

Draft Amendment to the Recycled Water Policy

Responses to Comments on the September 14, 2012, Draft

Letter Number	Entity	Representative	Documentation
105	City of Los Angeles Department of Public Works	Enrique C Zaldivar, Director of Bureau of Sanitation	
110	City of San Diego Public Utilities Department	Marsi A Steirer, Deputy Director	
113	Russian River Watershed Protection Committee	Brenda Adelman	1) Article- The Cancer Lobby 2) 3 Pictures of irrigation runoff 3) Complaint Letter 4) Wine Industry Insight article 5) Birnbaum-Low Dose Effects Article
116	Santa Clara Valley Water District	Joan Maher, Deputy Operating Officer	
117	Sacramento Regional County Sanitation District	Terrie Mitchell	
120	California Association of Sanitation Agencies Association of California Water Agencies WaterReuse California	Roberta L. Larson Danielle Blacet David Smith	

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123	General Public	Joyce Dillard	
124	Orange County Water District	Jason Dadakis, Director of Health and Regulatory Affairs	
128	General Public	Mark Guenther	
129	General Public	Erica Delonno	
130	General Public	Anthony Vandersteen	
131	General Public	Cheri Puig	
132	General Public	Allen Charlton	
133	General Public	Paula Zerzan	
134	General Public	Elise Sokolay	
135	General Public	Carol Sklenicka	
136	General Public	Lindsey Shere	
137	General Public	Helen Shane	
138	General Public	Reeta Roo	
139	Friends of the Gualala River	Chris Poehlmann	
140	General Public	Linda Petrulias	
141	General Public	Dennis O'Rorke	
142	General Public	Anna Narbutovskih	
143	General Public	Diane Hichwa	
144	General Public	Norma Jellison	
145	General Public	Wendy Krupnick	
146	General Public	Daniel Leer, Attorney at	

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		Law	
147	General Public	Cassandra Lista	
149	California Municipal Utilities Association	Jennifer West, Director for Water	
150	Medical Geo-hydrology	Edo McGowan	Submitted a summary of several studies and research information.
151	Eurofins Eaton Analytical	Andy Eaton, Technical Director	
152	River Watch	Larry Hanson, Manager	The letter was submitted on October 9, 2012, but was dated June 2012.
153	Clean Water Coalition of Northern Sonoma County	Fred Corson	
154	Heal the Ocean	Hillary Hauser, Executive Director James Hawkins, Associate Researcher	
156	General Public	Stephen Sobieray	
160	Heal the Bay	Susie Santilena, Engineer Kristin James, Director of Water Quality	
161	California Coastkeeper Alliance	Sean Bothwell, Staff Attorney Susie Santilena, Engineer	
164	Friends of the North Fork	Michael Garabedian,	

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		President	
166	General Public	Mary Ann Sobieray	
167	Department of Water Resources	Richard Mills	
168	Santa Ana Watershed Project Authority	Mark Norton, Emerging Constituent Task Force Administrator	

Testimony presented at the October 16, 2012 Board Hearing

Letter Number	Entity	Representative	Documentation
201	Assemblyman Member Das Williams	Sara Arce, Legislative Aid	Comment added.
213	Russian River Watershed Protection	Brenda Adelman, Chair	Comments same as comment letter 13, 113
220	WateReuse California	Martha Davis	Request deferral of adoption.
259	Health the Bay	Sarah Sikich, Coastal Research Director	Comments same as comment letter 159.
260	California Coastkeeper Alliance	Sarah Amiazadeh	Comments same as comment letter 160.
264	Friends of the North Fork	Michael Garabedian, President	Comments same as comment letter 164.
268	Santa Ana Watershed Project Authority	Beth Olhasso	Comments same as comment letter 168.
269	Surfrider Foundation	Joe Greener	Support comments from

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			commenters 210, 213, 220, 259, and 260.
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September 14, 2012 Revised Recycled Water Policy				
General				
1	123 Joyce Dillard	This policy creates an emergency situation without any facts to substantiate an emergency. That designation creates aspects of policy that may be short-term or alleviated with reduction in development or reduction in agriculture. There is no public education on this policy. On a statewide basis, the effects of this policy and the capital and operations and maintenance costs are not clear. Where are the effects on wildlife and birds and the possibility of disease that could destroy	The proposed amendment has not created an emergency situation. The development of the proposed amendment followed and met the statutory public process requirements. The proposed amendment requires monitoring of priority pollutants and CECs. There will be costs associated with this monitoring. These will be in the range of \$250,000 per facility for the first two monitoring stages. Staff does not anticipate that the monitoring will significantly affect operation and maintenance costs. Recycled water has been used extensively within the state for agricultural and landscape	None

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		(poultry and fishing) industries? How do vibrational aspects of irrigation when it comes to large storage tanks play in earthquakes or in overweight truck incidences. According to the following statement, health concerns are disregarded: "For landscape irrigation projects, priority pollutants shall be monitored once per year, except for landscape irrigation projects with design projection flows of one million gallons per day or less, which shall be monitored for priority pollutants once every five years. Is this policy compatible with the Building Standard Commission codes for gray water being approved?	irrigation for decades. There have been no reports of impacts to wildlife during this period. This issue is not within the scope of the proposed amendment to the Recycled Water Policy. Health concerns are not being disregarded. Recycled water use must comply with the water recycling criteria adopted by the California Department of Public Health. In regard to the reduction of priority pollutant monitoring, the monitoring is equivalent to that required for direct discharges to streams. Staff believes this an appropriate level of monitoring, given that the Recycled Water Policy only allows incidental amounts of runoff of tertiary treated recycled water. The proposed amendment concerns monitoring recycled water for priority pollutants and CECs, issues not addressed by the building codes for gray water.	

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		More than chemicals have to be considered in projects that are not groundwater recharge.	This issue is not within the scope of the proposed amendment, which concerns monitoring of priority pollutants and CECs.	
2	164.1 Friends of the North Fork	Oppose the policy in question and the manner in which it is being implemented. The amendment proposes to repeat and reinforce as well as loosen the existing policy. The State of California needs a plan to address contaminants of emerging concern. With Board CEC planning missing in action, the proposal continues the necessity for the public to do its best to make up for this Board failure. Instead of a plan for moving ahead, we have the delay and misdirection that is embodied in the misnamed Recycled Water Policy that proposes to undermine and ignore the	Staff disagrees with this comment. The monitoring requirements in the proposed amendment are based on recommendations developed by a Science Advisory Panel, adding new requirements to existing state policy. Staff disagrees with this comment. Again, the monitoring requirements were developed by a Science Advisory Panel that reviewed data and thresholds on the universe of contaminants and developed a series of recommendations for monitoring CECs. Staff disagrees with this comment. The proposed amendment is consistent with federal and state law. It does not undermine it.	None

