which apply and ensure compliance with all applicable provisions of the [Clean Water Act].”<sup>6</sup> As explained above, the Clean Water Act requires the permitting authority to issue NPDES permits when regulating discharges to waters of the United States. It follows that the Regional Boards’ obligation under the Porter-Cologne Act is to regulate discharges to waters of the United States with NPDES permits.

With this legal framework in mind, the question becomes whether recycled water projects have the potential to result in discharges to waters under the jurisdiction of the Clean Water Act. If the answer to this question is yes, then the statewide Recycled Water Policy must ensure that these discharges are regulated in compliance with the Clean Water Act’s mandates.

To answer the central question, there is no doubt that the owners and/or operators of certain recycled water projects will release discharges of recycled water to waters within the jurisdiction of the Clean Water Act. For example, the Recycled Water Task Force acknowledges this at Section 4.2 of *Water Recycling 2030* when discussing the use of recycled water for irrigation and as landscaping features:

Incidental runoff or overspray of minor amounts of irrigated water at the edges of irrigated areas is difficult to prevent. It is also difficult to prevent runoff of rainwater from areas irrigated with recycled water or from aesthetic ponds on golf courses filled with recycled water, especially during major storm events.<sup>7</sup>

The State Board similarly acknowledged the unavoidable discharge of recycled water from recycled water projects in a memo released to the regional board executive officers in 2004 entitled “Incidental Runoff of Recycled Water” (“2004 Memo”).<sup>8</sup> Specifically, the 2004 Memo states:

While incidental runoff or over-spray of minor amounts of recycled water can be minimized, it cannot be completely prevented. Similarly, it is not possible to entirely prevent the runoff of rainwater from areas irrigated with recycled

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<sup>4</sup> *See id.*

<sup>5</sup> 33 U.S.C. § 1311(a).

<sup>6</sup> Cal. Water Code § 13377

<sup>7</sup> *Water Recycling 2030: Recommendations of California’s Recycled Water Task Force*, California Department of Water Resources at 42 (June 2003).

<sup>8</sup> 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).

water or from decorative or storage ponds filled with recycled water, particularly during major storm events.<sup>9</sup>

We agree with both the Recycled Water Task Force and the State Board in their assessment that many types of recycled water projects will result in the discharge of recycled water to surface waters. We do not, however, agree that using clever terminology to describe these discharges as “incidental” does anyone, especially the public and the environment, any good. As acknowledged, many irrigation and landscaping projects that involve the use of recycled water will require regulation under federal law. We add to this list of recycled water projects that discharge to Clean Water Act regulated water bodies, those discharges to groundwater aquifers that are hydrologically connected to surface waters.<sup>10</sup>

Both state and federal law require that the discharge of pollutants from a point source to a water of the United States must be regulated by an NPDES permit.<sup>11</sup> Despite this mandate, and the State Board’s acknowledgement that recycled water will discharge to surface waters, the Agenda Description follows the Task Force and 2004 Memo’s desire of avoiding federal law. In fact, the 2004 Memo states that compliance with the Clean Water Act’s NPDES permitting requirements are “undesirable” and should be avoided. Since many water recycling projects will result in discharges to water bodies within the jurisdictional reach of the Clean Water Act, the statewide Water Recycling Policy must address this issue if it is to provide useful guidance and mandates to the regional boards.

The statement in the 2004 Memo that undefined “incidental runoff” can somehow avoid NPDES permitting requirements runs contrary to the State Board’s mandate to protect water quality in the state. In the 2004 Memo, it was suggested that including a safe harbor for discharges of “incidental runoff” in water recycling requirements would remove the discharge of recycled water from the purview of the NPDES program. Specifically the 2004 Memo directed regional boards to include the following provision:

the incidental discharge of recycled water to waters of the State is not a violation of these requirements if the incidental discharge does not unreasonably affect the beneficial uses of the water, and does not result in exceeding an applicable water quality objective in the receiving water.<sup>12</sup>

The problem with this statement is that there is no Clean Water Act safe harbor for “incidental runoff,” even if it does not “unreasonably affect” beneficial uses or cause an exceedence of water quality objectives. This directive to the regional boards from the State Board’s Executive Director, as well as the absence of permitting considerations in the Agenda Description, is troublesome and a major concern. As set forth by state and federal law and recited herein, the

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<sup>9</sup> 2004 Memo at 2.

<sup>10</sup> See e.g. *N. Cal. River Watch v. City of Healdsburg*, 457 F.3d 1023 (9th Cir. 2006).

