

**Response to Comments on the Total Maximum Daily Loads  
for DDTs and PCBs in Santa Monica Bay**

*December 9, 2011 Public Notice*

**March 26, 2012**

**General Summary of edits to the TMDL**

Chapter 6 has been edited to provide greater clarity on the waste load allocations. The waste load allocations for the two West Basin Recycling Facilities in Table 6-2 were modified to avoid the potential for double counting loads from the Hyperion Treatment Plant (HTP) and the Joint Water Pollution Control Plant (JWPCP). The waste load allocations for the West Basin facilities are expressed as floating allocations which are a function of the concentrations and flows received from HTP and the JWPCP.

The waste load allocation for the City of Redondo Beach Seaside Lagoon in Table 6-2 was based on up to 2.3 MGD of wastewater from the Redondo Beach Generating Station discharged to the Lagoon. As such these loads are double counted in the table. To remedy this, the waste load allocation for the Seaside Lagoon has been deleted from Table 6-2.

The language on the waste load allocations for stormwater has been clarified to affirm that the watershed breakout in Table 6-3 is for informational purposes and is not the intent of the TMDL to require compliance monitoring at the bottom of each watershed.

Chapters 7 and 8 have been edited to provide greater specificity on the recommendations for monitoring and implementing the TMDLs in permits.

EPA received eleven comment letters on the TMDL. The responses to individual comment letters follow each of the letters. The responses to specific comments are coded by numbers placed next to the specific comment in the letters.

**COMMENTORS (in order of letter and response to comments)**

Heal the Bay

City of Los Angeles, Department of Public Works

County of Los Angeles, Department of Public Works

County Sanitation Districts of Los Angeles County

Santa Monica Bay Restoration Commission

City of Hermosa Beach

City of Manhattan Beach

City of Rolling Hills

City of Rolling Hills Estate

City of Rancho Palos Verdes

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January 23, 2012

Terrence Fleming (WTR-2)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

**Re: DRAFT Total Maximum Daily Loads (TMDLs) for DDT and PCBs in Santa Monica Bay**

Dear Mr. Fleming,

On behalf of Heal the Bay, we submit the following comments on the *DRAFT Total Maximum Daily Loads for DDT and PCBs in Santa Monica Bay* (“Draft TMDL” or “TMDL”). As an organization dedicated to protecting water quality for human and marine life, we appreciate the opportunity to provide these comments.

Heal the Bay supports several aspects of this TMDL, particularly the inclusion of numeric targets for DDT and PCBs in water, sediment and fish tissue in Santa Monica Bay, including the Palos Verdes Shelf, that are based on protective Ocean Plan objectives and EPA Human Health Criteria. These are the most protective and appropriate standards to use in this TMDL. Also, we support that the TMDL calls for more appropriate detection limits for DDT and PCBs. EPA should push for these detection limits in other data collection efforts as well, such as in the NPDES program. C 1

Despite these positive elements, we have substantial concerns regarding the Draft TMDL. Our overarching concern is that the TMDL will not restore beneficial uses in the bay due to the lack of elements that address legacy contamination sources, particularly along Palos Verdes Shelf. Through the efforts of our Angler Outreach Team, we come in contact with fishermen who eat the fish from the Santa Monica Bay, informing them of the consumption guidelines and alerting them to the dangers of consuming certain fish species from the bay. We stand firm that this TMDL must lead to beneficial uses being restored for the public health protection of fisherman and their families. The draft TMDL does not demonstrate that water quality or fish tissue standards will be attained. C 2

In addition, in order to ensure that this TMDL is implemented effectively, USEPA must urge the Los Angeles Regional Water Quality Control Board to adopt a comprehensive monitoring plan and implementation plan. The Draft TMDL should specify a suggested timeframe for developing the plan. These and other concerns are explained in more detail below. C 3



**I. It is inappropriate for the Draft TMDL to rely solely on Superfund, burial, and attenuation to address legacy contamination in the Bay.**

**A. Superfund**

The Draft TMDL mentions that 110 tons of DDT and 10 tons of PCBs were deposited on the Palos Verdes Shelf before the 1980s and some of this pollution has migrated to Santa Monica Bay. The Draft TMDL inappropriately relies on the Superfund program to address the legacy contamination in the Bay. Superfund actions alone will not lead to beneficial use attainment because the Superfund plan was never intended to protect beneficial uses. The Remediation Action Plan was designed to reduce ecological and public health risks, but not to a level where beneficial uses are restored.

C 4

There are multiple sediment contamination hotspots in the Santa Monica Bay area, including Marina Del Rey, Port of Long Beach, and most notably, Palos Verdes Shelf (Superfund site). To date, Superfund has only progressed in educating the public about fish contamination issues associated with DDT, PCB, and mercury, principally through Heal the Bay's Angler Outreach Team. Although there have been numerous studies and a pilot capping effort, nothing additionally has yet happened to remediate the contaminated area. For the protection of the subsistence and recreational anglers that fish in the bay, it is critical that this TMDL address this legacy contamination along Palos Verdes Shelf. The 2010 'Do Not Eat' List released by USEPA and Fish Contamination Education Collaborative recently expanded to include four more fish, and there are consumption restrictions on 14 other fish, as shown in the Draft TMDL Table 2-2. It is important to note that additional fish species would be included on the 'Do Not Eat' list if the Office of Environmental Health Hazard Assessment (OEHHA) had considered fish consumption habits such as skin-on fillets or whole body. We will discuss this issue in further detail below.

C 5

C 6

**B. Burial and Attenuation**

It is also inappropriate for the Draft TMDL to rely on burial and attenuation alone to decrease concentrations of legacy contamination in the Santa Monica Bay. Is the USEPA assuming that the buried 171 kg/yr (377 lbs. per year) of DDT and 78 kg/yr (172 lbs. per year) of PCBs will not impact marine resources or be bio-available within the marine ecosystem prior to decay or advection? If so this needs to be substantiated within the Draft TMDL. EPA's modeling study for PCB and DDT indicate that the bed toxic concentrations decrease over time and compliance will be reached in approximately 2024 for DDT and 2036 for PCB. These estimates are a lot shorter than estimates developed by EPA during their Superfund litigation in the 1990s. However, it is important to note that there is much uncertainty involved with these models, as well as important factors absent from the model.

C 7

C 8



Most of the water column contamination concentrations generated by USEPA for this Draft TMDL are based on modeling work conducted by Zeng in 1999 and 2005. Yet, there is a great deal of uncertainty with using Zeng's figures for the USEPA model. First, the data generated from Zeng's work was limited to eight monitoring stations along the Palos Verdes Shelf, with only one of the stations having multiple water column samples. As such, the spatial and water column variability and diversity were absent from this data set. The Draft TMDL acknowledges this shortcoming by stating "Water Column data for DDT and PCBs in Santa Monica Bay to populate this model was limited." (Page 38) The Linkages Analysis is littered with comments that reflect the USEPA's own uncertainty with the model, making statements such as "the goal of the model is not to provide precise estimates..." (Page 38), or "There is no data on PCB concentrations in the water of Santa Monica Bay" (Page 40). How are the models calibrated or validated without adequate, much less any data? However, USEPA wants to extrapolate these water column contamination concentrations to the entire Santa Monica Bay and Palos Verdes Shelf. Finally, USEPA makes a number of unsubstantiated statements, such as "...not all the particles delivered [to Santa Monica Bay] are likely to settle within Santa Monica Bay" (Page 41). It may also be true that not all particles that settle within Santa Monica Bay are going to be as innocuous as USEPA seems to believe. In the absence of adequate data, the USEPA should take a precautionary approach to setting water column contamination numerics. For instance, the box model fails to consider the concentrations of DDT and PCBs in the water column or sediment that would result from fluxes of contaminants among invertebrates, birds, fish, and marine mammals. All of these species may play a role in the transport into, within, and out of Santa Monica Bay. Page 4 of Appendix A: *Modeling Study* does not mention transport through organisms when it states "While dissolved PCB and DDT are only transported via water column transport processes, the adsorbed portion can be transported with sediment." For example, bioturbation from polychaetes, mollusks, and crustaceans could be significant. Also, bioaccumulation is not represented on the model representation shown in figure 5-2. Fish that are not caught can still transport the contamination toward the inner bay when they die or are eaten as a part of the food web. The model should consider transport through tissue, as this mode of transport poses the largest risk to human health. In sum, the model may underestimate the amount of contamination reentering the Santa Monica Bay by neglecting this mode of transport. Taking this into account, USEPA may find it will take much longer than originally estimated for beneficial uses to be met.

C 9

C 10

## II. The TMDL underestimates Excess Lifetime Cancer Risk.

USEPA uses a cancer risk level of  $10^{-4}$  in Palos Verdes Shelf and  $10^{-5}$  in Santa Monica Bay in the Draft TMDL, claiming that these targets are based on more conservative assumptions for consumption rate and do not take into account a 30% cooking reduction factor. What accounts

C 11



for the difference in allowable risk for the two areas? These lines of reasoning are not sufficient, either alone or together, to justify the allowed cancer risk level being greater than  $10^{-5}$ . As you know, fish are mobile and have an equal chance of picking up contamination in either location. USEPA uses  $10^{-5}$  or  $10^{-6}$  for nearly all of their advisories. Raising the allowable risk, as suggested in the Draft TMDL, is inappropriate as it would be less protective of human health by an order of magnitude than long-standing advisory guidelines. These lower values, in addition to other non-conservative assumptions relied upon by USEPA that are discussed below, set the stage for a TMDL that will not lead to beneficial use attainment.

C 12

Another inappropriate component of the Draft TMDL is that fish target calculations are based on fish consumption rates of Asian cultures, and not the body weight or consumption behavior of the consumer. The TMDL chose tissue targets based on consumption of skin-off fillets. This is not only a non-protective approach; it is an approach that has environmental justice implications. Some ethnic groups, especially Asian and Latin cultures, utilize the entire fish in their food preparation. For instance, a fish consumption study found that of Asian anglers surveyed, 50 percent consume the whole fish. (SCCWRP, Santa Monica Bay Seafood Consumption Study, 1994). In fact, white croaker, a popular fish in Asian communities, is *rarely* eaten as a fillet. The anatomy of certain fish, such as white croaker, makes it difficult to prepare as fillet only. Skin-off fillets have been shown to have the lowest levels of lipophilic contaminants compared to any other parts of fish, as mentioned in the passage below:

C 13

*Skin-on fillets had the lowest increase in PCB and DDT concentrations compared to skin-off fillets, averaging approximately 6 to 7 times the DDTs and PCBs found in associated skin-off fillets. Skin-on fillet DDT and PCB concentrations for individual fish ranged between a factor of 1 and 20 times the skin-off fillet...Viscera and "remainder" samples had similar, but greater, increases in PCB and DDT concentrations compared to skin-off fillets, averaging approximately 11 to 17 times the DDTs and PCBs found in associated skin-off fillets, depending on contaminant and component. For individual fish, DDT and PCB concentrations in viscera and "remainders" ranged between a factor of 1 and approximately 40 times the skin-off fillet. The results suggest that whole fish have concentrations of PCBs and DDTs that are generally 8 to 10 times higher than the fillet concentrations.*

(U.S. EPA and Montrose Settlements Restoration Program (MSRP). 2003. Palos Verdes Shelf "Fish in Ocean" Sampling & Analysis Project Quality Assurance Project Plan. April 10, 2003.)  
The TMDL should provide numeric targets based on the entire fish, as certain high-lipid parts of the fish are prone to accumulate different levels of contamination, and many anglers and other consumers (such as wild birds and mammals) eat the entire fish.

Another example of a non-conservative assumption in the Draft TMDL is the overestimation of body weight, the TMDL calculations for Excess Lifetime Cancer Risk uses a body weight of 70 kg. However, this is not reflective of the weight of the most sensitive populations eating fish--



women and children. By running the calculation using a child's weight of 70 pounds and taking into consideration that whole body fish concentrations of PCBs and DDTs are generally 8 to 10 times higher than the fillet concentrations, we estimate that the cancer risk calculated for this TMDL is severely underestimated by at least an order of magnitude. As a result of the underestimation of Excess Lifetime Cancer Risk, the TMDL fails to establish fish tissue targets protective of sensitive populations and reflective of actual consumption habits.

C 14

USEPA is not obligated to rely on the studies conducted by OEHHA for determining appropriate fish tissue contamination levels for consumption. Instead of relying on OEHHA's conclusions, the agency should form its own conclusions on acceptable contamination levels for the purposes of TMDL development, just as they do for fish advisories in many states. OEHHA's consumption advice is based on contaminant levels in skin-off fillets, and the agency strongly advises fishers to eat only the safest part of fish, skin-off fillets. OEHHA does not have the regulatory authority to reduce the risk, prevent the risk, or remove the contaminant causing the risk. Instead, their goal is simply to warn consumers about environmental health hazards of consuming fish in defined areas. On the other hand, USEPA does have this authority, and should use it to be more protective of human health endpoints.

C 15

In summary, USEPA should recalculate the fish tissue targets using the whole fish to estimate cancer risk, base targets on a cancer risk of  $10^{-5}$  throughout the Bay, use a lower body weight representative of more sensitive population groups, and should recalculate how much longer would be needed to achieve TMDL targets (Table 6-4 on Page 51) if more protective risk levels were used.

C 16

### **III. The TMDL should include an explicit margin of safety**

The Draft TMDL states that an implicit margin of safety is included in the wasteload allocations, model, and fish rate consumption values used, but we do not believe these are sufficient. The Draft TMDL states that a conservative fish consumption rate of 116 g/day was used in the development of the fish tissue targets. However, as discussed in detail above, there are many non-conservative elements in the Draft TMDL development that negate this stated implicit margin of safety. For instance, there are multiple non-conservative assumptions made in the calculation of the fish tissue targets as explained above.

In establishing the margin of safety in the Colorado Lagoon OC Pesticides, PCBs, sediment Toxicity, PAHs, and Metals TMDL, the Los Angeles Regional Board acknowledged some uncertainties in the calculation of the TMDL, such as the uncertainty brought on by the use of the simplifying assumption that the relationship between OC pesticides and PCBs concentrations in fish tissue and sediments is linear. In addition, the use of models to estimate contaminant concentrations in receiving water and estimation of atmospheric deposition further contribute to the amount of uncertainty. These same uncertainties apply to this TMDL. We believe adding an





explicit MOS is the only way to ensure that an adequate margin of safety is provided in a TMDL, **C 17** and the USEPA must incorporate an explicit 10% MOS into all WLAs.

#### **IV. USEPA should work with the Regional Board to aid in the timely development of monitoring and implementation plans for this TMDL.**

We are concerned that there is no monitoring or implementation plan associated with the Draft TMDL. While we understand that USEPA does not have this authority, it is critical that USEPA work closely with the Regional Water Board to ensure that all TMDLs in the Region have monitoring and implementation plans developed. An implementation plan still has not been developed by the Regional Board as a follow up to the Malibu Creek Watershed Nutrient TMDL—nine years after EPA developed the TMDL. Not surprisingly, Malibu Creek is still highly impaired for nutrients. Implementation plans are crucial in ensuring that dischargers are on-track for ultimate compliance with the waste load allocations. As recommended in the Draft TMDL, interim measureable milestones should be incorporated. In addition, a comprehensive monitoring plan is essential to assess progress towards meeting the WLAs and ultimately assess compliance with these allocations. Thus, the EPA should actively encourage the timely development of implementation plans and monitoring plans by including a timeline in the Implementation Recommendations section.

