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Response to Comments

Proposed Recycled Water Policy

State Water Resources Control Board

March 7, 2008

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44	Maureen	Stapleton	San Diego County Water Authority
45	Maurice	Koch	General Public
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73	Teresa	Jordan	General Public
74	Timothy	Healy	Napa Sanitation District
75	Timothy	Nanson	County Waterworks District No. 8
76	Tom	Rosales	South Orange County Wastewater Authority
77	Tom	Zitgerman	Stanford University, Facilities Operations
78	Tracy	Egoscue	Los Angeles Regional Water Quality Control Board
79	Edward	Nute	Nute Engineering
80	Wendell	Kido	Sacramento Regional County Sanitation District
81	Woody	Maxwell	General Public
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101	Daniel	Ferons	Santa Margarita Water District
102	Don	McEnhill	Russian Riverkeeper
103	Jim	Gray	City of Roseville
104	John	Rossi	Western Municipal Water District

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105	Lorrie	Gervin	City of Sunnyvale
106	Mark	Norton	Santa Ana Watershed Project Authority
107	Marsi	Steirer	City of San Diego
108	Michael	Dunbar	South Coast Water District
109	Milind	Wable	General Public
110	Mindy	McIntyre	Planning and Conservation League
111	Patrick	Milligan	San Bernardino Valley Municipal Water District
112	Paul	Jones	Irvine Ranch Water District
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702	Tim	Blair	Metropolitan Water District
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728	Conner	Everts	General Public
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6701	Roberta	Larson	California Association of Sanitation Agencies

D R A F T

A. Antibiotic Resistance and Pathogens

Comment A.1:
The proposed Policy should address the potential impact to public health from antibiotic resistant pathogens and antibiotic resistant genes in recycled water. The disinfection procedures specified in the Title 22 regulations do not provide adequate protection against this threat. (18.6, 18.7, 71.9, 81.2, 81.6, 81.12, 1802.2, 1802.3, 1803.1, 1803.3, 1804.4, 1804.6, 1804.7, 1804.8)

Response:
Establishing criteria, including criteria for pathogens and antibiotic resistant genes, for recycled water to protect public health is a responsibility of the California Department of Public Health (CDPH). This is specified in Water Code section 13521. The Water Code requires water reclamation requirements issued by the Regional Water Boards to be in conformance with the uniform criteria established by CDPH.

CDPH has not established criteria for groundwater recharge reuse. It provides recommendations to the Regional Water Boards on a case-by-case basis on what requirements should be established to protect public health. The proposed Policy requires Regional Water Board to implement the CDPH recommendation, unless conflict resolution procedures are in 1996 Memorandum of Agreement (MOA) between the State Water Board and CDPH are exhausted. Again, it is CDPH's responsibility to evaluate the commenters' concern and make appropriate recommendations.

CDPH reports that antibiotic resistant genes have been found in drinking water and recycled wastewater, that their impact on public health is unknown, and that this potential impact may warrant further study. It is considering taking actions to evaluate whether antibiotic resistant genes in recycled water present a risk to public health.

Comment A.2:
Sewage sludge contains pathogens, pharmaceuticals, and endocrine disrupters. The pyrolysis method (an anaerobic heating process to decompose organic materials) should be used to treat sewage sludge. This method reduces methane production; destroys pathogens and pharmaceuticals; and converts sludge into energy. (81.3, 1804.5)

Response:
This is not a comment on the proposed Policy. The proposed Policy concerns the use of recycled water, not the land application or disposal of sewage sludge or biosolids.

B. Anti-degradation Policy

Comment B.1
State Board Resolution No. 68-16 requires the establishment of waste discharge requirements which "will result in best practicable treatment or control of the discharge to assure that (a) a pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained." As drafted, the proposed Policy asserts "water recycling irrigation projects and groundwater recharge reuse projects that comply with this Policy, the Porter-Cologne Water Quality Control Act, and the applicable Basin Plan, shall be considered to have met the requirements of State Water Board Resolution No. 68-16."

We do not support the proposed Policy's blanket, unsupported statement that generic compliance with the Policy, state law, and the Basin Plans equates to compliance with State Board Resolution No. 68-16. More specifically, the "analyses" of what constitutes best practicable treatment or control for irrigation projects or groundwater recharge reuse projects are entirely inadequate to inform the State Board's decision on this issue. In addition, conditions vary throughout the State, and the analysis that must be completed under State Board Resolution No. 68-16 should not be presumed satisfied with a one-size-fits-all proclamation in this Policy. (21.21, 23.2)

Response:
Compliance with the proposed Policy requirements, as revised, will be sufficient to comply with State Board Resolution No. 68-16 for two reasons. First, the State Water Board may, by adopting the proposed Policy as a later adopted and more specific policy, interpret its earlier adopted and more general Anti-degradation Policy (Resolution No. 68-16) as it applies to recycled water.

Second, the proposed Policy does more than just require compliance with existing law. The proposed Policy establishes statewide requirements for recycled water projects and finds that these are consistent with best practicable treatment or control. These requirements are specified in Sections I.A-D and III.B.1 and 2.

The proposed Policy also requires (Sections VII.A, VII.B, and VII.C) the implementation of the recommendations provided by CDPH, unless the conflict resolution process provided in the 1996 “Memorandum of Agreement between the Department of Health Services and the State Water Resources Control Board on the Use of Reclaimed Water” is exhausted. This recommendation will include the water recycling criteria established CDPH, plus any recommendations provided by CDPH on a case-by-case bases for uses for which CDPH has not established criteria, such as groundwater recharge. The criteria and recommendations include requirements that the State Water Board considers to be best practicable treatment and control for protecting public health.

Comment B.2:
The "analysis" provided does not support the assertion of what constitutes best practicable treatment or control for irrigation projects and groundwater recharge reuse projects. For irrigation projects, Finding No. 24 establishes best practicable treatment or control as "a nutrient management plan, applying recycled water in an amount that does not exceed the amount needed for landscape or crops, and controlling salt discharges to collection systems from industrial facilities and self regenerating water softeners." This suite of requirements as established by the proposed Policy cannot be considered best practicable treatment or control for the following reasons.

First, the described nutrient management plan -when required - does not establish any standards that a recycled water users must meet or even provide any indication of the standards and requirements the Regional Water Boards must require in a nutrient management plan. Without these details, it is impossible to assess whether a naked requirement to develop and implement a nutrient management plan will satisfy Resolution No. 68- 16's best practicable treatment or control requirement."(14.23, 23.2)

Response:
The term “nutrient management plan” has been replaced with “nutrient management practices” to clarify that a formal plan is not required during the interim period. However, nutrient management must be addressed during the development of salt management plans. The proposed Policy definition of “nutrient management” provides direction regarding what nutrient management practices must address. c. The Regional Water Boards may, where necessary, add more detail to this requirement to specify the appropriate level of nutrient management on a case-by-case basis. The practices may include education requirements or, for some facilities, the development of a detailed nutrient management plan. The requirement is an interim requirement for those groundwater basins where salt management plans are being developed. The requirements will expire when a salt management plan is adopted. A salt management plan must be developed for any groundwater basin where degradation is occurring that is inconsistent with Resolution No. 68-16. The salt management plan must include a description of best practicable treatment or control measures necessary to control nitrate in groundwater. The requirements in the proposed Policy adequately address potential degradation of groundwater by nitrates.

Comment B.3:
Second, neither the Draft Staff Report nor the proposed Policy provides any support for the conclusory and incorrect assertion that controlling salt dischargers by requiring that recycled water used for irrigation projects not exceed the source supply's TDS levels by more than 300 mg/l represents best practicable treatment or control. Rather, the staff report itself lays out the reason that the 300 mg/l

"control measure" by definition cannot be best practicable treatment or control, stating that it "was selected as being a difference that the majority of recycled water producers can currently meet." In other words, this at most represents the average of what is practicable. Resolution No. 68-16 requires a finding that the technologies or controls established be "practicable." (Emphasis added.) (38)

Response:
The draft Policy does not conclude that compliance with the limit in the incremental increase of TDS, by itself, constitutes best practicable treatment or control. This limit, along with the other requirements discussed above, e.g., nutrient management practices, meet the best practicable treatment or control standard. Second, the comment appears to interpret “best practicable” to mean “best available.” Usage of the term “best practicable” is commonly understood by the regulated community to indicate a less rigorous standard than “best available.” For example, the Clean Water Act uses this terminology extensively. The interim allowable incremental increase has been raised to 550 mg/l, because of comments that the 550 mg/l limit would be unachievable for a large number of water recycling facilities.

Comment B.4:
This same lack of analysis undermines the assertion that the best practicable treatment or control requirement of Resolution No. 68-16 will be satisfied for groundwater recharge reuse projects since "CDPH provides recommendations for the design and operation of these projects." Neither the draft Staff Report nor the proposed Policy provides any analysis to give the public, the Regional Boards, or the State Board itself the ability to evaluate whether CDPH's recommendations are best practicable treatment or control, or even what CDPH's recommendations might be. (23.2)

Response:
Finding No. 25 of the proposed Policy provides that CDPH recommendations for groundwater recharge reuse projects have been consistent with best practicable treatment or control. These recommendations cannot be outlined in the proposed Policy because they are offered on a project-specific basis; for example, see the discharge requirements for the Water Factory 21 facility in Orange County and the Alamitos Barrier Project in Los Angeles County. Finding No. 25 represents a conclusion that the CDPH recommendations for these types of projects to date constitute best practicable treatment or control for groundwater recharge reuse projects.

If CDPH recommendations for future projects are determined by a Regional Water Board to not represent best practicable treatment or control, the proposed Policy provides a dispute resolution process to resolve the issue. If a member of the public is not satisfied with waste discharge requirements adopted by a Regional Water Board after incorporating CDPH recommendations and

conditions of approval, they may file a petition with the State Water Board under Water Code section 13320 challenging the requirements.

Comment B.5:
CDPH recommendations do not assess whether and how the project will impact all beneficial uses of affected surface water and groundwater. Without the required analysis, it is impossible to say that degradation of the impacted water bodies caused by recycled water use will be consistent with the "maximum benefit of the people of the State," as required by Resolution No. 68-16. (6.28)

Response:
CDPH authority is limited to public health, which does not typically consider impacts on agricultural or other uses of water. For this reason, Resolved No. 10, now Section IV.A, provides that a Regional Water Board may establish a limit more stringent than the CDPH limit, if necessary to protect a beneficial use other than municipal or domestic use, such as agricultural use.

With respect to surface waters, Resolved No. 7(e), now Section I.B. requires compliance with the federal Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) regulations. The NPDES regulations require protection of all beneficial uses of surface waters, and require an anti-degradation analysis for any point source discharge to surface waters (see 40 CFR 131.12).

Comment B.6:
Irrigation with recycled water in an amount or manner needed by landscaping or crops in systems designed and operated pursuant to Title 22 represents best practicable treatment and ensures prevention of pollution and nuisances for the purposes of State Water Board Resolution 68-16. (17.13)

Response:
Complying with Title 22 and controlling the amount of recycled water applied are valid methods for controlling discharges of pollutants to groundwater. However, these requirements, by themselves, do not constitute best practicable treatment or control. The proposed Policy includes two additional requirements for groundwater basins where groundwater quality objectives are being violated or threatened or where degradation is occurring that is inconsistent with Resolution No. 68-16. These requirements are to limit the increase in TDS from the source water to the produced water to 550 mg/l and to implement nutrient management practices, when the nitrogen concentration in the recycled water exceeds three mg/l. These requirements, taken together, represent best practicable treatment and control.