<sup>11</sup> 33 U.S.C. §§ 1311(a), 1342; Cal. Water Code §§ 13770-13777.

<sup>12</sup> 2004 Memo at 3.

discharge of pollutants from a point source to navigable waters must be regulated by an NPDES permit.<sup>13</sup>

It also has been stated by some stakeholders that the water used for recycling projects is already regulated by the waste water treatment plants' (WWTP) NPDES permit, is treated pursuant to the NPDES permit to meet drinking water standards, and is thus "clean" and need no additional permitting. As explained below, the WWTP's NPDES permit, however, typically regulates neither the use of the effluent for recycled water projects, nor the discharge of the recycled water at a location different than that for the WWTP. Additionally, a WWTP permit is unlikely to have effluent limitations for all pollutants present in the effluent, and may not require treatment to remove pollutants for which the permit does set limits. Thus, a WWTP NPDES permit typically does not regulate the effluent for recycled water uses and does not include limitations to ensure that the effluent is protective of the environment when used for such projects.

First, prior to discharge, the effluent from WWTPs is supposed to meet certain numeric and narrative criteria regarding the level of pollutants allowable in the discharge. These effluent limitations are based, at least in part, on the beneficial uses of water body into which they are discharged, and accordingly depend upon the specific water body receiving the discharge. However, when that effluent is transported for use in a recycled water project, the discharge location will most likely be different than that designated in the WWTP permit. Since each water body has its own specific characteristics, and so often different beneficial uses, the WWTP cannot be said to be protective of or regulate the recycled water discharge to the new receiving water.

The following example clarifies this point. A WWTP may discharge effluent with levels of copper that are appropriate to that treatment plant's receiving water. That same effluent, when used in a recycled water project, may either be discharged to a different receiving water that is impaired for copper or, during the recycled water use, may pick up additional copper. In the first situation, since copper is a bioaccumulative pollutant, the discharge of copper would be prohibited. In the second situation the discharge from the recycled water project could have copper levels above protective water quality standards even if the receiving water is not impaired. In both instances, the effluent limitations on the original WWTP discharge would be insufficient to protect water quality as required by the Clean Water Act.

In addition, some WWTP permits that incorporate California Toxics Rule- ("CTR") based effluent limitations have compliance schedules, and thus even if the permit contains CTR limitations, the effluent is currently discharged containing pollutants at levels above these protective limits (making additional discharges even more problematic). There are numerous other examples of problems with relying on the existing WWTP permit to address all uses of recycled water. Relying on the NPDES permit for the WWTP (or other source of the recycled

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<sup>13</sup> 33 U.S.C. §§ 1311(a) and 1342 (requiring permits for the discharge of pollutants without qualification as to the quantity of pollutants discharged).

water) to protect water quality for recycled water uses is insufficient. There is no end-run around the requirement that discharges of pollutants from point sources to waters of the United States require NPDES permits.

To help guide the development of the Water Recycling Policy, we recommend that the statewide policy should require that discharges to waters of the United States be permitted with NPDES permits, or with WDRs if the discharge is to groundwater not hydrologically connected to surface waters.<sup>14</sup> As the agency delegated to implement the NPDES program in California, the State Board must issue permits that will ensure compliance the Clean Water Act's prohibition on discharges of pollutants to waters of the United States. An NPDES permit is required even in cases where the permit terms prohibit discharges to surface waters. The Water Recycling Policy needs to be consistent with the Clean Water Act's goal of eliminating the discharge of pollutants to waters of the United States.<sup>15</sup>

A State Board Water Recycling Policy that encourages regional boards to regulate these discharges without NPDES permits must be avoided. In instances where a discharge to surface water is regulated, the responsibility lies with the regulating agency to regulate this discharge with an NPDES permit. Failing to do so jeopardizes the authority delegated to the state to implement the NPDES. It also leaves the discharger exposed to Clean Water Act liability for discharging pollutants to waters of the United States without an NPDES permit.

Overall, we are concerned that a statewide Water Recycling Policy that fails to require NPDES permits when appropriate will be a policy that encourages the use of recycled water at the expense of water quality. Not only is this inconsistent with the mandates of the Clean Water Act and the Porter-Cologne Act, it is shortsighted. Trading the short-term benefit of increased water supply for possible long-term degradation of water quality jeopardizes the availability of clean, useful water in the future. An appropriate statewide Recycled Water Policy will protect water quality and water supply in the long-term by requiring NPDES permits for those projects that need them.