Monitoring efforts should be designed to determine if WLAs and targets are met. Most importantly, if the Superfund capping effort does not result in targets being met, what will EPA do to augment the capping effort? Will there be a periodic review of target attainment? If so, how frequent will these reviews be? Also, if targets are not attained, what are EPA's next steps towards modifying the remedial Action Plan and implementing new measures? Who will be responsible for implementing these additional measures? **C 18**

#### **Miscellaneous Concerns/ Questions:**

- USEPA should work with the Department of Fish and Game to expand commercial fishing restrictions to better protect public health. Commercial Fishing boundaries need to expand and restrictions must include species that are on the “do not consume” and “consume only once a month” lists. The boundaries should be designed to improve compliance assurance **C 19**
- Regarding the sediment toxicity data evaluation on page 19, at what depths were the samples taken? Was the original listing data from deeper cores? Perhaps deeper sediments demonstrate impairment. **C 20**



- On Page 20, the TMDL states that benthic communities have improved. What is the justification for this statement? Where is this data source? C 21
- USEPA should add ‘whole fish’ sampling as part of its recommendations in Table 7.1 (page 54) in sections ***Fish Trends*** and ***Seafood Safety***. This comment regarding ‘whole fish’ sampling should also be applied to section 7.6 (Assessment Framework), specifically paragraph three, as it directs the RWQCB and SMBRC in seafood safety monitoring. Overall, USEPA should reconsider its focus towards relying on skin-off fish-tissue samples, and move toward a whole fish analysis. This move would not only be more health protective when considering human health consumption limits, but acknowledge how fish is truly consumed by different cultures. C 22

In conclusion, the USEPA should recalculate the fish tissue targets to be more protective as outlined above; should not rely on burial, attenuation, and Superfund as the exclusive methods of implementation; should establish an explicit margin of safety, and should work with the Regional Board to ensure the Implementation Plan development moves forward in a timely fashion. If you have any questions or would like to discuss any of these comments, please feel free to contact us at (310) 451-1500. Thank you for your consideration of these comments.

Sincerely,

Mark Gold, D. Env.  
President

Kirsten James, MESM  
Water Quality Director

W. Susie Santilena, MS, EIT  
Water Quality Scientist



**Response to comments from Mark Gold, Kirsten James and W. Susie Santilena,  
Heal the Bay**

C1. We agree that lower detection limits in NPDES permits and other data collection efforts is warranted.

C2. The draft TMDL will result in attainment of beneficial uses within Santa Monica Bay and the Palos Verdes shelf. Under the proposed TMDL, the fish consumption ban could be lifted when targets are achieved.

C3. EPA Region 9 will work with the Los Angeles Regional Water Quality Control Board to develop a comprehensive monitoring and implementation plan for the TMDL. The TMDL recommends the Regional Board work with the Santa Monica Bay Restoration Commission on the development of an overall monitoring and assessment framework for tracking the environmental results of the TMDL.

C4. We disagree with the assertion that the Superfund action will not result in the attainment of beneficial uses. The level of protection to consumers of fish proposed by Superfund is in the range of  $10^{-4}$  and  $10^{-5}$ . As indicated in the National Toxics Rule EPA finds the risk level is an acceptable level of protection.

C5. There are existing TMDLs for DDT and PCBs in Marina del Rey and Los Angeles/Long Beach Harbor. This TMDL also incorporates EPA Superfund actions on the Palos Verdes shelf. The Superfund remedy involves institutional controls to minimize the risks, monitored natural attenuation of the entire shelf and targeted capping of the most contaminated portion of the shelf. The institutional controls have been in place since 2001, the monitoring of natural attenuation is ongoing, and the capping project is scheduled to take place in the fall of 2013.

C6. The increase in the number of fish species with consumption restrictions is due to increased monitoring associated with the Superfund program. The concentrations of DDT and PCBs continue to decrease over time (albeit at a slower rate). OEHHA's method of basing advisories on skin-off filets is consistent with EPA general guidance. EPA acknowledges that states may want to tailor this for populations that ingest whole fish.

C7. We assume in the TMDL that DDT and PCBs buried below 10 cm will generally not be available to marine resources or be bioavailable within the marine ecosystem. The exception is in areas of the Palos Verdes shelf that are net erosional such as the southeast corner of the Palos Verdes shelf where capping is planned to reduce erosion and increase the potential for burial and decay.

C8. The predictions made in the TMDL modeling on reductions in sediment concentrations are shorter than those made in the 1990s. However, the TMDL modeling is supported by monitoring data from 1995 to 2008 which show a decrease in surface concentrations. We expect these trends to continue as there are no new sources of DDT or PCBs to the system.

C9. We acknowledge the limitation of the water column data for DDT and PCBs used in developing the TMDL. The process for estimating water column PCB data for Santa Monica

Bay sediment concentrations is described in Appendix B of the TMDL. The model was calibrated against existing sediment concentrations of DDT and PCBs. The model prediction for DDT in the water column was calibrated against the available water column estimates. There is no existing data to calibrate the water column PCB model predictions for Santa Monica Bay. In September 2010, EPA Superfund funded water column sampling at multiple depths at 11 stations on the shelf. The results as yet unpublished (Fernandez and Burgess, In Prep) reveal concentrations and a pattern that is consistent with the measurements cited in the TMDL. In the summer 2011, Superfund established another 6 water column sampling arrays to assess DDT and PCB concentrations in the water column. Five of these are on the Palos Verdes shelf and one is in Santa Monica Bay. The results from this study are not yet available. These data will be used by EPA Superfund in the 5-year review.

C10. Based on a study by Jarvis et al., 2007, pelagic forage fish (i.e., Pacific sardine, Pacific chub mackerel, northern anchovy and California market squid) in the Southern California Bight, the total commercial landings would account for only 1.3 kg of DDT and 0.06 kg of PCBs, which is a relatively small mass relative to mass inputs to Santa Monica Bay summarized in Table 5-4.

C11. The 30% cooking reduction factor comes from OEHHA recommendations (page 40 in Klasing and Brodberg, 2008). *“The concentration of PCBs and other organic contaminants in fish are generally reduced by at least 30 percent, depending on cooking method (Anderson et al., 1993, Santerre, 2000; Sherer and Price, 1993; Wilson et al., 1998 and Zabick et al., 1996). As such a cooking reduction factor of 0.7 was included in the FCG equation for organic compounds (allowing for 70% of the contaminant to remain after cooking)”*.

C12. Fish are mobile and may have an equal chance of picking up contamination in either location. However there is a clear pattern of higher concentrations in fish near the Palos Verdes shelf and lower concentrations in the rest of Santa Monica Bay. Superfund is funding a special study tracking the movement of white croaker in and around the Palos Verdes shelf. If fish forage throughout Santa Monica Bay, the uptake of contaminants should be a function of the average condition. If fish are foraging locally the uptake would be a function of the concentration at the shelf. This work is being performed by NOAA and California State University at Long Beach.

The target for tissue within Santa Monica Bay is in the  $10^{-5}$  to  $10^{-6}$  range depending on the assumed consumption rate, while the fish tissue targets for the Palos Verdes shelf range from  $10^{-4}$  to  $10^{-5}$ . These targets are based on White Croaker tissue which is the fish with the greatest potential for bioaccumulation. Therefore, there will be less risk associated with the consumption of other fish species.

C13. The commenter suggested the risk to consumers should be based on the concentration of white croaker analyzed as whole fish rather than the concentration in skin-off filets as the tissue concentrations of white croaker treated as whole fish are typically eight times higher than skin-off filet. We believe that this would be an overly conservative estimate of the risk to consumers. As discussed in response to comment #6 above EPA guidelines recommend basing advisories on skin-off filets unless it needs to be tailored for a specific population.

The commenter noted that the Asian community rarely eats white croaker as a filet. Based on the Santa Monica Bay Fish Consumption Study Asian anglers consume an average of 23.6 g of white croaker (about 20% of the overall fish consumption rate of 116 g/d), so the eight-fold increase due to consumption of whole fish would be offset by the lower consumption rate. Application of a 30% cooking reduction factor would further reduce the risk.

C14. Risk calculation based on 70 pound human weight rather than the 154 pound (70 kg) norm for adults would be inconsistent with standard practice in risk assessment and not be consistent with other standard risk assessment assumptions such as 30 years of consumption and a 70-year time span.

C15. EPA is using Clean Water Act and Superfund authorities to reduce risks and be protective of human health.

C16. Use of all the conservative assumptions requested by the commenter would result in lower fish targets and would therefore require lower sediment concentrations. A ten-fold reduction in risk would require sediment concentrations on the order of 2.3 ng/g for DDT and 0.7 ng/g for PCBs. For perspective the 10<sup>th</sup> percentile concentration of DDT and PCBs from the Bight 08 surveys were respectively, 2.1 ng/g and 4.8 ng/g. Based on the predictions from the model used in this TMDL it will take 90 to 100 years to achieve these lower sediment concentrations in Santa Monica Bay.

C17. Adding a 10% margin of safety to the waste load allocations is not the correct response to deal with uncertainty in this case, because the uncertainty is on both sides of the equation. Legacy pollutants in the sediments of Palos Verdes shelf and to a lesser extent the sediments of Santa Monica Bay are bigger sources of DDT and PCBs than waste water discharge and stormwater. The loss rates from burial and advection are greater than all current inputs. Waste load allocations were derived to ensure that dischargers monitor for PCBs and DDTs at concentrations that are meaningful to identify potential inland sources and ultimately to limit loadings to the marine environment.

C18. The Regional Board should work with the dischargers and others to develop robust monitoring and implementation plans along with measurable milestones. The Regional Board is responsible for implementing the TMDL. EPA Superfund is responsible for the cleanup actions on the Palos Verdes shelf. The results from TMDL monitoring along with the Superfund studies should be considered in the five-year Superfund reviews. We encouraged the Santa Monica Bay Restoration Commission to play an active role in the development of an open and transparent assessment framework for the Santa Monica Bay TMDL.

C19. EPA has committed to meet with the California Department of Fish and Game to investigate the potential for expanding the commercial fisheries ban.

C20. Sediment toxicity data evaluation relied primarily on surface sediments. Studies of cores have revealed toxicity in sediments buried at depths that relate to the peak of the DDT and PCB contamination (Swartz et al., 1991, Greenstein et al., 2003). The toxicity occurs at a depth below the biologically relevant zone.

C21. The statement in the TMDL regarding improved sediment conditions is primarily from SCCWRP regional monitoring reports and annual monitoring reports on the Hyperion Treatment Plant and the LACSD White's Point Outfall.

C22. We did not recommend adding chemical analysis of whole fish to the monitoring plan as this would be inconsistent with the targets established in the TMDL and the framework used by OEHHA to assess the need for fish consumption advisories.

CITY OF LOS ANGELES  
CALIFORNIA



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MAYOR

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January 23, 2012

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United States Environmental Protection Agency  
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Dear Mr. Fleming:

**TECHNICAL COMMENTS ON THE DRAFT TOTAL MAXIMUM DAILY LOADS  
FOR DDTs AND PCBs IN SANTA MONICA BAY**

The City of Los Angeles, Bureau of Sanitation (Bureau) appreciates the opportunity to provide technical comments to the United States Environmental Protection Agency (USEPA) for the proposed Total Maximum Daily Load (TMDL) for DDT and PCBs in Santa Monica Bay. The Bureau appreciates and thanks USEPA staff for its efforts in developing the draft TMDL and especially for the very productive and beneficial discussions to date. The Bureau is providing the following comments to highlight a few key technical issues:

**1. STORMWATER WASTELOAD ALLOCATION APPROACH**

The current stormwater wasteload allocation (WLA) approach (based on current loading conditions estimated from a per unit urban area loading rate) is reasonable since: 1) current discharges to the Bay are lower than the total allowable load, 2) the allocations are representative of median overall loadings to the system, and 3) it reflects the fact that most DDT and PCB loading is expected to come from the more urbanized watersheds. Significant loading is not expected to come from watersheds with a high percentage of open space and undeveloped lands.

Though the current stormwater WLAs appear to represent the best estimate of current conditions based on available data, these allocations should be reconsidered within five years if additional data collected indicates actual loads are different than the initial estimates presented in the Draft TMDL.

***Requested Action:*** *Include a statement within the Implementation Recommendations section of the TMDL indicating that if additional data indicates current conditions differ from the TMDL estimates the Los Angeles Regional Water Quality Control Board should reconsider the TMDL.*

C1



## **2. STORMWATER WASTELOAD ALLOCATIONS SHOULD INCLUDE AN APPROPRIATE AVERAGE PERIOD**

The proposed mass-based WLAs do not account for the number of years it would take for discharged sediments to affect the active sediment layer the TMDL is intended to address (i.e., the top 10 centimeters [cm] of sediment (pg. 46, Draft TMDL)). Nor does it take into account the variation in sediment loads discharged from the various watersheds on an annual basis. Both the estimated rates of deposition (Bay et al., 2005; TetraTech, 2011) and the high degree of temporal variability of sediment discharge to Santa Monica Bay (Inham and Jenkins, 1999) indicate that a multi-year averaging period would be appropriate. Based on the 0.2 cm/yr to 2.3 cm/yr range of deposition rates reported in Bay et al. (2005), it would take between four (4) and 50 years for sediments to accumulate to a depth equivalent to the active layer (10 cm). With the simulated 1.11 cm/yr deposition rate (TetraTech, 2011); it would take nine (9) years for a 10 cm depth of sediments to accumulate.

Similar considerations for averaging periods were incorporated into TMDLs recently adopted by the Los Angeles Regional Water Quality Control Board (LARWQCB). These TMDLs include the LA/LB Harbors Toxics TMDL where a three year averaging period was included in the WLA section for PCBs and DDTs based on sediment accumulation rates. Similarly, in the Machado Lake Toxics TMDL, a three year averaging period was applied to PCBs and DDT.

Based on this information, we request that an appropriate averaging period be defined consistent with the assumptions inherent in the allocation approach.

***Requested Action:*** Add a footnote to Table 6-3 and/or language within the WLA section of the TMDL indicating that WLAs are applied on five (5) year averaging period.

C2

## **3. STORMWATER MONITORING REQUIREMENTS**

Clarification of the recommended stormwater monitoring approach (as detailed in Section 7.3 of the Draft TMDL) is needed. As part of the monitoring requirements of the Ballona Creek Estuary Toxics TMDL, the City of Los Angeles and other responsible parties are currently collecting frequent wet-weather water quality and total suspended solids samples from Ballona Creek. Starting next storm season (winter 2012/2013) sediments suspended in stormwater will be analyzed to determine the concentration of PCBs, DDTs, and other pollutants to evaluate attainment with that TMDLs WLAs. The approach to sample collection and analysis is very robust and should be applied consistently across all of the watersheds addressed by the TMDL.

***Requested Action:*** Include additional language within the monitoring recommendations section of the TMDL indicating that representative samples of wet weather sediment must be collected and analyzed and that the approaches should be consistent across the watersheds addressed by the TMDL.

C3

#### 4. SPECIFIC COMMENTS

On page 33 of the Draft TMDL, the total DDT and PCB loadings from the three storms sampled by Curren et al. (2011) were estimated to be 6.2 g and 32.9 g, respectively. These figures are from Table 3 in Curren et al. (2011) and represent the average loading per storm based on data from the three storms sampled in the study. Clarifying language should be added to indicate that the average loads of DDT and PCB per storm event were 6.2 g and 32.9 g, respectively.

C4

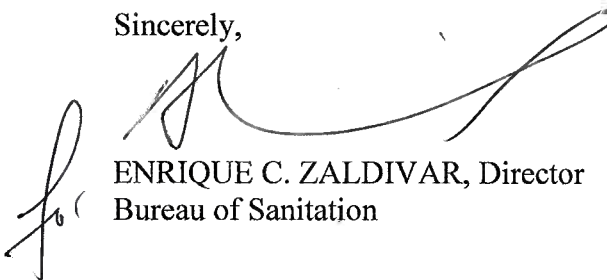
On page 34 of the Draft TMDL, conservative estimates of stormwater loadings for DDT and PCBs are given as 506 g/yr and 154 g/yr, respectively. However, the conservative estimates of stormwater loading were actually 460 g/yr for DDT and 1800 g/yr for PCB (see Table 6 in TetraTech, 2011). The 506 g/yr (DDT) and 154 g/yr (PCB) are the maximum allowable loads to Santa Monica Bay as defined in Table 6-3 of the Draft TMDL. The text on page 34 should be revised to include the correct conservative estimates of stormwater loading to Santa Monica Bay.