Comment B.7:
Best practicable treatment or control should be defined as the use of economically feasible treatment or control technologies that most effectively

prevent the introduction of pollutants into waste streams or that remove the most amount of pollutants from them. Economically feasible should be interpreted from a general perspective, focusing on what is feasible for the majority of facilities in the applicant industry. For irrigation projects, best practical treatment or control should be defined as Title 22. (14.23)

Response:
the commenter's proposed definition of best practicable treatment or control is too vague.

Comment B.8:
The proposed Policy does not give enough consideration for local geology and hydrology to ensure the validity of Resolved No. 16. In essence, the proposed Policy exempts projects from the need to demonstrate compliance with one of California's most fundamental environmental rules. (34.7)

Response:
As discussed above, Resolved No. 16, now Section VI.A, properly concludes that compliance the proposed Policy requirements will ensure compliance with State Water Board Resolution No. 68-16.

Comment B.9:
Singling out users of recycled water to address degradation is disproportionate, onerous and ultimately ineffective, considering that the problem is created by all users of water, especially commercial and residential irrigators not using recycled water, industrial users, and those who add water softeners. (65.5)

Response:
An intention of the policy is to require, where necessary, the development of salt management plans that address discharges from all sources of salt with a basin.

Comment B.10:
In areas of high quality groundwater, the proposed Policy should include provisions that protect the assimilative capacity of the groundwater, which is one of the key prongs of state and federal anti-degradation policies. (78.2)

Response:
The State Water Board has the power to authorize full use of the assimilative capacity of waters of the state as long as pollution or nuisance does not occur, all beneficial uses are protected and the State Water Board finds that it is in the maximum benefit of the people of the state to allow such usage and best practicable treatment or control is applied. The proposed Policy requires protection of all beneficial uses and finds that compliance with its terms will ensure compliance with State Water Board Resolution No. 68-16, which requires the maximum benefit and best practicable treatment or control findings.

Comment B.11:
There is no analysis to support Finding No. 26. (78.15)

Response:
Finding No. 26 summarizes the benefits of increased water recycling and concludes that these benefits outweigh the costs of any degradation that may result, as long as best practicable treatment or control is applied and no water quality objectives are violated. This is a sufficient analysis under State Water Board Resolution No. 68-16, which does not require a formal cost-benefit analysis.

Comment B.12:
The Los Angeles Water Board has a water recycling workgroup that is making progress. The proposed Policy is compromising this effort. The proposed Policy inappropriately limits Regional Water Board authority and is in conflict with the Anti-degradation Policy. (704.1)

Response:
The State Water Board has the power to limit Regional Water Board authority when it adopts a statewide policy for water quality control. As explained above, the proposed Policy does not conflict with the State Water Board Anti-degradation Policy. Rather, it interprets the Anti-degradation Policy in the specific context of water recycling.

Comment B.13:
The Anti-degradation Policy applies only to the disposal of wastes. The use of recycled water should not be considered a discharge of waste and the Anti-degradation Policy should not apply. (501.4)

Response:
Although recycled water is a valuable resource, it is still a waste under the definition of waste in Water Code section 13050. Clearly, treated wastewater that is discharged to a stream is a waste. The fact that this treated wastewater is diverted from a stream for recycling does not change its chemical, physical, or biological character as a waste; it still contains the same concentrations of pollutants, contaminants, or other constituents of concern that could adversely affect water quality if not regulated.

C. Assembly Bill 1481 (Chapter 535, Statutes of 2007)

Comment C.1:
The proposed Policy should include provisions to recognize Assembly Bill 1481 and its requirement for the adoption of a general permit for recycled water irrigation. (8.1, 72.11, 502.1)

Response:
It is not necessary to include a discussion of Assembly Bill 1481, Water Code section 13552.5, in the proposed Policy. The State Water Board is aware of this legislation and of its responsibility to implement it.

D. Compliance with Water Quality Objectives

Comment D.1:
The proposed Policy includes the statement that "The Regional Water Board shall require the use of recycled water to not cause or contribute to violations of water quality objectives" [See Resolved No. 7(f)]. This requirement should be deleted or edited so that salts are excluded. (6)

Response:
Water Code section 13263 states that waste discharge requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of section 13241. Since water quality control plans establish water quality objectives and require compliance with those objectives, waste discharge requirements must also require compliance with water quality objectives. Therefore, there is no need to change the proposed Policy's requirement that the use of recycled water must not cause or contribute to violations of water quality objectives.

Comment D.2:
Finding No. 13 attempts to make the case that groundwater monitoring is not needed for irrigation projects using recycled water. If there are no effluent limitations and there is no groundwater monitoring, how is it determined that the water recycling project is meeting water quality objectives?" (78)

Response:
See response to Comment I.2.

E. Definition of Recycled Water

Comment E.1:
The Policy provides a mixed message in regard to the definition of recycled water. The policy uses a precautionary theme to apply laws designed to regulate discharges of waste to recycled water throughout the policy findings -19, 20, 22 and 23. However, resolved No. 4 defined recycled water as a valuable resource. (41.2)

Response: Even though recycled water may be valuable resource, its use may still need to be regulated to protect human health and the environment. The

proposed Policy regulates recycled water as necessary to protect water quality and public health.

Comment E.2:
The recycled water definition in Resolved No. 5 should facilitate water recycling and its beneficial uses. (6.17)

The recommended edit is:

> "Recycled water irrigation projects are defined as those projects that use recycled water primarily to meet a water supply need, instead of a disposal need in accordance with the Water Recycling Criteria and in order to meet agronomic needs. A single recycled water project includes any incremental additions or modifications made in conformance with the associated recycled water program for which the provisions of the California Environmental Quality Act (commencing with Public Resources Code section 21000) have been satisfied. Such additions or modifications include, but are not limited to, the use of recycled water pursuant to the provisions of this Policy for newly established or existing playgrounds, parks, median strips, and other landscapes or crops." (6.17)

Response:
The definition for a recycled water irrigation project has been edited. The new definition is: "Irrigation Projects" are projects that use recycled water primarily to meet an irrigation water supply need, not just a disposal need. The reference to CEQA is unnecessary.

Comment E.3:
The recycled water definition in Resolved No. 4 should be consistent with the definition in the Porter-Cologne Water Quality Control Act so that winery process water is not included in the definition of recycled water. (39.1)

Response:
The definition now reads: "Recycled Water" has the same meaning as in Water Code section 13050(n) , but is limited to municipal wastewater sources and has also been treated to appropriate levels given the planned usage, as required by the California Code of Regulations, Title 22, Division 4, Chapter 3, Recycling Criteria." This definition excludes winery waste process water, since it is not produced from municipal wastewater.

Comment E.4:
The proposed Policy should explain the difference between the recycled water definition in Water Code 13050(n), and the one in CCR Titled 22, Chapter 3,

sections 60301 to 60355. The recycled water definition in CCR Title 22 was developed strictly for public health concerns. (71.1, 71.2)

Response:
The definition has been changed to include references to Title 22, Division 4, Chapter 3, Recycling Criteria.

F. Findings

Comment F.1:
The claim in Finding No. 3 that the use of recycled water would result in substantial energy savings is questionable, at least in the Sacramento Region. (29.10)

Response:
Although in the Sacramento region it may take less energy to use water from a nearby river than to use recycled water, in southern California it takes less energy to use recycled water than to use water transported from northern California. The proposed Policy addresses energy savings statewide rather than only in certain municipalities.

Comment F.2:
Finding No. 4 states that uniform interpretation of similar Basin Plan requirements is needed. The proposed Policy should not default to the most lenient and least water quality protective interpretation of these requirements. (2.4)

Response:
The proposed Policy does not default to the most lenient and least protective interpretation. The existing regulation of recycled water irrigation projects is uneven. Some Regional Water Boards establish effluent limitations; some establish groundwater limitations; and some establish no limitations. The proposed Policy standardizes the requirements.

Comment F.3:
Regarding Finding No. 11, it is inappropriate to regulate the amount of recycled water applied to a site because (1) the producers cannot determine the appropriate amount applied; (2) it is unclear what the appropriate amount is; and (3) the distribution uniformity should be determined before the Policy adoption. (51.2)

Response:
It is appropriate to regulate the amount of applied recycled water in order to promote the goal of water conservation. Regarding (1), producers can determine the appropriate amount applied, since it is well understood by the regulated community and further described in Section III.A.3 of the proposed Policy.

Regarding (2), this amount can be determined. The amount to be applied is understood in the regulated community, and the factors are set forth in Section III.A.3 of the proposed Policy. Regarding (3), distribution uniformity is site-specific and cannot be established statewide.

Comment F.4:
The statement in Whereas No. 13 is incorrect because the source of the recycled water is municipal wastewater. (2.10)

Response:
The threat of nitrate contamination that recycled water poses to groundwater is similar to that of sites irrigated with surface or groundwater and fertilized with nitrogen-containing fertilizers. Although recycled water is not identical to surface water or groundwater, the general level of threat to water quality from projects managed in accordance with the proposed Policy is similar to that from surface water or groundwater.

Comment F.5:
All groundwater recharge may change the geochemical equilibrium in an aquifer. This is not a phenomenon unique to recycled water. Therefore, Finding No. 18 should be deleted. (17.47)

Response:
Although other sources of recharge water may change the geochemical equilibrium in an aquifer, this does not change the fact that recycled water also has this potential and that this potential should be analyzed as a requirement of the proposed Policy, which is limited to recycled water.

Comment F.6:
Regarding Whereas No.26, the proposed Policy does not present the costs associated with the lowering of water quality that occurs when the aquifer's ability to assimilate pollutants has been used up by the recycled water. (2.17)

Response:
Recital No. 26 recognizes that a recycled water project may not cause a violation of water quality objectives, as does Sections I.A. Furthermore, the recital does speak to the cost of using up assimilative capacity. Finally, the proposed Policy is a short-term, interim approach that is intended to temporarily limit increases in salt until the Regional Water Boards adopt salt management plans.

G. General Comments

Comment G.1:
The proposed Policy provides a uniform approach to all situations and overlooks regional and local issues. The proposed Policy should allow different interpretations of Basin Plans, consideration of regional and local issues, and a

project specific approach. The proposed Policy must include flexible requirements to allow project-specific analysis. (2.2, 2.3, 2.5, 2.7, 2.18, 7.5, 7.6, 10.6, 10.10, 14.4, 34.1, 65.3, 76.8, 76.9)

Response:
The adoption of policy is necessary to establish uniform requirements for recycled water use. Inconsistent regulation at the Regional Water Board level has been discouraging the development of water recycling projects to address the state's water shortage.

Comment G.2:
The proposed Policy has many costly new requirements on recycled water use that will discourage its use. The proposed Policy should reflect its goal of encouraging the use of recycled water. (41.1, 50.1, 74.15, 74.16, 501.1, 501.5, 35.1, 69.2, 72.13, 501.2, 502.3, 502.18, 41.1)

Response:
The long-term effect of the proposed Policy after the development of the salt management plans will be an increase in the use of recycled water and more protection of groundwater supplies.