### **Anti-degradation Policy**

Perhaps the issue identified in the Agenda Description that should be of most concern for the public is the suggestion that the state Anti-degradation Policy could potentially itself be modified, or be weakened by the Water Recycling Policy, to encourage water recycling at the expense of water quality. The Anti-degradation Policy already establishes the appropriate balance between the legitimate need to develop and use water resources with the need to maintain water quality. Specifically, the Anti-degradation Policy insists on the maintenance of water quality now and into the future. When complied with, this mechanism has been largely

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<sup>14</sup> The appropriate method to permit these projects may well be with general NPDES permits that apply to specific sub-classes of recycled water projects such as landscape irrigation, agricultural irrigation, or groundwater recharge to hydrologically connected aquifers.

<sup>15</sup> 33 U.S.C. § 1251(a)(1) (establishing the goal of eliminating the discharge of pollutants to waters of the United States by 1985).

effective in guiding decisions related to projects for almost 40 years. The Anti-degradation Policy has never been modified before, and the desire to encourage water recycling does not create the need to do so now.

The Agenda Description poses the question of whether the statewide Water Recycling Policy itself should define two terms in the Anti-degradation Policy – “maximum benefit to the people of the State” and “best practical treatment or control.” There are two issues raised by this question that we find troubling and which cut against using this statewide Water Recycling Policy as a venue for defining terms in the Anti-degradation Policy.

First, defining terms in the statewide Anti-degradation Policy, which applies to all decisions made by the State Board and regional boards, in a document that only applies to certain types of decisions by these entities, could result in further confusion, rather than clarity, regarding the meaning of these terms. It could also lead to situation where these terms have different meanings in different contexts, when the purpose of the Anti-degradation Policy is to foster uniformity in decision making.

Second, to the extent the Water Recycling Policy does try to define these terms, it should only do so if the definition incorporates the appropriate references to already applicable legal standards. For example, any definition of “best practical treatment or control” with respect to recycled water must reference and be consistent with the technology-forcing standards already applicable to the treatment of wastewater.<sup>16</sup> Similarly, reference to also-applicable legal standards such as BAT and BCT will necessarily limit the definition of terms such as “maximum benefit to the people of the State,” since the foundation for these standards already prescribes the extent of consideration of economic and social costs and benefits.<sup>17</sup>

Finally, entertaining the idea that modifying the Anti-degradation Policy or its application may be necessary to encourage water recycling projects runs contrary to the purpose of the Anti-degradation Policy itself. The Anti-degradation Policy already provides adequate opportunity to weigh potential benefits of certain projects against potential costs to water quality. This policy has withstood almost 40 years of decision making on a wide variety of projects, and modification of it – or its intent – at this point would create confusion rather than clarity, and potentially lead to other situations involving further whittling of the Policy’s goal of protecting the waters of the state now and in the future. Most significantly, the need to modify the Anti-degradation Policy in the context of recycled water projects is illusory, since water recycling today is only sensible if it does not degrade water quality for the future. Our recommendation therefore is to not modify or otherwise weaken California’s Anti-degradation Policy, including through the Water Recycling Policy.

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<sup>16</sup> We also note that the applicable technology-based standards are designed to change over time as better technologies are developed to control pollutants in discharges. Any attempt to define these terms must embrace this concept and provide requirements for improved standards as technology improves.

<sup>17</sup> For example, BAT does not allow for comparison of costs against effluent reduction benefits, but rather only allows for consideration of costs to the extent these costs are economically achievable. See 33 U.S.C. §§ 1311(b)(2)(A) and 1314(b)(2)(B).

### **Irrigation Projects and Salts**

The Agenda Description asks what the State Water Board should do “to protect groundwater basins in the state from the accumulation of salt, including nitrate.” This is an important question that transcends the issue of recycled water management. The Porter-Cologne Act at Water Code § 13260 requires reports of waste discharge, and waste discharge requirements as appropriate, for any discharge of waste “that could affect the quality of the waters of the state.” Section 13050 defines “waters of the state” to include “any surface water or groundwater, including saline waters, within the boundaries of the state.” (Emphasis added.)