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		applicability to the policy to authorities the state and regional boards exercise under the federal Clean Water Act and the California Porter-Cologne Water Quality Control Act.		
3	164.2 Friends of the North Fork	The State Water Resources Control Board Recycled Water Policy adopted in early 2009 is not based on a meaningful review of applicable science. Compounding this problem is that it appears that many, if not most, Board members who may apply engineering and other disciplines may not be conversant in the necessary science.	Staff disagrees with this comment. The Board Members as a whole represent expertise in agriculture, engineering, environmental management and science.	None
4	164.7 Friends of the North Fork	Water recycling and its policy takes or proposes to take water needed for established water rights; wetlands; salinity barriers; instream; and Delta uses.	This statement is not within the scope of the proposed amendment. The Water Code contains provisions at Section 1210, et. Seq. to address impacts of water recycling on downstream uses of water that would otherwise be discharged from wastewater treatment plants to a watercourse.	None
5	164.11 Friends of	Mandatory statewide reporting of water reuse is essential, but the Board has done only voluntary	This issue is not within the scope of the proposed amendment to the Recycled Water Policy.	None

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	the North Fork	surveys. If we're not mistaken, past results listed potable water volumes. http://www.swrcb.ca.gov/water_issues/programs/grants_loans/water_recycling/munirec.shtml		
6	164.12 Friends of the North Fork	Water recycling and its policy takes or proposes to take water needed for the state public trust doctrine.	This issue is not within the scope of the proposed amendment to the Recycled Water Policy. See response to comment summary number 4.	None
7	164.13 Friends of the North Fork	Water recycling and its policy takes or proposes to take water needed for federal reserved water rights and federal public trust purposes.	This issue is not within the scope of the proposed amendment to the Recycled Water Policy. See response to comment summary number 4.	None
8	164.14 Friends of the North Fork	The policy undermines the "dilution solution" to pollution that is relied on in many state and regional board actions.	Staff interprets the concern expressed as meaning that the use of recycled water will reduce the amount of wastewater discharged to streams. The pollutants within the stream, therefore, will be less diluted by the wastewater. This assumes of course that the wastewater will be of higher quality than the receiving water. In situations where compliance with water quality objectives is dependent upon wastewater discharges, the use of the recycled water would	None

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			be subject to review under Water Code section 1210, et. seq. This comment, however, is not within the scope of the Recycled Water Policy Amendment, which concerns monitoring requirements for priority pollutants and CECs.	
9	164.15 Friends of the North Fork	The policy was not developed in conjunction with basin and other plans, and therefore leaves its integration with these plans in limbo.	This comment is a comment on Recycled Water Policy in general, and is not within the scope of the proposed amendment.	None
10	164.16 Friends of the North Fork	This has become the basis for legislation while having no meaningful investigatory basis behind its "water recycling" provisions; it contributes to misinformation and questionable lawmaking.	This is a comment on the Recycled Water Policy in general, and is not within the scope of the proposed amendment to the Recycled Water Policy.	None
11	164.17 Friends of the North Fork	The Policy was developed without input from applicable Board and Regional Board policy and program staff.	The commenter is commenting on the process for adopting the Recycled Water Policy in 2009. It is not within the scope of the proposed amendment.	None

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12	164.18 Friends of the North Fork	The recycling part of the policy was based on dusting off very old Board policies without bringing them up to date based on all of the work of intervening years.	The proposed amendment to the Recycled Water Policy is based on recommendations from a Science Advisory Panel. The Science Advisory Panel met with a variety of stakeholders to receive input when developing the recommendations.	None
13	154.3 Heal the Ocean	In the future, the State Water Board must not make timely adoption of policy a higher priority than a deliberative and open public process.	Staff has met the statutory requirements, timeframes, and public participation requirements in developing the proposed amendment to the Recycled Water Policy.	None
14	167.1 Department of Water Resources	In Section1, paragraph 4, consider replacing “We declare our independence from relying on the vagaries of annual precipitation and move towards” with alternative text such as “Because of the challenges associated with maintaining statewide and local water systems heavily dependent upon California’s highly variable annual precipitation, the state is developing a more...”	This issue is not within the scope of the proposed amendment to the Recycled Water Policy.	None
15	167.2 Department of Water	1, Bullet number one. Add to the end of the sentence “(The California Department of Water Resources, working with other	This issue is not within the scope of the proposed amendment to the Recycled Water Policy.	None

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	Resources	state agencies directly involved with recycled water, is currently reviewing these goals for the 2012 Update of the California Water Plan)".		
16	167.3 Department of Water Resources	4.a (1). Consider adding text to clarify the differences between goals and mandates specified in the document.	This issue is not within the scope of the proposed amendment to the Recycled Water Policy.	None
17	167.4 Department of Water Resources	4.a (1). Clarify the baseline year considered for the mandated 2020 and 2030 mandates. It is unclear whether these are the results of the 2009 Recycled Water Survey or the 2002 levels identified in the goals discussion on page 1.	This issue is not within the scope of the proposed amendment to the Recycled Water Policy.	None

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	117.2 Sacramento Regional County Sanitation District	Manufacturers should actively participate in the scientific evaluation requirements for the entire life cycle management of their products and the associated monitoring and treatment from the waste derived from these products so their impacts to the environment, including impacts to water quality can be minimized.	This comment is beyond the scope of the proposed amendment to the Recycled Water Policy, which concerns monitoring of priority pollutants and CECs. The comment is the same as comment summary number 7 in the May 2012 Response to Comments.	None
18	105.4 City of Los Angeles Department of Public Works	7.b(4). The language needs to indicate that the sample be taken at the recycled water plant at a representative discharge point before the water enters into the distribution system and not at the individual landscape irrigation project. Recommended language: “Monitoring for priority pollutants should be taken at a representative discharge location, within the recycled water treatment plant, prior to the distribution system.”	Language has been changed.	Edit made to Section 7.b. (4).
19	160.4	7.b(4). The Policy should provide for stricter enforcement	The Recycled Water Policy provides requirements for	None

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	Heal the Bay	of illicit dischargers. The proposed Policy reduced monitoring requirements for landscape irrigation to once every five years. This reduction can only be justified if water supply and public work agencies provide effective compliance assurance effort on irrigation runoff to reduce its impact on waterways. There should be greater effort, perhaps through municipal storm water permits, directed towards abating illegal runoff discharges, if landscape irrigation monitoring will occur as infrequently as proposed.	minimizing irrigation runoff. Staff agrees that requirements to limit irrigation runoff need to be enforced. Municipal separate storm sewer permits generally have language allowing only incidental runoff from lawn watering.	
20	116.1 161.6 259 Santa Clara Valley Water District California Coast-keeper Alliance	7.b(4). The proposed revision states: "For landscape irrigation projects, priority pollutants shall be monitored once per year, except for landscape irrigation projects with design production flows of one million gallons per day or less, which will be monitored for priority pollutants once every five years." This is inconsistent with the section 1.2 of Attachment A where the surrogates for monitoring are specified. This section should	Staff reduced the priority pollutant monitoring required in Section 7.b. (4) in response to comments received. Staff concluded that the monitoring should be no more than that applied to NPDES facilities that discharge directly to surface water. Priority pollutants in tertiary treated recycled water are less of a threat than municipal NPDES discharges, because the	None

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	Heal the Bay	be clarified in terms of specific priority pollutants to be monitored and their monitoring locations (e.g., recycled water or groundwater). The proposed edits for priority pollutant monitoring would decrease required monitoring frequency and effectively exempt nearly all landscape irrigation projects, whereas the previous language only exempted monitoring based on economic considerations (e.g., for small disadvantaged communities). As the rationale for this shift in monitoring approach was not provided it is not clear if this reduction is justified.	level of treatment is high, runoff to storm sewer systems will be limited to incidental amounts, and additional removal will be provided by soils. In Attachment A, staff deleted requirements for surrogate monitoring for landscape irrigation projects. It did so, because the surrogates that would be monitored are the same as those already required under the Title 22, Water Recycling Criteria. Deleting them prevents the establishment of redundant requirements. As a consequence, the inconsistency identified in Attachment A, Section 1.1, has been removed.	
21	120.1, 149 California Association of Sanitation Agencies (CASA) Association of California Water	7.b(4) was modified to specify that the required priority pollutant monitoring frequency for landscape irrigation projects be based on “design production flows”. Clarify whether “design production flows” refers to the design flow of a treatment plant, design flow of the entire reuse system, design flow of a reuse project, or design flow of the	Language was changed to state the following, “Permits or requirements for landscape irrigation projects shall include, in addition to any other appropriate recycled water monitoring requirements, monitoring for priority pollutants in recycled water at the recycled water production facility once per year, except when the recycled	Edit made to Section 7.b.(4).