Comment G.3:
The State Water Board is responsible for management and development of the proposed Policy. It should not defer any aspect of the proposed Policy to the Regional Water Boards. (46.2)

Response:
As with any statewide policy, there is a need to balance uniform statewide requirements and the need to deal with site specific circumstances.

Comment G.4:
The proposed Policy gives too much discretion to the Regional Water Boards on how to interpret the proposed Policy. (501.3, 502.28, 502.29, 706.1)

Response:
The proposed Policy is intended to provide an appropriate balance between establishing uniform requirements and allowing some Regional Water Board discretion.

Comment G.5:
The proposed Policy generally lacks clarity and is not explicit. The proposed Policy needs to have clear language on the distinction between disposal and reuse and on the content of nutrient management plans. (706.1)

Response:
The definition for recycled water irrigation projects has been revised (Section 2.B). See responses to Comments B2 and Q8.

Comment G.6:
We recommend that the State Water Board support all the steps identified in the 2002 Water Recycling Task Force report. (64.1)

Response:
Although we support the recommendations of the Water Recycling Task Force, many of the recommendations are not within the State Water Board's authority. The proposed Policy is intended to implement the recommendations within the authority of the State Water Board.

Comment G.7:
It is unclear why the State Water Board is imposing so much regulation on recycled water even though the State Water Board acknowledges that there is not much difference between recycled water and surface or ground water supplies. (74.6)

Response:
The proposed Policy requires Regional Water Boards to prepare salt management plans. These plans must consider all sources of salt to a groundwater basin, including irrigation sites that use surface water or groundwater supplies. The plans must also address how water quality objectives for salts will be met. We anticipate that adoption of the salt management plans will provide regulatory requirements for recycled water that is proportionate to its contribution of salts to groundwater basins. In the interim, while the salt management plans are being developed, the proposed Policy requires that certain requirements be implemented.

Comment G.8:
The Central Valley Regional Board requests that the proposed Policy consider resources needed for implementing salt requirements in the proposed Policy. (35.5)

Response:
Because of the current state budget deficit, it is unlikely that general fund money will become available to fund the development of the salt management plans in fiscal year 2008-2009. However, it is appropriate to provide an incentive for dischargers to assist the Regional Water Boards in developing adequate implementation procedures, as stated in the Policy.

Comment G.9:
References to "water reclamation requirements" should be changed to "water recycling requirements". (71.3)

Response:
"Water reclamation requirements" is used in the proposed Policy, where necessary to be consistent with the Water Code.

H. Groundwater Monitoring

Comment H.1:
The proposed Policy prohibits the Regional Water Boards from requiring groundwater monitoring for irrigation facilities, unless site conditions present an increased risk to public health or surface water quality. The exceptions leave too much flexibility for the Regional Water Boards to require groundwater monitoring. (1.4)

Response:
The language regarding groundwater monitoring at sites where recycled water is used for irrigation, now III.B.2, has been edited. The revised language is consistent with our intent that, for the period during which salt management plans are being developed, groundwater monitoring should not normally be required, but may be required in some situations where there are certain site specific conditions that could pose an increased risk to public health or surface water quality. The language also allows Regional Water Boards to require water recyclers to monitor for salts, if necessary for salt management plan development and if similar informational burdens are imposed on other parties who may be contributing salt loadings to the underlying groundwater.

Comment H2:
Some Regional Water Boards and environmental organizations opposed the prohibition of groundwater monitoring for irrigation projects and questioned how compliance with water quality objectives could be evaluated without groundwater monitoring. (38)

Response:
Groundwater monitoring will not generate, at reasonable cost, accurate information on compliance with water quality objectives for irrigation sites within the specified time frame. For groundwater monitoring to be effective at detecting contamination, a number of conditions must be met. The groundwater monitoring well must be constructed correctly to allow for representative sampling and to detect the constituent of concern. The completion interval of the well must be of the correct length so that the constituent can be properly detected at representative concentrations. There must be at least one other well in the area upgradient of the monitoring well to establish background water quality for comparison purposes. Finally, the well must be in place long enough for any contamination to have migrated through the vadose zone and be present at a sufficient concentration to be definitively above background levels. Given all these conditions that must be in place and given the relatively short period of

time the deferral of groundwater monitoring would be in effect, there would be little chance of groundwater monitoring being able to detect infiltrate from recycled water landscape irrigation projects. The groundwater would need to be very shallow for any infiltrate to travel through the vadose zone and be detected in the groundwater, and the proposed Policy allows the Regional Boards to require groundwater monitoring in those cases. During the short period of time during which groundwater monitoring would be deferred and barring the unusual site conditions under which groundwater monitoring would be allowed, these projects would not be expected to lead to violations of water quality objectives.

Comment H.3:
A Regional Water Board can not evaluate whether site conditions "could cause an increased potential for an irrigated site to adversely affect public health or surface water quality", unless it first performs some groundwater monitoring. (73.4)

Response:
For most irrigation sites, information is usually available on the geology, soil characteristics, climate, groundwater depth, and groundwater quality for the area in which the site is located. This information can be obtained through a literature review and should be included in the information required to be provided to the Regional Water Board under Water Code section 13522.5. Additional site specific information may also be needed to evaluate a site, such as soil analyses and soil borings. This information will be adequate to evaluate if a site has an increased potential to adversely affect public health or groundwater quality.

Comment H.4:
Groundwater monitoring would be beneficial to evaluate whether the assumptions made about a project are correct and whether the controls developed to prevent pollution are working. If it is later discovered that a persistent organic chemical commonly found in recycled water has fouled our aquifers, the Regional Water Boards would already have data to respond to the problem. (73.4)

Response:
Although there would be some benefit to having groundwater quality data available to evaluate the effectiveness of the controls required by the proposed Policy, such a benefit would usually not be equal to the cost of obtaining the information. See also response to Comment I.2 above.

Comment H.5
The proposed Policy needs to provide direction on monitoring of groundwater recharge reuse projects. It appears to disfavor groundwater monitoring altogether, even for groundwater recharge reuse projects. (47.4)

Response:
Groundwater monitoring programs for groundwater recharge reuse projects should be developed by the Regional Water Boards and should be consistent with the CDPH conditions of approval. Direction from the State Water Board to the Regional Water Boards on how to do this is not necessary. The proposed Policy has been reformatted, in part, to clarify that the groundwater monitoring prohibition applies only to landscape irrigation projects during the period when a salt management plan is being developed.

Comment H.6:
Groundwater monitoring of irrigation projects should be performed, because there is no regional groundwater monitoring in place. (709 comment)

Response:
We recognize that regional groundwater monitoring may be required to obtain information necessary to develop the salt management plans. The proposed Policy has been edited to allow Regional Water Boards to require groundwater monitoring if other similar information burdens are placed on other dischargers of salt within the basin

Comment H.7:
Resolved No. 8 concerning groundwater monitoring should be removed because normal irrigation will not result in groundwater recharge. (501.38, 501.56, 501.57)

Response:
Normal irrigation practices include leaching to prevent the build-up of salts in soils. The salts are leached down to the groundwater.

I. Groundwater Recharge Reuse

Comment I.1:
The definition for groundwater recharge reuse projects is vague and needs clarification. (71.2, 723.1)

Response:
This definition is clear. Such projects must use recycled water and must be planned and operated for the purpose of recharging a groundwater basin for use as a source of domestic supply or for the purpose of controlling salt water intrusion. (Section II.B)

Comment I.2:
It is unclear whether the proposed Policy covers reservoir augmentation with recycled water. (2.16, 23.1)

Response:
The proposed Policy does not provide direction to the Regional Water Boards on how to regulate reservoir augmentation projects. No such projects have been permitted in California. Given the rarity of these projects, the Regional Water Boards should deal with these projects on a case-by-case basis.

Comment I.3:
Each groundwater recharge reuse project needs to be evaluated on a case-by-case basis to assure that groundwater is sufficiently protected. (2.1)

Response:
Under the Water Code, groundwater recharge reuse projects must be evaluated by CDPH. After evaluating the project, CDPH issues an approval for it, if it finds that the project will not degrade the quality of water in the receiving aquifer as a source of domestic supply. CDPH issues a set of conditions along with this approval. If the conditions are not met, the approval is withdrawn. CDPH is currently performing these evaluations on a case-by-case basis. After CDPH issues its approval, the Regional Water Board issues waste discharge/water reclamation requirements for the project, which include the CDPH conditions. Under the proposed Policy, the Regional Water Board may include additional or more stringent requirements, if necessary to protect a beneficial use other than municipal/domestic use. Under the proposed Policy, groundwater recharge reuse projects will be evaluated on a case-by-case basis to ensure protection of groundwater quality.

Comment I.4:
The proposed Policy provides inadequate flexibility for the Regional Water Boards to protect against future threats before they become a problem. (78.4)

Response:
For groundwater recharge reuse projects, the proposed Policy requires the Regional Water Boards to defer to the conditions required by CDPH or to follow the conflict resolution process described the MOA between the State Water Board and CDPH. The proposed Policy appropriately gives CDPH the primary responsibility for evaluating future threats to public health and for establishing appropriate requirements for groundwater recharge reuse projects to protect public health. The proposed Policy contains adequate flexibility for CDPH and the Regional Water Boards to consider future threats and establish appropriate requirements.

Comment I.5:
The provisions for groundwater recharge reuse projects should be edited and placed in single section. (6, 38)

Response:
The proposed Policy has been revised. Requirements that apply only to groundwater recharge reuse projects are in their own section. (Section V)

Comment I.6:
The proposed Policy should be expanded to address salts and best practicable treatment or control for groundwater recharge reuse projects. (58.1)

Response:
The CDPH conditions of approval for groundwater recharge reuse projects, establish technology requirements for groundwater recharge reuse projects. The proposed Policy states that CDPH requirements are consistent with best practicable treatment or control. In regard to salts, the proposed Policy allows Regional Water Boards to establish effluent limitations for salts, as recommended by CDPH to protect municipal/domestic supply, or to establish more stringent requirements to protect other beneficial uses. Additional Policy direction to the Regional Water Board is not necessary.

Comment I.7
The proposed Policy should not override the precedential Order issued by the State Water Board on the Alamitos Barrier Project. (717.1)

Response:
The proposed Policy is consistent with the Alamitos Barrier Project Order (Water Quality Order 2006- 0001) and provides further clarification for the Regional Water Boards to use.

Comment I.8:
Add additional language stating that the Regional Water Boards should to the greatest extent feasible rely on the expertise of CDPH. (6, 58, 71)

Response:
The proposed language is not necessary. The proposed Policy already requires implementation of the CDPH recommendation, unless conflict resolution procedures are followed.

Comment I.9
Although we generally support Resolved No. 10, which requires Regional Water Boards to use MCLs when developing effluent limitations for groundwater recharge reuse projects, this requirement could conflict with the CDPH recommendation. Specifically, the current CDPH draft regulations for groundwater recharge reuse projects do not require recycled water to meet the secondary MCL for color, and allow for compliance with certain constituents to be met in the vadose zone or groundwater. (58.19)

Response:
Section IV.A (formerly Resolved No. 10) does not apply to secondary MCLs such as color; it only applies to toxic constituents. With respect to draft CDPH regulations, these are not effective until adopted by CDPH and approved by the Office of Administrative Law. Finally, the proposed Policy currently allows for compliance with limitations in groundwater if specified conditions are met. (See Section V.A.).

