



RIVERSIDE COUNTY FLOOD CONTROL  
AND WATER CONSERVATION DISTRICT

October 26, 2009

Mr. John H. Robertus, Executive Officer  
California Regional Water Quality Control Board  
– San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123-4340

Attn: Ms. Cynthia Gorham-Test (via electronic mail)

Dear Mr. Robertus:

Re: Comments regarding Draft 2008 303(d)  
List/305(b) Integrated Report for the  
San Diego Region

The Riverside County Flood Control and Water Conservation District (District) serves as the Principal Permittee for the Riverside County Municipal Separate Storm Sewer System (MS4) Permit for the Santa Margarita Region (SMR). The San Diego Regional Water Quality Control Board (Regional Board) has proposed adding entries to the Section 303(d) List as it applies to surface waters in Riverside County. On behalf of the SMR Permittees, the District has reviewed the Draft 2008 Integrated Report and supporting information for the 2008 303(d) List Update for the San Diego Region<sup>1</sup> (Integrated Report). Following is a review of the proposed listings affecting Riverside County and recommendations for disposition.

**Temecula Creek**

***Toxicity: Decision ID 16956 contains no valid Lines of Evidence (LOEs) to support the listing of Toxicity.***

Decision ID 16956 relies upon Section 3.6 of the Listing Policy<sup>2</sup>, which requires one valid LOE to support the listing; however, no valid LOEs have been presented for toxicity in Temecula Creek, as discussed below. Therefore, Temecula Creek should not be listed for toxicity under Section 303(d). In addition, Decision ID 16956 relies upon the exceedance threshold in Table 3.2 of the Listing Policy. This is incorrect, as toxicity is addressed in Section 3.1, which references Table 3.1.

LOE 26472 does not meet the spatial representation requirements of Section 6.1.5.2 of the Listing Policy, which states that samples should be representative of the water body. The Draft Integrated Report relies on samples collected at only one station: 902TCI15x Temecula Creek. Samples

<sup>1</sup> [http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/303d\\_list/index.shtml](http://www.waterboards.ca.gov/sandiego/water_issues/programs/303d_list/index.shtml)

<sup>2</sup> Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List. September 2004.

collected at one location on a water body segment are not representative of the water body segment as a whole.

LOE 7511 relies on an improper Guideline Reference. The reference applies to San Diego County. The Evaluation Guideline used for the LOE should be contained in a document regulating Riverside County. Furthermore, it is inappropriate to apply “Waste Discharge Requirements for Discharges of Urban Runoff from the MS4s...” to a Receiving Water body.

LOE 7511 does not meet the spatial representation requirements of Section 6.1.5.2 of the Listing Policy, which states that samples should be representative of the water body. The Draft Integrated Report relies on samples collected at only one site at Temecula Creek. Samples collected at one location on a water body segment are not representative of the water body segment as a whole.

**Request:** Remove LOE 26472 and LOE 7511 from Decision ID 16596. Change the Final Listing Decision for Decision ID 16596 to “Do Not List on 303(d) List.”

***Chlorpyrifos: Decision ID 16594 contains no valid LOEs to support the listing of chlorpyrifos, and USEPA restrictions have effectively eliminated the pollutant sources.***

Decision ID 16594 states there are two LOEs to support the listing of chlorpyrifos; however, only LOE 6462 is provided in the Draft Integrated Report. This LOE is invalid, as discussed below.

LOE 6462 is invalid because the exceedances stated are based on a numerical standard that is not listed in the Basin Plan, and no supporting evidence of adverse effects to beneficial uses is provided to indicate that the narrative water quality objective (WQO) is not being met. The Basin Plan Objective (BPO) for chlorpyrifos is narrative, stating pesticides may not “adversely affect beneficial uses” and “may not be present at levels... harmful to human health, wildlife, or aquatic organisms.” The Basin Plan does not have a numerical limit on which to base an exceedance. Nine samples were collected from Temecula Creek between Fall 2004 and Spring 2006 and analyzed for chlorpyrifos, but only one of those samples had a result above the suggested United States Environmental Protection Agency (USEPA) ambient freshwater quality criteria for chlorpyrifos of 0.041 µg/L. Without numerical objectives in the Basin Plan, the analytical results cannot be considered exceedances without concurring evidence that the narrative requirements of the Basin Plan are not being met.

Such concurring evidence regarding the narrative BPO is lacking, both in the Decision and in fact. Results from Toxicity Investigation Evaluations (TIEs) conducted from 2007 through 2008 did not find evidence that chlorpyrifos is the cause of toxicity in freshwater organisms in Murrieta and Temecula Creeks. Toxicity to *Ceriodaphnia dubia*, a water flea that is sensitive to chlorpyrifos, was not detected at Temecula Creek between Fall 2004 and Spring 2009. Thus, chlorpyrifos does not appear to be adversely affecting beneficial uses or harming aquatic organisms and as such has not

exceeded the narrative BPO for Temecula Creek. In addition, no toxicity to *Ceriodaphnia dubia* implies that LOE 6462 does not meet the requirements of Table 3.1 of the Listing Policy and therefore is invalid.

