Heal the Bay

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October 9, 2012

Chair Charles Hoppin and Board Members
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814
Sent via email to: commentletters@waterboards.ca.gov

RE: Proposed Amendment to the Recycled Water Policy Concerning Monitoring Requirements for Constituents of Emerging Concern

Dear Chair Hoppin and Board Members:

On behalf of Heal the Bay, we appreciate the opportunity to comment on the *Proposed Amendment to the Recycled Water Policy to Incorporate Monitoring Requirements for Constituents of Emerging Concern* (Amendment). Heal the Bay is an environmental organization with over 12,000 members dedicated to improving water quality in Santa Monica Bay and Southern California coastal waters for people and marine life. Heal the Bay sat on the Stakeholder Advisory Committee formed to assist with selection of the constituents of emerging concern (CECs) Ecosystems Panel (Panel) experts and was an active member of the drafting group for the State Water Resources Control Board's Recycled Water Policy (Policy).

We attach and incorporate by reference our comment letter submitted July 3, 2012, as many of our concerns expressed therein remain the same and appear to have not been incorporated into the latest revised version of the Policy and Attachment A.[1] Of note, we are disappointed that the State Board's responses to those comments sent in July will not be released until after the comment deadline for this round of comments. The timing of the availability of these responses is problematic because it prevents the public from knowing the reasoning behind the revisions and impedes the public's ability to adequately assess the revisions to this draft, which are supposed to result from the comments received in July. In reviewing the latest version of the Policy and Attachment A, we remain concerned that given the potentially thousands of CECs being discharged, the extremely limited set of monitoring proxies proposed will fail to build scientific credibility and to assuage public concerns. Attachment A recommends monitoring only eight CECs for surface application and a subgroup of six of these for subsurface application, along with nine surrogates for treatment efficiency, which are not CECs. It also limits Regional Boards' ability to add to this list. This abbreviated list ignores the larger policy implications of a short-circuited CEC monitoring program. In order to provide our state regulatory agencies with an accurate and comprehensive CEC data set, **the list of CECs monitored should include contaminants from U.S. EPA's Candidate Contaminant List 3, and the list of CECs proposed by California Department of Public Health (CDPH)**, in addition to those recommended by the Expert

[1] CCKA and Heal the Bay comments dated July 3, 2011 on Proposed Amendment to the Recycled water Policy to Incorporate Monitoring Requirements for Constituents of emerging Concern.

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Panel in their Final Report.[2] In addition to expanding the list of CECs monitored, we expressed concern that surrogate parameters should not be used in lieu of CEC monitoring and CEC testing should not be limited to currently approved analytic methods.

In addition to these concerns outlined in prior comments, we have additional concerns regarding the revisions in Attachment A:

- We urge the State Board to update the list of CECs monitored on a biennial basis using best professional judgment.
- The State Board should retain monitoring frequencies deleted from the Initial Assessment Phase and Baseline Phase Monitoring Requirements in Attachment A.
- The Policy should provide for stricter enforcement of illicit discharges.
- The impacts of CECs in surface water must be addressed.

I. The State Board should revisit the list of CECs on a biennial basis.

The Policy requires a "blue-ribbon" expert panel to update its report to the State Board every 5 years, with revisions showing that the next update is due in June 2015. In addition to this, the full CEC monitoring list should be revisited by State Board staff on a biennial basis, with input from the Regional Boards. Collaboration with the Regional Boards is critical in order for data collection to keep pace with CECs entering the environment and to prevent steps backwards in current monitoring efforts, recognizing that some Regional Boards have already proposed more extensive lists of CECs to be monitored than what is being proposed in the Policy.

It is also 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. NDMA, MBTE, and pyrethroids are examples of toxic CECs that entered the environment and became pervasive over a short period of time. For instance, pyrethroids have been shown by the Southern California Coastal Water Research Project (SCCWRP) to be a predominant cause of toxicity in waterbodies such as Ballona Creek, but this pollutant was largely un-noticed several years prior. A 2008 study found that pyrethroids were present in about 2/3 of the final effluent samples from wastewater treatment plants in the Sacramento-San Joaquin Delta.[3] Every two years, the State Board should use their best professional judgment to update the list of CECs monitored in order to produce a comprehensive monitoring program. Adequate monitoring during the initial assessment and baseline monitoring phases, along with periodic updates to the CEC list will reassure the public that the science is being developed fully, and it will produce the information necessary to make a more informed decision about which

[2] See *Final Report, Monitoring Strategies for CECs in Recycled Water: Recommendations of a Science Advisory Panel* (June 25, 2010). Pages 64, 66.