Despite the clarity of this directive, little if anything has been done to implement Porter-Cologne with respect to any discharges that could affect groundwater from pollutants, including discharges of salts (including nitrates) associated with recycled water. Instead, the practice to date has generally been to allow the discharges (often unquestioned and unexamined), hope for the best, and pay extremely high sums of money to clean up the pollution later (if attempts are made to clean up the pollution at all). Our recommendation is that the State Board comply with Porter-Cologne and protect groundwater contamination from salts/nitrates associated with recycled water through waste discharge requirements, either general or individual, and associated groundwater monitoring.<sup>18</sup> This recommendation is consistent not only with the law but also with the above-stated theme of these comments, which is that water recycling helps California meet its water needs only when water quality is maintained.<sup>19</sup>

The Agenda Description also asks in particular whether the State Board should require recycled water users to prepare nutrient management plans to control the discharge of nitrates to groundwater. Nutrient management plans for projects that propose to irrigate with recycled water are critical to preventing further degradation of groundwater resources and should be required in a statewide Water Recycling Policy. A nutrient management plan requirement would be consistent with the strategy employed by the Santa Ana Regional Board, and proposed by the Central Valley Regional Board, to address the reuse of wastewater by dairy farmers to grow crops for their herds.<sup>20</sup> It also would equalize the playing field by requiring all irrigators who use recycled water to take responsibility for properly managing the impact their practices have on nitrate levels (and other pollutant loadings) in groundwater. A failure to require nutrient management planning will leave the public to foot the bill for continued nitrate contamination, as is the case in Orange County, where the county estimates it will end up paying \$2.6 million

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<sup>18</sup> Note that we suggest use of WDRs here rather than NPDES permits only when the discharge is to groundwater that is not hydrologically connected to waters of the U.S.

<sup>19</sup> We also request that the State Board take on the overall task of rectifying the state’s historic and ongoing failure to implement Porter-Cologne’s clear requirements on discharges of all other pollutants that could affect the quality of the state’s groundwater.

<sup>20</sup> See *General Waste Discharge Requirements for Concentrated Animal Feedig Operations (Diaries and related Faiclities) Within the Santa Ana Region*, Order No. 99-11, NPDES No. CAG018001, California Regional Water Quality Control Board, Santa Ana Region (August 20, 1999); *Tentative Waste Discharge Requirements General Order No. \_\_\_ for Existing Milk Cow Dairies*, California Regional Water Quality Control Board, Central Valley Region (November 22, 2006).

dollars per year to remove nitrates and salts from groundwater contaminated by nitrates. *See Orange County Water District, Issue Paper on Impacts of the Chino Dairy Industry on Local Water Supplies.* With proper nutrient management, including groundwater monitoring, costs like this can be avoided.

### **Groundwater Recharge Reuse**

The Agenda Description poses the question “what requirements should be placed on groundwater recharge reuse projects to protect the public from toxic constituents.” From our perspective, there are a handful of general measures that the statewide Water Recycling Policy should require to achieve this goal. First, recycled water discharged for the purpose of recharging groundwater for ultimate reuse should have to meet both drinking water standards and any other water quality criteria applicable to the ultimate use of the water prior to being discharged, for all constituents. A precautionary approach that does not introduce chemicals and pollutants into the groundwater in the first place is the surest way to avoid exposure of the public and the ecosystem to these constituents and prevent extremely costly cleanups later.

Second, monitoring recycled water both prior to reuse and prior to discharge, particularly for toxic constituents, should be required. By keeping track of the types and quantities of constituents that have been discharged, decision-makers will be prepared to assess whether a particular reuse project is protective of human health and the environment over time. This is particularly important in the face of constantly changing information about the risks associated with exposure to toxic constituents. If we actually know what is being released into the environment, as opposed to guessing through a mass balance or other rough estimation technique done without monitoring, we will be better prepared to effectively address future discovered problems. Monitoring will provide an understanding of how the toxic constituents may be interacting with one another and with other discharges in the groundwater table.

Third, the statewide Water Recycling Policy should require that the regional board staff work closely with the Department of Health Services (“DHS”) to develop appropriate effluent limits for various toxic constituents. Many toxic constituents have Maximum Contamination Limits (“MCLs”) already established and set forth in Title 22 of the California Code of Regulations. However, those that do not may still represent a significant threat to public health, and the presence of these toxic pollutants in recycled water must be appropriately addressed. For these pollutants, the statewide Water Recycling Policy should require regional board staff to work closely with DHS to develop appropriate effluent limitations that would apply to both the discharge of the recycled water into the project and to any subsequent use or release of the water from the project. Finally, the MCL’s in Title 22 are not based on and are not necessarily protective of the environment; the Water Recycling Policy should ensure that the state and regional boards implement their ultimate responsibility to protect all beneficial uses through all appropriate standards and permit limits.