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	Agencies (ACWA) WaterReuse California Municipal Utilities Association.	landscape irrigation component of the reuse system or projects. In addition, the language in the Policy should clarify that priority pollutant monitoring is to be conducted on recycled water produced at a water reclamation facility (as opposed to being conducted in groundwater).	water production facility has a design production flow for the entire water reuse system of one million gallons per day or less. For these smaller facilities, the recycled water shall be monitored for priority pollutants once every five years.	
22	116.2 Santa Clara Valley Water District	10.b Recommend consideration of studies such as the Santa Clara Water District's multi-year completed study at a recycled water irrigation site that found nitrosamines at concentrations near and above the Notification Level and low concentrations of perfluorochemicals in shallow groundwater. These studies should be considered in the periodic review of CEC monitoring requirements. Results from the upcoming Unregulated Chemical Monitoring Requirements 3 may also provide useful information on occurrence of recycled water-related CECs in groundwater.	Thank you for referencing the report. Staff will consider the report and other monitoring results during the next update.	None

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23	152.1 River Watch	Concerns regarding implications of the passage of AB 2398	The State Water Board is not considering Assembly Bill 2398 during this process. The comment is outside the scope of the proposed amendment to the Recycled Water Policy.	None
24	152.2 River Watch	The large amount of incidental runoff allowed before appropriate reporting takes place, and general problems of pollutants residing in treated wastewater that have not been dealt with by most treatment plants – endocrine disrupting chemicals. The situation is a general problem wherever it is allowed, but in the lower Russian River, it is exacerbated by the mandated low flows in the lower section of the river.	The Recycled Water Policy has requirements to limit irrigation runoff of recycled water. This should prevent runoff in quantities that would cause aquatic life to be affected by endocrine disrupting chemicals.	None
25	152.3 River Watch	Tertiary wastewater used for irrigation should continue to be regulated by the Regional Boards reclamation permits and not declassified as a waste. This is especially important not only to protect health, but also the varied aquatic life exposed to the discharged wastewater on a continual basis.	The proposed amendment to the Recycled Water Policy would not discontinue the current practice of issuing water recycling requirements to producers and users of recycled water.	None

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26	152.4 River Watch	Incidental runoff should be defined as truly incidental and that the 50,000 limit for reporting runoff be taken out of this bill along with the 1000 gallon limit for spills of secondary wastewater. All spills should be reported immediately. In addition, all irrigation with wastewater should be by drip and not spray to avoid runoff.	The proposed amendment to the Recycled Water Policy would not affect spill reporting requirements. The comment is outside the scope of the Recycled Water Policy.	None
27	152.5 River Watch	The State Board should fully consider all information about the impacts of low dose exposure to endocrine disrupting chemicals. These chemicals have been found to cause significant health impacts to humans and wildlife at extremely low doses and yet the State is amending the Recycled Water Policy to avoid monitoring of tertiary wastewater for endocrine disruptors.	It is true that low levels of endocrine disrupting chemicals can have significant effects on human health and aquatic life. The risk to human health of tertiary treated recycled water used for landscape irrigation, however, is low, because humans are not drinking the water and the risk to fish is also low, because only minimal amounts will reach streams.	None
28	152.6 River Watch	The State needs to consider that herbicides and pesticides will run off with the wastewater and possibly cause serious harm in the summer when human use is high, flows are low, and the river system is far more vulnerable to	The comment is outside the scope of the proposed amendment, which concerns monitoring of priority pollutants and CECs.	None

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		bioaccumulating toxic substances.		
29	160.2, 161.2 Heal the Bay	The State Board should revisit the list of CECs on a biennial basis. It is important to frequently update the list of CECs because the science regarding various chemicals and the number of new chemicals and pharmaceuticals coming on the market are changing so rapidly.	The list will be revisited every five years. Resources are not available for more frequent reviews. Also, see comment summary number 6 in the May 2012 Response to Comments.	
30	160.5, 161.4 Heal the Bay California Coast-keeper Alliance	The impacts of CECs in surface water must be addressed. It was never the intention of this process to separate provisions for groundwater from surface water. Monitoring should be required for all designated constituents both in effluent and in receiving water.	The State Water Board has a separate process to evaluate CECs in surface water. Information on this process can be found at: http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/cec_aquatic.shtml Also, see comment summary number 25 in the May 2012 Response to Comments.	None

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September 14, 2012, Attachment A – Monitoring Requirements				
General				
31	164.3 Friends of the North Fork	The Policy fails to address that antibiotic resistant pathogens are found in municipal wastewater distributed from sewer plants thereby creating potential dangers including to users of school fields irrigated with it.	The scope of the proposed amendment is monitoring priority pollutants and CECs in recycled water. Antibiotic resistant pathogens could be considered a CEC. Existing regulations, however, require monitoring of bacteria to ensure that the recycled water has been disinfected. This process will ensure removal of antibiotic resistant pathogens. Also see comment summary number 62.	None
32	164.4 Friends of the North Fork	The Policy has completely failed to take into consideration the impact of hospital wastes on recycled sewer plant effluent.	This issue is not within the scope of the proposed amendment to the Recycled Water Policy. Other requirements are in place to control discharges from hospitals, such as body fluids. Please see the following web site for more information on biohazardous waste requirements. http://www.cdph.ca.gov/certlic/medicalwaste/pages/lawsregs.aspx	None

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33	164.5 Friends of the North Fork	The Policy has completely failed to take into account the presence or absence of industrial pretreatment programs that regulate industries discharging into sewer systems and define what is going into sewers from industries. When asked about stakeholder group consideration of industrial pretreatment, two water district attorneys touting the policy at a county bar meeting simply said that pretreatment was not considered.	The scope of the proposed amendment to the Recycled Water Policy is limited to monitoring of priority pollutants and CECS in recycled water. The comment is outside the scope of the proposed amendment.	None
34	164.6 Friends of the North Fork	The Policy has ignored until "later" CEC impacts on rivers and lakes receiving treated sewage until reportedly earlier this year.	This issue is not within the scope of the proposed amendment to the Recycled Water Policy. The State Water Board has the authority to defer issues for consideration under future actions.	None
35	164.8 Friends of the North Fork	The Board's CEC monitoring panel decided to ignore the need to monitor any CEC that did not have established testing protocols, which is most of them.	One of the screening mechanisms for the selection of CECs was the determination of available valid analytical techniques to identify and quantify a CEC. If adequate techniques are not available, then the data is not dependable	None