Comment I.10:
The four required findings in Resolved No. 11 do not address the primary need for establishing a limit, the presence of a link between a chemical and a potential impairment of a beneficial use. (6.37)

Response:
Given the complexity of hydrogeologic conditions in the Regions, it may be difficult for Regional Water Boards to determine when a potential impairment of a beneficial use may occur for all constituents present in recycled water. Consequently, the proposed Policy specifies the four referenced findings that a Regional Water Board must make to establish numeric limitations based on its interpretation of an applicable narrative toxicity objective. These findings are appropriate to ensure that any numeric limitations are reasonably necessary to protect beneficial uses.

Comment I.11:
(1) Resolved No. 10 - CDPH requests that the wording at the beginning be changed to read “For constituents for which CDPH has established an MCL or has identified limits for public health protection,….”. (71.10)

(2) Resolved No. 11 should be deleted, because CDPH, as part of its mission, is charged with the responsibility for protection public health, not the Regional Water Boards. (6.36, 71.2, 71.10)

Response:
(1) The proposed Policy has been revised to clarify that CDPH not only establishes MCLs, but also recommends limits for public health protection pursuant to Water Code Section 13523(a). The proposed Policy requires the same deferral to CDPH for these recommendations as for MCLs. See Sections IV.A and IV.B.

(2) The Water Recycling Law (Water Code section 13500 et. seq.) requires close coordination between CDPH and the Regional Water Boards for groundwater recharge reuse projects. Water Code section 13540 sets forth a detailed interagency coordination process for these projects to ensure the protection of public health and all other beneficial uses of the waters of the state.

Comment I.12:

For Resolved No. 12, which allows Regional Water Boards to establish groundwater limitations for constituents in lieu of effluent limitations under some conditions, the burden of proof should be on the discharger to conduct appropriate studies to quantify an attenuation factor that would be considered by the Regional Water Board. (78.4)

Response:
Resolved No. 12 authorizes, but does not require, Regional Water Boards to establish groundwater limitations in lieu of effluent limitations. A Regional Water Board has existing authority to require a discharger to conduct appropriate studies to evaluate whether a constituent will attenuate at a project site.

Comment I.13:
The proposed Policy allows the Regional Board to set groundwater limitations and require groundwater monitoring for recharge reuse projects if it finds that a constituent is attenuated in soil, the vadose zone, and groundwater. We are concerned that this provision, although well intended, could conflict with the draft CDPH groundwater recharge regulations, which allow for compliance to be determined in the vadose zone for some constituents. This is important for some projects where the groundwater table is very deep and compliance determinations are not possible or extremely difficult unless alternatives to measure compliance are available. (17.48)

Response:
It is unlikely that a groundwater recharge reuse project would be placed in a location where the groundwater is very deep, because of the cost of extracting the water. Because of anisotropic conditions in the vadose zone, it is difficult to obtain representative samples with vadose zone monitoring. CDPH has required groundwater monitoring for all existing groundwater recharge reuse projects and is likely to do so for any groundwater recharge reuse project it approves in the future. The CDPH draft regulations are in draft, and do not come into effect until adopted by CDPH and approved by the Office of Administrative Law.

Comment I.14:
Resolved No. 13, which requires the Regional Water Boards to evaluate the potential of a proposed groundwater recharge reuse project to change the geochemical equilibrium in an aquifer, is unclear as to how such an evaluation should be conducted. (6.38, 71.5)

Response:
Because groundwater formations are complex and heterogeneous, the proposed Policy should not specify the evaluation procedures. The hydrogeologic conditions for each groundwater recharge reuse project should be evaluated on a case-by-case basis.

In general, an evaluation should include elements similar to other hydrogeologic studies Regional Water Boards have required pursuant to CWC section 13267. Typical elements of hydrogeological studies could include the following:

- The location and extent of the hydrogeologic influence of the proposed groundwater recharge reuse project.
- An evaluation of the hydrogeological system matrix materials and the ambient water.
- An evaluation of the presence and distribution of anthropogenic and natural constituents in the project area (e.g., the potential for disturbance of historic mineral deposits, salt lenses, etc.).
- Water quality characterizations of the recycled water, ambient groundwater, and dilutant water

A hydrogeological study could employ data obtained from a combination of available monitoring data, bench-scale modeling, pilot studies, and literature reviews.

Comment I.15:
CDPH stated in its letter that it does not consider its findings and conditions for groundwater recharge reuse projects to be recommendations, but considers them to be mandatory requirements for a project. CDPH stated that if its conditions are modified, changed, or deleted without consent of CDPH, then approval of the project by CDPH is withdrawn. (6.36, 71.6, 71.7)

Response:
This statement is not entirely consistent with the language in the Water Code. Section 13523 states that:

§ 13523. Reclamation requirements
(a) Each regional board, after consulting with and receiving the **recommendations** of the State Department of Health Services and any party who has requested in writing to be consulted, and after any necessary hearing, shall, if in the judgment of the board, it is necessary to protect the public health, safety, or welfare, prescribe water reclamation requirements for water which is used or proposed to be used as reclaimed water.

Groundwater recharge reuse projects that involve direct injection are subject Water Code section 13540, which states that:

§ 13540. In water-bearing strata
(a) No person shall construct, maintain or use any waste well extending to or into a subterranean water-bearing stratum that is used or intended to be used as, or is suitable for, a source of water supply for domestic purposes.

(b)(1) Notwithstanding subdivision (a), when a regional board finds that water quality considerations do not preclude controlled recharge of the stratum by direct injection, and when the State Department of Health Services, following a public hearing, finds the proposed recharge will not degrade the quality of water in the receiving aquifer as a source of water supply for domestic purposes, recycled water may be injected by a well into the stratum. The State Department of Health Services may make and enforce any regulations pertaining to this subdivision as it deems proper.

For groundwater recharge reuse projects that involve direct injection, both the Regional Water Board and CDPH must find that the proposed project will not degrade the quality of groundwater as a source of water supply for domestic purposed. The CDPH findings are conditional, and the conditions can be considered to be requirements. Recommendations for other facilities that are not based on CDPH water recycling criteria, however, are not requirements. Nevertheless, the proposed Policy requires that the Regional Water Board to implement CDPH recommendations, unless the conflict resolution procedure in the 1996 MOA between the State Water Board and CDPH is followed.

Comment I.16:
The State Water Board should expand the proposed Policy to clarify the difference between groundwater recharge and routine irrigation projects, and establish minimum levels of treatment, monitoring and protection. (22.4)

Response:
The definition of groundwater recharge reuse project in the proposed Policy is clear (Section II.B). Using this definition, one would not confuse an irrigation project with a groundwater recharge reuse project. The proposed Policy does not prescribe detailed requirements for groundwater recharge reuse projects, because CDPH is developing detailed requirements for the projects.

Comment I.17:
For Resolved No. 12, is the Regional Water Board allowed to establish both effluent limitations and groundwater limitations? The 3rd sentence of Resolved No. 12 states that "The groundwater shall comply…"; It should be "the discharger shall comply…" (2.26, 2.27)

Response:
In general, the proposed Policy does not prohibit the Regional Water Boards from establishing both effluent and groundwater limitations for constituents. For the special case, however, where the Regional Water Board is not requiring compliance with the water quality objective at the point of discharge, then there would be no effluent limitation. We agree with the proposed edit and have modified the proposed Policy accordingly.

J. Impacts of Recycled Water

Comment J.1:
Recycled water use impacts human health and water quality. The proposed Policy should fully consider and address the impacts. The proposed Policy should require establishment of limitations to protect all beneficial uses. (7.11, 29.6, 38.3, 2.13, 21.1, 38.9, 502.2, 705.1, 706.1, 707.1, 721.1)

Response:
Water Code Section 13263 already requires Regional Water Boards to adopt requirements that protect all beneficial uses, and the proposed Policy does not change this legal provision. Specifically, the proposed Policy Section I.A prohibits violations of water quality objectives, thereby protecting all beneficial uses. For groundwater recharge reuse projects, the proposed Policy allows the Regional Water Boards to establish effluent or groundwater limitations to protect all applicable beneficial uses (Section IV.A).

Comment J.2:
According to California Water Code section 13522(b), use of recycled water that meets uniform statewide recycling criteria does not cause contamination. (35.3)

Response:
Although this is not a comment on the proposed Policy, we are nevertheless providing the following information. The comment is only a partial selection of the section, which needs to be considered in full. As shown below, compliance with the CDPH water recycling criteria does not exempt a person from liability if a Regional Water Board finds contamination to exist.

California Water Code section 13522 states that:

"§ 13522. Abatement order

(a) Whenever the State Department of Health Services or any local health officer finds that a contamination exists as a result of the use of recycled water, the department or local health officer shall order the contamination abated in accordance with the procedure provided for in Chapter 6 (commencing with Section 5400) of Part 3 of Division 5 of the Health and Safety Code.

(b) The use of recycled water in accordance with the uniform statewide recycling criteria established pursuant to Section 13521, for the purpose of this section, does not cause, constitute, or contribute to, any form of contamination, unless the department or the regional board determines that contamination exists."

K. Impoundments

Comment K.1:
The proposed Policy should 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 Water Boards 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. (38)

Response:
The State Water Board has already adopted regulations in CCR Title 27, Division 2, that specify requirements for discharges of waste to land, including surface impoundments. These regulations include an exemption (CCR Title 27, Section 20090(a)) for storage of municipal wastewater that meets certain criteria.

Comment K.2:
The Staff Report should state the impacts to groundwater and surface water from discharges of recycled water from impoundments and the proposed Policy should include requirements for preventing these impacts. (38.2, 47.2)

Response:
Protection of groundwater from impoundments is required by California Code of Regulations, Title 27. Nothing in this proposed Policy supersedes these regulations, which the Regional Water Boards will apply on a case-by-case basis. Section I.B. of the proposed Policy requires all recycled water projects, including associated storage (overflow from impoundments) as well as incidental runoff, to comply with the federal Clean Water Act and its implementing regulations (Code of Federal Regulations, Chapter 40, Part 122, National Pollutant Discharge Elimination System).

L. Incidental Runoff

Comment L.1:

There are adequate existing regulatory schemes for regulating incidental runoff. The incidental runoff should be regulated under existing permits such as municipal storm water permits, low threat discharge permits, and master reclamation permits. (6.6, 6.65, 6.66, 10.8, 13.7, 17.38, 19.3, 22.4, 24.3, 25.1, 42.2, 44.5, 58.16, 65.7, 72.12, 74.11, 501.48, 712.1)

Edits recommended by commenters included:

"Incidental amounts of recycled water runoff that occur as the result of normal irrigation operations, including ornamental water features, should be managed and permitted using existing mechanism in the same manner as other types of irrigation runoff including, but not limited to, municipal separate storm sewer system permits, general permits, or master reclamation permits. Irrigation in amounts needed for landscape or crops in systems designed, permitted or operated pursuant to the requirements of Title 22 generally will not result in discharges to surface waters." (17.39)

"For the purposes of complying with the NPDES regulations, incidental runoff can and should be covered within existing regulatory schemes for irrigation water to the maximum extent practicable." (19.3)

"Incidental amounts of recycled water runoff that occur as the result of irrigation operations shall be managed by irrigation Best Management Practices and permitted using existing mechanisms in the same manner as other types of irrigation runoff. These mechanisms include, but are not limited to, municipal storm water permits, general permits, or master reclamation permits." (58.16)

"Minor amounts of recycled water that escape use areas that are managed in a manner consistent with the Water Recycling Criteria and landscape or crop needs constitute incidental irrigation runoff. The State Water Board has developed a range of regulatory schemes for assuring federal Clean Water Act compliance for irrigation runoff, including the Municipal Separate Storm Sewer System (MS4) permitting system.