[3] Weston, D. and Michael Lydy. *Pyrethroid Pesticides in the Sacramento-San Joaquin Delta: Sources and impacts on Delta Waters*. Supported by the Central Valley Regional Water Quality Control Board through the Surface Water Ambient Monitoring Program (SWAMP). http://www.sustainabledelta.com/pdf/WestonHandout.pdf Accessed 2012 Oct 8.

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parameters to include and exclude in a longer-term monitoring and regulatory framework. Requiring necessary contaminant monitoring is a sound course to achieve the Policy's goals and directions.

II. The State Board should retain frequencies deleted from the Initial Assessment Phase and Baseline Phase Monitoring Requirements in Attachment A

The Amendment permits certain dischargers to monitor only surrogate parameters and at a frequency determined on a project-specific basis. We strongly oppose such a direction, which is inappropriate and would reduce, rather than encourage, consumer confidence in the use of recycled water. The list of CECs to be monitored is already extremely limited, and thus, there isn't sufficient reasoning to allow for surrogates. The Amendment should clearly state that under no circumstances should surrogate monitoring replace CEC monitoring. If the State Board does go in this direction, there is no reason to reduce the frequency of monitoring for the surrogates.

A more preferable monitoring regimen, as the environmental community has commented many times, would be the replacement of surrogate monitoring with the monitoring of all relevant CECs for an initial screening period. Receiving water monitoring should be conducted at least annually, with a trigger of increased frequency to quarterly if any CECs on the list are detected in the effluent more than once in a 90-day period. In addition, if a plant experiences a process upset or otherwise does not function properly, monitoring of some parameters should increase for 3-month period. Severely limiting recommended monitoring as proposed in the Panel Report will reduce, rather than encourage, consumer confidence in the use of recycled water. It also will delay effective action to prevent potential public health and ecological impacts, contrary to the goals of the Recycled Water Policy. A monitoring program, particularly when used as a shorter-term regulatory screening tool, necessarily must err on the side of comprehensiveness rather than relying on surrogates to indicate potential for CEC contamination.

III. The Policy should provide for stricter enforcement of illicit discharges.

One of the changes to the Draft Policy incorporates a reduction of the monitoring of landscape irrigation to once every five years. This reduction can only be justified if water supply and public works agencies provide effective compliance assurance efforts on irrigation runoff to reduce its impacts on waterways. From our experience monitoring the Malibu Creek watershed for the past 12 years, we have found that nuisance runoff from spray field irrigation can result in significant contributions to flows in surface waters. Thus there should be greater effort, perhaps through municipal stormwater permits, directed towards abating illegal runoff discharges, if landscape irrigation monitoring will occur as infrequently as proposed.

IV. The impacts of CECs in surface water must be addressed.

Revisions to the Attachment do not provide recommendations for monitoring surface water, which is a major short-coming. As a long-time stakeholder in the process of drafting this Policy, we assert that 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 the effluent and in the receiving waters (surface

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and groundwater). Including such requirements would build the database that the CEC Advisory Panel recognized is needed to "predict likely environmental concentrations of CECs based on production, use and environmental fate, as a means for prioritizing chemicals on which to focus method development and toxicological investigation."

In neglecting to address surface water in the Amendment, Staff did not acknowledge the fact that discharge of effluent to receiving waters occurs on a daily basis. Many streams in southern California are effluent-dominated streams with 80-95% of dry weather flows coming from recycled water discharges. Further, many California streams receive recycled water effluent and interact regularly and closely with groundwater. Many inland surface waters have potential municipal and domestic supply beneficial uses. In fact, state law SB 918 requires the Department of Environmental Health to develop regulations to allow for indirect potable reuse through surface water augmentation by 2016. For these reasons, it is critical to include monitoring requirements for CECs in surface waters.

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We respectfully request that the Board consider the above-described recommendations in order to protect aquatic ecosystem health from the ever-increasing threat of CECs. In brief, because Heal the Bay supports the increased, safe use of recycled water consistent with state and federal water quality controls, we oppose broad implementation of a recycled water program based on monitoring for an extremely circumscribed set of potential proxies for human health and aquatic life impacts. The proposed program of CEC monitoring for recycled water must be expanded in order to support the state's need to increase recycled water use.