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			and therefore not useable. The CECs need to be accurately quantified as well as detected.	
36	164.9 Friends of the North Fork	Recycled water injected into aquifers creates a chemical soup we are not ready to manage.	Before being injected in an aquifer, the recycled water is treated. After treatment, the water will be monitored for priority pollutants and CECs to verify its quality.	None
37	164.10 Friends of the North Fork	The green-washing stakeholder group that voluntarily assembled itself to advise the Board was established by water districts and certain southern coastal groups and had no northern California grassroots groups working to protect fresh waters on it. Friends of the North Fork requested to be involved, but were refused the ability to be on it or to go to its meetings because those attending "knew each other" and had worked on issues before in the southern region, though not on the same side. The Board urged the group forward and adopted the groups work and its exclusionary procedures unlike those of any regional and state water board stakeholder group we've been	This is a comment on the process used during the adoption of the Recycled Water Policy in 2009. It is not relevant to the current action.	None

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		involved in.		
38	154.1 Heal the Ocean	The proposed monitoring regime does not provide any additional “direction” to the Regional Water Boards beyond what already exists. In fact, Attachment A hamstring the Regional Water Boards and keeps final authority with CDPH to determine the specific components of any monitoring program for CECs. With so little additional clarity compared to the status quo, the State Water Board must revise Attachment A in at least three years in close consultation with CDPH. This will achieve the “direction” that the Recycled Water Policy was originally designed to provide.	Staff disagrees with this comment. The proposed amendment to the Recycled Water Policy provides specific direction to the Regional Water Boards on what CECs to monitor and what to do with the monitoring results. These monitoring requirements provide statewide consistency and are based on the recommendations of the Science Advisory Panel.	None

1.0 CECs and Surrogates

39	160.1, 161.1 Heal the Bay California Coast-Keeper Alliance	The list of CECs monitored should include contaminants from U.S. EPA’s Candidate Contaminant List 3, and the list of CECs proposed by CDPH.	These CECs were reviewed by the Science Advisory Panel. They did not meet the Science Advisory Panel’s framework for selecting CECs to monitor, mostly because existing monitoring was not finding the CECs at concentrations of concern.	None
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			Also, see comment summary number 19 in the May 2012 Response to Comments.	
40	113.1, 128.1, 129.1, 130.1, 131.1 132.1, 133.1, 134.1, 135.1, 136.1 137.1, 138.1, 140.1, 141.1, 142.1, 143.1, 144.1, 145.1, 146.1, 147.1, 153.1, 156.1, 166.1 Russian River Watershed	Object to the failure of this policy to require monitoring for endocrine disrupting chemicals in tertiary wastewater used for landscape irrigation.	The Science Advisory Panel assessed CECs and identified CECs that have the potential to pose a risk to human health. In its risk assessment, it concluded that CECs in recycled water used for landscape irrigation that have available analytical methods posed little risk to human health. This conclusion was based on existing human health benchmarks and the fact that recycled water used for irrigation is not used for drinking.	None

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	Protection Committee			
	General Public			
41	153.2 Clean Water Coalition of Northern Sonoma County	The Policy states that Regional Water Boards can make determinations that unusual circumstances apply in recycled water projects (i.e. “unique site-specific conditions such as where recycled water is proposed to be used for irrigation over high transmissivity soils over a shallow high quality groundwater aquifer”). In such cases the Regional Water Board has discretion to require additional studies and conditions to ensure that groundwater contamination does not occur. It must be very clear that this discretion includes the right to require monitoring of CECs for landscape irrigation projects.	The commenter is correct that Section 7.b.(4) of the Recycled Water Policy only applies to recycled water landscape irrigation projects that meet specific criteria. Staff also agrees with the commenter’s interpretation that projects with less favorable site conditions may receive additional requirements, beyond those specified in Section 7.b. (4). To require monitoring of CECs, however, the Regional Water Board would have to provide justification for doing so. Given the recommendations of the Science Advisory Panel, staff believes that in most cases this justification would be difficult to provide. Staff does not see a need for additional clarifying language.	None

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42	113.2, 128.2, 129.2, 130.2, 131.2, 132.2, 133.2, 134.2, 135.2, 136.2, 137.2, 138.2, 140.2, 141.2, 142.2, 143.2, 144.2, 145.2, 146.2, 147.2, , 156.2, 166.2 Russian River Watershed Protection Committee General Public	Substantive comments made on the draft amendment and documents submitted by the Russian River Watershed Protection Committee (RRWPC) indicating significant public concern for the many health impacts to humans and wildlife caused by very low dose exposures to endocrine disrupting chemicals. RRWPC has noted repeated over-irrigation in Rohnert Park and the City of Santa Rosa and we believe that controls are inadequate.	This issue is not within the scope of the proposed amendment to the Recycled Water Policy. The Recycled Water Policy allows only incidental amounts of irrigation runoff. Repeated over-irrigation causing more runoff than is incidental is an enforcement issue that would be addressed by the Regional Water Board.	None

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43	113.3, 128.3, 129.3, 130.3, 131.3, 132.3, 133.3, 134.3, 135.3, 136.3, 137.3, 138.3, 140.3, 141.3, 142.3, 143.3, 144.3, 145.3, 146.3, 147.3, 153.3, 156.3, 166.3 Russian River Watershed Protection Committee General	Substantive comments made on the draft amendment by Dr. Laura Vandenberg of Tufts University and lead author (with 11 other scientists) were ignored for the following study: <i>Hormones and endocrine disrupting chemicals: Low dose effects and non-monotonic dose responses</i>, Endocrine Reviews. Online Mar. 14, 2012). This 75 page study examined 850 related scientific studies. Scientists concluded that there are no safe doses for endocrine disrupting chemicals. Monitoring is critical.	The Dr. Laura Vandenberg study is a study evaluating endocrine disrupting chemicals in general. It is not specific to chemicals in recycled water. The principal argument made was that the dose to response relationship for endocrine disrupting chemicals is non-linear. The reason for this is that organisms have a limited number of endocrine receptors and once saturated, the dose/response curve flattens out. Dr. Vandenberg concluded from her study that very low doses can have significant effects. The Science Advisory Panel included a human health toxicologist and an environmental toxicologist, both with expertise in endocrine disrupting chemicals. The Science Advisory Panel selected conservative benchmarks from available literature to establish its monitoring trigger levels. Nevertheless, the Science Advisory Panel acknowledged	None

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	Public		that the science regarding endocrine disrupting chemicals is incomplete, especially regarding mixtures of CECs. The scope of the proposed amendment to the Recycled Water Policy is monitoring of priority pollutants and CECs in recycled water. For landscape irrigation, the Science Advisory Panel concluded that monitoring of CECs was not warranted, primarily because exposure is low due to the fact that the recycled water is not being used for drinking. Staff has concluded that the Science Advisory Panel established a rational science-based process for selecting CECs to monitor. As more science is conducted, the benchmarks upon which the monitoring trigger levels were set may change. If so, this would be considered during the next update to the Recycled Water Policy.	
44	113.4,	This amended policy fails to	The Science Advisory Panel	None