## **Impoundments**

The Agenda Description acknowledges that impoundment of recycled water can degrade underlying groundwater and asks what requirements should be placed on these impoundments to protect groundwater quality. We agree that this is an important issue that the statewide Water Recycling Policy must address. We expect that the appropriate requirements will vary depending on the quality of the water being stored as well as the soil permeability of where the water is being stored. With that general principle in mind, we have the following comments on how the statewide Water Recycling Policy should direct regional boards to act.

Requiring monitoring of the discharges to the impoundments as well as monitoring to ensure the effectiveness of impoundment is necessary. Because the concern is that impounded water will cause pollutants to leach into groundwater, the recycled water impoundments must be monitored to know the potential to degrade underlying groundwater. Monitoring and limitations must also ensure that possible public use of the water while it is impounded (*e.g.* contact by members of the public) will not create a public health risk. Additionally, since many of these impoundments will become habitat for aquatic and riparian organisms and species, limitations and monitoring should be required that will protect the use of these impoundments by these species.

We also recommend that the statewide Water Recycling Policy recognize that impoundments containing recycled water are storage/disposal facilities for the various pollutants, including heavy metals, pharmaceuticals, nitrogen-based compounds, and salts, in the recycled water. The lining requirements for storage/disposal of solid waste impoundments, set forth in Title 27 of the CCR, should be considered by the regional board with respect to surface impoundments of recycled water. In areas where soils are particularly porous, more stringent lining of impoundments should be required. Further, when the impounded recycled water has high levels of salts and the underlying groundwater is already degraded by the presence of salts, leachate collection systems and related monitoring should be required to prevent any further degradation of groundwater.

Monitoring of groundwater beneath these surface impoundments is the only way to ensure that the underlying groundwater is not being degraded. We recognize there are costs associated with groundwater monitoring, but it is inappropriate to shift these costs onto future generations of groundwater users by not monitoring and thus not preventing further and sometimes unexpected or unforeseen (and generally costly) degradation before it becomes a significant problem. This is yet another example of the requirements that the statewide Water Recycling Policy must include to ensure that the use of recycled water does not shift the costs of, and pollution associated with, its use onto future generations.

We also have an additional comment on impoundments that the Agenda Description fails to raise. Namely, the statewide Water Recycling Policy should address issues related to overflows of impoundments that are used for storage of water to be recycled. In many regions, treated wastewater is stored during the wet season for later reuse in the dry season for irrigation

and other projects when other water supplies are low. However, these impoundments often overflow and/or leak and thus discharge the pollutants in the water they contained. The statewide Water Recycling Policy should therefore require permit effluent limitations applicable to any overflow and/or leaks from these facilities. The statewide Water Recycling Policy should also require appropriate design and engineering of these storage facilities to ensure that overflow and/or leakage is minimized if not totally prevented.

### **Agency Coordination**

The issue presented by the Agenda Description is whether the statewide Water Recycling Policy should leave some issues related to groundwater recharge with recycled water to DHS, since DHS is preparing regulations for groundwater recharge reuse projects. We agree that coordination with DHS should be encouraged in the statewide Water Recycling Policy. However, the mandates of DHS and the State Board are quite different, and as such the State Board should not relinquish or delegate its responsibility for addressing all issues related to groundwater recharge reuse projects. Similarly, the State Board cannot rely on DHS requirements alone as adequate to protect the environment and comply with state and federal laws.

DHS's mandate is to create water quality requirements protective of human health while the State Board's (and regional boards') mandate is to protect water quality for all beneficial uses. For example, copper, which is relatively benign to humans, is extremely toxic to many aquatic organisms. As such, regulations from DHS related to copper in recharge/reuse projects may place little or no restriction on the levels of copper. If the State Board were to fail to address this issue on the assumption that DHS had it taken care of, then the State Board would fail to comply with its mandate. Specifically, if it were foreseeable that there would be subsequent contact with the recharge/reuse water by aquatic organisms, then the State Board's failure to insure compliance with water quality standards for copper would allow for an unacceptable degradation of water quality.

It is the State Board's obligation to set a statewide Water Recycling Policy that requires it and the regional boards to fulfill all aspects of their mandate to protect water quality. We've seen examples of the State Board and regional boards failing to achieve this mandate in other contexts,<sup>21</sup> and we do not want to see that failure repeated here. The hypothetical example we provided above explains why deferring to another agencies' determinations regarding water quality is inappropriate.