C5

The Bureau is committed to improving and protecting the local environment as evidenced by the leadership role the City has taken in implementing previously adopted TMDLs, such as the LA River Trash TMDL, and in proactively implementing clean water projects, such as the Echo Park Rehabilitation Project, via the voter approved Proposition O ballot measure.

Thank you for your consideration of these technical comments. If there are any questions, please feel free to call Donna Toy-Chen at (213) 485-3928 or Lisa Carlson, staff lead on this TMDL at (213) 485-3932.

Sincerely,



ENRIQUE C. ZALDIVAR, Director  
Bureau of Sanitation

ECZ:SK:JLC  
WPDCR 8913

cc: Samuel Unger, Regional Water Quality Control Board  
Deborah J. Smith, Regional Water Quality Control Board  
Renee Purdy, Regional Water Quality Control Board  
L.B. Nye, Regional Water Quality Control Board  
Michael Mullin, Mayor's Office  
Traci Minamide, Bureau of Sanitation/EXEC  
Varouj S. Abkian, Bureau of Sanitation/EXEC  
Adel Hagekhalil, Bureau of Sanitation/EXEC  
Shahram Kharaghani, Bureau of Sanitation/WPD  
Mas Dojiri, Bureau of Sanitation/EMD  
Omar Moghaddam, Bureau of Sanitation/RAD  
Hassan Rad, Bureau of Sanitation/RAD



### **Response to comments from Enrique Zaldivar, Los Angeles Bureau of Sanitation**

C1. A re-opener clause for the stormwater allocations has been added to the implementation section of the TMDL. The waste load allocations were based on limited existing data. It is not the intent of the TMDL to allow increases in stormwater loadings, but if credible monitoring data provided a better estimate of the existing stormwater load, a TMDL re-opener would be the most transparent avenue for making such a change.

C2. An explicit three year averaging period in the stormwater waste load allocations was added to the implementation recommendations, consistent with timeframes provided for the Los Angeles Harbor/Long Beach TMDLs.

C3. The recommendations for monitoring and implementing the stormwater permit have been updated to more clearly call for coordinated watershed stormwater. We recommend that stormwater permittees filter water from their mass emission stations and analyze particles for DDT and PCBs, as this will provide more meaningful estimates of mass loading than traditional water column sampling.

C4. The language on the average stormwater loads on page 33 of the TMDL has been modified to clearly indicate that these were based on the average loads of the three storms.

C5. The values for the conservative estimate of stormwater loads on page 34 of 506 g/yr for DDT and 154 g/yr for PCBs in the draft TMDL were incorrect. These are the maximum allowable load as described on page 49. The real values for the conservative estimates that were used in the TMDL modeling were 460 g/yr for DDT and 1,800 g/yr for PCBs. The TMDL has been corrected accordingly.



GAIL FARBER, Director

# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

*"To Enrich Lives Through Effective and Caring Service"*

900 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (626) 458-5100  
<http://dpw.lacounty.gov>

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

January 23, 2012

IN REPLY PLEASE

REFER TO FILE:

WM-9

Mr. Terrence Fleming  
U.S. Environmental Protection  
Agency – Region IX  
75 Hawthorne Street (WTR-2)  
San Francisco, CA 94105

Dear Mr. Fleming:

### **COMMENT LETTER – SANTA MONICA BAY TOXIC POLLUTANTS TOTAL MAXIMUM DAILY LOAD**

On behalf of the County of Los Angeles, thank you for the opportunity to comment on the Toxic Pollutants Total Maximum Daily Load for Santa Monica Bay. Enclosed are our comments for your review and consideration.

If you have any questions, please contact me at (626) 458-4300 or [ghildeb@dpw.lacounty.gov](mailto:ghildeb@dpw.lacounty.gov) or your staff may contact Ms. Angela George at (626) 458-4325 or [ageorge@dpw.lacounty.gov](mailto:ageorge@dpw.lacounty.gov).

Very truly yours,

GAIL FARBER  
Director of Public Works

GARY HILDEBRAND  
Assistant Deputy Director  
Watershed Management Division

El:jtz

P:\wmpubl\Secretarial\2012 Documents\Letter\County Comments on SMB Toxics.docx\C12004

Enc.

cc: Chief Executive Office (Dorothea Park)  
County Counsel (Judith Fries)

**COMMENTS OF THE COUNTY OF LOS ANGELES  
ON THE PROPOSED SANTA MONICA BAY TOXIC POLLUTANTS  
TOTAL MAXIMUM DAILY LOAD**

**1. TMDL Numeric Targets should be consistent**

The proposed TMDL would establish different Numeric Targets for the same constituents depending on location. As shown in Table 3-1 of the draft TMDL, the fish tissue and sediment targets for DDTs and PCBs for the Palos Verdes Shelf are 10 times that for the rest of Santa Monica Bay. Whereas the fish target for the Palos Verdes Shelf is based on a cancer risk of 1 in 10,000 individuals, the target for Santa Monica Bay is based on a cancer risk of 1 in 100,000 individuals. The TMDL provides no scientific justification for this inconsistency.

C 1

The Palos Verdes Shelf and Santa Monica Bay are essentially the same waterbody. As currently written, a fish meeting standards at the Palos Verdes Shelf may not meet standards when it swims away from the Shelf. This regulatory inconsistency should be substantiated by scientific evidence or otherwise be corrected.

**2. The Waste Load Allocations for stormwater discharges should be revised to reflect the maximum allowable loads**

The proposed TMDL's Waste Load Allocations (WLAs) for stormwater are set to the lesser of the maximum allowable loads and the existing loads. Since the estimated existing loads are lower than the maximum allowable loads, the WLAs are set to the existing loads. While this approach is conceptually consistent with the anti-degradation policy, we are concerned that, in this instance, the estimated existing loads may not be valid because they were calculated using very limited data.

C 2

Specifically, the existing loads were calculated using data from only three storm events in 2005-06. This is not scientifically defensible especially considering the variability of stormwater. Further assessment of the existing loads is needed before basing WLAs on such estimates. Until reasonably accurate estimation of existing loads is made, stormwater WLA should be set to the calculated maximum allowable loads.

**3. Atmospheric deposition in undeveloped watersheds should be considered in estimating loadings**

In estimating existing loads, the TMDL considers atmospheric deposition to the ocean but not to undeveloped areas. This approach underestimates the existing loads in watersheds dominated by undeveloped areas such as Malibu Creek watershed.

C 3

Various studies<sup>1</sup> have shown that atmospheric deposition is a major source of pollutants, such as DDTs and PCBs, in stormwater. Therefore, atmospheric deposition loading in undeveloped areas should be included in calculating existing loads from watersheds.

**4. PCBs regulation under the Toxics Substances Control Act should be tightened to reflect TMDL requirements**

PCBs are primarily regulated by the EPA under the Toxic Substances Control Act (TSCA). Although banned in 1979, PCBs less than 50 ppm are still allowed in certain products pursuant to current EPA regulations under the TSCA. Further, EPA regulations under the TSCA allow discharges containing PCBs concentrations up to 3000 ng/L, which is extraordinarily high compared to the TMDL target of 0.019 ng/L. EPA regulations also allow the continued use of PCBs in various electrical and other applications [40 CFR 761.30].

C 4

The County understands that the EPA is currently reassessing PCBs use authorizations, and that these rules are scheduled to be updated by 2013. Because true source control remains the most effective way to protect receiving waters, the County urges the EPA to tighten its rules regarding the use of PCBs to levels commensurate with TMDL standards. In the mean time, the TMDL should acknowledge the current regulatory inconsistency and set TMDL standards accordingly.

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<sup>1</sup> <http://www.sccwrp.org/ResearchAreas/Contaminants/AtmosphericDeposition.aspx>;  
<http://www.environment.ucla.edu/reportcard/article.asp?parentid=1497>;  
<http://www.nj.gov/dep/dsr/trends/pdfs/atmospheric-dep-pcbs.pdf>

## **Response to comments from Gary Hildebrand, Los Angeles County Department of Public Works**

C1. The target for tissue within Santa Monica Bay is in the  $10^{-5}$  to  $10^{-6}$  range depending on the assumed consumption rate, while the fish tissue targets for the Palos Verdes shelf range from  $10^{-4}$  to  $10^{-5}$ . These targets are based on White Croaker tissue which is the fish with the greatest potential for bioaccumulation. Therefore, there will be less risk associated with the consumption of other fish species. EPA is working to reduce the risks associated with the fish consumption on the Palos Verdes shelf. Sediment cleanup to the target levels for Santa Monica Bay is not considered to be feasible. EPA Superfund will re-evaluate this in their 5-year reviews. Lower levels for the sediments on the Palos Verdes shelf may not be achievable.

C2. The stormwater data used to set the stormwater allocation in the TMDL is limited. Detectable levels of DDTs and PCBs were absent in close to twenty years of stormwater data collected by the LADPW. Yet by focusing on concentrations on suspended sediment, Curren et al., 2011 demonstrated that DDT and PCBs are present in stormwater from Ballona Creek. Waste load allocations are based on the average loads from the Curren paper. Stormwater permittees are encouraged in the TMDL to develop a coordinated watershed monitoring program to more accurately assess the annual loadings of DDTs and PCBs in stormwater. We recommend that stormwater permittees filter water from their mass emission stations and analyze particles for DDT and PCBs. A re-opener clause for the stormwater allocations has been added to the implementation section of the TMDL. It is not the intent of the TMDL to allow increases in stormwater loadings, but if credible monitoring data provided a better estimate of the existing stormwater load, a TMDL re-opener would be the most transparent avenue for making such a change.

C3. Atmospheric deposition of DDTs and PCBs were dealt with in the TMDL in two different ways. Direct deposition to Santa Monica Bay was estimated using data from SCCWRP studies (Sabin et al., 2011). Atmospheric deposition to land within the Santa Monica Bay watersheds was viewed as indirect deposition which makes its way to Santa Monica Bay through stormwater. These loads were accounted for in the stormwater waste load allocations.

We investigated the three websites listed in your letter. The SCCWRP website led to the Sabin et al., 2011 paper used in the development of this TMDL. The UCLA article did not discuss atmospheric deposition of DDT or PCBs. The New Jersey DEP website did provide quantitative data on the atmospheric loadings of PCBs in New Jersey. Their findings showed that the highest rates of deposition were in urbanized areas. *“The spatial distribution of particle-phase PCBs observed in New Jersey demonstrate that like gas-phase PCBs, particle-phase PCBs in this region arise from sources that are in highly localized urban areas.”* This is consistent with the approach we used in the Santa Monica Bay to allocate PCBs based on the percent urban areas within each watershed. The Malibu Creek watershed is not heavily urbanized and thus received a relatively small waste load allocation.

C4. The water quality criteria established by the USEPA are 0.064 ng/l. The water quality objective established by the State Water Resources Control Board and approved by EPA Region

0.019 ng/l. These criteria and objectives have been established to protect human health. The Toxics Source Control Act (TSCA) regulations are not pertinent to the TMDL targets.



# COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400  
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www.lacsd.org

STEPHEN R. MAGUIN  
Chief Engineer and General Manager

January 23, 2012  
File No. 98-50.1.10 SI

Mr. Terrence Fleming  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

Dear Mr. Fleming:

### **Comments on the Draft Total Maximum Daily Loads for DDTs and PCBs in Santa Monica Bay**

The County Sanitation Districts of Los Angeles County (Sanitation Districts) appreciate the opportunity to provide comments to the United States Environmental Protection Agency (USEPA) on the Draft Total Maximum Daily Loads for DDTs and PCBs in Santa Monica Bay (Santa Monica Bay TMDL). The Sanitation Districts are a confederation of 23 individual special districts providing wastewater and solid waste management services to over 5 million people in Los Angeles County, including 78 cities and unincorporated areas within the County.

The proposed Santa Monica Bay TMDL will impact two facilities operated by the Sanitation Districts, the Joint Water Pollution Control Plant (JWPCP) and the Calabasas Landfill, through the assignment of waste load allocations (WLAs). The JWPCP is a 400 million gallon per day (MGD) wastewater treatment facility that discharges secondary treated effluent to the Pacific Ocean under NPDES No. CA0053813. The Calabasas Landfill is a municipal solid waste facility located in western Los Angeles County. Stormwater from the Calabasas Landfill flows into the Malibu Creek Watershed, and is permitted under State Water Resources Control Board Water Quality Order No. 97-03-DWQ for Discharges of Storm Water Associated with Industrial Activities.

The Sanitation Districts support USEPA's efforts to address DDT and PCB contamination in the off-shore areas of Southern California, including work being conducted by USEPA's Superfund Division. The Sanitation Districts also support the general approach used in the Santa Monica Bay TMDL, but have concerns about the method of assignment of WLAs to publicly owned treatment works (POTWs) and water recycling facilities, and concerns about monitoring requirements for industrial stormwater permittees. These comments are discussed in further detail below.

#### ***Assignment of Waste Load Allocations***

Appropriate assignment of WLAs to JWPCP, Hyperion Treatment Plant (Hyperion), West Basin Municipal Water District's (West Basin's) two recycling facilities, and any future advanced treatment



facilities is critical to ensuring continued operation and future expansion of water recycling efforts. As written, the Santa Monica Bay TMDL could unintentionally result in cessation of West Basin's water recycling efforts and prevent future water recycling facilities from being constructed. Therefore, the Sanitation Districts request that the TMDL be amended to provide additional flexibility with regard to WLAs.

C1

As background, Hyperion, JWPCP, and West Basin are all part of an interconnected system. Specifically, West Basin takes secondary effluent from Hyperion and further treats it at two different facilities, the Edward C. Little Water Recycling Plant (Edward Plant) and the Carson Regional Water Recycling Plant (Carson Plant). Reverse Osmosis (RO) brine from the Edward Plant is discharged into the Hyperion outfall and RO brine from the Carson Plant is discharged into the JWPCP outfall. West Basin does not add any PCBs or DDTs as part of their treatment process; they simply concentrate any PCBs and DDTs present in Hyperion's effluent, and discharge the concentrated brine along with either the JWPCP or Hyperion effluent into the ocean. Similarly, future water recycling projects utilizing RO would also not add any PCBs or DDTs. Therefore, the entire mass load of PCBs and DDTs entering the ocean from this interconnected system is equal to the mass load of PCBs and DDTs in the combined effluents from JWPCP and Hyperion (minus any de minimus amounts of PCBs and DDTs that pass through RO and leave the system in recycled water delivered to customers).

The Sanitation Districts believe that the total mass load of PCBs and DDTs entering the ocean from this interconnected system does not exceed the combined mass WLAs for JWPCP and Hyperion. However, WLAs assigned to West Basin's Edward Plant and/or Carson Plant may exceed their WLAs because they concentrate the PCBs and DDTs in the effluent they treat. (As far as the Sanitation Districts are aware, low-level PCB and DDT sampling has not been conducted on the brine discharged by West Basin; the exact levels of these pollutants in the West Basin brine discharge is unknown.) West Basin should not be required to stop recycling simply because they concentrate pollutants that have already been accounted for in the Hyperion WLA.

Similarly, new large-scale advanced treatment water recycling projects have been explored that would potentially make use of JWPCP effluent. If these projects are economically viable and move forward, they will represent an important source of local, sustainable water for the Los Angeles area. These projects would not add any new DDTs or PCBs to the system, but in order for them to discharge the Clean Water Act requires that they be allocated PCBs and DDTs WLAs. The TMDL needs to be written to accommodate any such future projects.