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	128.4, 129.4, 130.4, 131.4, 132.4, 133.4, 134.4, 135.4, 136.4, 137.4, 138.4, 138.4, 140.4, 141.4, 142.4, 143.4, 144.4, 145.4, 146.4, 147.4, 156.4, 166.4 Russian River Watershed Protection Committee General Public	consider the comments of the director of the National Institute of Health and Department of Health and Human Services, Linda S. Birnbaum, who states in <i>Environmental Health Perspectives</i> Online March 14, 2012: "Low internal doses of endocrine disruptors found in typical human populations have been linked to obesity, infertility, neurobehavioral disorders, and immune dysfunction, among others."	included a human health toxicologist and an environmental toxicologist, both with expertise in endocrine disrupting chemicals. The Science Advisory Panel considered the existing scientific knowledge regarding endocrine disrupting chemicals, and made recommendations for monitoring them in recycled water. Also, see comment summary number 30 in the May 2012 Response to Comments.	
45	113.5,	The use of spray irrigation not	This comment regarding runoff	None

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	128.5, 129.5, 130.5, 131.5, 132.5, 133.5, 134.5, 135.5, 136.5, 137.5, 138.5, 138.5, 140.5, 141.5, 142.5, 143.5, 144.5, 145.5, 146.5, 147.5, 156.5, 166.5 Russian River Watershed Protection Committee General Public	only sends these chemicals through the air, but when runoff occurs, which often happens, it carries with it the herbicides, pesticides, etc. applied to the landscape prior to the wastewater irrigation. There are other problems too numerous to mention here, but these are some of the most significant ones.	carrying herbicides and pesticides applies to irrigation of any turf to which pesticides and herbicides have been applied, independent of the irrigation water source. It is an issue beyond the scope of the proposed amendment to the Recycled Water Policy.	
46	113.7	It is recommended that at a	The Science Advisory Panel	None

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	128.6, 129.6, 130.6, 131.6, 132.6, 133.6, 134.6, 135.6, 136.6, 137.6, 138.6, 138.6, 140.6, 141.6, 142.6, 143.6, 144.6, 145.6, 146.6, 147.6, 156.6, 166.6 Russian River Watershed Protection Committee General Public	minimum, estrogen (17β-estradiol) be regularly monitored in the wastewater used for irrigation. Support the use of 100' setbacks from waterways to assure runoff of these chemicals does not occur. The use of drip irrigation utilized rather than spray is preferred.	assessed CECs, including 17β-estradiol, and identified CECs that have the potential to pose a risk to human health. The Science Advisory Panel considered ingestion as an exposure route and concluded that CECs in recycled water used for landscape irrigation posed a low risk to human health, because of the small amount of recycled water that would be ingested. The proposed amendment concerns monitoring of priority pollutants and CECs in recycled water. Setbacks between irrigation sites and waterways are not an issue within the scope of the proposed amendment. Staff agrees that landscape irrigation systems could be designed to limit or prevent irrigation runoff, using drip irrigation as one of the methods for achieving this. Irrigation design, however, is not within the scope of the proposed amendment.	

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		Incidental runoff should be regulated through the NPDES permit particularly since summer flows cannot adequately assimilate the toxins at a time when recreational use is high.	The NPDES regulations require NPDES permits for the discharge of pollutants to waters of the United States. The Recycled Water Policy does not provide an exemption from this requirement. It does however allow incidental amounts of runoff from landscaped areas irrigated with recycled water to be discharged to storm sewer systems. The discharge would have to comply with any storm sewer ordinances and the NPDES permit for the municipal storm sewer system.	
47	161.5 California Coast-keeper Alliance	The frequency of monitoring for the initial assessment phase should be revised back to the original parameters. The rationale used (CDPH regulations are still draft) for changing the requirements from daily monitoring to monitoring on a project-specific basis is a point well taken. However, this Policy should account for the finalization of CDPH regulations, rather than allow monitoring under this Policy to occur on a	Staff had the option of specifying specific surrogates to monitor and specifying the monitoring frequency or leaving this to the discretion of the Regional Water Boards, in consultation with CDPH. For the surrogates, staff concluded that it was best to present the concept, but leave the details to specific project implementation. One reason for this, as indicated by the	None

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		project by project basis. Recommend the following language: To be determined on a project-specific basis, until CDPH has adopted its regulations for Groundwater Replenishment with Recycled Water, this will then constitute the standard frequency.	commenter, was that staff did not want to create conflicts with the water recycling criteria being developed by CDPH. The solution to this issue presented by the commenter is reasonable. Staff, however, believes that Regional Water Boards, in consultation with CDPH, will select surrogates and frequencies that will provide adequate protection of public health. Hence, the proposed policy retains its project-specific approach to selecting surrogates and establishing monitoring frequencies.	
48	113.6 Russian River Watershed Protection Committee	There is a high likelihood that endocrine disrupting chemicals will end up in our waterways, and in the case of recreation areas will potentially expose many people to dangerous toxins. We strongly urge the implementation of a monitoring program to err on the side of caution and assure the public that the SWB has done all it can to protect their health and well being	The Recycled Water Policy only allows incidental amounts of runoff of recycled water. The amount is far less than allowed by wastewater treatment plants that discharge directly into surface waters. The proposed amendment to the Recycled Water Policy does not include monitoring requirements for CECs in recycled water used for landscape irrigation, because	None

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			of the low risk to public health it presents. It is not being ingested and monitoring data has not found CECs in recycled water at concentrations that would be a risk to public health, when used for irrigation. This was the recommendation of the Science Advisory Panel. Recycled water has been used in California for many years for landscape irrigation without any verified reports of negative effects on public health.	
49	168.1 Santa Ana Watershed Project Authority (SAWPA)	Page 1 – Footnote 3. In order to avoid confusion and misapplication of the proposed CEC monitoring requirements, the phrase “groundwater recharge reuse” should be explicitly defined so that it applies only to intentional recharge projects using recycled water and does not apply to incidental recharge that normally occurs in most streambeds.	A definition for groundwater recharge use is unnecessary. “Groundwater recharge reuse” is defined in the proposed amendment as meaning the same as “indirect potable reuse for groundwater recharge” as defined in Water Code section 13561(c). This definition is referenced in Attachment A, Footnote 3. The definition in the Water Code states - ““Indirect potable reuse for groundwater recharge” means the planned use of recycled water for replenishment of a groundwater	Edit made to Footnote 3.