Incidental recycled water runoff shall be managed and permitted using exiting mechanisms in the same manner as other types of irrigation runoff, including, but not limited to, municipal separate storm sewer system permits, general permits, or master reclamation permits." (6.35)

Response:
See response to Comment L.2.

Comment L.2:
We do not support development of a general NPDES permit only to regulate incidental runoff of recycled water. An NPDES permit would put additional permitting burden on water recyclers and discourages the use of recycled water.

Recycled water irrigation runoff should be regulated in the same manner as all the other types of irrigation runoff, such as irrigation runoff from potable water and groundwater. (6.35, 6.66, 19.3, 25.1, 58.5, 58.16, 69.4, 74.10, 74.11, 501.23, 501.49)

Response:
See response to Comment L.2.

Comment L.3:
The proposed Policy could be interpreted to mean that recycling projects need a separate NPDES permit. Resolved No. 7 should be deleted. NPDES permits regulate discharges of pollutants into waters of the state. But recycled water discharges do not constitute a discharge of pollutants. (6.63, 6.66, 14.19, 17.37, 19.3, 25.1, 69.4, 78.10, 501.21, 501.48, 6701.6)

Response:
If a recycled water project discharges pollutants to waters of the U.S., federal law requires an NPDES permit. State law cannot be less stringent than federal law.

Comment L.4:
The proposed Policy should state that incidental runoff of recycled water and overflow from recycled water impoundments shall be regulated under existing regulatory mechanisms in the same manner as runoff and overflow from other water sources. (6.63, 6.65, 17.38)

Response:
See response to Comment L.2.

Comment L.5:
The proposed Policy should define what incidental runoff is. (6.18, 7.10, 7.13)

Response:
See response to Comment L.2.
Comment L.6:
The proposed Policy must provide the reasonable regulation for incidental runoff of recycled water. (6.64)

Response:
See response to comment L.2.

Comment L.7:
Some comments stated that discharges of incidental runoff of recycled irrigation water should be regulated by an NPDES permit.

The following gives more detailed summary of the comments with the comment numbers listed in the bracket after each comment summary:

- The recycled water is the same water as wastewater, which is regulated by the California Toxic Rule, Clean Water Act and Porter-Cologne. Although each runoff event is incidental, the accumulated impact can be toxic. Title 22 standards are too weak to regulate toxic effect of incidental discharges of recycled water. (7.2, 7.4, 7.12, 7.13, 804.3)

- Incidental runoff of recycled water should be regulated by a statewide NPDES permit. The proposed Policy should state in its resolutions that the State Water Board will issue an NPDES permit for discharges of incidental runoff. (38.2, 73.2)

Response:
See response to Comment L.2.

Comment L.8:
Incidental discharges of recycled water have a de-minimums impact on groundwater. (501.37)

Response:
There is no de minimus exception from Clean Water Act permit requirements when there is a discharge of pollutants from a point source to waters of the U.S.

Comment L.9:
The staff report must include the impacts from discharges of incidental runoff of recycled water on terrestrial and aquatic species, including genetic shifts and potential accumulative adverse impacts on biodiversity. (1803.5)

Response:
Section I.B. of the proposed Policy requires all recycled water projects, including associated storage (overflow from impoundments) as well as incidental runoff, to comply with the federal Clean Water Act and its implementing regulations (Code of Federal Regulations, Chapter 40, Part 122, National Pollutant Discharge Elimination System). Any impacts to these species would be addressed through the NPDES permitting process rather than through the proposed Policy. Furthermore, there is no substantial evidence in the record to support the assertion that the suggested impacts could occur to any degree.

M. Industrial Discharges

Comment M.1:
Comments from representatives of the petroleum, food processing, and winery industries requested that waste discharges from their facilities be excluded from being covered under the proposed Policy. The CDPH also suggested that the

policy be limited to recycled water produced from treatment of municipal wastewater. (39.4, 62.1, 62.2, 66.4, 77.6)

Response:
The proposed Policy has been edited to clarify that it is applicable to only to recycled water produced from municipal wastewater.

N. Liability

Comment N.1:
Resolved No. 17 provides that compliance with this Policy does not exempt a discharger from liability for contamination of groundwater, even if water quality standards necessarily become more stringent after requirements for a particular project have been set by a Regional Board. Both components of this provision are essential to ensuring water quality protection, because together they place the ultimate cost of ensuring that the utmost care is taken to prevent pollution and degradation of the environment where it belongs - with the entity granted the privilege of disposing pollutants in a public resource. There is no question that recycled water is a valuable commodity. There is no reason why the costs associated with its use, most importantly the potential pollution of our groundwater and surface waters, should be borne by anyone other than the organizations and people who gained the most financially from the pollution.(38)

Response:
We agree with this comment, but no change to the draft Policy is needed to address it.

Comment N.2:
Holding dischargers accountable is fair even if the pollution permitted is only later understood to be harmful. In fact, putting ultimate responsibility on the dischargers is an effective last resort, and in the case of some pollutants the only means, to push them to develop and take necessary measures to protect the resource. For example, we are just coming to understand many of the detrimental impacts associated with spreading pharmaceuticals throughout the environment. As such, it is only by placing ultimate liability for spreading these pharmaceuticals (and other unregulated contaminants) into the environment that the State Board can encourage dischargers to study and control their waste discharges to protect public health and the environment. (38)

Response:
We agree with this comment but no change to the draft Policy is needed to address it.

Comment N.3:

The liability provisions must be expanded to protect surface waters as well, we support placing ultimate responsibility for any harm caused on those granted the privilege of spreading pollutants in the environment." (38)

Response:
The existing liability provisions are sufficient and no change to the proposed Policy is necessary. Water Code section 13304 liability provisions, upon which the liability provisions in the proposed Policy are based, apply to surface waters as well as groundwater.

Comment N.4:
Resolved No. 17 should be edited to clarify that it is a restatement of existing statute and is not intended to create additional liabilities for water recyclers. (6.42, 6.54, 10.9,

Response:
Although we agree that this is a restatement of existing law and does not create additional liabilities for water recyclers, we have included this provision in order to make clear that the proposed Policy should not be construed to restrict the Regional Water Board's enforcement authority.

Comment N.5:
If Resolved No. 17 is a restatement of existing statute, then it is unnecessary. (6701.12)

Response:
Resolved No. 17 is necessaryto clarify that the proposed Policy is not intended to limit Regional Water Board enforcement authority with respect to responding to contamination resulting from a water recycling project. See response to Comment N.4.

Comment N.6:
It is not reasonable to hold water recyclers liable to standards that did not exist at the time of the discharge. (17.1)

Response:
The Legislature has considered this issue in Water Code section 13304(j), in which the requested limited liability is provided for acts occurring before January 1, 1981, if the acts were not in violation of existing laws at the time they occurred. If the comment were accepted it would be inconsistent with section 13304(j) and if applied to all Regional Water Board programs would severely restrict Regional Water Board authority to require cleanup of contaminated sites.

Comment N.7:
Resolved No. 18, which allows Regional Water Boards to require financial assurances, is unnecessary, is vague, would discourage the development of

groundwater recharge reuse projects, would interfere with the legislative budgeting processes of local governments, and is inconsistent with Water Code section 13360 (Method of Permit Compliance). (41.9, 41.1, 75.5, 41.9)

Response:
We have revised the draft Policy to eliminate the financial assurance requirements.

Comment N.8:
Liability and financial responsibility should be a negotiated item between the parties entering into a groundwater recharge agreement. The Policy should be revised to simply indicate that these two issues should be addressed by the parties entering into an agreement for groundwater recharge. (9.1)

Response:
The state has the ultimate responsibility to protect its waters by imposing cleanup liability when necessary. It cannot delegate this authority to waste dischargers or water users.

Comment N.9:
If the State Water Board desires to require demonstration of financial assurances, the Board must at a minimum undertake a public rulemaking process to develop clear criteria and standards against which a project would be judged. The development of such regulations, which would rarely, if ever, be needed, would not be a good use of the State Water Board's limited resources. (6701.4)

Response:
This issue is now moot, since we have revised the proposed Policy to eliminate the financial assurance requirement.

Comment N.10:
The proposed Policy may conflict with the recent decision in the Hartwell case, which provided safe harbor for water utilities regulated by the Public Utilities Commission against future liability when water standards become more stringent. (501.67)

Response: We do not agree with this comment because the Hartwell case applies different law to different facts than apply in the water recycling context. Hartwell addressed the liability of drinking water purveyors subject to the laws governing the Public Utilities Commission. The draft Policy applies to water recyclers subject to the laws governing the State and Regional Water Boards.

Comment N.11:

The designation of liability appears to be beyond the powers of the State Water Board, and in conflict with standing legislation pertaining to the California Public Utilities Commission – regulated water providers. (33.2)

Response:
The Water Code, in particular section 13304, provides authority to the State and Regional Water Boards to impose liability on any person who creates a condition of pollution or nuisance in waters of the state. Although the Public Utilities Code may not provide equal authority to the California Public Utilities Commission, this does not lesson the authority of the State and Regional Water Boards.

Comment N.12:
The policy is silent about to whom the discharger would be liable and for what the discharger would be liable. These issues should be resolved prior to proceeding with the proposed Policy. (33.2)

Response:
Water Code section 13304(a) is clear that dischargers are liable to the Regional Water Boards for cleanup of contamination, pollution or nuisance conditions. Therefore, the proposed Policy need not be revised to include provisions to clarify this point.

O. Limits

Comment O.1
CDPH notification levels cannot be used as permit limits. (38)

Response:
The proposed Policy does not address whether CDPH notification levels may be used as permit limits. For a specific groundwater recharge reuse project, the proposed Policy requires implementation of the CDPH recommendations for that project, unless specified conflict resolution procedures are followed. (Section VIII)

Comment O.2:
The proposed Policy should provide guidance or requirements on establishing effluent limitations for recycled water irrigation projects for all pollutants, not just salt. (38.9, 40.4)

Response:
Section I.A. requires that the use of recycled water in these projects not cause or contribute to violations of water quality objectives. These water quality objectives extend beyond salt. The State Water Board is not required to provide additional more specific requirements. This task is beyond the scope of the proposed Policy.