To address these concerns, one potential strategy would be for the WLAs for JWPCP, Hyperion, West Basin, and future discharges of advanced treatment brine to be set as a single, combined, mass-based value. Guidance to the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) would be provided in the implementation section of the TMDL that the WLA should be apportioned among these agencies, along with future entities providing advanced treatment of JWPCP and/or Hyperion effluent, to accommodate maximum production of advanced treated recycled water. The guidance could state that mass and concentration limits would be assigned to JWPCP and Hyperion based on design flows, with compliance sampling upstream of recycled water diversion points, and with no effluent limits for dischargers of brine since they are only discharging pollutants that have already been accounted for by JWPCP and Hyperion.

Another potential strategy would be to keep the POTW WLAs as they are currently proposed but to change the WLAs assigned to existing and future water recycling facilities. Because the water recycling facilities divert pollutants away from the discharge outfalls and concentrate the pollutants using RO, the mass-based WLAs for the recyclers should be based on the design flow of wastewater being diverted and treated by RO (as opposed to the currently-proposed strategy of basing them on the design flowrate of brine discharges). The corresponding concentration-based WLAs for the recyclers would be calculated using the mass-based WLAs in conjunction with the design flowrate of their discharge (i.e., the flowrate

of brine discharges). To allow for future expansions and new projects to be automatically accommodated, the WLAs for the recyclers should be assigned as equations rather than fixed values.<sup>1</sup>

Finally, the Sanitation Districts would like to indicate their support of USEPA setting all the WLAs in this TMDL on a mass or water column concentration basis. The Sanitation Districts believe that this approach is the most robust, as it allows a variety of different means to be used to reduce pollutant loadings. It also makes sampling and compliance determination with the TMDL practical. Setting the WLAs on a solids-concentration basis would not provide any incentive for solids reduction, particularly with respect to stormwater. It would also make sampling impractical at POTWs, as POTWs discharge very low solids concentrations and therefore would have to collect enormous volumes of water to collect enough solids for analysis.

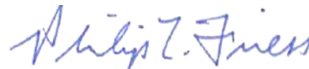
### *Coordinated Monitoring Efforts for Stormwater*

Section 7.3 of the Santa Monica Bay TMDL addresses recommend monitoring for stormwater dischargers. While this section discusses the type of monitoring that should be performed, but it does not address the scope of sampling or which entities should conduct it. The Sanitation Districts believe that it is overly burdensome for general construction and industrial stormwater permittees to be required to perform costly sampling of PCBs and DDTs using the low-level analytical methods necessary to quantify these pollutants at environmentally relevant concentrations. To address this issue, the TMDL should be amended to specifically state that general construction and stormwater permittees are not expected to perform individual sampling; instead monitoring should be conducted on a coordinated, watershed-wide basis. This is consistent with the USEPA's assignment of WLAs on a watershed basis.

The Sanitation Districts thank you in advance for your consideration of our comments and suggested modifications. We look forward to working with you to find viable solutions to the concerns we have brought up in this letter. If you have any questions concerning this letter or need additional information, please contact Ann Heil at (562) 908-4288, extension 2803 or aheil@lacsdc.org.

Very truly yours,

Stephen R. Maguin



Philip L. Friess  
Department Head  
Technical Services

PLF:SAB:lmb

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<sup>1</sup> The mass-based WLAs for the brine dischargers would be determined by the equation:  $Mass_{brine} = C_{e, POTW} * RO \text{ Design flow}$ . The concentration-based WLAs for the brine discharges would be determined by the equation  $C_{e, brine} = Mass_{brine} / Brine \text{ discharge design flow}$ . Given the current RO design flow of 5 MGD and brine discharge design flow of 0.9 MGD at the Carson Plant, the currently calculated WLAs would be 88 ng/L DDTs, 109 g/yr DDTs, 1.95 ng/L PCBs, and 2.4 g/yr PCBs. Given the current RO design flow of 23 MGD and brine discharge design flow of 5.2 MGD at the Edward Plant, the currently calculated WLAs would be 45 ng/L DDTs, 321 g/yr DDTs, 1.2 ng/L PCBs, and 8.6 g/yr PCBs.

## **Response to Stephen Maguin, County Sanitations Districts of Los Angeles County**

C1. The draft TMDL treated the four facilities as individual facilities with individual waste load allocations. The final TMDL has been revised to acknowledge that the four facilities are part of an interconnected system. As the inflow to West Basin Reclamation facilities comes entirely from the Hyperion treatment plant (with the potential to receive flow from the LACSD plant in the future), the initial waste load allocations in the draft TMDL (Table 6-2) double count the loadings from Hyperion which are subsequently discharged out the West Basin Reclamation Facilities.

The waste load allocations in Table 6-2 have been modified slightly. The allowable loadings from the West Basins are expressed solely as mass-based allocations which are a function of the concentration from the wastewater treatment plants multiplied by the amount of water diverted from the wastewater treatment plant to the West Basin water reclamation facilities. The concentration based waste load allocations for the West Basin facilities have been deleted from Table 6-2 to provide flexibility for water reclamation.

The total mass of DDT being discharged out of the Hyperion and the White Point outfalls should be less than 5,850 g/yr and less than 8,717 g/yr, respectively. Similarly the total mass of PCBs to be discharged should be less than 157 g/y out the Hyperion outfalls and less than 194 g/yr out the White Point outfalls. Recommendations for implementing these waste load allocations are presented in Chapter 8 of the TMDL.

C2. The TMDL has been revised to provide greater clarity on the waste load allocations for stormwater (Chapter 6.2), greater detail on the stormwater monitoring requirements (Chapter 7.3) and more detailed recommendations on the stormwater implementation (Chapter 8). It is not the intent of this TMDL to require compliance monitoring at the bottom of each watershed. Rather compliance should be established by comparing the total loadings from all the Santa Monica Bay watersheds to the existing loads. It is not the intent that individual permittees covered under the general construction and general stormwater permits be required to conduct individual monitoring but rather that they contribute to the overall watershed monitoring effort.



January 20, 2012

Mr. Terrence Fleming  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

**Re: Comments on the Draft Total Maximum Daily Loads for DDTs and PCBs in Santa Monica Bay**

Dear Mr. Fleming:

The West Basin Municipal Water District (West Basin) appreciates the opportunity to provide comments to the United States Environmental Protection Agency (USEPA) on the Draft Total Maximum Daily Loads for DDTs and PCBs in Santa Monica Bay (Santa Monica Bay TMDL). West Basin is a public water district serving nearly a million people in south Los Angeles County. Southern California water resources must be carefully managed and protected, therefore West Basin prides itself on a large portfolio of water resources including recycled water.

The proposed Santa Monica Bay TMDL will impact the use and expansion of reclaimed water for this water scarce region through the assignment of waste load allocations (WLAs). West Basin produces nearly 40 MGD of reclaimed water for industry, schools, parks, golf courses, business and local cities. Advanced treated reclaimed water results in brine that is discharged under NPDES permit CA0063401 to the Pacific Ocean through Hyperion Waste Water Treatment (Hyperion) 5 mile outfall, as well as through Los Angeles County Sanitation Districts Joint Plant (JWPCP) 3 mile outfall under permit CA0064245. Reclaimed water use is critical to water management in this region by conserving potable water which must be imported from northern California or Colorado at high energy and environmental cost. The current WLA method described could threaten these efforts for West Basin as well as many other Water Recyclers and POTW's in this region with little environmental gain.

***Assignment of Waste Load Allocations***

Appropriate assignment of WLAs to the JWPCP, Hyperion Treatment Plant, and West Basin's two recycling facilities is critical to ensuring continued operation and future expansion of water recycling efforts. As written, the Santa Monica Bay TMDL could unintentionally result in cessation of West Basin's water recycling efforts and prevent future water recycling facilities from being constructed. Therefore, West Basin request that the TMDL be amended to provide additional flexibility with regard to WLAs.

As background, Hyperion, JWPCP, and West Basin are all part of an interconnected system. Specifically, West Basin takes secondary effluent from Hyperion and further treats it at two different facilities, the Edward C. Little Water Recycling Plant (Edward Plant), then the Carson Regional Water Recycling Plant (Carson Plant). Reverse Osmosis (RO) brine from the Edward Plant is discharged into the Hyperion outfall and RO brine from the Carson Plant is discharged into the JWPCP outfall. West Basin does not add any PCBs or DDTs as part of their treatment process; they simply concentrate any PCBs and DDTs present in Hyperion's effluent, and discharge the concentrated brine along with either the JWPCP or Hyperion effluent into the ocean. Similarly, future water recycling projects utilizing RO would also not add any PCBs or DDTs. Therefore, the entire mass load of PCBs and DDTs entering the ocean from this interconnected system is equal to the mass load of PCBs and DDTs in the combined effluents from JWPCP and

Hyperion (minus any de minimus amounts of PCBs and DDTs that pass through RO and leave the system in recycled water delivered to customers). WLAs assigned to West Basin's facilities may exceed WLAs due to concentrated PCBs and DDTs in the treated effluent. West Basin should not be required to stop recycling water for the region simply because concentrate pollutants appear which have already been accounted for in the Hyperion WLA.

To address these concerns, LA County Sanitation District has proposed a favorable strategy: WLAs for JWPCP, Hyperion, West Basin, and future discharges of advanced treatment brine could be set as a single, combined, mass-based value. Guidance to the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) would be provided in the implementation section of the TMDL that the WLA should be apportioned among these agencies, along with future entities providing advanced treatment of JWPCP and/or Hyperion effluent, to accommodate maximum production of advanced treated recycled water. The guidance could state that mass and concentration limits would be assigned to JWPCP and Hyperion based on design flows, with compliance sampling upstream of recycled water diversion points, and with no effluent limits for dischargers of brine since they are only discharging pollutants that have already been accounted for by JWPCP and Hyperion.

Another potential strategy would be keep the POTW WLAs as they are currently proposed but to assign mass-based WLAs to existing and future water recycling facilities based on the design flow of wastewater being treated by RO (as opposed to the current strategy of using the design flow of brine), with the concentration WLA set based on the design brine discharge flow. To allow for future expansions and new projects to be automatically addressed the WLAs would be set as equations rather than fixed values. Finally, West Basin would like to indicate their support of USEPA setting all the WLAs in this TMDL on a mass or water column concentration basis. This approach is the most robust, as it allows a variety of different means to be used to reduce pollutant loadings. It also makes sampling and compliance determination with the TMDL practical.

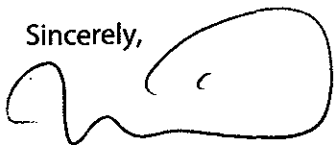
### ***Coordinated Monitoring Efforts for Stormwater***

Section 7.3 of the Santa Monica Bay TMDL addresses recommend monitoring for stormwater dischargers. While this section discusses the type of monitoring that should be performed, it does not address the scope of sampling or which entities should conduct it. West Basin believes California's strict stormwater permits provide relevant ample protection and oversight of industrial and construction discharges. Furthermore, it is overly burdensome for general construction and industrial stormwater permittees to be required to perform costly sampling of PCBs and DDTs using the low-level analytical methods necessary to quantify these pollutants at environmentally relevant concentrations with very little environmental gain. To address this issue, the TMDL should be amended to specifically state that general construction and stormwater permittees are not expected to perform individual sampling; instead monitoring should be conducted on a coordinated, watershed-wide basis. This is consistent with the USEPA's assignment of WLAs on a watershed basis, and is also smart use of public funds for environmental protection.

C2

West Basin thanks you in advance for your consideration of our comments and suggested modifications. If you have any questions or need additional information, please contact me at (310) 660-6245 or [uzid@westbasin.org](mailto:uzid@westbasin.org). Thank you.

Sincerely,



Uzi Daniel, M.S.

Sr. Environmental Quality Specialist

West Basin MWD

## **Response to comments from Uzi Daniel, West Basin Municipal Water District**

C1. The draft TMDL treated the four facilities as individual facilities with individual waste load allocations. The final TMDL has been revised to acknowledge that the four facilities are part of an interconnected system. As the inflow to West Basin Reclamation facilities comes entirely from the Hyperion treatment plant (with the potential to receive flow from the LACSD plant in the future), the initial waste load allocations in the draft TMDL (Table 6-2) double count the loadings from Hyperion which are subsequently discharged out the West Basin Reclamation Facilities.

The waste load allocations in Table 6-2 have been modified slightly. The allowable loadings from the West Basins are expressed solely as mass-based allocations which are a function of the concentration from the wastewater treatment plants multiplied by the amount of water diverted from the wastewater treatment plant to the West Basin water reclamation facilities. The concentration based waste load allocations for the West Basin facilities have been deleted from Table 6-2 to provide flexibility for water reclamation.

The total mass of DDT being discharged out of the Hyperion and White Point outfalls should be less than 5,850 g/yr and less than 8,717 g/yr, respectively. Similarly the total mass of PCBs to be discharged should be less than 157 g/y out the Hyperion outfalls and less than 194 g/yr out the White Point outfalls. Recommendations for implementing these waste load allocations are presented in Chapter 8 of the TMDL.

C2. The TMDL has been revised to provide greater clarity on the waste load allocations for stormwater (Chapter 6.2), greater detail on the stormwater monitoring requirements (Chapter 7.3) and more detailed recommendations on the stormwater implementation (Chapter 8). It is not the intent of this TMDL to require compliance monitoring at the bottom each watershed. Rather compliance should be established by comparing the total loadings from all the Santa Monica Bay watersheds to the existing loads. It is not the intent that individual permittees covered under the general construction and general stormwater permits be required to conduct individual monitoring but rather that they contribute to the overall watershed monitoring effort.



# bay restoration commission

STEWARDS OF SANTA MONICA BAY

santa monica bay restoration commission 320 west 4<sup>th</sup> street, ste 200; los angeles, california 90013  
213/576-6615 phone 213/576-6646 fax santamonicabay.org

January 23, 2012

Terrence Fleming (WTR-2)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco CA 94105

RE: Comments on the draft total maximum daily loads (TMDL) for Santa Monica Bay

Dear Terry,

Thank you for the opportunity to comment on this important document, and especially thanks for the informative briefing you gave at the December 19, 2011 workshop. First, we would like to commend EPA's effort and progress in developing this TMDL, which is a key step and mechanism in addressing one of the most serious environmental problems that the Bay has had for more than forty years. We would also like to express our support for the proposed numeric targets, for we believe achieving these targets will result in significant improvement of water and sediment quality in the Bay. Moreover, we appreciate that the document recognizes the SMBRC's capacity and the potential role the SMBRC can play in implementation of the TMDL and are committed to work with the Regional Board as well as other stakeholders to provide periodic and comprehensive assessment of the progress in achieving the TMDL targets.

Nevertheless, after reviewing the draft document we would like to offer a few comments on two provisions of the draft TMDL, mainly related to the proposed waste load allocation and monitoring recommendations.

1. The extrapolation of the DDT and PCBs loading from data collected in Ballona Creek to the other watersheds may be flawed. While the basic assumptions and the model used for the extrapolation may still be valid, the results appear to be misleading and not in-line with common sense. For one thing, the subwatershed categorization used in Table 6-3 is confusing at least, because they are not consistent with the most commonly-used and widely-accepted classification. More confusing and even puzzling is the modeling outcome which shows Hermosa Beach and Santa Monica Canyon contribute relatively large amount of total DDT and PCBs loading. Hermosa Beach is highly urban but very small in area by comparison

C1a







# bay restoration commission

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to other subwatershed with much lower loading estimates, while Santa Monica Canyon is far less urbanized despite its large watershed area. Besides, it is not clear what area Hermosa Beach “watershed” encompasses because like the rest of South Bay cities, Hermosa Beach has many small catchment basins within the City boundary, all flow into Santa Monica Bay.

Because the limitation of the modeling tools, the lack of reliable monitoring data and the consequential high uncertainty of the modeling outcome, we recommend that instead of assigning individual allocation to each subwatershed outfall, the allocation be expressed as a single categorical allocation for loading from the sources of storm water runoff from the entire Santa Monica Bay watershed, based on the sediment and water quality criteria. The TMDL can further recommend that more meaningful and reliable monitoring, calibration, and modeling extrapolation be conducted and the outcome be used to develop the wasteload allocation at the subwatershed level. After all, this step is necessary only if it can help responsible parties to prioritize potential loading sources and develop source control strategies accordingly.