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			basin or an aquifer that has been designated as a source of water supply for a public water system, as defined in Section 116275 of the Health and Safety Code.” This definition limits groundwater recharge reuse projects to projects providing planned water supply. The citation has been corrected. It cited the definition as being in the Health and Safety Code. It is actually in the Water Code.	
50	110.1 City of San Diego	1, ¶4. CDPH has the ultimate responsibility for the approval of design and treatment technologies in groundwater recharge reuse projects and is better suited to assess the performance of any alternative treatment process. In addition, this policy should align with the recent CDPH draft regulations. CDPH should provide the recommendations for processes other than soil aquifer treatment and RO/AOPs to the Regional Water Boards. We recommend	The Water Code Section 13523 states that “Each regional board, after consulting with and receiving recommendations from the State Department of Public 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, and welfare, prescribe water reclamation requirements for water which is used or proposed to be used as	None

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		the following changes. “CEC monitoring requirements for groundwater recharge reuse projects implementing treatment processes that provide control of CECs by processes other than soil aquifer treatment or RO/AOP shall be established on a case-by-case basis by the Regional Water Boards <u>per written recommendation from in consultation with</u> CDPH.”	reclaimed water.” The proposed amendment to the Recycled Water Policy is consistent with this language. Staff concluded that to require the Regional Water Board to implement a CDPH recommendation would be inconsistent with the statute.	
51	116.3 Santa Clara Valley Water District	1.1. Support the proposed revision, which allows for additional monitoring requirements when recommended by CDPH, requested by project proponent, or in accordance with an adopted salt and nutrient management plan	Comment noted, although the reference to the salt and nutrient management plans has been deleted, as requested by another commenter. The change, however, would not prevent monitoring of additional CECs, if this monitoring is required by a salt and nutrient management plan adopted by the Regional Water Board.	None
52	110.2, 120.3, 149 City of San Diego	Until a State Water Board expert panel specifically makes recommendations regarding monitoring requirements for CECs in salt and nutrient management plans, this issue	The reference to CEC monitoring requirements in Salt and Nutrient Management Plans was removed.	Edits made to Section 1.1.

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	CASA ACWA WaterReuse California Municipal Utilities Association	should be left to stakeholders preparing salt and nutrient management plans and the Basin Plan amendment process. Therefore, mentioning salt and nutrient management plans in the amended Policy as a driver for CEC monitoring is premature.		
53	168.2 SAWPA	1.0, Table 1 should be revised to include an additional column indicating the relevant risk-based threshold value (e.g., monitoring trigger levels included in Table 6) for each of the CECs (particularly those as “Health Indicators”). In addition, where the Blue-Ribbon Panel described specific concerns with some of the studies used to derive these health-based threshold values (e.g. 17β-estradiol, caffeine and triclosan), those concerns should be added as footnotes to the table to ensure the numbers are interpreted in a proper context. Finally, the State Water Board should direct the Blue Ribbon Panel to review and revise the health-based screening criteria	The additional column for thresholds is not necessary. The thresholds/monitoring trigger levels are available in Table 6. If new data is available, the Science Advisory Panel may review the health-based screening criteria for caffeine	None

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		for caffeine and triclosan in the next report due in 2015.	and triclosan.	
54	120.5, 124.3 CASA ACWA WaterReuse Orange County Water District	Table 1. Under subsurface application, revise the DEET reporting limit from 0.01 µg/L to 0.05 µg/L.	The reporting limit for DEET under subsurface application has been revised.	Edit made to Table 1.
55	120.4, 124.2, 149, 151.1, 168.10 CASA ACWA WaterReuse Orange County Water District California Municipal Utilities Association	1.1 The analytical methods definitions as proposed are overly vague and do not assure adequate quality. A method that is peer reviewed and published does not ensure that it is accurate, as was demonstrated in Water Research Foundation Project 4167 on CEC analysis. It was demonstrated that multiple published methods did not provide accurate and precise results on various CECs. It is important that the methods used be capable of meeting defined quality assurance requirements. Recommended the following	The recommended language was incorporated in Section 1.1. In addition, any modification of methods will be approved by CDPH, and incorporated in the updated QAPP submitted to the Regional Water Board.	Edits made to Section 1.1.

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	Eurofins Eaton Analytical SAWPA	language: Analytical methods for laboratory analysis of CECs shall be selected to achieve the reporting limits presented in Table 1. These methodologies shall be based upon EPA-published methods, State-certified methods, or shall be peer reviewed and published methods (including those published by voluntary consensus standards bodies such as the Standard Methods Committee and ASTM International). Any modification to the published or certified method shall be disclosed in the required quality assurance project plan available for review by the Regional Water Board.		
56	151.2 Eurofins Eaton Analytical	1.1. Include the following drinking water reporting limit definition, “the lowest concentration of standard used for calibration “along with minimum reporting level checks with every analytical batch and a specific recovery of 50 – 150%. This should be a mandatory part of the CEC quality assurance	Staff believes that stating specific levels of recovery is not necessary. It is more detail than needed for a policy.	None

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		project plans, and would demonstrate that laboratories could meet the required limits on an ongoing basis.		
57	151.3 Eurofins Eaton Analytical	1.1. Analytical methods should either be based on existing USEPA drinking water methods, which have specified precision and accuracy requirements (example EPA 521 for NDMA and method 539 for 17β-estradiol), or methods that have been subjected to round robin evaluations and demonstrated to have produced accurate results for each of the compounds of interest at relevant concentrations. The quality assurance and validation presented in the Panel Report is not reflected in the proposed amendment.	Language in Section 1.1 for the use of analytical methods has been changed.	Edit made to Section 1.1.
58	161.3 California Coast- Keeper Alliance	CEC monitoring should not be limited based on currently available analytical methods. The State Board should ensure that research on analytical methods moves forward concurrently.	Unfortunately, many CECs do not have analytical methods. Staff agrees that additional research is needed to develop additional analytical methods. The State Water Board, however, has limited funding to fund this research and has chosen to focus on developing	None

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			bio-analytical methods. Staff cannot require a recycled water producer to analyze for a CEC, when no method is available to analyze for it. In the next update to the Recycled Water Policy, additional CECs can be considered for monitoring based on the availability of new analytical methods.	
59	151.4 Eurofins Eaton Analytical	1.1. Rather than requiring that each project develop a quality assurance project plan, the Board should propose a uniform set of QAQC criteria that includes specific requirements for the use of lab control standards, field blanks, method blanks, and matrix spikes with specified acceptance limits. This approach was used by SAWPA as a fundamental part of a multi-year monitoring program of more than 20 wastewater treatment plants and generated consistently high quality data.	Staff agrees with the comment. A QAQC Plan that covers multiple facilities would benefit the monitoring program. However, at this point, it is not feasible to address this in the proposed amendment to the Recycled Water Policy. This issue could be addressed by a future science advisory panel.	None
60	168.9 SAWPA	1.1. The State Water Board should rely on several peer-reviewed interlaboratory studies to establish minimum performance standards for	Staff agrees with the comment. It would be a good idea to conduct inter-laboratory studies and establish performance standards. This issue could be	None

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		determining whether results from field blanks, laboratory blanks, replicate samples and matrix spikes are acceptable or not. Alternatively, the State Water Board should direct the Blue Ribbon Panel to recommend appropriate laboratory performance standards in the 2015 Report.	addressed by a future science advisory panel.	
61	150.1, 201 Medical Geo-hydrology Office of Assembly-man Das Williams	The topic of antibiotic resistance seems to be completely dropped. Monitoring frequencies and percentages seem to relate to non-reproducing CECs, non-constituents that can reproduce and hence multiply or acquire genes. This makes a mockery of the process when discussing pathogens, or is it that pathogens are believed to mystically disappear or just be non-existent? The policy, as a mechanism to protect public health, is thus a fiction.	The concern expressed by the commenter is that recycled water contains genetic fragments that carry antibiotic resistance. When ingested, these fragments may, according to the commenter, transfer into bacteria commonly found in the gastrointestinal tract, where they may multiply. Ultimately, the genes may transfer to pathogenic bacteria. The commenter states that this concern was not adequately addressed by the Science Advisory Panel or staff. The Science Advisory Panel report includes an Appendix C, which discusses antibiotic resistance. The report states that "The possibility exists for	None

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			antibiotic resistant bacteria to transfer resistance to other bacteria that are excreted by humans to either evade treatment or to transfer antibiotic resistance to other bacteria within the water reclamation plant.” The Science Advisory Panel, however, also stated that “it is the view of the Panel that the specific water reuse practices described in this report do not cause the problem nor add to it at the present time.” Staff is not aware of any situations where the scenario described by the commenter has occurred. Although additional research may be warranted, staff is not proposing at this time to require additional treatment to remove genetic fragments or to monitor for them.	
62	154.2 Heal the Ocean	If the State Water Board is unwilling to expand the current list of CECs in Attachment A, then the State Water Board must revisit Attachment A in at least three years and rework the monitoring list in close	The proposed amendment to the Recycled Water Policy will be revised in five years. Staff agrees that it and the new Science Advisory Panel should consult with CDPH during this process.	None

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		consultation with CDPH.		