Furthermore, urban chlorpyrifos use was effectively phased out when the USEPA, pursuant to Section 6(f) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), issued an “End Use Products Cancellation Order of Chlorpyrifos” on January 25, 2005. Between Fall 2007 and Spring 2009, chlorpyrifos was detected only one time at Temecula Creek, and that detection was below the USEPA ambient freshwater quality criteria for chlorpyrifos of 0.041 µg/L, and no toxicity to *Ceriodaphnia dubia* was found in the sample. Chlorpyrifos concentrations have been decreasing steadily in samples since 2004, and this trend is likely to continue as a result of the USEPA ban.

The USEPA restrictions have effectively addressed any prior water quality concerns posed by chlorpyrifos, rendering the 303(d) listing and subsequent TMDL unnecessary, as the sources of this pollutant have already been virtually eliminated. This conclusion is supported by the chemical analysis and toxicity testing results, as described above. Listing chlorpyrifos on the 303(d) List for Temecula Creek places undue bureaucratic and financial burdens on the Permittees and the Regional Board.

**Request:** Remove LOE 6462 from Decision ID 16594. Change the Final Listing Decision for Decision ID 16594 to “Do Not List on 303(d) List.”

**Copper:** *Decision ID 16595 has no valid LOEs to support the listing of copper.*

Decision ID 16595 states there are two LOEs to support the listing of copper; however, only LOE 6515 is provided in the Draft Integrated Report. This LOE is invalid, as discussed below.

LOE 6515 fails to take into account wildfires that may have affected dissolved copper levels at Temecula Creek, in violation of Section 6.1.5.1 of the Listing Policy, which states, “*environmental conditions in a water body or at a site must be taken into consideration (e.g., the occurrence of wildfires).*”

The presence of copper in Temecula Creek between 2004 and 2006 may have been due to the severe fire season in 2003-2004, as described in the Annual Reports that were used as the data source for the LOE. Large fires have been linked to elevated copper and other pollutant levels in surface waters. For example, Ballona Creek in San Diego County showed indirect effects of fires with disproportionately high copper and zinc concentrations after the 2003 fires.<sup>3</sup> Where burns occur in residential areas, such as the 2007 Harris fire in Southern California, soil samples have been found to

<sup>3</sup> Southern California Coastal Water Research Project (SCCWRP) and Stein, E.D. Effects of Southern California Wildfires on Storm Water Metals and PAHs. SCCWRP Presentation to member agencies. January 2009.

contain elevated levels of arsenic, lead, antimony, copper, zinc, and chromium.<sup>3,4</sup> Additional evidence of the effects of fires is provided by the elevated levels of dissolved copper detected at the Cole Creek reference station during the 2005-2006 monitoring year. There is no evidence that the impacts of these fires were considered for this LOE. Furthermore, total copper concentrations have not exceeded BPOs in samples collected from Temecula Creek between Fall 2006 and Spring 2009.

LOE 6515 fails to account for land uses changes. Listing Policy Section 6.1.5.1 requires land uses to be taken into consideration prior to listing a water body. Significant land use changes have occurred in the area tributary to this station over the past decade that may affect this proposed listing and have not been considered in any of the LOEs provided.

**Request:** Remove LOE 6515 from Decision ID 16595. Change the Final Listing Decision for Decision ID 16595 to “Do Not List on 303(d) List.”

***Phosphorus: Decision ID 5728 has no valid LOEs to support the listing of phosphorus.***

LOE 3158 does not contain valid data references or quality assurance (QA) information. The data cannot be assessed and therefore the LOE does not meet the requirements of Listing Policy Sections 6.1.4 and 6.1.5 and is invalid.

LOE 3158 fails to take into account wildfires that may have affected phosphorous levels at Temecula Creek, in violation of Section 6.1.5.1 of the Listing Policy, which states, “*environmental conditions in a water body or at a site must be taken into consideration (e.g., the occurrence of wildfires).*”

Studies have suggested that, in particular, increased nutrient loads of phosphorous and nitrogen occur after wildfires. Furthermore, evidence associates higher levels of phosphorous with higher sediment loads due to post-fire erosion, because phosphorous is primarily transported with sediment loads.<sup>3,5,6</sup> Fires are documented as having an effect on water and sediment quality. There is no evidence that the impacts of these fires were considered for this LOE.