C1b

2. In addition to lower the detection limits of DDTs or PCBs, the document should recommend a source identification and illicit discharge prevention program under Storm Water Monitoring (Section 7.3) or Special Studies (Section 7.5). Many evidences suggest that a significant source of DDTs and PCBs in the watershed is illegal or illicit disposal of DDTs and PCBs from old storage facilities or dilapidated devices such as transformers. In contrast to other diffused sources of DDT and PCBs discussed earlier in the document such as residues in soils, groundwater dewatering, or air deposition which are relatively ubiquitous, the illicit disposal of stored DDTs and PCBs usually are episodic and sporadic. Loading from such sources is very hard to detect and measure under the proposed routine monitoring program, but conceivably, the amount of loading from even one incident could far exceed the total annual loading of all other ubiquitous sources combined, and is more likely to cause detectable environmental impacts. Therefore, a source identification and licit discharge prevention program which involves facility inventory audit, dissemination of information and incentive for proper waste disposal etc., should be a higher priority and can also be more cost-effective in reducing loading of DDT and PCBs to the Bay. It can be implemented as a supplemental component to the existing illicit connection/illicit discharge program under the Los Angeles County municipal storm water NPDES permit

C2

Again, thank you for the opportunity and your consideration of our input. Please feel free to contact me at (213) 576-6639 or [gwang@waterboards.ca.gov](mailto:gwang@waterboards.ca.gov) should you have any questions or need additional information.

*our mission: to restore and enhance the santa monica bay through actions and partnerships that improve water quality, conserve and rehabilitate natural resources, and protect the bay's benefits and values*





# bay restoration commission

STEWARDS OF SANTA MONICA BAY

santa monica bay restoration commission 320 west 4<sup>th</sup> street, ste 200; los angeles, california 90013  
213/576-6615 phone 213/576-6646 fax [santamonicabay.org](http://santamonicabay.org)

Sincerely,

Guangyu Wang, Ph.D.  
Deputy Director

cc: Shelley Luce, Executive Director

*our mission: to restore and enhance the santa monica bay through actions and partnerships that improve water quality, conserve and rehabilitate natural resources, and protect the bay's benefits and values*



## **Response to comments from Guangyu Wang, Santa Monica Bay Restoration Commission**

C1a. The commenter expressed concern over the extrapolation of stormwater loadings data from Ballona Creek to other parts of the watershed and asked for clarification on the watersheds listed in Table 6-3 and their relationship to other watershed delineations used by the Regional Board. As discussed on page 33 of the draft TMDL, there are only two stormwater monitoring stations within the Santa Monica Bay watersheds (one in the Malibu Creek watershed and one in Ballona Creek). These two sites have not yielded detectable concentrations of DDT or PCBs over the last 20 years. This is largely due to inadequate detection limits. Curren et al., 2011 provide the only reliable measures of stormwater loadings of DDT and PCBs. This data was extrapolated to other subwatersheds based on percent urbanized area. Hermosa Beach and Santa Monica Canyon have higher potential loadings than nearby watersheds because they are more urbanized. Malibu Creek on the other hand has less urbanized area and therefore received a smaller waste load allocation. The watersheds listed in Table 6-3 are based on Ackerman and Schiff (2003), where hydrologic unit codes were subdivided and modified to reflect the natural hydrology. As a result these watersheds do not match the hydrologic unit numbers in the Basin Plan.

C1b. The TMDL has been revised to provide greater clarity on the waste load allocations for stormwater (Chapter 6.2), greater detail on the stormwater monitoring requirements (Chapter 7.3) and more detailed recommendations on the stormwater implementation (Chapter 8). It is not the intent of this TMDL to require compliance monitoring at the bottom of each watershed. Rather compliance should be established by comparing the total loadings from all the Santa Monica Bay watersheds to the existing loads. It is not the intent that individual permittees covered under the general construction and general stormwater permits be required to conduct individual monitoring but rather that they contribute to the overall watershed monitoring effort.

C2. The commenter suggested the final TMDL should recommend a source identification and illicit discharge prevention program. The final TMDL recommends that a source identification and illicit discharge prevention program be implemented under the Los Angeles County municipal stormwater NPDES program. This is consistent with the approach recommended in the San Francisco Bay PCB TMDL and the implementation in the San Francisco Bay county wide stormwater permit.



# City of Hermosa Beach

Civic Center, 1315 Valley Drive, Hermosa Beach, California 90254-3884

Mr. Terrence Fleming (WTR-2)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

Sent via email: [fleming.terrence@epa.gov](mailto:fleming.terrence@epa.gov)

Subject: Draft Total Maximum Daily Loads (TMDLs) for Santa Monica Bay

Dear Mr. Fleming:

The City of Hermosa Beach is strongly supportive of protecting the beneficial uses of the Santa Monica Bay, including those related to human health consumption of fish caught in the bay. The City of Hermosa Beach has a beautiful fishing pier and will be gratified once the fish consumption advisory can be lifted for the Santa Monica Bay.

The City is pleased to learn that USEPA has determined that a TMDL is not required for sediment toxicity in the Santa Monica Bay based on the finding that there is no significant sediment toxicity in Santa Monica Bay. We are further gratified to know that USEPA is recommending that Santa Monica Bay not be identified as impaired by sediment toxicity in the next issuance of California's 303(d) list. The draft TMDL also states that concentrations of DDT and PCBs in fish tissue in Santa Monica Bay have decreased over time but at this point in time are still above levels of concern established by Office of Environmental Health Hazard Assessment (OEHHA). So based on USEPA's draft TMDL for DDTs and PCBs in Santa Monica Bay, December 9, 2011(draft TMDL) it is the City's understanding that this TMDL is intended to address the impairment to human health associated with consumption of edible fish due bioconcentration/magnification of the concentrations of DDTs and PCBs in fish tissue from sediment and the water column.

1. The draft TMDL states that the impairments associated with DDT and PCBs in fish in Santa Monica Bay are primarily related to DDT and PCB deposition on the Palos Verdes Shelf associated with the Superfund site. The draft TMDL target for Santa Monica Bay for fish tissue and for sediment concentrations to meet the fish tissue target are 40 ng/g (40 ppb) and 2.3 ug/g of organic carbon and these are based on the assumed acceptable exposure risk of 1 excess cancer per 100,000 people. Meanwhile the Superfund Interim Remedial Action Objectives for the

C1



# City of Hermosa Beach

Civic Center, 1315 Valley Drive, Hermosa Beach, California 90254-3884

Palos Verdes Shelf Superfund Site have been set based on a less protective exposure risk of 1 excess cancer risk per 10,000 people which results in fish tissue and sediment objectives of 400 ng/g and 23 ug/g organic carbon, an order-of-magnitude higher than the draft TMDL for Santa Monica Bay. If it is true that the impairments associated with DDT and PCBs in fish in Santa Monica Bay are primarily related to DDT and PCBs deposited on the Palos Verdes Shelf, then the Santa Monica Bay DDT and PCB TMDL targets will not be attained unless the Superfund Remedial Action Objectives for the Palos Verdes Superfund Site are aligned with the TMDL targets. Thus the City of Hermosa Beach would urge USEPA to consider aligning those objectives.

2. USEPA Superfund anticipates that the DDT concentrations will attain water quality standards approximately 15 years after placement of the cap on the Superfund site which is part of the Superfund remedy, but that sediment targets will not be met until 22 years after placement of the cap. Since attainment of the Santa Monica Bay's objectives are dependent on the Superfund remedy for the Palos Verdes shelf, the implementation schedule for the Santa Monica Bay TMDLs should align with the attainment schedule of the Superfund site.
3. Additional studies are needed to develop timelines for PCBs—EPA plans to review that five years after the cap is put in place. In this case it is premature to establish a TMDL attainment schedule for PCBs in the Santa Monica Bay if an attainment schedule cannot yet be determined for the Palos Verdes Shelf Superfund site.
4. Waste load allocations for the MS4 permittees are being set based on average estimates of current stormwater loading of DDT and PCBs and these proposed waste load allocations are lower than either the modeled loadings or the theoretical maximum allowable loadings necessary to attain the TMDLs. Furthermore, USEPA stated that the current stormwater data available for the mass emissions monitoring stations are highly variable and the detection limits associated with routine stormwater monitoring efforts are not low enough to estimate current loadings of DDT or PCBs to Santa Monica Bay. Despite the limited information currently available, the USEPA is proposing Waste Load Allocations for DDT in stormwater that are 18 times lower than necessary to attain the TMDL sediment target. The City of Hermosa Beach requests that if recommended monitoring produces more robust data which indicates that current stormwater loadings are higher but still less than what is needed to attain the TMDL sediment targets, then the Waste Load Allocations should be revised to reflect the actual conditions. Provision should be made in the TMDL to make these adjustments to the MS4 waste load allocations without necessitating reopening of the TMDL.
5. Annual waste load allocations for the wastewater treatment plants are being set significantly higher than for the MS4s yet MS4 agencies have far less resources to effect treatment. The JWPCP and the Hyperion WWTP together are being allocated 14,600 grams per year of DDT, while MS4s are allowed

C2

C3

C4



# City of Hermosa Beach

Civic Center, 1315 Valley Drive, Hermosa Beach, California 90254-3884

only 28 grams per year of DDT based on what is acknowledged to be insufficient data. This disparity is not as great for PCBs, but the same issue still holds—the MS4s are allocated 145 grams per year PCBs under this TMDL, whereas the two WWTPs are allocated 350 grams/year together (50% more than the MS4s. Again these WLAs have been developed based on data for which detection limits are too high to allow assessment of compliance with the permit limits or the California Ocean Plan. Provision should be made in the TMDL to allow rebalancing of waste load allocations among all NPDES permittees once more robust data are collected in accordance with the recommendations of the draft TMDL.

C5

6. This TMDL does not address the role of the Federal Toxic Substances Control Act (TSCA) in regulating the remaining uses of PCBs. EPA's statement on Page 25 of the draft TMDL that "it is now illegal to manufacture, distribute, or use PCBs", is not entirely accurate—USEPA's own PCB TMDL Handbook<sup>1</sup> more accurately states:

C6

*Although PCBs were banned in 1979, the EPA's regulations under TSCA allow the inadvertent manufacture of PCBs as the result of some manufacturing processes. Under the regulations, a manufacturer can have up to 50 ppm PCBs in products leaving the manufacturing site (except components of detergent bars can only have less than 5 ppm), so long as the annual average concentration in those products is less than 25 ppm, and so long as the manufacturer complies with other restrictions, including proper disposal of any PCB wastes produced [40 CFR 761.20(b), 761.3]. EPA regulations also allow the continued use of PCBs in various electrical and other applications, under certain conditions [40 CFR 761.30]*

This TMDL is setting targets for concentrations in sediments discharged from the MS4 that are three orders of magnitude lower than the currently regulated concentration of 50 ppm under TSCA. The proposed TMDL identifies non-point sources as some of the remaining sources of PCBs but the TMDL implementation recommendations do not acknowledge USEPA's role in regulating those sources via TSCA (an appropriate source control measure for this TMDL). Instead, the effort to identify and address sources of PCBs is being directed at watersheds.

USEPA's PCB TMDL Handbook<sup>1</sup> also states that

<sup>1</sup> USEPA 2011. PCB TMDL Handbook, U.S. Environmental Protection Agency, Office of Wetlands, Oceans and Watersheds. EPA 841-R-11-006. December 2011.



# City of Hermosa Beach

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*"PCBs may be released to the air from equipment or materials that are still in use, such as transformers and fluorescent light ballasts; disposal sites containing transformers, capacitors, and other PCB waste; incineration of PCB-containing wastes, particularly PCB-containing oils; and redistribution and transport of PCBs already present in the environment . . . . States are encouraged to address air sources not already covered by federal requirements. States should also evaluate cumulative emissions from air sources other than the most prominent (i.e., secondary, tertiary) and adopt controls as appropriate."*<sup>2</sup>

Such control of air sources is the purview of the State of California rather than local municipalities and should be part of a comprehensive implementation plan.

7. USEPA's PCB TMDL Handbook notes that PCBs are one of the most significant legacy pollutants in terms of number of waterbodies impaired nationwide and that PCBs rank sixth atop national causes of water quality impairment. On April 7, 2010, USEPA published advanced notice of proposed rulemaking stating that:

*EPA published the first regulations addressing the use of equipment containing PCBs on May 31, 1979. Over the 30 years since then, many changes have taken place in the industry sectors that use such equipment, and EPA believes that the balance of risks and benefits from the continued use of remaining equipment containing PCBs may have changed enough to consider amending the regulations.*

*EPA is reassessing its TSCA PCB use and distribution in commerce regulations to address: The use, distribution in commerce, marking, and storage for reuse of liquid PCBs in electric and non-electric equipment; the use of the 50 parts per million (ppm) level for excluded PCB products; the use of non-liquid PCBs; the use and distribution in commerce of PCBs in porous surfaces; and the marking of PCB articles in use. Also in this document, EPA is also reassessing the definitions of "excluded manufacturing process," "quantifiable level/level of detection," and "recycled PCBs."*

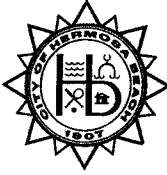
Such amendments to the regulations and concomitant source control measures that can be effected by removing remaining uses of PCBs to reduce potential loading to impaired waters will be an essential element of implementation plans to restore beneficial uses to Santa Monica Bay and waters nationwide.

C7

Comments to add clarity to the document:

<sup>2</sup> USEPA 2011. Ibid. page 1.





# City of Hermosa Beach

Civic Center, 1315 Valley Drive, Hermosa Beach, California 90254-3884

- a) Please include a unit of time in table 6-1 Loading capacity estimates, i.e., is this annual loading?  a
- b) Please define the units abbreviated "MT" which are used throughout the document but are not defined—is this metric tons which is equivalent to 1000 kg?  b
- c) On page 48, last paragraph before the table, first sentence should reference Table 4-2 where the list of general permits is listed, not Table 4-1 which lists individual permits.  c

The City of Hermosa Beach looks forward to the day when fish caught in the waters of the Santa Monica Bay are safe for consumption without limitation and will work cooperatively with USEPA and the Los Angeles Regional Water Control Board and other agencies in the State of California to achieve that objective.

Sincerely,

A handwritten signature in black ink, appearing to read "Frank Senteno".

Frank Senteno, P.E.  
Director of Public Works

### **Response to comments from Frank Senteno, City of Hermosa Beach**

C1. The target for tissue within Santa Monica Bay is in the  $10^{-5}$  to  $10^{-6}$  range depending on the assumed consumption rate, while the fish tissue targets for the Palos Verdes shelf range from  $10^{-4}$  to  $10^{-5}$ . These targets are based on White Croaker tissue which is the fish with the greatest potential for bioaccumulation. Therefore, there will be less risk associated with the consumption of other fish species. EPA is working to reduce the risks associated with fish consumption on the Palos Verdes shelf. Sediment cleanup to the target levels for Santa Monica Bay is not considered to be feasible. EPA Superfund will re-evaluate this in their 5-year reviews. Lower levels for the sediments on the Palos Verdes shelf may not be achievable.

Although fish are mobile, the pattern of DDT in fish tissue suggests that fish like white croaker and barred sandbass may be more local in their foraging behavior than previously thought. USEPA Superfund funded a study to track fish movement in and around the Palos Verdes shelf. The results from this study will be available in July 2013.

C2. The commenter noted that the schedule for attainment within Santa Monica Bay should be consistent with the time for attainment for the Palos Verdes shelf. This is not necessary nor is it desirable, the sediments within Santa Monica Bay will achieve the target faster than the Palos Verdes shelf and the improvements in Santa Monica Bay are more dependent on losses due to burial, decay and advection than on inputs from the Palos Verdes shelf.