2.0 Monitoring Locations

63	116.4 Santa Clara Valley Water District	Recommend that the potential for increases in CEC concentrations due to formation within the distribution system be considered with regard to the monitoring locations presented in the Recycled Water Policy. When these types of CECs are required to be monitored, monitoring should occur at the application site to ensure groundwater resources are protected. A study found that concentrations of some disinfection by-products were increased by an order of magnitude between the recycled water plant and the irrigation	Staff reviewed the report. It found discussion of increases in N-Nitrosodimethylamine (NDMA) in drinking water distribution systems, but no discussion of increases of CEC concentrations in recycled water distribution systems. Staff has concluded that it should keep the monitoring location at the treatment plant. This provides a consistent location where quality control can be maintained.	None
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		site.		
64	168.3 SAWPA	2.0, ¶1. The draft requires CEC monitoring to be performed “before and after an individual treatment process or a combination of processes that provide removal of CECs.” This paragraph and similar provisions found later in the draft document should be revised to make clear that the requirement only applies to removal processes following tertiary filtration and disinfection. Wastewater treatment plants are not required to demonstrate the CEC removal efficiency for each of the major “unit processes” used in the normal course of producing recycled water.	Some additional language was added to clarify what unit processes remove CECs.	Edits made to Section 1.
65	105.2 City of Los Angeles	2.1.2. Replace “discharge” with “release”. In addition, all reference to RO/ AOP be removed. Recommend the following language: “....RO/AOP treatment prior to release to aquifer.”	Language has been changed in Section 2.1.2.	Edit made to Section 2.1.2.
66	117.1 Sacramento	2.2 and 3.0. The requirements for monitoring surrogates in recycled water used for	To avoid confusion, reference to monitoring for landscape irrigation was removed from	Edits made to the introduction of Attachment A, Table 1, Table 2, Table 3, Table 4, Table 5, and

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	Regional County Sanitation District	landscape irrigation are not clear. In section 2.2, it states that CECs and surrogates will be used to evaluate individual processes or a combination of process for removal, and Tables 3, 4, and 5 contain the monitoring requirements. However, Section 3.0 contains these tables indicating that the phased monitoring requirements only applies to groundwater recharge reuse project and does not mention landscape irrigation projects. For example, the first sentence in Section 3.0 states, "The Regional Water Board shall phase the monitoring requirements for CECs and surrogates for groundwater recharge reuse projects." Landscape irrigation projects are not mentioned in this section.	Attachment A. The surrogates originally identified in Attachment A are the same as those required by the Title 22, Water Recycling Criteria. Hence, staff concluded that placing requirements to monitor for them in Attachment A would be redundant.	Table 6. Deletion of Sections 2.1.3 and 2.2.3.
67	120.6, 124.1, 149 CASA ACWA WaterReuse	Section 2.2.2 and Tables 3, 4, 5. For Indicator and surrogate performance monitoring for subsurface application the statement," following treatment by RO/AOP prior to release to aquifer" is unclear. This statement could be interpreted to	The language has been changed to say: (1) Prior to treatment by RO; and (2) Following treatment prior to release to the aquifer.	Edit made to Section 2.2.2.

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	Orange County Water District California Municipal Utilities Association	mean that monitoring for all performance indicator CECs and surrogates must be conducted after both RO and AOP. Recommend the following language: (2) Following treatment by RO and/or AOP prior to release to aquifer. The location for monitoring shall be selected in consultation with CDPH.	A sentence was also added allowing the Regional Water Board to monitor after the RO unit instead of before the RO unit, if the project proponent can demonstrate that the RO unit will not provide substantial removal.	
68	168.11 SAWPA	The descriptor text in the first two rows of the first column in Table 3 is missing as is the descriptor text in the first row and first column of the Tables.	Language has been corrected in Table 3.	Edit made to Table 3.
69	105.1 City of Los Angeles	Section 2.2.2. Reference to specific treatment units should be removed and state that the sampling should occur prior to treatment and after treatment prior to release. In order to keep the document from requiring future revisions, the reference to the type of treatment units used should be removed and replaced with the generic wording "treatment". Sampling of the recycled water still would occur prior to	The Science Advisory Panel provided recommendations applicable to soil aquifer treatment and reverse osmosis followed by advanced oxidation. The recommendations are not applicable to other treatment processes. For this reason, the proposed amendment states that other processes will be reviewed on a case-by-case basis.	None

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		treatment and prior to release, while not specifying the type of treatment that is to take place.		

3.0 Phased Monitoring Requirements

70	105.3 City of Los Angeles	3.0, 1¶. Clarify how the pilot test data should be used in order to move forward into the monitoring program without repeating significant amounts of sampling that has already occurred. Pilot plant studies conducted by facilities should be able to be used to move forward with the testing program. The pilot plant studies should also be considered in the initial and baseline monitoring programs, since these studies will provide sufficient data to determine that all requirements are satisfied. Hence, if the pilot study collected sufficient data to satisfy the initial assessment requirements, the initial phase should be skipped and the project should move directly to the standard monitoring phase.	The proposed amendment to the Recycled Water Policy contains provisions as described by the commenter. Staff believes that these are sufficiently clear and that additional detail is not necessary.	None
71	160.3	3.0. The Amendment permits certain dischargers to monitor	Staff deleted monitoring requirements for surrogates for	None

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	Heal the Bay	surrogates only and on a project-specific basis during the initial assessment and baseline phase. This type of monitoring would reduce, rather than encourage, consumer confidence in the use of recycled water. The list of CECs to be monitoring is already extremely limited, and thus there isn't sufficient reasoning to allow for surrogate monitoring. We request that the original monitoring frequencies be retained for the initial and baseline phases.	landscape irrigation. The reason for this was that the surrogates to be monitored are the same as those that are already required to be monitored under the California Code of Regulations, Title 22, Water Recycling Criteria. For these, turbidity and chlorine residual monitoring is continuous. Coliform samples must be taken daily. For groundwater recharge reuse facilities, surrogate and CEC monitoring is required. It would be prohibitively costly to require daily analysis of CECs as the commenter seems to recommend, as an alternative to requiring surrogate monitoring.	
72	168.4 SAWPA	3.1, ¶1. The proposed policy requires additional evaluation if monitoring preliminary monitoring results indicate a concern (i.e., the treatment process fails to achieve the expected degree of removal of CECs). However, the expected degree of CEC removal is not specified.	Language has been added to provide clarity. The expected degree of removal is to be determined during the initial and baseline monitoring phases. Not meeting these removal rates during the operation phase creates a concern. Percent removal only applies to performance indicator CECs. Health-based CECs are	Edits made to Section 3.1.