P. Nutrient Management Plans

Comment P.1:
The proposed Policy should allow recycled water users to work cooperatively in the development of best management practices for nutrients without imposing unique management and reporting requirements for irrigation water that happens to be recycled water. The use of a specific BMP, such as nutrient management planning, needs to be site specific (i.e. developed for specific regions or basins, or crops), and not driven solely by the use of recycled water. Nutrient management plans should only be required where needed to protect groundwater or surface water. (6.16, 17.15, 17.35, 39.2, 51.1, 58.14, 72.8, 77.3, 501.28)

Response:
The requirement has been changed from the development and implementation of nutrient management plans to the development and implementation of nutrient management practices. The Regional Water Boards will specify what practices will be required for specific irrigations sites. The requirements will apply only in basins where salt management plans are being developed.

Comment P.2:
Nutrient management plans should be required only for large-scale irrigation systems such as golf courses and crops for which nutrient management is typically performed, and not for landscape irrigation such as in residential, commercial, light industrial, and institutional areas where nutrient management is typically non-existent. (77.3)

Response:
Requiring residential and commercial facilities with small areas of landscaping to develop and implement nutrient management plans will not be practical. The Regional Water Board would specify the appropriate nutrient management practices on a case-by-case basis. At a minimum, however, the purveyor would be required to inform the users of the amount nitrogen in the delivered recycled water and to advise the users on making proper adjustments in fertilizer use.

Comment P.3:
Requiring nutrient management plans on a project-by-project basis without considering water quality objectives and whether the reach of the water body is impaired for nitrogen compounds will be contrary to the Legislature's intent to undertake all possible steps to encourage the development of facilities that recycle wastewater. If potential users or suppliers are required to implement a nutrient plan for individual irrigation projects, this will not encourage potential users to switch from potable to recycled water, which is contrary to the goal of the proposed Policy. (14.6, 14.8, 42.2, 44.3, 65.6, 76.5, 501.29, 718.1)

Response:

We do not consider the requirement to prepare and implement nutrient management plans to be burdensome, since they are used by many turf managers already. A proper accounting of nutrient applications to implement a nutrient management plan may reduce the cost of fertilizer applications.

Comment P.4:
Will implementation of nutrient management plans also reduce nutrients and salts other than nitrates? (2.8)

Response:
The intent of the requirement to implement nutrient management practices is to reduce discharges of nitrates to groundwater.

Comment P.5:
Will nutrient management also cover fertilizer application? (26.1)

Response:
Even though recycled water supplies ammonia and nitrate, it may not provide enough nitrogen to fully meet landscape or crop needs. Hence, supplemental fertilizer application is often needed. The applications from fertilizers would be accounted for when implementing the nutrient management practice requirement.

Comment P.6:
The proposed Policy proposes that users be required to establish nutrient management plans that will, in part, limit the amount of recycled water applied based on landscape and crop requirements and leaching potential. This requirement may be in conflict with existing regional water rights decrees, in that the new policy may be interpreted to dictate irrigation practices that are contrary to longstanding methods on which those water rights decrees are based. (33.3)

Response:
No evidence has been provided showing that a requirement to prepare and implement a nutrient management plan would force an irrigator to replace recycled water with surface water for a portion of the irrigation water to prevent over-application of nitrogen, nor has evidence been provided showing that this would conflict with existing water rights. If there is a conflict, a solution to resolve the conflict would be to remove nitrogen from the recycled water during the treatment process.

Comment P.7:
The proposed Policy fails to include a timeframe for developing and implementing the nutrient management plan and any other specifics about what the plan should include. The proposed Policy does not specify the nitrate levels that the dischargers should meet through the implementation of the nutrient

management plans. The State Water Board should clarify the expectations, in order to ensure that management plans protect water quality and are of the same high caliber among different dischargers. (40.6)

Response:
The requirements of the proposed Policy would be place in new or updated waste discharge requirements. If necessary, the waste discharge requirements can specify compliance schedules and more specific requirements for nutrient management practices.

Comment P.8:
We support the proposed Policy's requirement to develop nutrient management plans for groundwater discharges. However, as currently drafted, it is unclear when or where nutrient management plans would be required, and how they would be implemented and enforced. There are several key procedural and logistical aspects of the nutrient management plan development and implementation that need to be addressed. These include:

- Who shall be responsible for development and implementation of the nutrient management plan?

- Is it required to be prepared by a certified nutrient management planner?

- Are there any training requirements, technical or otherwise, that the person who develops the nutrient management plan and is responsible for its implementation must meet?

- How will violations be tracked and determined?

- If it is violated, how will it be enforced, and who will be liable for correcting violations and remediating damage caused?

- Will it be incorporated into the WDRs?

- Will it be a public document, subject to public review and later access?

These are all questions that, unless answered, will likely lead to significant disparities in nutrient management plan requirements imposed by different Regional Boards throughout the state.

Equally, if not more, problematic is the lack of standards or requirements that a nutrient management plan must meet to ensure that water quality is protected according to the law. Specifically, the definition of "nutrient management" in Resolution No**.** 3 provides that it is done to "budget and supply nutrients for plant production, properly use manure or organic by-products as a plant nutrient source, minimize degradation of surface water and groundwater resources,

protect air quality . . ., and maintain or improve the physical, chemical, and biological condition of soil.' These broad generalizations about the purposes of nutrient management do not tell Regional Boards what standards must be met to achieve protection of beneficial uses. Likewise, the bare description of what nutrient management is ("the act of managing the amount, source, placement, form, and timing of the application of plant nutrients and soil amendment") does not provide any better guidance for the Regional Boards on how to assess whether a particular nutrient management plan will be acceptable and effective in achieving the stated goals. The requirement in the Policy that recycled water be applied in an amount that does not exceed the amount needed for the landscape or crops is closer to the type of prescriptive requirement that must be included to direct Regional Boards on what must be required in nutrient management plans.

However, details are critical to the success of such a provision and these details are lacking. We encourage the Board to review the nutrient management plan requirements established by the Central Valley Regional Board in its recently adopted general WDR Order for Existing Milk Cow Dairies ("Dairy WDR") for the type of standards and elements that a nutrient management planning requirement should prescribe. We do not advocate here for the State Board itself to establish technical standards for nutrient management for all conceivable projects that may use recycled water. Rather, we suggest that the Policy must prescribe the types of technical standards that Regional Boards should establish and the specific protections that those standards must achieve.

In sum, while we are pleased to see that a nutrient management planning requirement is included in the Policy, it must have more detail and be more prescriptive, and enforcement mechanisms must be made more clear, to protect the health of affected waterways and achieve the Policy's goal of permit clarity. (701, 40.6)

Response:
The Regional Water Boards will place requirements to prepare and implement nutrient management practices in waste discharge requirements. Hence, the person whose name is on the waste discharge requirements is the person who must ensure that nutrient management practices are implemented. A producer may by contractual arrangement require a user to implement a nutrient management practice. But the ultimate responsibility for ensuring that a nutrient management practice is implemented rests with the person named on the waste discharge requirements.

The proposed Policy does not require the nutrient management plan to be prepared by a ”certified nutrient management planner” or someone that holds some other title, such as an agronomist, soil scientist, or agricultural engineer. The proposed Policy, however, does not prevent a Regional Water Board from requiring such a certification, if found necessary for a specific site.

The Regional Water Boards will evaluate compliance with the requirement to prepare and implement nutrient management practices during inspections. During inspections, Regional Water Board staff will request to see the nutrient management plan, if a nutrient management plan is being required. If the water recycled cannot produce the plan, the discharger will be found to be in violation.

The policy does not require nutrient management plans to be submitted to the Regional Water Board. Hence, a nutrient management plan would be available to the public, only if the Regional Water Board specifies that a nutrient management plan be developed and that this plan be submitted to the Regional Water Board.

A general requirement to implement nutrient management practices is sufficient for a statewide policy. Where more detail is needed, a Regional Water Board may add such detail to the waste discharge requirements it issues.

The nutrient management plan requirements in the Central Valley Water Board general waste discharge requirements for existing dairies with milk cows are appropriate for milk cow dairies. However, these requirements are more stringent than is necessary to minimize impacts on water quality from recycled water. Dairy waste has a concentration of nitrogen that is typically between 200 mg/l and 300 mg/l. Recycled water has a concentration of nitrogen that is usually between 15 and 35 mg/l for a conventional activated sludge process.[1] Hence, recycled water poses a much lower threat to water quality than does dairy waste.

Q. Policy Development Process

Comment Q.1:
The comments we made in March 2007 are not reflected in the October draft of the proposed Policy. We ask the State Water Board to respond to the comments. State Water Board should coordinate with the U.S. EPA, Regional Water Boards, California Department of Public Health (CDPH) and local governments during the policy development. (10.13, 14.1, 16.3, 39.13, 1804.1)

Response:
The State Water Board is not required to prepare a response to comments for comments received at the earlier workshop. It is required, however, to prepare a response to comments on the proposed Policy and has done so. The State Water Board routinely coordinates with U.S. EPA, the Regional Water Boards, and CDPH.

R. Policy Scope

Comment R.1:

[1] Water Reuse, Issues, Technologies, Applications, Metcalf and Eddy, 2006, Page 970.

Several commenters requested that the proposed Policy clearly state that certain projects or recycled water use are excluded from the scope of the proposed Policy. The requested exclusions are summarized in the following table:

Type of recycled water uses or projects requested for exclusion	Comment letter ID and Comment No.
Aquifer storage and recovery projects	8.3
Land treatment and disposal facilities	35.2
Oilfield produced waters	36.1 and 56.1
Wastewater from food processor that applied on land	62.1
Growers and vintners who already covered under a Waste Discharge Requirements (WDRs)	39.4

Response:
The proposed Policy has been modified. It now only applies to the use of recycled water produced from municipal wastewater.

Comment R.2:
Include a provision requesting the Regional Water Boards to update their Basin Plans once every two years to be consistent with the proposed Policy. (6.4, 17.52)

Response:
To the extent of any inconsistencies, existing law already provides that statewide policy for water quality control supersedes Regional Water Quality Control Plans.

Comment R.3:
Include a requirement that the users should first consider use of recycled water for irrigation, then groundwater recharge. (35.13)

Response:
The intent of the proposed Policy is to encourage the use of recycled water. We do not have preference as to whether recycled water is used for irrigation or groundwater recharge. Regional considerations would dictate the preferred use.

Comment R.4:
In addition to regulating salt, the proposed Policy should also focus on other pollutants in recycled water. (701.1)

Response:
The proposed Policy provides for regulation of pollutants other than salt. See response to Comment K.1.

Comment R.5:

The proposed Policy should focus on coastal areas. These areas suffer from water shortages and are growing. (60.3)

Response:
The proposed Policy is statewide, as is appropriate, since inland areas also suffer from water shortages.

Comment R.6:
The proposed Policy should broaden recycled water usage, e.g. for wetland creation, vehicle washing, and establish criteria for wetland use of recycled water. (5.1, 5.2, 63.1, 79.1)

Response:
The proposed Policy addresses uses that have been regulated inconsistently by the Regional Water Boards and that are considered in urgent need of being addressed. The proposed Policy does not preclude the State Water Board from adopting another policy or policies in the future that address other uses.

Comment R.7:
The proposed Policy should provide guidance to the Regional Water Boards to create consistent requirements to regulate recycling programs. (4.2)

Response:
The proposed Policy is intended to achieve this objective.