C3. The commenter noted that the timelines for Superfund PCB action on the Palos Verdes shelf may be refined after 5-years and that it is premature to establish a TMDL attainment schedule for Santa Monica Bay. As discussed in the comment above the timeline for attainment in Santa Monica Bay are largely independent of the timeline for the Palos Verdes shelf.

C4. The commenter requested that the waste load allocations were based on limited existing data and requested a provision allowing the waste load allocation to be adjusted if more robust monitoring revealed the existing loads to be higher. It is not the intent of the TMDL to allow increases in stormwater loadings, but if credible monitoring data provided a better estimate of the existing load, we would not be opposed to re-opening the TMDL. We believe that a TMDL re-opener would be the most transparent avenue for making such a change.

C5. The commenter noted that the waste load allocations for wastewater treatment plants are significantly higher than for the stormwater waste load allocations. As discussed in the previous comment, the stormwater waste load allocations are based on existing loadings. The waste load allocations for the wastewater treatment plants are based on the regulatory framework allowed in the California Ocean Plan. In either case the goal is to keep loadings at or near the existing loadings.

C6. Language about the relationship of Federal Toxic Substances Control Act (TSCA) to PCBs was added to the final TMDL. The TSCA regulations are not pertinent to the targets established in the TMDL which are designed to protect the fish consumption use (COMM) as designated in the California Ocean Plan and the Los Angeles Regional Water Quality Control Plan (Basin Plan). The appropriate targets to protect this use are the USEPA water quality criteria and the objectives in the California Ocean Plan and the Basin Plan.

The TMDL provided conservative estimates of loadings of DDT and PCBs from atmospheric deposition and these were small relative to other sources. The Regional Water Quality Control Board may want to coordinate with the California Air Resources Board on this issue.

C7. The Los Angeles Regional Water Quality Control Board has the responsibility for implementing TMDLs. The Regional Board is free to use information in the EPA Advanced Notice of Rulemaking for PCBs (dated April 7, 2010), comments on the rulemaking and response to comments in the development of the implementation plan for the reduction of PCBs in Santa Monica Bay watersheds.

Response to editorial comments.

a) The values in Table 6-1 do not need a unit of time. The loading capacity values reflect the total mass of pollutant that the system can handle at any point of time. This is different from terms like annual load which reflect the annual balance of loadings and losses to the system.

b) The abbreviation MT refers to a metric ton which is 1,000 kg. This definition has been added to the text.

c) The reference to Table 4-2 on page 48 has been corrected.



City Hall 1400 Highland Avenue Manhattan Beach, CA 90266-4795  
Telephone (310) 802-5000 FAX (310) 802-5001 TDD (310) 546-3501

January 23, 2012

Mr. Terrence Fleming (WTR-2)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

Sent via email: [fleming.terrence@epa.gov](mailto:fleming.terrence@epa.gov)

Subject: Draft Total Maximum Daily Loads (TMDLs) for DDTs and PCBs in Santa Monica Bay

Dear Mr. Fleming:

The City of Manhattan Beach is strongly supportive of protecting the beneficial uses of the Santa Monica Bay, including those related to human health consumption of fish caught in the bay. We offer the following comments for your consideration with respect to the draft Total Maximum Daily Loads (TMDLs) for DDTs and PCBs in Santa Monica Bay (draft TMDL).

1. The draft TMDL states that the impairments associated with DDT and PCBs in fish in Santa Monica Bay are primarily related to DDT and PCB deposition on the Palos Verdes Shelf associated with the Superfund site and that concentrations of DDT and PCBs in fish tissue in Santa Monica Bay have decreased over time but at this point in time are still above levels of concern established by Office of Environmental Health Hazard Assessment (OEHHA). If the impairments associated with DDT and PCBs in fish in Santa Monica Bay are primarily related to legacy deposits on the Palos Verdes Shelf, then it stands to reason that the Santa Monica Bay DDT and PCB TMDL targets will not be attained unless the Superfund Remedial Action Objectives for the Palos Verdes Superfund Site are aligned with the TMDL targets. The draft TMDL target for Santa Monica Bay for fish tissue and for sediment concentrations to meet the fish tissue target are 40 ng/g and 2.3 ug/g of organic carbon and these are based on the assumed acceptable exposure risk of 1 excess cancer per 100,000 people. Meanwhile the Superfund Interim Remedial Action Objectives for the Palos Verdes Shelf Superfund Site have been set based on a less protective exposure risk of 1 excess cancer risk per 10,000 people which results in fish tissue and sediment objectives of 400 ng/g and 23 ug/g organic carbon, an order-of-magnitude higher than the draft TMDL for Santa Monica Bay. C1
2. Since attainment of the Santa Monica Bay objectives are dependent on the Superfund remedy for the Palos Verdes shelf, the implementation schedule for the Santa Monica Bay TMDLs should align with the attainment schedule of the Superfund site. USEPA Superfund currently anticipates that the DDT concentrations will attain water quality standards approximately 15 years after placement of the cap on the Superfund site which is part of the Superfund remedy, but that sediment targets will not be met until 22 years after placement of the cap. Apparently additional studies are needed to develop timelines for PCBs thus it will be premature to establish a TMDL attainment schedule for C2



PCBs in the Santa Monica Bay if an attainment schedule cannot yet be determined for the Palos Verdes Shelf Superfund site.

3. Waste load allocations for the MS4 permittees are being set based on average estimates of current stormwater loading of DDT and PCBs from Ballona Creek and these proposed waste load allocations are lower than either the modeled loadings or the theoretical maximum allowable loadings necessary to attain the TMDLs. Since USEPA acknowledges that the current stormwater data available for the mass emissions monitoring stations are highly variable and the detection limits associated with routine stormwater monitoring efforts are not low enough to estimate current loadings of DDT or PCBs to Santa Monica Bay, the stormwater WLAs should be reevaluated once more reliable data become available. Despite the limited information currently available, the USEPA is proposing Waste Load Allocations for DDT in stormwater that are 18 times lower than necessary to attain the TMDL sediment target. Provision should be made in the TMDL to make adjustments to the MS4 waste load allocations once more reliable data are available without necessitating reopening of the TMDL. C3
4. Annual Waste load allocations for the wastewater treatment plants are being set significantly higher than for the MS4s yet MS4 agencies have far less resources to effect treatment if a need for waste load reductions is supported by monitoring data. The JWPCP and the Hyperion WWTP together are being allocated 14,600 grams per year of DDT, while MS4s are allowed only 28 grams per year of DDT based on what is acknowledged to be insufficient data. This disparity is not as great for PCBs, but the same issue still holds—the MS4s are allocated 145 grams per year PCBs under this TMDL, whereas the two WWTPs are allocated 350 grams/year together (twice as much as the MS4s). Again these WLAs have been developed based on data for which detection limits are too high to allow assessment of compliance with the permit limits or the California Ocean Plan. Provision should be made in the TMDL to allow rebalancing of waste load allocations among all NPDES permittees once more robust data are collected in accordance with the recommendations of the draft TMDL. C4
5. EPA’s statement on Page 25 of the draft TMDL that “it is now illegal to manufacture, distribute, or use PCBs”, is not entirely accurate—USEPA’s own PCB TMDL Handbook<sup>1</sup> more accurately states: C5

*Although PCBs were banned in 1979, the EPA’s regulations under TSCA allow the inadvertent manufacture of PCBs as the result of some manufacturing processes. Under the regulations, a manufacturer can have up to 50 ppm PCBs in products leaving the manufacturing site (except components of detergent bars can only have less than 5 ppm), so long as the annual average concentration in those products is less than 25 ppm, and so long as the manufacturer complies with other restrictions, including proper disposal of any PCB wastes produced [40 CFR 761.20(b), 761.3]. EPA regulations also allow the continued use of PCBs in various electrical and other applications, under certain conditions [40 CFR 761.30]*

This TMDL is setting targets for concentrations in sediments discharged from the MS4 that are three orders of magnitude lower than the currently regulated concentration of 50 ppm under TSCA. The proposed TMDL identifies non-point sources as some of the remaining sources of PCBs but the TMDL implementation recommendations do not acknowledge USEPA’s role in regulating

<sup>1</sup> USEPA 2011. PCB TMDL Handbook, U.S. Environmental Protection Agency, Office of Wetlands, Oceans and Watersheds. EPA 841-R-11-006. December 2011.

those sources via TSCA (an appropriate source control measure for this TMDL). Instead, the effort to identify and address sources of PCBs is being directed at watersheds.

6. USEPA's PCB TMDL Handbook notes that PCBs are one of the most significant legacy pollutants in terms of number of waterbodies impaired nationwide and that PCBs rank sixth atop national causes of water quality impairment. On April 7, 2010, USEPA published advanced notice of proposed rulemaking stating that:

C6

*... EPA believes that the balance of risks and benefits from the continued use of remaining equipment containing PCBs may have changed enough to consider amending the regulations. EPA is reassessing its TSCA PCB use and distribution in commerce regulations to address: The use, distribution in commerce, marking, and storage for reuse of liquid PCBs in electric and non-electric equipment; the use of the 50 parts per million (ppm) level for excluded PCB products; the use of non-liquid PCBs; the use and distribution in commerce of PCBs in porous surfaces; and the marking of PCB articles in use. Also in this document, EPA is also reassessing the definitions of "excluded manufacturing process," "quantifiable level/level of detection," and "recycled PCBs."*

If current discharges of PCBs are found to be above the TMDL targets, such amendments to the TSCA regulations will be an essential element of implementation plans to restore beneficial uses to Santa Monica Bay and other impaired waters nationwide.

7. USEPA's PCB TMDL Handbook<sup>1</sup> also states that:

*"PCBs may be released to the air from equipment or materials that are still in use, such as transformers and fluorescent light ballasts; disposal sites containing transformers, capacitors, and other PCB waste; incineration of PCB-containing wastes, particularly PCB-containing oils; and redistribution and transport of PCBs already present in the environment . . . . States are encouraged to address air sources not already covered by federal requirements. States should also evaluate cumulative emissions from air sources other than the most prominent (i.e., secondary, tertiary) and adopt controls as appropriate."*<sup>2</sup>

Municipalities should not be expected to control PCBs in stormwater that are the result of air deposition from uncontrolled air emissions that should be regulated by California and USEPA. Control of such air sources should be part of a comprehensive implementation plan if current discharges of PCBs to Santa Monica Bay are found to be above the TMDL targets.

C7

The City of Manhattan Beach will work cooperatively with USEPA, the Los Angeles Regional Water Control Board and other agencies in the State of California to make fish caught in the waters of the Santa Monica Bay safe for human consumption without limitation.

Sincerely,



Jim Arndt  
Director of Public Works

<sup>2</sup> USEPA 2011. *ibid.* page 1.



## **Response to comments from Jim Arndt, City of Manhattan Beach**

C1. The target for tissue within Santa Monica Bay is in the  $10^{-5}$  to  $10^{-6}$  range depending on the assumed consumption rate, while the fish tissue targets for the Palos Verdes shelf range from  $10^{-4}$  to  $10^{-5}$ . These targets are based on White Croaker tissue which is the fish with the greatest potential for bioaccumulation. Therefore, there will be less risk associated with the consumption of other fish species. EPA is working to reduce the risks associated with fish consumption on the Palos Verdes shelf. Sediment cleanup to the target levels for Santa Monica Bay is not considered to be feasible. EPA Superfund will re-evaluate this in their 5-year reviews. Lower levels for the sediments on the Palos Verdes shelf may not be achievable.

Although fish are mobile, the pattern of DDT in fish tissue suggests that fish like white croaker and barred sandbass may be more local in their foraging behavior than previously thought. USEPA Superfund funded a study to track fish movement in and around the Palos Verdes shelf. The results from this study will be available in July 2013.

C2. The commenter noted that the schedule for attainment within Santa Monica Bay should be consistent with the time for attainment for the Palos Verdes shelf. This is not necessary nor is it desirable, the sediments within Santa Monica Bay will achieve the target faster than the Palos Verdes shelf and the improvements in Santa Monica Bay are more dependent on losses due to burial, decay and advection than on inputs from the Palos Verdes shelf.

C3. The commenter noted that the timelines for Superfund PCB action on the Palos Verdes shelf may be refined after 5-years and that it is premature to establish a TMDL attainment schedule for Santa Monica Bay. As discussed in the comment above the timeline for attainment in Santa Monica Bay are largely independent of the timeline for the Palos Verdes shelf.

C4. The commenter requested that the waste load allocations were based on limited existing data and requested a provision allowing the waste load allocation to be adjusted if more robust monitoring revealed the existing loads to be higher. It is not the intent of the TMDL to allow increases in stormwater loadings, but if credible monitoring data provided a better estimate of the existing load, we would not be opposed to re-opening the TMDL. We believe that a TMDL re-opener would be the most transparent avenue for making such a change.

C5. The commenter noted that the waste load allocations for wastewater treatment plants are significantly higher than for the stormwater waste load allocations. As discussed in the previous comment, the stormwater waste load allocations are based on existing loadings. The waste load allocations for the wastewater treatment plants are based on the regulatory framework allowed in the California Ocean Plan. In either case the goal is to keep loadings at or near the existing loadings.

C6. Language about the relationship of Federal Toxic Substances Control Act (TSCA) to PCBs was added to the final TMDL. The TSCA regulations are not pertinent to the targets established in the TMDL which are designed to protect the fish consumption use (COMM) as designated in the California Ocean Plan and the Los Angeles Regional Water Quality Control Plan (Basin

Plan). The appropriate targets to protect this use are the USEPA water quality criteria and the objectives in the California Ocean Plan and the Basin Plan.

C7. The TMDL provided conservative estimates of loadings of DDT and PCBs from atmospheric deposition and these were small relative to other sources. The Regional Water Quality Control Board may want to coordinate with the California Air Resources Board on this issue.





# City of Rolling Hills

INCORPORATED JANUARY 24, 1957

NO. 2 PORTUGUESE BEND ROAD  
ROLLING HILLS, CALIF. 90274  
(310) 377-1521  
FAX: (310) 377-7288

January 23, 2012

Mr. Terrence Fleming (WTR-2)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

Sent via email: [fleming.terrence@epa.gov](mailto:fleming.terrence@epa.gov)

Subject: Draft Total Maximum Daily Loads (TMDL) for Santa Monica Bay

Dear Mr. Fleming:

Thank you for this opportunity to comment on the Draft TMDL for DDTs and PCB in the Santa Monica Bay ("Draft TMDL").

The City of Rolling Hills is supportive of actions to protect the beneficial uses of the Santa Monica Bay, including actions that reduce human health risks associated with the consumption of fish caught in the bay. The City was pleased to learn that USEPA has determined that a TMDL will not be required for sediment toxicity in the Santa Monica Bay, and that the USEPA is recommending that Santa Monica Bay not be identified as impaired for sediment toxicity in the next issuance of California's 303(d) list. We view this as evidence that the water quality in the Bay is improving.

General comment1

With respect to the Draft TMDL, the City respectfully requests to be excluded from the assignment of waste load allocations of DDT and PCBs because (1) there is an identified source of these constituents on the Palos Verdes Shelf; (2) there have never been any land uses in the City of Rolling Hills that would have utilized DDTs or PCBs; and (3) these constituents cannot be safely monitored in order to disprove their existence.

The City understands that load allocations in the Draft TMDL are intended to address the impairment to human health associated with consumption of edible fish due to bioconcentration/magnification of DDT and PCBs in fish tissue from sediment and the water column. The Draft TMDL recognizes that concentrations of DDT and PCBs in fish tissue in Santa Monica Bay *have decreased over time*, but at this point in time are still above levels of concern established by Office of Environmental Health Hazard Assessment (OEHHA). The Draft TMDL also states that the impairments associated with DDT and PCBs in fish in Santa Monica Bay are primarily related to DDT and PCB deposition on the Palos Verdes Shelf associated with the Superfund site (which was the result of historical discharges from the Joint Water Pollution Control Plant operated by the Sanitation Districts of Los Angeles County).