LOE 26472 is invalid because it fails to demonstrate that phosphorous is causing an exceedance of the WQO. The WQO states that “All waters shall be free of toxic substances in concentrations that are toxic to...aquatic life.” Phosphorous is not a toxic substance; it is a necessary nutrient for aquatic life. TIEs conducted during 2007 and 2008 did not find evidence that phosphorous caused the toxicity observed in the samples.

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<sup>4</sup> United States Geological Survey (USGS). Preliminary Analytical Results for Ash and Burned Soils from the October 2007 Southern California Wildfires. Open File Report 2007-1407, p. 2-3. 2007.

<sup>5</sup> United States Forest Service (USFS). Wildfires and Water Quality Protection on National Forests in California. EPA Groundwater and Source Water Protection Conference Presentation. May 2009.

<sup>6</sup> Meixner, T. and P. Wohlgemuth. *Wildfire Impacts on Water Quality*. Southwest Hydrology. September-October 2004 issue, 24-25.

In addition, LOE 26472 does not meet the spatial representation requirements of Section 6.1.5.2 of the Listing Policy, which states that samples should be representative of the water body. The Draft Integrated Report relies on samples collected at only one station: 902TCI15x Temecula Creek. Samples collected at one location on a water body segment are not representative of the water body segment as a whole.

**Request:** Remove LOE 3158 and LOE 26472 from Decision ID 5728. Change the Final Listing Decision for Decision ID 5728 to “Do Not List on 303(d) List.”

***Total Dissolved Solids: Decision ID 5767 has no valid LOEs to support the listing of total dissolved solids.***

Decision 5767 presents two LOEs to support listing for total dissolved solids, but neither of these LOEs are valid, as discussed below.

LOE 3154 does not contain valid data references or QA information. The data cannot be assessed and therefore the LOE does not meet the requirements of Listing Policy Sections 6.1.4 and 6.1.5 and is invalid.

LOE 3154 does not meet the requirements of Section 6.1.5.3 of the Listing Policy because only one sample was collected. Section 6.1.5.3 states, “if the majority of samples were collected on a single day or during a single short-term natural event...the data shall not be used as the primary data set supporting the listing decision.” In addition, data must be “scientifically defensible” and there must be “documentation to support the conclusion that results are reproducible” under Section 6.1.4 of the Listing Policy. One sample on one date can neither provide documentation that the results are reproducible nor prove that the result is scientifically defensible, especially in conjunction with missing QA data. Also, the use of only one sample fails the binomial model statistical evaluation found in Table 3.2 of the Listing Policy.

LOE 3155 also does not contain valid data references or QA information. The data cannot be assessed and therefore the LOE does not meet the requirements of Listing Policy Sections 6.1.4 and 6.1.5.

**Request:** Remove LOE 3154 and LOE 3155 from Decision ID 5767. Change the Final Listing Decision for Decision ID 5767 to “Do Not List on 303(d) List.”



## **Murrieta Creek**

***Chlorpyrifos: Decision ID 16371 contains no valid LOEs to support the listing of chlorpyrifos, and USEPA restrictions have effectively eliminated the pollutant sources.***

Decision ID 16956 relies upon Section 3.6 of the Listing Policy, which requires one valid LOE to support the listing. LOE 6460 is invalid, as discussed below.

LOE 6460 is invalid because the exceedances stated are based on a numerical standard that is not listed in the Basin Plan, and no supporting evidence of adverse effects to beneficial uses is provided to indicate that the narrative WQO is not being met. The BPO for chlorpyrifos is narrative, stating pesticides may not “adversely affect beneficial uses” and “may not be present at levels... harmful to human health, wildlife, or aquatic organisms”. It does not have a numerical limit on which to base an exceedance. Ten samples were collected from Murrieta Creek between Fall 2004 and Spring 2006, but only one of those samples had a result above the suggested USEPA ambient freshwater quality criteria for chlorpyrifos of 0.041 µg/L. Without numerical objectives in the Basin Plan, the analytical results cannot be considered exceedances without concurring evidence that the narrative requirements of the Basin Plan are not being met.

Such concurring evidence regarding the narrative BPO is lacking, both in the Decision and in fact. Results from TIEs conducted from 2007 through 2008 did not find evidence that chlorpyrifos is the cause of toxicity in freshwater organisms in Murrieta and Temecula Creeks. Toxicity to *Ceriodaphnia dubia*, a water flea sensitive to chlorpyrifos, was not detected at Murrieta Creek between Fall 2004 and Spring 2009. Thus, chlorpyrifos does not appear to be adversely affecting beneficial uses or harming aquatic organisms and has not exceeded the narrative BPO for Murrieta Creek. In addition, no toxicity to *Ceriodaphnia dubia* implies that LOE 6462 does not meet the requirements of Table 3.1 of the Listing Policy and therefore is invalid.