Thank you for your commitment to establishing a monitoring framework for CECs in California's waterbodies. If you have any questions, please do not hesitate to contact us.

Sincerely,

Susie Santilena, MS, EIT
Environmental Engineer in Water Quality
Heal the Bay

Kirsten James, MESM
Director of Water Quality
Heal the Bay

July 3, 2012

Chair Charles Hoppin and Board Members
State Water Resources Control Board
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Sacramento, CA 95814
Sent via email to: commentletters@waterboards.ca.gov

RE: Proposed Amendment to the Recycled Water Policy to Incorporate Monitoring Requirements for Constituents of Emerging Concern

Dear Chair Hoppin and Board Members:

On behalf of Heal the Bay and California Coastkeeper Alliance, we appreciate the opportunity to comment on the *Proposed Amendment to the Recycled Water Policy to Incorporate Monitoring Requirements for Constituents of Emerging Concern* (Amendment). Heal the Bay is an environmental organization with over 13,000 members dedicated to improving water quality in Santa Monica Bay and Southern California coastal waters for people and marine life. California Coastkeeper Alliance (CCKA) represents 12 Waterkeeper groups spanning the coast from the Oregon border to San Diego. CCKA and Heal the Bay sat on the Stakeholder Advisory Committee formed to assist with selection of the constituents of emerging concern (CECs) Ecosystems Panel (Panel) experts, and were active members of the drafting group for the State Water Resources Control Board's Recycled Water Policy (Policy). We attach and incorporate by reference our January 10, 2011 comment letter, as many of our concerns expressed therein remain the same.[1]

Heal the Bay and CCKA support the State Water Resources Control Board's (Board) work to amend the Recycled Water Policy to include monitoring requirements for CECs. Given the thousands of CECs being discharged, the proposed, extremely limited set of monitoring proxies will fail to build scientific credibility and to assuage public concerns. The Staff Report recommends monitoring only eight CECs for surface application and a subgroup of six of these for subsurface application, along with nine surrogates for treatment efficiency, which are not CECs. This abbreviated list ignores the larger policy implications of a short-circuited CECs monitoring program. In order to provide our state regulatory agencies with an accurate and comprehensive CEC data set, **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**, in addition to those recommended by the Expert Panel in their Final Report.[2] Additionally,

[1] CCKA and Heal The Bay comments dated January 10, 2011 on *Staff Report, Constituents of Emerging Concern (CEC) Monitoring for Recycled Water* (November 8, 2010) and *Final Report, Monitoring Strategies for CECs in Recycled Water: Recommendations of a Science Advisory Panel* (June 25, 2010).
[2] See *Final Report, Monitoring Strategies for CECs in Recycled Water: Recommendations of a Science Advisory Panel* (June 25, 2010). Pages 64,66.

Regional Water Boards should be granted discretion to add CECs to the list of constituents monitored based on region-specific considerations.

In addition to expanding the list of CECs monitored, we provide the following recommendations to strengthen the Board's monitoring of CECs in recycled water:

- Effluent dominated surface water should be monitored, in addition to groundwater.
- Surrogate parameters should not be used in lieu of CEC monitoring.
- CEC testing should not be limited to currently approved analytic methods.

I. The list of CECs monitored should be expanded to reflect U.S. EPA and Department of Public Health recommendations.

We support the proposal for a phased monitoring approach with a one-year initial assessment monitoring phase followed by a three-year baseline monitoring phase. However, the proposed list of monitoring proxies for this initial phase is extremely limited. An initial screening period with comprehensive monitoring is necessary to build the foundational baseline to determine which CECs need to be further monitored and regulated – and, importantly, to build public confidence that the science behind CEC monitoring is sound.

It is critical that the monitoring proposed in the Amendment be as thorough and comprehensive as possible to address CEC impacts to human health and aquatic life in order to protect all beneficial uses of California's inland and coastal waters.[3] It has been our direct experience that members of the public care significantly about CECs. They are concerned that regulatory agencies appear to be unaware of the full range of public health and environmental dangers associated with CECs, and that there has been little meaningful action to redress these informational and regulatory gaps.[4] The Draft Amendment is a critical component of providing the public with confidence that the proper data are being provided to regulatory agencies in order to appropriately regulate CECs. Lack of data is no excuse to exclude an appropriate constituent at this early stage of CEC monitoring programs. Further, any analysis completed to develop a final list of CECs may prove to be of value for determining which CECs should be looked at more carefully for regulation in the future.