Continued

In addition to the identified source of DDT and PCB near the Palos Verdes Shelf, the City of Rolling Hills has unique characteristics that demonstrate that stormwater runoff from the City is not contributing to these constituents in the Bay. In other words, there is no basis for imposing a waste load allocation on stormwater runoff from the City of Rolling Hills for DDT or PCBs into Santa Monica Bay. First, the data utilized in developing the draft TMDL is not relevant to stormwater runoff from the City of Rolling Hills. The stormwater data collected from Ballona Creek has no relationship to stormwater runoff from Rolling Hills, which is miles away on the hills of the Palos Verdes Peninsula (a far less urbanized area than the Ballona Creek Watershed). Further there is no land use data that would suggest that the City of Rolling Hills discharges DDT or PCBs to the Santa Monica Bay. In fact, the City's land use statistics suggest the opposite—that DDTs and PCBs do not come from inside Rolling Hills. You may be surprised to learn that there are no industrial or commercial uses within the City of Rolling Hills, as these uses are not permitted in the City. Prior to the City's development as a low-density, residential community, the land area within the current City boundaries was open space, used for some dry land cattle grazing. However, there was no irrigated agricultural activity that would suggest a prior application of DDT as a crop pesticide. Similarly, there was no prior industrial or commercial use within the City, and no such uses have ever been established in the City. As such, it is highly unlikely that PCBs or DDT are present in soils within the City of Rolling Hills that could result in stormwater discharges at levels of concern.

Moreover, Rolling Hills is unique, as a municipality and in its geography. The City is by design a low-density, low-impact, rural residential community with primary drainage conveyed via natural canyons. Minimum lot size in the City is 1 acre; the average lot size is 2.7 acres. The City's Zoning Code precludes large impervious surfaces. Only 35% of the net lot area may be developed with impervious surfaces, including all structures, patios and other paved areas. Storm water from private property drains into largely undisturbed heavily vegetated natural soft bottom canyons; there is no continuous improved storm drain system throughout the City. Dry weather flows and small rainfall events are infiltrated within the natural soft-bottom canyons which are the primary drainage system. In other words, most constituents draining out of the City are infiltrated into the canyons before reaching the ocean.

As its name suggests, the City's topography also prevents stormwater flow monitoring in these canyons in the event of (infrequent) larger rain storms. The natural canyons conveying drainage from the one square mile area of the City that is tributary to the Santa Monica Bay are very steep and treacherous, making entry for purposes of stormwater monitoring unsafe (see attached photos of Paint Brush Canyon and Klondike Canyon).

The Rolling Hills City Council is committed to allocating some of its very limited general funds toward the implementation of measures that will improve water quality. However it also believes that monitoring and reporting to defend itself from unfounded waste load allocations without an expectation that the effort will yield a benefit to water quality is not in the public interest. For all these reasons stated herein, it is respectfully requested

that the City of Rolling Hills be excluded from the assignment of waste load allocations of DDT and PCBs.

With respect to the Draft TMDL itself, the City of Rolling Hills also offers the following technical comments for your consideration based on review of the Draft TMDL:

1. The draft TMDL states that the impairments associated with DDT and PCBs in fish in Santa Monica Bay are primarily related to DDT and PCB deposition on the Palos Verdes Shelf associated with the Superfund site. The draft TMDL target for Santa Monica Bay for fish tissue and for sediment concentrations to meet the fish tissue target are 40 µg/g and 2.3 µg/g of organic carbon and these are based on the assumed acceptable exposure risk of 1 excess cancer per 100,000 people. Meanwhile the Superfund Interim Remedial Action Objectives for the Palos Verdes Shelf Superfund Site have been set based on a less protective exposure risk of 1 excess cancer risk per 10,000 people which results in fish tissue and sediment objectives of 400 µg/g and 23 µg/g organic carbon, an order-of-magnitude higher than the draft TMDL for Santa Monica Bay. If the impairments associated with DDT and PCBs in fish in Santa Monica Bay are primarily related to DDT and PCBs deposited on the Palos Verdes Shelf, then the Santa Monica Bay DDT and PCB TMDL targets will not be attained unless the Superfund Remedial Action Objectives for the Palos Verdes Superfund Site are aligned with the TMDL targets. Thus the City would urge USEPA to consider aligning those objectives. C1
2. USEPA Superfund anticipates that the DDT concentrations will attain water quality standards approximately 15 years after placement of the cap on the Superfund site which is part of the Superfund remedy, but that sediment targets will not be met until 22 years after placement of the cap. Since attainment of the Santa Monica Bay objectives is dependent on the Superfund remedy for the Palos Verdes shelf, the implementation schedule for the Santa Monica Bay TMDLs should align with the attainment schedule of the Superfund site. C2
3. USEPA states that additional studies are needed to develop timelines for PCB concentrations to attain water quality standards after placement of the cap and that EPA plans to reassess that timeline five years after the cap is put in place. Thus it is premature to establish a TMDL attainment schedule for PCBs in the Santa Monica Bay if an attainment schedule cannot yet be determined for the Palos Verdes Shelf Superfund site. C3
4. Waste load allocations for the MS4 permittees are being set based on average estimates of current stormwater loading of DDT and PCBs from data collected in Ballona Creek and those proposed waste load allocations are lower than the draft TMDLs' modeled loadings or the theoretical maximum allowable loadings necessary to attain the TMDLs. Furthermore, USEPA stated that the current stormwater data available for the mass emissions monitoring stations on Ballona Creek are highly variable and the detection limits associated with routine stormwater monitoring efforts are not low enough to estimate current loadings of DDT or PCBs to Santa Monica Bay. Despite the limited information currently available, the USEPA is proposing Waste Load Allocations for DDT in

stormwater that are 18 times lower than necessary to attain the TMDL sediment target. If more robust data collected along the lines of USEPA's recommendations determines that actual stormwater loadings are higher but still less than what is needed to attain the TMDL sediment targets, then the Waste Load Allocations should be revised to reflect the actual conditions. Provision should be made in the TMDL to make these adjustments to the MS4 waste load allocations without necessitating reopening of the TMDL.

C4

5. Annual Waste Load Allocations for DDT from the wastewater treatment plants are being set significantly higher than for the MS4s yet MS4 agencies have far less resources to effect treatment. The Joint Water Pollution Control Plant and the Hyperion Wastewater Treatment Plant together are being allocated 14,600 grams per year of DDT, while MS4s are allowed only 28 grams per year of DDT based on what is acknowledged to be insufficient data. Provision should be made in the TMDL to allow rebalancing of waste load allocations among all NPDES permittees once more robust data are collected in accordance with the recommendations of the draft TMDL.
6. This TMDL does not address the role of the Federal Toxic Substances Control Act (TSCA) in regulating the remaining uses of PCBs. EPA's statement on Page 25 of the draft TMDL that "it is now illegal to manufacture, distribute, or use PCBs", is not entirely accurate—USEPA's own PCB TMDL Handbook<sup>1</sup> more accurately states:

C5

C6

*Although PCBs were banned in 1979, the EPA's regulations under TSCA allow the inadvertent manufacture of PCBs as the result of some manufacturing processes. Under the regulations, a manufacturer can have up to 50 ppm PCBs in products leaving the manufacturing site (except components of detergent bars can only have less than 5 ppm), so long as the annual average concentration in those products is less than 25 ppm, and so long as the manufacturer complies with other restrictions, including proper disposal of any PCB wastes produced [40 CFR 761.20(b), 761.3]. EPA regulations also allow the continued use of PCBs in various electrical and other applications, under certain conditions [40 CFR 761.30]*

USEPA's PCB TMDL Handbook<sup>1</sup> also states that

*"PCBs may be released to the air from equipment or materials that are still in use, such as transformers and fluorescent light ballasts; disposal sites containing transformers, capacitors, and other PCB waste; incineration of PCB-containing wastes, particularly PCB-containing oils; and redistribution and transport of PCBs already present in the environment . . . States are encouraged to address air sources not already covered by federal*

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<sup>1</sup> USEPA 2011. PCB TMDL Handbook, U.S. Environmental Protection Agency, Office of Wetlands, Oceans and Watersheds. EPA 841-R-11-006. December 2011.

*requirements. States should also evaluate cumulative emissions from air sources other than the most prominent (i.e., secondary, tertiary) and adopt controls as appropriate.”<sup>2</sup>*

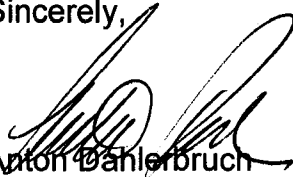
Such control of air sources is the purview of the State of California rather than local municipalities and should be part of a comprehensive implementation plan.

7. What is the unit of time in table 6-1 Loading capacity estimates, i.e., is this annual loading? C7
8. Please define the units abbreviated “MT” which are used throughout the document but are not defined—is this metric tons which is equivalent to 1000 kg? C8

Lastly, it is not clear whether the City will be provided any additional opportunities to comment as this TMDL is developed and adopted. Thus, the City submits these comments for your consideration without waiving any rights to provide additional or revised comments on the TMDL through the EPA’s adoption process, and at the time the Los Angeles Regional Water Quality Control Board incorporates this TMDL into the MS4 Permit.

The City of Rolling Hills appreciates your consideration of these comments on the Draft TMDL, and hopes you consider the justifications for excluding this City from the waste load allocations. I would be happy to answer any questions you may have about Rolling Hills’ unique topography and land use characteristics. It is rare to find an entirely rural, residential community in Southern California. Rolling Hills is by its nature a low-impact community, and the City Council is committed to maintaining the pristine coastal area within which the City sits. Please be aware that in these trying economic times, a small city like Rolling Hills must be judicious in allocating its limited funds to activities that are reasonably expected to yield a water quality benefit. The City continues to demonstrate a commitment to improving stormwater quality and must be allowed to expend its limited resources on addressing constituents over which the City has some control.

Sincerely,



Anton Danler-Bruch  
City Manager

AD:hl

01-23-12SMB-DDT-PCB-TMDL-ltr.docx

Attachments: Photos of Paint Brush Canyon and Klondike Canyon tributary to Santa Monica Bay

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<sup>2</sup> USEPA 2011. Ibid. page 1.



# Rolling Hills drainage toward Santa Monica Bay

Paint Brush Canyon



Klondike Canyon

## **Response to comments from Anton Dahlerbruch, City of Rolling Hills**

Response to general comment. The commenter requested to be excluded from the assignment of waste load allocations of DDT and PCBs. The TMDL assigned waste load allocations to the Los Angeles County Municipal Stormwater Permit. The City of Rolling Hills is named in this permit as a copermittee. It is not the intent of this TMDL to require compliance monitoring at the bottom of each watershed. Rather compliance should be established by comparing the total loadings from all the Santa Monica Bay watersheds to the existing loads. Recommendations for monitoring stormwater are provided in Chapter 7. Recommendations for implementing the stormwater allocations are discussed in Chapter 8.

C1. The target for tissue within Santa Monica Bay is in the  $10^{-5}$  to  $10^{-6}$  range depending on the assumed consumption rate, while the fish tissue targets for the Palos Verdes shelf range from  $10^{-4}$  to  $10^{-5}$ . These targets are based on White Croaker tissue which is the fish with the greatest potential for bioaccumulation. Therefore, there will be less risk associated with the consumption of other fish species. EPA is working to reduce the risks associated with fish consumption on the Palos Verdes shelf. Sediment cleanup to the target levels for Santa Monica Bay is not considered to be feasible. EPA Superfund will re-evaluate this in their 5-year reviews. Lower levels for the sediments on the Palos Verdes shelf may not be achievable.

Although fish are mobile, the pattern of DDT in fish tissue suggests that fish like white croaker and barred sandbass may be more local in their foraging behavior than previously thought. USEPA Superfund funded a study to track fish movement in and around the Palos Verdes shelf. The results from this study will be available in July 2013.

C2. The commenter noted that the schedule for attainment within Santa Monica Bay should be consistent with the time for attainment for the Palos Verdes shelf. This is not necessary nor is it desirable, the sediments within Santa Monica Bay will achieve the target faster than the Palos Verdes shelf and the improvements in Santa Monica Bay are more dependent on losses due to burial, decay and advection than on inputs from the Palos Verdes shelf.

C3. The commenter noted that the timelines for Superfund PCB action on the Palos Verdes shelf may be refined after 5-years and that it is premature to establish a TMDL attainment schedule for Santa Monica Bay. As discussed in the comment above the timeline for attainment in Santa Monica Bay are largely independent of the timeline for the Palos Verdes shelf.

C4. The commenter requested a provision allowing the stormwater waste load allocations based on estimates of existing loadings be adjusted if monitoring reveals the existing loads to be higher. It is not the intent of the TMDL to allow increases in stormwater loadings, but if credible monitoring data provided a better estimate of the existing load, we would not be opposed to re-opening the TMDL. We believe that a TMDL re-opener would be the most transparent avenue for making such a change.

C5. The commenter noted that the waste load allocations for wastewater treatment plants are significantly higher than for the stormwater waste load allocations. As discussed in the previous comment, the stormwater waste load allocations are based on existing loadings. The waste load

allocations for the wastewater treatment plants are based on the regulatory framework allowed in the California Ocean Plan. In either case the goal is to keep loadings at or near the existing loadings.

C6. Language about the relationship of Federal Toxic Substances Control Act (TSCA) to PCBs was added to the final TMDL. The TSCA regulations are not pertinent to the targets established in the TMDL which are designed to protect the fish consumption use (COMM) as designated in the California Ocean Plan and the Los Angeles Regional Water Quality Control Plan (Basin Plan). The appropriate targets to protect this use are the USEPA water quality criteria and the objectives in the California Ocean Plan and the Basin Plan.

The TMDL provided conservative estimates of loadings of DDT and PCBs from atmospheric deposition and these were small relative to other sources. The Regional Water Quality Control Board may want to coordinate with the California Air Resources Board on this issue.

C7. The values in Table 6-1 do not need a unit of time. The loading capacity values reflect the total mass of pollutant that the system can handle at any point of time. This is different from terms like annual load which reflect the annual balance of loadings and losses to the system.

C8. The abbreviation MT refers to a metric ton which is 1,000 kg. This definition has been added to the text.



SUSAN SEAMANS  
*Mayor*

FRANK V. ZERUNYAN  
*Mayor Pro Tem*

JOHN C. ADDLEMAN  
*Council Member*

JUDY MITCHELL  
*Council Member*

STEVEN ZUCKERMAN  
*Council Member*

DOUGLAS R. PRICHARD  
*City Manager*



CITY OF  
**ROLLING HILLS ESTATES**

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January 23, 2012

Mr. Terrence Fleming (WTR-2)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

Sent via email: [fleming.terrence@epa.gov](mailto:fleming.terrence@epa.gov)

Subject: Draft Total Maximum Daily Loads (TMDLs) for Santa Monica Bay

Dear Mr. Fleming:

The City of Rolling Hills Estates (City) supports measures to restore the beneficial uses of the Santa Monica Bay, and looks forward to the day when the fishing advisory for fish caught in the Santa Monica Bay can be lifted. The draft Total Maximum Daily Loads you have developed to address the impairment to human health associated with consumption of edible fish due to bioconcentration/magnification of DDT and PCBs in fish tissue in Santa Monica Bay states that concentrations of DDT and PCBs in fish tissue in Santa Monica Bay have decreased over time but at this point in time are still above levels of concern established by Office of Environmental Health Hazard Assessment (OEHHA). The draft TMDL also states that the impairments associated with DDT and PCBs in fish in Santa Monica Bay are primarily related to historical deposition of DDT and PCB on the Palos Verdes Shelf associated with discharges from the former Montrose Chemical Company via the Joint Water Pollution Control Plant operated by the Sanitation Districts of Los Angeles County. Thus the City was surprised to learn that despite the historic nature of the impairment, all municipalities within the watershed of the Santa Monica Bay are being assigned waste load allocations for DDT and PCB in ongoing stormwater discharges.