Furthermore, urban chlorpyrifos use was effectively phased out when the USEPA, pursuant to Section 6(f) of the FIFRA, issued an “End Use Products Cancellation Order of Chlorpyrifos” on January 25, 2005. Chlorpyrifos concentrations have been decreasing steadily in samples since 2004, and this trend is likely to continue as a result of the USEPA ban and reduced use.

The USEPA restrictions have effectively addressed any prior water quality concerns posed by chlorpyrifos, rendering the 303(d) listing and subsequent TMDL unnecessary, as the sources of this pollutant have already been virtually eliminated. This conclusion is supported by the chemical analysis and toxicity testing results, as described above. Listing chlorpyrifos on the 303(d) List for Murrieta Creek places undue bureaucratic and financial burdens on the Permittees and the Regional Board.

**Request:** Remove LOE 6460 from Decision ID 16371. Change the Final Listing Decision for Decision ID 16371 to “Do Not List on 303(d) List.”

***Copper: Decision ID 4873 contains no valid LOEs to support the listing for copper.***

Decision ID 4873 relies upon Section 3.1 of the Listing Policy which requires one valid LOE to support the listing. Six LOEs are provided in the Draft Integrated Report; however, all LOEs presented are invalid, as discussed below. Furthermore, total copper concentrations have not exceeded BPOs in samples collected by the Permittees from Murrieta Creek according to the 2004-2005, 2005-2006, 2006-2007, 2007-2008 and 2008-2009 Santa Margarita Monitoring Annual Reports.

LOE 3124 fails to meet the requirements of Table 3.1 of the Listing Policy, which requires two exceedances. Only one exceedance was noted in the LOE.

LOE 3124 fails to meet the requirements of Section 6.1.5.3 of the Listing Policy because only one sample was collected. Section 6.1.5.3 states that “if the majority of samples were collected on a single day or during a single short-term natural event... the data shall not be used as the primary data set supporting the listing decision.” Also, “samples should be available from two or more seasons or from two or more events when effects on WQO exceedances would be expected to be clearly manifested”.

LOE 3124 fails to meet the requirements of Section 6.1.4 of the Listing Policy. Data must be “scientifically defensible” and there must be “documentation to support the conclusion that results are reproducible” under Section 6.1.4. One sample on one date without data references can neither provide documentation that the results are reproducible nor prove the results are scientifically defensible.

LOE 3125 fails to meet the requirements of Table 3.1 of the Listing Policy, which requires two exceedances. Only one exceedance is noted in the LOE.

LOE 3125 fails to meet the requirements of Section 6.1.5.3 of the Listing Policy because only one sample was collected. Section 6.1.5.3 states that “if the majority of samples were collected on a single day or during a single short-term natural event...the data shall not be used as the primary data set supporting the listing decision.” Also, “samples should be available from two or more seasons or from two or more events when effects on WQO exceedances would be expected to be clearly manifested”.

LOE 3125 fails to meet the requirements of Section 6.1.4 of the Listing Policy. Data must be “scientifically defensible” and there must be “documentation to support the conclusion that results are reproducible” under Section 6.1.4. One sample on one date without data references can neither provide documentation that the results are reproducible nor prove that the results are scientifically defensible.

LOE 3126 fails to meet the two-exceedance requirement of Table 3.1 of the Listing Policy. There were no exceedances of the copper BPO out of eleven samples collected at Murrieta Creek between 1997 and 2000.

LOE 3126 fails to meet the requirements of Section 6.1.4 of the Listing Policy. Data must be “scientifically defensible” and there must be “documentation to support the conclusion that results are reproducible” under Section 6.1.4. Data references were not provided.

LOE 3127 fails to meet the requirements of Table 3.1 of the Listing Policy, which requires four exceedances out of 43 samples. No exceedances were observed according to the LOE. Furthermore, LOE 3127 meets delisting requirements stated in Table 4.1 of the Listing Policy, which allows up to 3 exceedances out of 43 samples for delisting.

LOE 26545 is invalid because it fails to demonstrate that copper is causing an exceedance of the WQO. The WQO states that “All waters shall be free of toxic substances in concentrations that are toxic to...aquatic life.” TIEs conducted during 2007 and 2008 did not find evidence that copper caused the toxicity observed in the samples. LOE 3126 and 3127 (discussed separately above) provide evidence that copper levels are not high enough to be the cause of low IBI scores, since no BPO exceedances were present.