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		It is also unclear why any CEC removal is required if the measured concentrations remain well below the health-based thresholds identified by the Blue Ribbon Panel. The draft document should be revised to make clear that the removal efficiency evaluation applies only to the performance-based indicators. In addition, a new table specifying the minimum removal expectation should be added. Or, alternatively, the document should be revised to clarify that the minimum removal efficiencies are to be determined on a case-by-case, project-by-project basis.	evaluated relative to the monitoring trigger levels (thresholds) using Table 7. Staff believes that this was clearly stated in Section 4.1. Expected removal percentages are to be determined based on results from the initial and baseline monitoring phases.	
73	120.7, 149 CASA ACWA WaterReuse California Municipal	3.1. To clarify the distinction between monitoring of projects involving subsurface application of recycled water and those involving percolation of recycled water the following language is recommended. "The purposes of the initial	Language was added to clarify	Edits were made to Section 3.1, first paragraph.

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	Utilities Association	assessment phase are to (1) identify the occurrence of health-based CECs, performance indicator CECs, and surrogates in recycled water and ground water¹....” “1. For groundwater, only for surface application.” For surface application, programs that employ multiple recharge basins should be allowed, in consultation with CDPH, to identify a representative basin at which the initial assessment, baseline monitoring, and standard monitoring will be conducted. Recommend the following language. (1) Following tertiary treatment⁷ prior to application to the representative surface spreading area; “	that groundwater monitoring for CECs only applies to surface application projects. Staff decided to not include this language in the proposed amendment to the Recycled Water Policy. If an agency proposes to use spreading areas at different locations, each location may have different hydrologic characteristics. Hence, the need for monitoring at each location.	
74	120.8, 149 CASA ACWA	3.1, ¶1. This section identifies a purpose of the initial monitoring phase as being “to determine the treatment effectiveness of unit	Unit processes that remove CECs are now defined in Section 1 to clarify that they do not include upstream processes.	Edits made to Section 1.

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	WateReuse California Municipal Utilities Association	processes” that remove CECs. Nearly every unit process in a treatment plan removes CECs, but the monitoring framework is, with a few exceptions, designed to evaluate overall treatment effectiveness as opposed to that of individual unit processes. Furthermore, the term “unit processes” is not defined in the Policy. Recommend the following language: (2) determine the treatment effectiveness of unit processes⁹ Footnote ⁹ Unit processes that remove CECs, as specified in Section 2.		
75	120.9, 149 CASA ACWA WateReuse California Municipal Utilities Association	3.1, ¶4 and 3.2 ¶3. Some of the language in these sections is not consistent with other language in the amendment. Recommendation 3.1, ¶4 and 3.2 ¶3. Delete “CECs or the increased occurrence and/or concentration of CECs”	The language has been deleted.	Edits made to Sections 3.1 and 3.2.

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76	120.10, 149 CASA ACWA WaterReuse California Municipal Utilities Association	3.1, ¶4 and 3.2 ¶3. CDPH has considerable expertise and should be part of the decision about the need for additional monitoring. The following should be changed to clarify that the Regional Water Boards and CDPH will collaborate to determine if additional monitoring is needed. Recommend the following language: If additional monitoring is required, the Regional Water Board shall consult with CDPH <u>to determine if additional monitoring is required,</u> and <u>will</u> revise the Monitoring and Reporting Program as appropriate.	Staff believes the existing language appropriately represents the roles of the Water Boards and CDPH. If CDPH believes that additional monitoring is necessary, the proposed amendment does not prevent CDPH from requesting the additional monitoring.	None
77	168.5 SAWPA	Tables 3, 4, and 5. The phrase “surface spreading area” should be explicitly defined so that it applies only to intentional recharge projects and not to the incidental recharge of recycled water that is expected to occur below discharges to surface	The proposed amendment to the Recycled Water Policy references the following definition in the Water Code. "Indirect potable reuse for groundwater recharge" means the planned use of recycled	None

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		water.	water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system, as defined in Section 116275 of the Health and Safety Code.” This definition limits the proposed amendment to intentional recharge projects. The proposed definition is unnecessary.	

4.0 Evaluation of CECs and Surrogate Monitoring Results

78	116.5 Santa Clara Valley Water District	Recommend that consultation with the Regional Water Board and CDPH be triggered when the measured environmental concentration to monitoring trigger level ratio is above ten so that timely, appropriate action can be identified to protect the beneficial use of groundwater. Table 7 may not be protective of groundwater users because only one response action (E) results in any action other than monitoring.	The Science Advisory Panel used a conservative approach in developing the thresholds and response actions. Therefore, a response action involving only additional monitoring when the MEC/MTL ratio is below 100 is appropriate.	None
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79	120.11, 149 CASA ACWA WateReuse California Municipal Utilities Association	4.1. Attachment A should clearly state that removal percentages established for each project and those given in Table 6 shall not be used as compliance requirements. Recommend the following language: The established removal percentages for each project shall be used to evaluate treatment efficacy and operational performance. <u>Neither the established removal percentages for each project nor the removal percentages in Table 6 shall be used as compliance requirements. If the removal differential is less than expected, assessment of the treatment processes may be warranted.</u>	Attachment A does not indicate that the monitoring requirements are to be used for compliance. Therefore, staff believes that the added language is not necessary.	None
80	168.6 SAWPA	4.1 and 4.1.1. This section should be revised to state that the equations should only be applied to supplementation treatment processes (i.e., SAT, AOP or RO) and is not intended to apply to the normal primary, secondary or tertiary treatment	Language was added to Section 1 to clarify the monitoring applies only to the soil aquifer treatment or RO followed by AOPs.	Edit made to Section 1.

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		processes used to produce “recycled water.”		
81	168.7 SAWPA	Table 6. The cautionary statements made by the Blue Ribbon Panel are so essential to the proper interpretation and use of CEC data that they should be brought forward into the Recycled Water Policy itself rather than merely included by footnote reference. In addition, where the Blue Ribbon Panel identified a specific health-based screening level, this value should be added to Table 6 (along with the various caveats published by the Panel) in order to place the Monitoring Trigger Level in its proper perspective.	Staff believes that adding the footnotes into the text is not needed. These footnotes are referenced in Table 6.	None
82	168.8 SAWPA	Table 6, Footnote 2. The “Removal Efficiency” column is a gross over-simplification of Dr. Drewes’ work and depends greatly on the type of treatment process used. Since the State Water Board intends that removal efficiency is to be determined on a project-by-project basis, it is unclear what purpose is served by the last column in Table 6. The State	Staff believes that Table 6 provides a useful reference and should be included. The table has been taken directly from the Science Advisory Panel Report. Dr. Drewes was a co-author of the report.	None

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		Water Board should consider removing this column from the final Policy. Or, alternatively, the column should describe the range of expected removal efficiencies, not the highest expected values associated with the most effective technology.		