Comment R.8:
The proposed Policy should encourage and enable private industries to treat and sell their own wastewater. (63.2)

Response:
Industrial wastewater has characteristics that differ from those of municipal wastewater, and these characteristics vary from industry to industry. For this reason, a uniform statewide policy for recycled water produced from industrial wastewater was not developed.

Comment R.9:
The proposed Policy should be separated into two policies, one for irrigation, and one for groundwater recharge. (35.1, 69.2, 72.13, 501.2, 502.6)

Response:
The policy has been organized into sections, but there is no known advantage in adopting separate policies.

Comment R.10:

The proposed Policy should only focus on recycled water irrigation. The State Water Board should not complicate this issue by adding requirements on groundwater recharge (501.6, 502.4)

Response:
A purpose of the proposed Policy is to resolve issues remaining for groundwater recharge reuse after the State Water Board adopted the petition order for the Alamitos Barrier Project (Water Quality Order No. 2006-001).

Comment R.11:
The State Water Board should create a separate policy for use of storm water for irrigation and infiltration. (501.27)

Response:
The focus of the proposed Policy is recycled water; however, nothing in the proposed policy would preclude the State Water Board from adopting other policies in the future.

Comment R.12:
The State Water Board should develop a separate policy for water conservation. (73.7)

Response:
The State Water Board has authority to require water conservation when issuing water right permits and it does include water conservation requirements in these permits. Most of the state's water conservation requirements, however, are established by the Department of Water Resources which places water conservation requirements in contracts for State Water Project water. Nothing in the proposed policy, however, would preclude the State Water Board from adopting other policies in the future.

S. Recycled Water Is Not a Waste

Comment S.1:
The proposed Policy should not treat recycled water as a waste but as a valuable resource to be used beneficially. The proposed policy is in direct conflict with California Water Code section 13050(n) which defines recycled water as a valuable resource that is suitable for direct beneficial use. (1.1, 6.21, 6.46, 10.2, 65.2, 72.3, 80.2, 501.10, 501.8, 501.7, 502.7)

Response:
The proposed Policy recognizes that recycled water is a valuable resource used to meet the growing water supply needs of the state. However, recycled water is the product of a waste treatment process as defined in section 13050(d) of the

California Water Code. Recycled water contains waste constituents such as salts which could degrade the quality of groundwater, impacting beneficial uses. Consequently, recycled water must be regulated in accordance with the Water Code. The proposed Policy is consistent with Water Code section 13050(n) by encouraging the use of recycled water as defined and allowed by the Water Code.

T. Regulate Recycled Water Only With Water Reclamation Requirements

Comment T.1:
Concerning Resolved No. *7*, recycled water irrigation projects should not be regulated by waste discharge requirements or NPDES permits. Recycled water projects should only be regulated by water reclamation requirements. (501.24, 501.50)

Response:
The use of recycled water can affect the quality of waters of the state. Hence, its use is subject to waste discharge requirements. Nothing in the California Water Code provides an exemption for recycled water.

U. Resolution 77-1

Comment U.2:
Regarding Resolved No. 20, the proposed Policy should not supersede Resolution 77-1. (29.9)

Response:
The proposed Policy would supersede Resolution No. 77-1 only when there is a conflict between the two policies.

V. Salt Management Plans

Comment V.1:
The proposed Policy should recognize and not supersede successful local programs already being implemented that promote management and sustainable use of groundwater. (6.33, 14.5, 17.22, 17.24, 48.2, 48.3, 48.1, 72.1)

Response:
The proposed Policy has been edited to exempt the Santa Ana Water Board from the requirement to develop a salt management plan, since it already has one. Any other successful salt management efforts can be written into the salt management plans as they are developed.

Comment V.2:

Recycled water is one potential source, but there are many other sources of salts in groundwater basins. A stakeholder-driven basin-wide approach, rather than a project-by-project approach, is the best and most appropriate way to preserve groundwater quality. Salt management plans should address, as appropriate, all sources of salt to groundwater basins, including recycled water irrigation projects and groundwater recharge reuse projects. Such plans should be developed through a locally driven, collaborative, basin-wide planning process that is open to all stakeholders. (6.2, 72.6, 501.16)

Response:
All Basin Plan amendments, including the salt management plans, described by the proposed Policy, must be developed with extensive stakeholder participation, would employ a basin-wide approach, and would consider all sources of salt.

Comment V.3:
The Regional Water Board should develop a regional water supply database that includes already collected area-wide groundwater monitoring data collected by the water utilities and others. (502.12)

Response:
This is not a comment on the proposed Policy; nevertheless, we are providing the following information. The State Water Board has extensive groundwater monitoring data for certain areas collected through the Groundwater Ambient Monitoring & Assessment (GAMA) Program and other programs. Additional groundwater information is collected by other agencies including CDPH. Evaluation of existing data would be part of the development of salt management plans.

Comment V.4:
A salt management plan based on restricting self-regenerative water softeners and industrial sources of salts, as suggested in the proposed Policy, would be an unnecessary financial burden for the recycled water producers in certain service areas. This type of measure would not produce any significant reduction to the salt levels in our recycled water. (32.1, 76.2)

Response:
The proposed Policy requires salt management plans to be developed in certain cases, but does not specify the content of those plans. In response to concerns about any unnecessary financial burden for the interim TDS requirement, the incremental TDS limit has been increased from 300 to 550 mg/l in the proposed Policy (Finding No. 12 and Section III.B.1).

Comment V.5
Increases in salt concentrations in groundwater cannot be prevented. They can only be controlled. The proposed Policy should be revised to state that the increases can be controlled with the various measures listed. (35.3)

Response:
The comment concerns Finding No.11. The commenter misread the finding. The finding states that the increase of salt concentrations in groundwater **due to the over-application of recycled water** can be prevented.. The proposed Policy limits over-application in Section I.D.

Comment V.6:
The proposed Policy should require that water recyclers develop and implement Salinity Evaluation and Minimization Plans to ensure that the best practical treatment and control is identified and implemented to address salt. (35.14)

Response:
The proposed Policy contains an interim requirement that requires water recyclers to limit the increase in total dissolved solids from the public water supply to the produced recycled water to 550 mg/l. For the short (no more than five years, or ten years if extended) period during which a salt management plan would be developed, it is more effective to set a limitation to limit increases in salinity than it would be to require pollution prevention plans.

Comment V.7:
The 10-year timeframe (i.e. 2018) is unnecessarily long. Waiting ten years for the development of such a plan and even longer for its implementation is unacceptable, given that the impaired state of the groundwater basins in question is already established. The development of implementation plans for other water issues in the state has taken much less time and there is a large incentive for water suppliers to finish these plans quickly. Salt management plans should be developed within a maximum of five years (by 2013). (40.2)

Response:
The policy has been modified to accommodate this comment (Section III.).

Comment V.8:
Requiring salt management plans for all groundwater basins with water quality objectives that are threatened to be violated almost ensures this directive will result in salt management implementation plans for every urbanized groundwater basin in the state. Implementing salt management plans is a much larger issue than recycled water use and there have not been enough stakeholder discussions to develop a state-wide policy to require salt management implementation plans. A directive this comprehensive and onerous needs to be accompanied by significant guidance to Regional Water Board staff. Without this guidance, the water industry will just be faced with more regulatory uncertainty. (41.6)

Response:

The proposed Policy has been modified to clarify that it is the Regional Water Board which must determine which groundwater basins will require salt management plans. We agree that implementing salt management plans is a very large issue, and in fact it is the lack of progress in developing and adopting these plans that is a driving force in the development of the proposed Policy.

W. TDS Limitation

Comment W.1:
The proposed salt limits would not be sufficient to keep salt concentrations in groundwater and soil from increasing. (26.4, 2.19, 35.9, 40.1, 73.3)

Response:
The limitation on the increase in total dissolved solids from the public water supply to the produced recycled water will not prevent salt concentrations in all groundwater basins from increasing. The requirement is strictly an interim requirement intended to temporarily limit the increase until the Regional Water Boards adopts salt management plans.

Comment W.2:
The proposed Policy provides no basis for its statement that the 300 mg/l TDS limit represents best management practice. (35.9)

Response:
As referenced in “Wastewater Engineering”, Metcalf and Eddy, Third Edition, page 112, the incremental increase in TDS for municipalities is within the range of 180 -380 mg/l, excluding contributions from industries and self-regenerating water softeners. Therefore, the revised proposed increment of 550 mg/l is reasonable and attainable for most dischargers statewide. The proposed Policy has been modified to clearly articulate that the TDS limitation (which has also been modified to 550 mg/l on the basis of attainability, statewide) is a temporary measure to allow certain recycled water projects to benefit from clear permitting requirements that are consistent statewide (Section III.B.1).

Comment W.3:
To fully address chloride issues, suppliers may have to look for water sources that have lower chloride concentrations or may have to evaluate treatment options. Regional Water Board basin plans typically provide TDS water quality objectives. Certain reaches have TDS water quality objectives as low as 250 mg/L. If recycled water discharges enter these reaches at TDS levels that are 300 mg/L above the source supply concentration, water objectives may be exceeded and salt-sensitive species may be impacted. The State Water Board should establish recycled water limitations for concentrations of salts that are equivalent to the water quality objectives. The proposed Policy requires that the use of recycled water shall not " ... cause or contribute to violations of water quality objectives." This provision is appropriate, but it conflicts with much of the

proposed Policy, including the proposed TDS requirements that could impact receiving waters such as those with established chloride/salt TMDLs. By using the water quality objectives as the recycled water objectives, this provision can be achieved. On a site-specific basis, if salt water quality objectives are not met in the potable supply, alternative "b" could be utilized if approved by the local Regional Water Board. This alternative establishes limits based on a saltwater balance for an irrigated site. (40.1)

Response:
The proposed Policy has been modified to clearly articulate that the TDS limitation (which has also been modified to 550 mg/l (Section III.A.4) on the basis of attainability, statewide) is a temporary measure to allow certain recycled water projects to benefit from clear permitting requirements that are consistent statewide. To emphasize the temporary nature of this measure, the proposed Policy has been modified to clearly indicate that it will sunset after five to ten years, based on the basin-specific determination of the Regional Water Board. The intent of the State Water Board in proposing this Policy is for the clear, consistent permitting requirements to become a driving force in the development and adoption of salt management plans, on which little progress has been made statewide, with the exception of the Santa Ana Region. Finally, due to its use of the term “reach” and its reference to “species,” the comment appears to focus on surface water impacts from recycled water. However, the proposed Policy focuses on protection of groundwater, because it protects surface water through referral to NPDES program requirements.

Comment W.4:
I prefer Alternative “a”, the establishment of water quality objectives for salts that are equivalent to water quality objectives, instead of Alternative “d”, the establishment of effluent limitations based on an allowable increase in salinity from the public water supply to the produced water supply. Under Alternative “d”, salinity concentrations in groundwater would be allowed to increase. (73.3)

Response:
As explained above, the incremental TDS increase is a temporary measure only. In addition, water quality objectives cannot be exceeded (Section III.A.6).