LOE 6461 fails to take into account wildfires that may have affected dissolved copper levels at Murrieta Creek, in violation of Section 6.1.5.1 of the Listing Policy, which states, “*environmental conditions in a water body or at a site must be taken into consideration (e.g., the occurrence of wildfires).*”

The presence of copper in Murrieta Creek between 2004 and 2006 may have been due to the severe fire season in 2003-2004, as described in the Annual Reports, the data source cited for the LOE. Large fires have been linked to elevated copper and other pollutant levels in surface waters. For example, Ballona Creek in San Diego County showed indirect effects of fires with disproportionately high copper and zinc concentrations after the 2003 fires.<sup>7</sup> Where burns occur in residential areas, such as the 2007 Harris fire in Southern California, soil samples have been found to contain elevated levels of arsenic, lead, antimony, copper, zinc, and chromium.<sup>7,8</sup> Additional evidence of the effects of fires is provided by the elevated levels of dissolved copper detected at the Cole Creek reference station during the 2005-2006 monitoring year. There is no evidence that the impacts of these fires were considered for this LOE.

LOE 6461 fails to account for land uses changes. Listing Policy Section 6.1.5.1 requires land uses to be taken into consideration prior to listing a water body. Significant land use changes have occurred

<sup>7</sup> Southern California Coastal Water Research Project (SCCWRP) and Stein, E.D. Effects of Southern California Wildfires on Storm Water Metals and PAHs. SCCWRP Presentation to member agencies. January 2009.

<sup>8</sup> United States Geological Survey (USGS). Preliminary Analytical Results for Ash and Burned Soils from the October 2007 Southern California Wildfires. Open File Report 2007-1407, p. 2-3. 2007.



in the area tributary to this station over the past decade which may affect this proposed listing and have not been considered.

**Request:** Remove LOE 3124, LOE 3125, LOE 3126, LOE 26545, LOE 6461, and LOE 3127 from Decision ID 16371. Change the Final Listing Decision for Decision ID 4873 to “Do Not List on 303(d) List.”

***Phosphorus: Decision ID 4762 contains no valid LOEs to support the decision not to delist phosphorus.***

Decision ID 4672 relies upon Section 3.1 of the Listing Policy, which requires one valid LOE to support the listing. Three LOEs are provided in the Draft Integrated Report; however, all LOEs presented are invalid, as discussed below. Furthermore, data used in this LOE were from samples collected between 1997 and 2002. During this period of time, secondary effluent was being released into Murrieta Creek by Rancho California Water District; effluent discharges ceased in 2003.

LOE 26545 is invalid because it fails to demonstrate that phosphorous is causing an exceedance of the WQO. The WQO states that “All waters shall be free of toxic substances in concentrations that are toxic to...aquatic life.” Phosphorous is not a toxic substance; it is a necessary nutrient for aquatic life. TIEs conducted during 2007 and 2008 did not find evidence that phosphorous caused the toxicity observed in the samples.

LOE 3103 fails to meet the requirements of Section 6.1.4 of the Listing Policy. Data must be “scientifically defensible” and there must be “documentation to support the conclusion that results are reproducible” under Section 6.1.4. Data references were not provided.

LOE 3102 fails to meet the requirements of Section 6.1.4 of the Listing Policy. Data must be “scientifically defensible” and there must be “documentation to support the conclusion that results are reproducible” under Section 6.1.4. Data references were not provided.

There is no information provided demonstrating that phosphorus should have initially been added to the 303(d) List. No new information was used to determine the delisting status. This leads to the conclusion that the decision not to delist is based on the same evidence that was initially used for the 2006 listing. The LOEs provided are not valid, and phosphorus should be delisted based on a lack of sufficient evidence supporting the initial listing.

**Request:** Remove LOE 26545, LOE 3103, and LOE 3102 from Decision ID 4672. Provide rationale as stated above to remove 2006 listing for phosphorous; delist Murrieta Creek for phosphorous.

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***Iron: Decision ID 4735 contains no valid LOEs to support the previous 303(d) listing of iron.***

Decision 4735 presents one LOE to support listing for iron, but this LOE is not valid, as discussed below.

LOE 3148 fails to meet the requirements of Section 6.1.4 of the Listing Policy. Data must be “scientifically defensible” and there must be “documentation to support the conclusion that results are reproducible” under Section 6.1.4. Data references were not provided.

LOE 3148 does not meet the requirements of Listing Policy Section 6.1.5.1, which requires land uses to be considered prior to listing a constituent. Substantial changes in land uses and local programs to control discharges have occurred in the area tributary to this station over the past decade which may affect this proposed listing. Only three exceedances have been measured during the past decade, and these samples were collected from storm runoff during a seven-week period between December 2003 and February 2004. There are no subsequent data to confirm the existence of exceedances. Further, the Evaluation Guideline used in the LOEs is a 1976 reference that does not support the toxicity criteria of a 4-day iron concentration average of 1,000 µg/L.

**Request:** Remove LOE 3148 from Decision ID 4735. Remove 2008 listing for iron based on invalid 2006 decision.

***Manganese: Decision ID 4734 contains no valid LOEs to support the previous 303(d) listing of manganese.***

Decision 4734 presents one LOE to support listing for manganese, but this LOE is not valid, as discussed below.