Heal the Bay and California Coastkeeper Alliance invested heavily in the development of the Policy with the goal of increasing recycled water use consistent with state and federal water quality laws. We urge the Board to include an initial screening period of monitoring, over three years, that includes the full list of CECs in Table 1,[5] and any additional appropriate contaminants from the USEPA's CCL3 List.[6]

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[3] It is our understanding from Staff that the Recycled Water Policy will be further revised to include the recommendations of the Aquatic Ecosystems Panel in the near future.

[4] House Committee on Energy and Commerce Subcommittee on Energy and Environment, "Endocrine Disrupting Chemicals in Drinking Water: Risks to Human Health and the Environment" (Hearing Feb. 25, 2010), information available at: http://energycommerce.house.gov/hearings/hearingdetail.aspx?NewsID=7673. *See also* Bergeson and Campbell, "House Subcommittee Holds Hearing on Endocrine Disrupting Chemicals in Drinking Water" (March 1, 2010), available at: http://www.lawbc.com/news/2010/03/house-subcommittee-holds-hearing-on endocrinedisrupting- chemicals-in-drinking-water/ (noting that at the 2010 hearing, the "Subcommittee members criticized the slow pace of EPA's Endocrine Disruptor Screening Program").

[5] Attachment A, Page 4, Table 1.

Monitoring for this list will far better ensure the protection of both human health and the environment, as envisioned by the Policy. Also, it will provide the public with the confidence they need to embrace indirect potable reuse on a statewide basis.

In addition, a survey of the CEC monitoring sections of all of the NPDES permits in the state would be useful in developing a standardized interim list of CECs to be monitored. The State Board should give the Regional Boards discretion to include additional constituents from this list. The Region 4 Los Angeles Regional Water Quality Control Board has proposed CEC special studies in recent water reclamation plant NPDES permits. The list required by the Board for ocean monitoring for ambient waters is much more comprehensive than those proposed in this report; the list includes 24 different monitoring proxies, many that have been inappropriately excluded from the list in this Amendment. Thus as proposed, the recommendations of the report will lead to the elimination of monitoring required by these special studies, and therefore severely limit the Regional Board's ability to acquire this data.

The Amendment should also include the list of constituents recommended by CDPH. The current proposed language regarding this list is weak and will likely not result in the monitoring of these constituents. For instance, the Amendment states, "The California Department of Public Health (CDPH) shall be consulted for any additional monitoring requirements for recycled water use found necessary by CDPH to protect human health." This is a major step backwards from the November 2010 Staff Report, which proposed to accept the list of CECs recommended by CDPH outright. Furthermore, it is unclear why staff changed this initial proposal. We support the addition of the CDPH-recommended monitoring parameters. Recycled Water Policy Section 10(a)(1) states that "all uses of recycled water must meet conditions set by CDPH." Thus the proposal to defer on the CDPH list appears to be in conflict with the intent of the Recycled Water Policy. While we would welcome additional CDPH information on the reasoning for the monitoring parameters it recommends, we would oppose eliminating recommendations that will ensure better safeguard of public health.

If California is going to advance recycled water use, the potential impacts of CECs must be tackled assertively. This will not be accomplished by brushing aside the recommendations of CDPH. Indeed, this runs the risk of setting the state back in its use of recycled water, which is critical to the state's water supply future. Investment in monitoring now will reap significant dividends in both scientific understanding of CECs and public good will toward recycled water use in the future. For consistency and ease of regulation, we encourage the State Board to broaden the list of monitoring proxies to a similar list for each.

<u>The list of CECs should be revisited on a biennial basis.</u>

The full CEC monitoring list itself should be revisited on a biennial basis initially, since the science and number of new chemicals and pharmaceuticals coming on the market are changing so rapidly. Adequate monitoring during the initial assessment and baseline monitoring phases, along with periodic updates to the CEC list will reassure the public that the science is being developed fully, and it will

[6] Science Advisory Panel Final Report June 25, 2010 Appendix D, Table D-1

produce the information necessary to make a more informed decision about which parameters to include and exclude in a longer-term monitoring and regulatory framework.