Comment W.5
The interim salt management "backstop" limit of 300 mg/L for TDS for irrigation projects is a one-size-fits-all solution that alone will not facilitate recycled water use. This limit is unscientifically based, unfounded, unworkable, and excessively stringent. It will not facilitate recycled water use and may preclude many projects throughout the state. (10.7, 14.17, 17.25, 19.4, 20.3, 22.2, 24.1, 28.3, 75.3, 77.1)

Response:

In response to these comments, the limit in the proposed Policy has been increased to 550 mg/l, which the comments generally support as achievable. Furthermore, as stated above, this limit is strictly temporary and will sunset within a timeframe specified in the proposed Policy.,.

Comment W.6:
Based on accepted literature, the incremental increase in TDS above the source water supply from domestic use (excluding commercial and industrial sources and residential self-generating water softeners) varies from I50 to 380 mg/L. It is unreasonable to limit the incremental increase of TDS over the source water to less than 500 mg/L and should be in the range from 450 to 2000 mg/l due to high TDS source water, non-domestic inputs, evaporation from storage, and water conservation efforts. (13.6, 17.29, 28.3, 31.3, 49.1, 51.3, 76.4, 80.5)

Response:
The limit in the proposed Policy has been increased to 550 mg/l, which the comments generally support as achievable. As stated above, this limit is strictly temporary and will sunset within a timeframe specified in the proposed Policy.

Comment W.7:
The proposed Policy finds that recycled water producers can limit the increase in TDS from a community's source water supply to its recycled water to 300 mg/l by controlling industrial discharges and self-regenerating water softeners. I have found no data in the staff report to support this finding. (41.4)

Response:
See response to Comment X.2.

Comment W.8:
Regarding controls on residential self-regenerating water softeners, there are statutory constraints on the extent to which control can be applied. Per section 116786 of the California Health and Safety Code (HSC) Section, local agencies can only prospectively prohibit the installation of residential self-regenerating water softeners and then only after meeting very specific conditions. Consequently, we recommend that this recital be stricken. The proposed Policy over-estimates the TDS reductions that are available by eliminating self-regenerating water softeners, particularly in communities that had previously banned softeners. Due to the resulting low number of self-regenerating softeners in these communities' service areas, they would likely be unable to demonstrate that softeners are significantly contributing to a permit violation as required under the Health and Safety Code, and would therefore be unable to prohibit softeners. (14.4, 58.8, 14.12, 25.3, 41.4, 42.1, 44.4, 58.8, 74.5, 64.18, 65.19, 76.30, 77.31)

Response:

Health and Safety Code section 116786 allows communities to prohibit the installation of self-regenerating water softeners, if necessary to achieve compliance with waste discharge requirements, but it does not allow communities to require the removal of self-regenerating water softeners. This is one of the reasons why we raised the TDS limitation to 550 mg/l.

Comment W.9:
If the source water is groundwater, then the TDS of the source water will continually increase as more recycled water is added. This in turn will continually increase the TDS of the recycled water. (2.19)

Response:
Although this is not a comment on the proposed Policy, we agree that this concern will need to be addressed by the Regional Water Boards when they develop salt management plans.

Comment W.10:
Given the variability of many agencies' water supplies and the fact that salt buildup from groundwater recharge due to irrigation is at best incidental, an annual rather than a monthly average in TDS concentration will provide appropriate assurances of water quality without undue monitoring effort. In spite of the single source (State Water Project) of potable water for the Authority, there are fluctuations throughout the year for TDS by as much as 90 mg/L. Annual averaging would attenuate these differences. (31.3)

Response:
Rather than modify the averaging period, the proposed Policy has been modified to increase the allowable limit to 550 mg/l.

Comment W.11:
Although the 300 mg/l TDS limit may represent best practicable treatment or control, this level of treatment may unnecessarily prevent the use of recycled water in areas where the underlying groundwater is of poor quality. An exception to this specification should be included for cases where the recycled water is of better quality than the groundwater underlying the recycled water use area. The 300 mg/L increment for TDS above source water for irrigation will not facilitate recycled water use in many regions where salts are not an issue. (35.10, 53.1, 68.2, 74.3)

Response:
The proposed Policy has been modified to increase the limit to 550 mg/l. This limit is achievable and will not prevent the use of recycled water.

Comment W.12:

As an alternative to the limit of 300 mg/l in the TDS increase above our source water, the State Water Board should encourage and promote local water suppliers to implement best management practices for salinity management and develop specific salt management plans derived through high level modeling. (32.2, 54.1, 55.1, 58.15, 68.3, 72.7)

Response:
Although we acknowledge that requiring water suppliers to implement salinity management practices may have benefits, the Water Boards do not have any authority to regulate water suppliers unless they discharge a waste.

Comment W.13:
Use a mass based limit for TDS rather than using a concentration limit. A concentration limit will inhibit water conservation efforts. (26.1)

Response:
We acknowledge that water conservation efforts will increase TDS concentrations in recycled water. To address this and related concerns, the proposed Policy has been revised to increase the TDS limit to 550 mg/l. This limit can generally be met even if water conservation measures are in place.

X.The California Environmental Quality Act

Comment X.1:
The increased availability of recycled water that will result from the proposed Policy will lead to population growth. There could be significant environmental impacts associated with this growth. The potential significant impacts include impacts on land use, noise and light pollution, recreational demand, housing, transportation, utilities, and services. (81.9, 1804.8, 1804.9)

Response:
As discussed in the proposed Policy and Staff Report, the purpose of the proposed Policy is to promote consistent regulation of recycled water projects so that recycled water projects can be more easily developed to address the existing water shortage in the state. By partially alleviating this shortage, numerous existing adverse environmental impacts will be mitigated to some degree. There is no substantial evidence in the record to support the assertion that the proposed Policy may have significant, adverse growth-inducing impacts.

Comment X.2:
There is a significant public health risk associated with the use of recycled water, because of pathogenic organisms in recycled water, including some that are resistant to antibiotics. (Scientific studies were referenced to support this point.) Because of the potential impact on public health, the preparation of an

Environmental Impact Report (EIR)is warranted to fully discuss the human and environmental health implications and potential alternatives. I recommended that a thorough scientific study be conducted and that this study should be vetted by such groups as the American Society for Microbiology or the Canadian Infectious Disease Society. Potential impacts on wildlife, which could act as reservoirs of pathogens, should also be evaluated. (1803.3, 81.12)

Response:
Although the referenced studies demonstrate the presence of antibiotic resistant bacteria in certain treated wastewater, establishing criteria for pathogens and antibiotic resistant genes in recycled water is a CDPH responsibility. CDPH is responsible for establishing water recycling criteria (Water Code section 13521). With respect to antibiotic resistant genes, CDPH reports that these genes have been found in drinking water and recycled wastewater, that their impact on public health is unknown, and that this potential impact may warrant further study. Nevertheless, since CDPH has not yet established criteria for public health protection from these genes, it is not the role of the State Water Board to establish limits that would conflict with CDPH's actions on this matter.

At most, the comments have identified a potential need for additional scientific research. Preparing an EIR-level analysis will not help because the information to demonstrate whether the current CDPH regulations are protective of public health with regard to this specific issue does not currently exist.

The Legislature has provided the CDPH with the power and obligation to ensure that public health is reasonably protected from exposure to recycled water. CDPH has adopted some of the most stringent regulations in the country to meet this obligation.

Comment X.3:
The use of percolation ponds will cause mounding in many cases. See the problems related to the planned sewage plant at Santa Paula. This was cited as a potentially significant impact on geology. (81.5)

Response:
There is no evidence in the record that the proposed Policy will cause a significant impact on geology. Groundwater levels across the state rise and fall in response to natural causes such as seasonal variation as well as artificial causes such as seepage from percolation ponds. The proposed Policy does not require percolation ponds.

Comment X.4:
The use of recycled water will affect agriculture. Staff should review potential problems due to the use of recycled water in Salinas, Sonoma, Orcutt, and Otay. (81.2)

Response:
We do not have any information that the proposed Policy would affect agriculture, and the comment is not clear about specific problems in the areas mentioned.

Comment X.5:
The production of recycled water will result in the production of more sewage sludge. This sludge, when treated and applied to land, will generate methane, an air pollutant. (81.3, 1804.5)

Response:
Increased production of recycled water will not result in increased sludge production, because substantially the same amount of sludge would be produced if the wastewater were treated to meet disposal requirements.

Comment X.6:
The staff report needs to consider the risk of aerosolized pathogens down wind from impoundments that contain recycled water. (81.6)

Response:
The draft Policy only allows the use of recycled water that has been treated to meet CDPH criteria, which require protection of public health, including protection from pathogen exposure.

Comment X.7:
The application of recycled water, and any subsequent incidental runoff, can alter the biodiversity of soil and biotic biota, as well as wildlife. (1804.7)

Response:
We do not have any information that the proposed Policy would affect biodiversity. It only allows for the use of recycled water that has been treated to CDPH standards, not raw wastewater that could otherwise be expected to affect wildlife.

Comment X.8:
I am commenting as an expert. The environmental analysis as contained in the staff report is deficient. There is ample evidence that pathogens and genetic material, as well as pharmaceuticals and toxic materials, contained within recycled water have the potential to significantly adversely impact the environment and public health of the citizens of the state. Credible expert testimony that a project may have a significant impact, even if contradicted, is generally dispositive; under such circumstances an EIR must be prepared. (1803.1)

Response:

With regard to assessing the credibility of expert opinion, the qualifications of the expert and the basis for the opinion are central considerations. Expert testimony, by itself, that a project may have a significant adverse environmental impact, is insufficient to require the preparation of an EIR-level analysis. This testimony must be supported by substantial evidence in the record. There is not substantial evidence in the record to support the assertion that significant adverse environmental impacts may occur due to pathogens, genetic material, pharmaceuticals, or toxic materials that may be present in low concentrations in recycled water.

Y. Toxic Compounds

Comment Y.1:
Pharmaceutical products, endocrine disruptors, and other toxic compounds are present in recycled water. The proposed Policy needs to address these pollutants. (17.12, 17.16, 17.43, 17.45)

Response:
The proposed Policy allows the Regional Water Boards to establish limitations interpreting their narrative toxicity objectives, if specified criteria are met. (Section IV.A and IV.B) The proposed Policy has been revised to clarify that Regional Water Boards can establish these limitations both for irrigation projects and for groundwater recharge/reuse projects.

Z. Water Recycling Versus Waste Disposal

Comment Z.1:
The proposed Policy should not distinguish between recycled water irrigation projects that use recycled water to meet a supply need and those that provide a means of disposal. The state Legislature has identified recycled water as a valuable resource that should be put to beneficial use. The proposed Policy could result in legitimate recycled water projects that meet a supply need not being pursued because the Regional Water Board determines it is a means of disposal. Also, the determination between a project that meets a supply need and one that provides a means of disposal is subjective which will result in less water recycling. (6.17, 6.25, 43.2, 58.4, 58.13)

Response:
One of the purposes of the proposed Policy is to encourage the appropriate use of recycled water for irrigation to the maximum benefit to the people of the State. Recycled water irrigation projects that exist in order to dispose of the treated effluent may not be of maximum benefit to the people of the State and, therefore, should not receive the advantage of being regulated under the proposed Policy.

The act of implementing any regulation often involves subjective determinations by regulatory staff using best professional judgment. The proposed policy has defined recycled water irrigation projects with adequate specificity which will enable Regional Water Board staff to implement the regulation as intended through best professional judgment.