LOE 3147 fails to meet the requirements of Section 6.1.4 of the Listing Policy. Data must be “scientifically defensible” and there must be “documentation to support the conclusion that results are reproducible” under Section 6.1.4. Data references were not provided.

LOE 3147 does not meet the requirements of Listing Policy Section 6.1.5.1, which requires land uses to be considered prior to listing a constituent. Substantial changes in the land uses and local programs to control discharges have occurred in the area tributary to this station over the past decade which may affect this proposed listing.

**Request:** Remove LOE 3147 from Decision ID 4734. Remove 2008 listing for manganese based on invalid 2006 listing.

***Nitrogen: Decision ID 4763 contains no valid LOEs to support the decision not to delist.***

Decision 4763 presents three LOEs to support continuing the existing listing for nitrogen, but none of these LOEs are valid, as discussed below, and nitrogen should be delisted.

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LOE 3146 fails to meet the requirements of Table 3.2 of the Listing Policy, which requires two exceedances. There were no exceedances of nitrogen out of the four samples collected at Murrieta Creek between 1997 and 1999.

LOE 3146 fails to meet the requirements of Section 6.1.4 of the Listing Policy. Data must be “scientifically defensible” and there must be “documentation to support the conclusion that results are reproducible” under section 6.1.4. Data references were not provided. Furthermore, data used in this LOE were from samples collected between 1999 and 2002. During this period of time, secondary effluent was being released into Murrieta Creek by Rancho California Water District; effluent discharges ceased in 2003.

LOE 26545 is invalid because it fails to demonstrate that nitrogen is causing an exceedance of the WQO. The WQO states that “All waters shall be free of toxic substances in concentrations that are toxic to...aquatic life.” Nitrogen is not a toxic substance; it is a necessary nutrient for aquatic life. TIEs conducted during 2007 and 2008 did not find evidence that nitrogen caused the toxicity observed in the samples.

LOE 3104 fails to meet the requirements of Table 3.2 of the Listing Policy, which requires two exceedances. There were no exceedances of nitrogen out of the four samples collected at Murrieta Creek between 1997 and 1999.

LOE 3104 fails to meet the requirements of Section 6.1.4 of the Listing Policy. Data must be “scientifically defensible” and there must be “documentation to support the conclusion that results are reproducible” under Section 6.1.4. Data references were not provided.

**Request:** Remove LOE 3146, LOE 26545, and LOE 3104 from Decision ID 4763. Provide rationale as stated above to remove 2006 listing for nitrogen; delist Murrieta Creek for nitrogen.

### **Long Canyon Creek**

Data references to the Permittees’ Watershed Annual Reports for Long Canyon Creek are incorrect. Using the Water Body ID provided, EnviroMapper for Water<sup>9</sup> on the USEPA website shows a creek that is not sampled by the Permittees’ monitoring program. Thus, it is inappropriate to use the Permittee’s data for pollutant listings of a waterbody that is not monitored by the Permittees.

**Request:** Remove constituent listings (phosphorus, total nitrogen as N, chlorpyrifos, *E. coli*, fecal coliform, iron, and manganese) and references in the draft fact sheets that list monitoring data provided by the Permittees (Watershed Annual Reports 2004-2005 and 2005-2006).

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<sup>9</sup> <http://www.epa.gov/waters/enviromapper>

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### **Santa Gertrudis Channel**

***Chlorpyrifos: Decision ID 17032 contains no valid LOEs to support the listing for chlorpyrifos, and USEPA restrictions have effectively eliminated the pollutant sources.***

Decision ID 17032 relies upon Section 3.6 of the Listing Policy, which requires one valid LOE to support the listing. LOE 7029 was provided, however, this LOE is invalid as described below.

LOE 7029 is invalid because the exceedances stated are based on a numerical standard that is not listed in the Basin Plan, and no supporting evidence of adverse effects to beneficial uses is provided to indicate that the narrative WQO is not being met. The BPO for chlorpyrifos is narrative, stating pesticides may not “adversely affect beneficial uses” and “may not be present at levels... harmful to human health, wildlife, or aquatic organisms”. It does not have a numerical limit on which to base an exceedance. Without numerical objectives in the Basin Plan, the analytical results cannot be considered exceedances without concurring evidence that the narrative requirements of the Basin Plan are not being met.

Such concurring evidence regarding the narrative BPO is lacking, both in the Decision and in fact. Results from TIEs conducted from 2007 through 2008 did not find evidence that chlorpyrifos is the cause of toxicity in freshwater organisms in Murrieta Creek. Toxicity to *Ceriodaphnia dubia*, a water flea sensitive to chlorpyrifos, was not detected at Murrieta Creek between Fall 2004 and Spring 2009. Thus, chlorpyrifos does not appear to be adversely affecting beneficial uses or harming aquatic organisms and has not exceeded the narrative BPO for Santa Gertrudis Channel. In addition, no toxicity to *Ceriodaphnia dubia* implies that LOE 7029 does not meet the requirements of Table 3.1 of the Listing Policy and therefore is invalid.