II. The impacts of CECs in surface water must be addressed.

The monitoring program needs to adequately cover both groundwater and surface water systems. The Amendment does not provide recommendations for monitoring receiving water other than groundwater, which is a major short-coming. Monitoring should be required for all designated constituents both in the effluent and in the receiving waters. Including such requirements would build the database that the CEC Advisory Panel recognized is needed to "predict likely environmental concentrations of CECs based on production, use and environmental fate, as a means for prioritizing chemicals on which to focus method development and toxicological investigation."

In neglecting to address surface water in the Amendment, Staff did not acknowledge the fact that discharge of effluent to receiving waters occurs on a daily basis. Many streams in southern California are effluent-dominated streams with 80-95% of dry weather flows coming from recycled water discharges. Further, many California streams receive recycled water effluent and interact regularly and closely with groundwater. In fact, state law requires the development of regulations to allow for indirect potable reuse through surface water augmentation. SB 918 requires the Department of Environmental Health to develop regulations to allow indirect potable reuse through surface water replenishment by 2016. For these reasons, it is critical to include monitoring requirements for CECs in surface waters. Monitoring for additional constituents that pose a risk to surface water applied to groundwater will provide Water Boards with better information regarding CEC impacts. Receiving water monitoring should be conducted at least annually, with a trigger of increased frequency to quarterly if any CECs on the list are detected in the effluent more than once in a 90-day period. As a side note, it is unclear why the policy proposes differing monitoring requirements for groundwater recharge reuse through surface and subsurface application.

III. Surrogate parameters should not be used in lieu of CEC monitoring.

The Amendment permits certain dischargers to monitor only surrogate parameters. In cases where the Amendment requires both surrogates and health-relevant CECs to be monitored, more frequent monitoring for the surrogates is required. We strongly oppose such a direction, which is inappropriate and would reduce, rather than encourage, consumer confidence in the use of recycled water. The Amendment should clearly state that under no circumstances should surrogate monitoring replace CEC monitoring for groundwater recharge.

The Amendment requires the monitoring of surrogates only for landscape irrigation. It is unclear whether landscape irrigation is meant to include agricultural irrigation. The Board should clarify this point, and identify distinct requirements for each activity, as appropriate. Additionally, the Board should strictly limit the use of surrogates for landscape irrigation, which can impact surface and groundwater supplies. Recycled water used for irrigation can lead to groundwater recharge. Further, contaminants can remain in the soil until a rain event flushes them into surface waters or groundwater basins. For example, in the Russian River watershed, poor soils for attenuation and shallow groundwater can cause water

soluble organic compounds to reach groundwater or surface waters and affect salmon and other aquatic life.

Severely limiting recommended monitoring as proposed in the Panel Report will reduce, rather than encourage, consumer confidence in the use of recycled water. It also will delay effective action to prevent potential public health and ecological impacts, contrary to the goals of the Recycled Water Policy. A monitoring program, particularly when used as a shorter-term regulatory screening tool, necessarily must err on the side of comprehensiveness rather than relying on surrogates to indicate potential for CEC contamination.

IV. CEC testing should not be limited to currently approved analytic methods.

The CEC monitoring list should be based solely on the need for monitoring, not the current availability of analytical methods. State Board staff should ensure that research on analytical methods moves forward concurrently. The Staff Report lists the CEC Advisory Panel's recommendations for additional research, including the development of robust and reproducible analytical methods to measure CECs in recycled water. However, it states that these research topics may be funded at the discretion of the State Board. Discounting the CEC list based solely on the fact that they are currently unavailable will assuredly continue the status quo of their unavailability. Requiring necessary contaminant monitoring and a reasonable timeframe for method development is a sounder course to achieve the Policy's goals and directions.

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We respectfully request that the Board consider the above-described recommendations in order to protect aquatic ecosystem health from the ever-increasing threat of CECs. In brief, because Heal the Bay and California Coastkeeper Alliance support the increased, safe use of recycled water consistent with state and federal water quality controls, we oppose broad implementation of a recycled water program based on monitoring for an extremely circumscribed set of potential proxies for human health and aquatic life impacts. The proposed program of CEC monitoring for recycled water must be expanded in order to support the state's need to increase recycled water use.

Thank you for your commitment to establishing a monitoring framework for CECs in California's waterbodies. If you have any questions, please do not hesitate to contact us.

Sincerely,

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Kirsten James, MESMW
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