General comment

The City does not believe there is a basis for imposing a waste load allocation for DDT or PCBs in stormwater runoff from the City of Rolling Hills Estates into Santa Monica Bay. None of the data utilized in developing the draft TMDL is relevant to stormwater runoff from the City—stormwater data collected from Ballona Creek which is utilized in assigning waste load allocations for stormwater in this TMDL is not representative of

stormwater runoff from Rolling Hills Estates located as it is on the hills of the Palos Verdes Peninsula, a far less urbanized area than the Ballona Creek Watershed. The small, ½ square mile area of the City of Rolling Hills Estates within the Santa Monica Bay watershed contains only residential and park land use with no industrial or commercial land use, thus there is not a reasonable potential for the City of Rolling Hills Estates to discharge DDT or PCBs in stormwater to the Santa Monica Bay at levels of significance. The City of Rolling Hills Estates respectfully requests to be excluded from the assignment of waste load allocations of DDT and PCBs to Santa Monica Bay since there is less than ½ square mile (300 acres) in the City tributary to the Santa Monica Bay and the residential and park land use in this small area would not be reasonably expected to contribute DDT or PCB waste loads of significance.

The City of Rolling Hills Estates would also like to offer the following additional comments based on review of the draft TMDL:

1. If the impairments associated with DDT and PCBs in fish in Santa Monica Bay are primarily related to DDT and PCBs deposited on the Palos Verdes Shelf, then the Santa Monica Bay DDT and PCB TMDL targets will not be attained unless the Superfund Remedial Action Objectives for the Palos Verdes Superfund Site are aligned with the TMDL targets. Thus the City does not understand why the objectives have not been aligned so that beneficial uses associated with fish consumption of the Santa Monica Bay can be restored. The draft TMDL targets for Santa Monica Bay are being established based on the assumed acceptable exposure risk of 1 excess cancer per 100,000 people which translates to DDT targets of 40 ng/g (40 ppb) in fish and 2.3 ug/g of organic carbon in sediment. Meanwhile the Superfund Interim Remedial Action Objectives for the Palos Verdes Shelf Superfund Site have been set based on a less protective exposure risk of 1 excess cancer risk per 10,000 people which results in fish tissue and sediment objectives of 400 ng/g and 23 ug/g organic carbon, an order-of-magnitude higher than the draft TMDL for Santa Monica Bay.
2. USEPA states that the current stormwater data available for the mass emissions monitoring stations on Ballona Creek are highly variable and the detection limits associated with routine stormwater monitoring efforts are not low enough to estimate current loadings of DDT or PCBs to Santa Monica Bay. Despite the limited information currently available, the USEPA is proposing Waste Load Allocations for DDT in stormwater based on average estimates of stormwater loading of DDT and PCBs from data collected in Ballona Creek and those proposed waste load allocations that are significantly lower than either the modeled loadings or the theoretical maximum allowable loadings necessary to attain the TMDLs. If reliable data is collected as part of future TMDL monitoring that demonstrates actual stormwater loadings are higher than these current unreliable estimates, but are lower than what is needed to attain the TMDL sediment targets, then the stormwater Waste Load Allocations should be

C1

revised to reflect the actual conditions. Provision should be made in the TMDL to make these adjustments to the MS4 waste load allocations without necessitating reopening of the TMDL.

C2

3. This TMDL does not address the role of the Federal Toxic Substances Control Act (TSCA) in regulating the remaining uses of PCBs. EPA's statement on Page 25 of the draft TMDL that "it is now illegal to manufacture, distribute, or use PCBs", is not entirely accurate—USEPA's own PCB TMDL Handbook<sup>1</sup> states:

C3

*Although PCBs were banned in 1979, the EPA's regulations under TSCA allow the inadvertent manufacture of PCBs as the result of some manufacturing processes. Under the regulations, a manufacturer can have up to 50 ppm PCBs in products leaving the manufacturing site (except components of detergent bars can only have less than 5 ppm), so long as the annual average concentration in those products is less than 25 ppm, and so long as the manufacturer complies with other restrictions, including proper disposal of any PCB wastes produced [40 CFR 761.20(b), 761.3]. EPA regulations also allow the continued use of PCBs in various electrical and other applications, under certain conditions [40 CFR 761.30]*

USEPA's PCB TMDL Handbook<sup>1</sup> also states that

*"PCBs may be released to the air from equipment or materials that are still in use, such as transformers and fluorescent light ballasts; disposal sites containing transformers, capacitors, and other PCB waste; incineration of PCB-containing wastes, particularly PCB-containing oils; and redistribution and transport of PCBs already present in the environment . . . . States are encouraged to address air sources not already covered by federal requirements. States should also evaluate cumulative emissions from air sources other than the most prominent (i.e., secondary, tertiary) and adopt controls as appropriate."*<sup>2</sup>

Such control of air sources is the purview of the State of California rather than local municipalities and should be part of a comprehensive implementation plan. Municipalities should not be expected to control PCBs in stormwater that are the

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<sup>1</sup> USEPA 2011. PCB TMDL Handbook, U.S. Environmental Protection Agency, Office of Wetlands, Oceans and Watersheds. EPA 841-R-11-006. December 2011.

<sup>2</sup> USEPA 2011. Ibid. page 1.

result of air deposition from uncontrolled air emissions that should be regulated by California and USEPA.

The City of Rolling Hills Estates appreciates the opportunity to provide comment at this time, and reserves the right to amend this statement and/or provide additional information at the time that the TMDL waste load allocations are incorporated into the MS4 Permit.

Sincerely,

A handwritten signature in black ink, appearing to read 'Greg Grammer', written over a horizontal line.

Greg Grammer  
Assistant City Manager

Response to comments from Greg Grammer, City of Rolling Hill Estates

***Response to general comment.*** The TMDL assigned waste load allocations to the Los Angeles County Municipal Stormwater Permit. The City of Rolling Hills Estates is named in this permit as a copermittee. It is not the intent of this TMDL to require compliance monitoring at the bottom of each watershed. Rather compliance should be established by comparing the total loadings from all the Santa Monica Bay watersheds to the existing loads. Recommendations for monitoring stormwater are provided in Chapter 7. Recommendations for implementing the stormwater allocations are discussed in Chapter 8.

C1. There is no need to align the sediment targets for Santa Monica Bay with those on the Palos Verdes shelf. The sediments within Santa Monica Bay are less contaminated than those on the Palos Verdes Shelf and will achieve the target faster than the Palos Verdes shelf. The improvements in Santa Monica Bay are more dependent on losses due to burial, decay and advection than on inputs from the Palos Verdes shelf.

The target for tissue within Santa Monica Bay is in the  $10^{-5}$  to  $10^{-6}$  range depending on the assumed consumption rate, while the fish tissue targets for the Palos Verdes shelf range from  $10^{-4}$  to  $10^{-5}$ . These targets are based on White Croaker tissue which is the fish with the greatest potential for bioaccumulation. Therefore, there will be less risk associated with the consumption of other fish species. EPA is working to reduce the risks associated with fish consumption on the Palos Verdes shelf. Sediment cleanup to the target levels for Santa Monica Bay is not considered to be feasible. EPA Superfund will re-evaluate this in their 5-year reviews. Lower levels for the sediments on the Palos Verdes shelf may not be achievable.

C2. The commenter requested a provision allowing the stormwater waste load allocations based on estimates of existing loadings be adjusted if monitoring reveals the existing loads to be higher. It is not the intent of the TMDL to allow increases in stormwater loadings, but if credible monitoring data provided a better estimate of the existing load, we would not be opposed to re-opening the TMDL. We believe that a TMDL re-opener would be the most transparent avenue for making such a change.

C3. Language about the relationship of Federal Toxic Substances Control Act (TSCA) to PCBs was added to the final TMDL. The TSCA regulations are not pertinent to the targets established in the TMDL which are designed to protect the fish consumption use (COMM) as designated in the California Ocean Plan and the Los Angeles Regional Water Quality Control Plan (Basin Plan). The appropriate targets to protect this use are the USEPA water quality criteria and the objectives in the California Ocean Plan and the Basin Plan.

The TMDL provided conservative estimates of loadings of DDT and PCBs from atmospheric deposition and these were small relative to other sources. The Regional Water Quality Control Board may want to coordinate with the California Air Resources Board on this issue.



January 23, 2012

Terrence Fleming (WTR-2)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

**Subject: DRAFT TOTAL MAXIMUM DAILY LOADS  
FOR DDTs AND PCBS IN SANTA MONICA BAY**

Dear Sir:

The City has reviewed this TMDL and attended the recent workshop and will limit its comments at this time to two important issues:

First, while the City fully supports and understands the value of gathering additional scientific data, it is clear (see the attached page 16 from the proposed TMDL) the source and current location of the DDT was not generated via storm water runoff from the MS4 to the ocean. Therefore, especially in light of the current economic conditions, the City requests that cities not be responsible for or directed to conduct any future monitoring of toxics under this TMDL unless the Regional Water Quality Control Board or other equivalent regulation agency provides reasonable and identifiable indication that specific sources within cities' MS4s are causing or contributing to exceedances.

C1

Secondly, Page 57 of the proposed TMDL states:

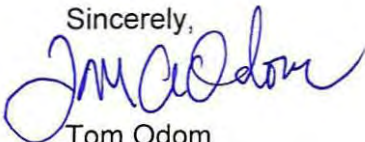
"EPA recommends the development of group wasteload allocations for the four major types of stormwater discharge (municipal stormwater permit, CalTrans, general construction stormwater permit, and general industrial stormwater permit)."

In regards to the municipal stormwater permit, we feel it is important to note that your recommendation section of the TMDL omits mention that the cities have previously entered into settlement agreements (circa 1999) regarding the discharge of DDT and related toxics. While a detailed legal explanation is beyond the scope of this letter, the US EPA's recommendation section should specifically acknowledge this settlement as it will likely have significant impact on the Regional Board's development of a "group wasteload allocation" for cities that were a party to the settlement.

C2

Thank you for the opportunity to comment and please feel free to contact me if you have any questions.

Sincerely,



Tom Odom  
Director of Public Works

**Response to comments from Tom Odom, City of Rancho Palos Verdes Public Works Department**

**C1.** The TMDL assigned waste load allocations to the Los Angeles County Municipal Stormwater Permit. The City of Rancho Palos Verdes is named in this permit as a co-permittee. It is not the intent of this TMDL to require compliance monitoring at the bottom of each watershed. Rather compliance should be established by comparing the total loadings from all the Santa Monica Bay watersheds to the existing loads. Recommendations for monitoring stormwater are provided in Chapter 7. Recommendations for implementing the stormwater allocations are discussed in Chapter 8.

**C2.** The 1999 settlement agreement in US and the State of California v. Montrose Chemical Corporation of California et al. (NO. CV 90-3122-AAH) has little or no bearing on any Clean Water Act authorities and thus should have no impact on group waste load allocations for the cities that were a party to that settlement.



From: Joyce Dillard <dillardjoyce@yahoo.com>  
To: Terrence Fleming/R9/USEPA/US@EPA  
Date: 01/23/2012 02:41 PM  
Subject: Comments to Draft TMDLS for Santa Monica Bay due 1.23.2012

You should provide the Consent Decree for:

Heal the Bay Inc., et al. v. Browner, et al. C 98-4825 SBA |

C1

The study is flawed. Data is old and few sampling sites. It is more like junk science.

C2

This problem is found in distinguishing Areas A, B and C as separate units and not part of a tidal flow ecosystem.

To understand the problem of Santa Monica Bay is to study the Southern California Bight, as a coastal ecology and retention of plumes from northern and southern tidal flows, except at the North-South convergence point (approximately Dana Point). This is what we understand after seeing a presentation Dr. Ron Flick, oceanographer for California Bays and Harbors presented at USC Dornslife "Climate Change in the Southern California Bight-Integrating Science and the Societal Implications."

This report seems to be comprised of estimates which are called Modeling. It is conceptual, not scientific, and we disagree with this approach.

Southern California Bight is well studied and understood. Dr. Richard Feely, NOAA Pacific Environmental Marine Laboratory, is conducting studies for Sea-Level Rise and has found that Adaptive Management Strategies, not focused on heavy cost, but simple solutions, solve challenging problems.

C3

This approach of Adaptive Management based on real science needs embraced.

Without discussion of geology and weather patterns that effect tidal patterns, the establishment of TMDLs is speculative, and, perhaps seasonal. You have not discussed any earthquake faults such as Potrero Canyon. Google Earth shows the plume after a wet weather event.

You state in your report:

*Venkatesan (2010) indicates that the highest concentration of PCBs is near the terminus of the old 7-mile sludge line. The fact that the discharges from this outfall were ceased in 1987 implies these are historic rather than recent deposits. Correlations with markers for sewage such as coprostanols and linear alkyl benzenes provide further evidence that the source is primarily sewage-related deposits (Venkatesan, 2010).*

You have not addressed current violation identification methods. |

C4

If the intent is concentrated on contract award and high taxpayer cost, then this approach satisfies that goal. If not, then science needs to be applied and solutions derived from realistic perspectives. Costs need not be open-ended and solutions defined. |

C5

Again, from the conference on Southern California Bight, there appears to be a military and national defense interest.

TMDLs in relationship to Beneficial Uses must address reality, not supposition. |

C6

Please note that we question the governance of the Santa Monica Bay Restoration Commission SMBRC as valid to the law and the intention of their formation. Santa Monica Bay Restoration Foundation involvement with the SMBRC should be screened as a Special Interest influence. |

C7

Joyce Dillard  
P.O. Box 31377

Los Angeles, CA 90031

## **Response to comments from Joyce Dillard.**

C1. A copy of the Consent Decree for Heal the Bay Inc., et al. v. Browner et al. C 98-4825SBA has been sent to the commenter.

C2. The U.S. EPA's Water Quality Simulation Program (WASP) was selected as the basis for numerically representing the Santa Monica Bay Box Model. The Box Model developed for this TMDL incorporated tidal flow and net exchange between areas A, B and C in the model. Oceanic boundary conditions were used to parameterize conditions for area C. A separate stormwater model (Loading Simulation Program in C++ or LSPC) was used to estimate stormwater loadings to the system. Both WASP and LSPC models have been peer reviewed and are widely used by water quality professionals.

C3. EPA provided recommendations for monitoring and implementation in Chapters 7 and 8 of the TMDL. The Los Angeles Regional Water Quality Control Board will determine the final implementation action necessary to meet the targets and load allocations.

C4. Compliance with the wastewater load allocations shall be met at a sampling location described in the permit which measures flow and concentrations before discharge to the ocean. The methods for monitoring PCBs in effluent monitoring are proscribed in the Code of Federal Regulations (40 CFR 136). As discussed in the TMDL, EPA is recommending that wastewater dischargers also measure PCBs using a low level method (e.g., Method 1668c for PCBs). The use of coprostanols and linear alkyl benzenes in sediment monitoring as a marker for wastewater sources is a well established practice in the scientific literature.

C5. The TMDL approach is based on the best available science. The allocations which limit loadings from stormwater and wastewater dischargers to near existing loadings are not unreasonable nor high cost.

C6. This TMDL is designed primarily to reduce the level of contaminants in fish tissue which are directly related to the commercial and sport fishing beneficial use (COMM). The improvements to the Palos Verdes Shelf will come from capping the portion of the shelf that is subject to net erosional forces and natural monitored attenuation which includes burial and decay. The sediments in the rest of Santa Monica Bay are lower in concentration and recovery is dependent on losses due to burial, decay and advection.

C7. The reference to the Santa Monica Restoration Commission is in the monitoring recommendations. The Regional Board will be responsible for implementation of the TMDL. The language has been changed slightly to acknowledge that the Regional Board is in the lead for implementation.