Furthermore, chlorpyrifos was effectively phased out when the USEPA, pursuant to section 6(f) of the FIFRA, issued an “End Use Products Cancellation Order of Chlorpyrifos” on January 25, 2005. Chlorpyrifos concentrations have been decreasing steadily in samples since 2004, and this trend is likely to continue as a result of the ban and reduced use.

The USEPA restrictions have effectively addressed any prior water quality concerns posed by chlorpyrifos, rendering the 303(d) listing and subsequent TMDL unnecessary, as the sources of this pollutant have already been virtually eliminated. This conclusion is supported by the chemical analysis and toxicity testing results, as described above. Listing chlorpyrifos on the 303(d) List for Murrieta Creek places undue bureaucratic and financial burdens on the Permittees and the Regional Board.

**Request:** Remove LOE 7029 from Decision ID 17032. Change the Final Listing Decision for Decision ID 17032 to “Do Not List on 303(d) List.”

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**Copper:** *Decision ID 17033 contains no valid LOEs to support the listing for copper.*

Decision 17033 presents one LOE to support listing for copper, but this LOE is not valid, as discussed below.

LOE 7030 is invalid because it fails to take into account wildfires that may have affected dissolved copper levels at Santa Gertrudis Channel, in violation of Section 6.1.5.1 of the Listing Policy, which states, “*environmental conditions in a water body or at a site must be taken into consideration (e.g., the occurrence of wildfires).*”

The presence of copper in Santa Gertrudis Channel between 2004 and 2006 may have been due to the severe fire season in 2003-2004, as described in the Permittees’ Annual Reports, the data source cited for the LOE. Large fires have been linked to elevated copper and other pollutant levels in surface waters. For example, Ballona Creek in San Diego County showed indirect effects of fires with disproportionately high copper and zinc concentrations after the 2003 fires.<sup>10</sup> Where burns occur in residential areas, such as the 2007 Harris fire in Southern California, soil samples have been found to contain elevated levels of arsenic, lead, antimony, copper, zinc, and chromium.<sup>10,11</sup> Additional evidence of the effects of fires is provided by the elevated levels of dissolved copper detected at the Cole Creek reference station during the 2005-2006 monitoring year. There is no evidence that the impacts of these fires were considered for this LOE.

LOE 7030 fails to meet the requirements of Section 6.1.5.3 of the Listing Policy because samples were collected from only one location. Section 6.1.5.3 states that “if the majority of samples were collected on a single day or during a single short-term natural event... the data shall not be used as the primary data set supporting the listing decision.” Also, “samples should be available from two or more seasons or from two or more events when effects on WQO exceedances would be expected to be clearly manifested”.

LOE 7030 fails to account for land use changes. Listing Policy Section 6.1.5.1 requires land uses to be taken into consideration prior to listing a water body. Significant land use changes have occurred in the area tributary to this station over the past decade which may affect this proposed listing and have not been considered.

**Request:** Remove LOE 7030 from Decision ID 17033. Change the Final Listing Decision for Decision ID 17033 to “Do Not List on 303(d) list.”

<sup>10</sup> Southern California Coastal Water Research Project (SCCWRP) and Stein, E.D. Effects of Southern California Wildfires on Storm Water Metals and PAHs. SCCWRP Presentation to member agencies. January 2009.

<sup>11</sup> United States Geological Survey (USGS). Preliminary Analytical Results for Ash and Burned Soils from the October 2007 Southern California Wildfires. Open File Report 2007-1407, p. 2-3. 2007.



***Iron: Decision ID 17042 contains no valid LOEs to support the listing for iron.***

Decision 17042 presents one LOE to support listing for iron, but this LOE is not valid, as discussed below.

LOE 7031 fails to take into account wildfires that may have affected metals concentrations in Santa Gertrudis Channel, in violation of Section 6.1.5.1 of the Listing Policy, which states, “*environmental conditions in a water body or at a site must be taken into consideration (e.g., the occurrence of wildfires).*”

The presence of iron in Santa Gertrudis Channel between 2004 and 2006 may have been due to the severe fire season in 2003-2004, as described in the Annual Reports cited as the data source for the LOE. Large fires have been linked to elevated concentrations of metals in surface waters. For example, Ballona Creek in San Diego County showed indirect effects of fires with disproportionately high copper and zinc concentrations after the 2003 fires.<sup>12</sup> Where burns occur in residential areas, such as the 2007 Harris fire in Southern California, soil samples have been found to contain elevated levels of arsenic, lead, antimony, copper, zinc, and chromium.<sup>12,13</sup> Additional evidence of the effects of fires is given by the elevated levels of dissolved copper detected at the reference station, Cole Creek, during the 2005-2006 monitoring year. It is reasonable to assume that wildfires may have been at least in part responsible for elevated levels of iron as well, as metals tend to respond similarly to changes in environmental conditions. There is no evidence that the impacts of these fires were considered for this LOE.