### **Aquifer Storage and Recovery**

Recycled water used for irrigation or direct recharge impacts aquifers throughout California. Just as increased use of recycled water is important to help some of the offset the

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<sup>21</sup> For example, the regional boards routinely fail to evaluate the effect of timber operations on water quality, despite the fact that these operations clearly implicate the regional boards' responsibilities. This failure leads to unnecessary and sometimes severe degradation of water quality associated with timber harvesting.

enormous costs of moving water from one area of the State to another, it also can be important to the health of aquifers, which are critical to reducing California's dependence on the Colorado River and State Water Project. In other words, a clean and dependable water supply relies not only on the increased use of recycled water but also on clean and usable aquifers. Accordingly, a state policy regarding recycled water should fully protect existing water quality objectives for groundwater aquifers.

As an example, in January of 2007, the Los Angeles Regional Water Quality Control Board adopted two Water Recycling Requirements (WRR) permits for the Los Angeles Department of Water and Power's (DWP) Los Angeles Glendale and Donald C. Tillman Plants. These Plants discharge to the San Fernando groundwater basin, which is the part of the San Fernando Aquifer that supplies 15% of Los Angeles' drinking water. Chloride levels in the San Fernando Basin where the Tillman Plant discharges are currently 31 mg/l, and the water quality objective is 100 mg/l. The Glendale Plant discharges to the San Fernando Basin Narrows Area, currently at chloride levels of 31 mg/l with a groundwater chloride objective of 150 mg/l. In response to a request by the City of Los Angeles, and in a highly irregular move by the Los Angeles Regional Board, the LADWP was granted a permit renewal with effluent limits in excess of the water quality objectives (190 mg/l). In exchange for this permit irregularity, the regional board's proposed permit in January had requirements of a mass balance analysis and monitoring of groundwater, in a nod to ensuring that the chloride levels do not increase further in the groundwater. Because of this two-pronged approach, the staff did not pursue an anti-degradation analysis, although it was clearly warranted in this instance, particularly since there currently are no other WRR permits that have elevated effluent limits in Los Angeles. (Los Angeles County Sanitation District, another WRR permit holder in the Basin, meets its effluent limits end-of-pipe and does not discharge effluent that does not meet water quality objectives.) Unfortunately, the LADWP vigorously opposed the regional board's January proposed permit requirements for monitoring, advocating instead for solely a mass balance risk analysis, despite the almost pristine state of this critical aquifer. The final adopted permit eliminated the much-needed monitoring.

It is a generally accepted fact that contaminated ground water is very difficult and costly to clean up. The particularly discouraging example of the San Gabriel Aquifer in Los Angeles is a bellwether for current decision-making regarding effluent limits in permits that impact groundwater. In 1991, the U.S. Environmental Protection Agency estimated that if a cleanup of the San Gabriel Aquifer was technologically possible, it would take thirty to fifty years at a cost of \$200,000,000 to \$400,000,000. Ultimately, an agreement to begin clean-up was established in 2002 and efforts are ongoing. Another closely watched example of groundwater management is the Chino Basin, where it has been general practice to replenish the groundwater with *de-salted* water in order to protect the aquifer, and years of extensive monitoring have guided various uses and recharge projects throughout the Basin.

The juxtaposition of uses and water quality objectives or effluent guidelines throughout the state illustrates the importance of aquifer protection and monitoring. A one-size-fits-all effluent limitation is not advisable when various groundwater aquifers may have differing

abilities to assimilate pollutants depending on the region and method of recycled water application. For example, in the above-cited example of the San Fernando Basin, effluent limits based on the existing water quality objective of 100 mg/l for chloride may be reasonable; however, with a current level of 31 mg/l in the aquifer, it certainly is not advisable to jump to 190 mg/l. Effluent limitations should be established such that groundwater quality is protected, and attenuation/assimilation of pollutants must be closely monitored to avoid unintended consequences that may result in costly and perhaps irreversible contamination. It is simply not clear that a paper exercise risk analysis in exchange for an extensive monitoring program will sufficiently protect the drinking water source for millions of California residents.

**Conclusion**

We would again like to thank the State Board for bringing the long overdue and important development of a statewide Recycled Water Policy to the public for comment. The development of such a policy is essential, not only to provide guidance to regional boards and create more consistent and predictable permitting of recycled water projects, but also to ensure that encouragement of recycled water projects is properly balanced with protection of existing and future water quality. There is no doubt that reuse and recycling of California's limited water resources will be essential to meet the ever-growing demand for water in the state. Nonetheless, the laudable goal of encouraging reuse and recycling must be tempered by a vigorous commitment to protect and enhance water quality in the process.

Sincerely yours,



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