LOE 7031 does not meet the spatial representation requirements of Section 6.1.5.2 of the Listing Policy, which states that samples should be representative of the water body. The Draft Integrated Report relies on samples collected at only one station in Santa Gertrudis Creek. Samples collected at one location on a water body segment are not representative of the water body segment as a whole.

LOE 7031 fails to account for land uses changes. Listing Policy Section 6.1.5.1 requires land uses to be taken into consideration prior to listing a water body. Significant land use changes have occurred in the area tributary to this station over the past decade which may affect this proposed listing and have not been considered.

**Request:** Remove LOE 7031 from Decision ID 17042. Change the Final Listing Decision for Decision ID 17042 to “Do Not List on 303(d) List.”

<sup>12</sup> Southern California Coastal Water Research Project (SCCWRP) and Stein, E.D. Effects of Southern California Wildfires on Storm Water Metals and PAHs. SCCWRP Presentation to member agencies. January 2009.

<sup>13</sup> United States Geological Survey (USGS). Preliminary Analytical Results for Ash and Burned Soils from the October 2007 Southern California Wildfires. Open File Report 2007-1407, p. 2-3. 2007.

## **Warm Springs Creek**

***Iron: Decision ID 16529 contains no valid LOEs to support the listing for iron.***

Decision 16529 presents one LOE to support listing for iron, but this LOE is not valid, as discussed below.

LOE 7038 fails to take into account wildfires that may have affected metals concentrations in Warm Springs Creek, in violation of Section 6.1.5.1 of the Listing Policy, which states, “*environmental conditions in a water body or at a site must be taken into consideration (e.g., the occurrence of wildfires).*”

The presence of iron in Warm Springs Creek between 2004 and 2006 may have been due to the severe fire season in 2003-2004, as described in the Annual Reports cited as the data source for the LOE. Large fires have been linked to elevated concentrations of metals in surface waters. For example, Ballona Creek in San Diego County showed indirect effects of fires with disproportionately high copper and zinc concentrations after the 2003 fires.<sup>14</sup> If burns occur in residential areas, soil samples have also contained greater levels of arsenic, lead, antimony, copper, zinc, and chromium; this was observed following the 2007 Harris fire in Southern California.<sup>14,15</sup> Additional evidence of the effects of fires is given by the elevated levels of dissolved copper detected at the reference station, Cole Creek during the 2005-2006 monitoring year. It is reasonable to assume that wildfires may have been at least in part responsible for elevated levels of iron as well, as metals tend to respond similarly to changes in environmental conditions. There is no evidence that the impacts of these fires were considered for this LOE.

LOE 7038 does not meet the spatial representation requirements of Section 6.1.5.2 of the Listing Policy, which states that samples should be representative of the water body. The Draft Integrated Report relies on samples collected at only one station in Santa Gertrudis Creek. Samples collected at one location on a water body segment are not representative of the water body segment as a whole.

LOE 7038 fails to account for land uses changes. Listing Policy Section 6.1.5.1 requires land uses to be taken into consideration prior to listing a water body. Significant land use changes have occurred in the area tributary to this station over the past decade which may affect this proposed listing and have not been considered in this LOE.

**Request:** Remove LOE 7038 from Decision ID 16529. Change the Final Listing Decision for Decision ID 16529 to “Do Not List on 303(d) List.”

<sup>14</sup> Southern California Coastal Water Research Project (SCCWRP) and Stein, E.D. Effects of Southern California Wildfires on Storm Water Metals and PAHs. SCCWRP Presentation to member agencies. January 2009.

<sup>15</sup> United States Geological Survey (USGS). Preliminary Analytical Results for Ash and Burned Soils from the October 2007 Southern California Wildfires. Open File Report 2007-1407, p. 2-3. 2007.

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The District appreciates the opportunity to provide these comments. If you require additional information or have further questions, please contact Jason Uhley (951.955.1273, [juhley@rcflood.org](mailto:juhley@rcflood.org)) or Arlene Chun (951.955.1330, [abchun@rcflood.org](mailto:abchun@rcflood.org)) of my staff.

Very truly yours,

Mark H. Wills

MARK. H. WILLS  
Chief of Regulatory Division

cc: Ms. Cynthia Gorham-Test, RWQCB-San Diego Region  
Santa Margarita Region Co-Permittees

ABC:cw  
P8/127627