County of San Diego

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August 12, 2016

Ms. Xueyuan Yu
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REVIEW AND COMMENT OF THE DRAFT 2014 CALIFORNIA SECTION (§) 303(D)/305(B) INTEGRATED REPORT

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Dear Ms. Yu:

REVIEW AND COMMENT OF THE DRAFT 2014 CALIFORNIA SECTION (§) 303(D)/305(B) INTEGRATED REPORT

The County of San Diego (County) has reviewed the Draft 2014 California §303(d)/305(b) Integrated Report dated July 12, 2016. We appreciate the opportunity to provide comments to the San Diego Regional Water Quality Control Board (Regional Board) on this important document. We thank the Regional Board staff for their high level of interaction with stakeholders and their responsiveness to stakeholders' questions. This letter first provides an overview of our key comments and then provides specific comments organized by constituent or water body condition.

General Comments

1. Inconsistent Application of Listing Policy for Conventional and Other Pollutants
   Listings for conventional and other pollutants do not appear to follow the guidance presented in Table 3.2 of the Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (Listing Policy). The exceedances of conventional and other pollutants needed to place a water body on the §303(d) list should be greater than or equal to five. However, numerous listings, including total nitrogen, total phosphorus, benthic community, and surfactants are included on the Draft 2014 §303(d) list based on exceedance counts of less than five. More detail is provided below regarding comments for specific decision IDs.

2. Water Quality Improvement Plans Address Beaches and Creek Bacteria TMDL
   A number of new listings for indicator bacteria have been added to the Draft 2014 §303d list. Water bodies located in the tributaries of the Beaches and Creek Bacteria TMDL should be classified as Category 4a.

3. Incorrect Application of the Listing Policy by Combining Sediment and Water Toxicity Sample Results
   In many of the proposed toxicity listings, sediment and water toxicity samples were combined to determine the final exceedance count and listing determination. The toxicants found in water and sediment are likely to be different. Additionally, the species used to test toxicity are different for water and sediment. The Listing Policy states: "A water segment shall be placed on the section 303(d) list if the water segment exhibits statistically significant water or sediment toxicity using the binomial distribution…" The Listing Policy does not state water and/or sediment toxicity.

4. Consider Recent Data Before Making A Listing Decision
   Although acknowledged by the Regional Board, the age of some of the data used in the listing analysis was greater than 10 years for numerous waterbodies and therefore not likely representative of current water quality conditions. Inclusion of data greater than 10 years old, and arguably greater than five years old, will likely not result in a §303d list that is representative of water quality conditions in San Diego County and therefore not useful in the development of water quality priorities. If the Regional Board is required to list a waterbody using available data, please review listings off-cycle with additional available information not included in the Draft 2014 §303(d) listing evaluation.

5. Inconsistent Use of Biological Indices in Listing Decisions
   The Listing Policy states that appropriate reference sites must be identified for each waterbody assessment of biological data (Section 6.1.5.8 of the Listing Policy). Per the Draft Clean Water Act Sections 305(b) and 303(d) Integrated Report for the San Diego Region (Integrated Report) the Regional Board states that the California Stream Condition Index (CSCI) incorporates reference stations by utilizing an expected value and that for this listing cycle, the CSCI was used to assess stream beneficial use attainment. In the Draft 2014 §303d list, recommendations were made to list both Santa Margarita River (Lower) and Sweetwater River (Upper) based on CSCI scores below the threshold of 0.79, but in both cases the number of samples is below the minimum of five required to list a waterbody for a conventional or other pollutant per Table 3.2 of the Listing Policy.

6. Incorrect use of Nutrient Concentrations as an LOE for Benthic Community Listings
   Secondary lines of evidence (LOEs) were presented for the benthic community listings that included nutrients. Note that total nitrogen and total phosphorus, while indicative of conditions that may cause eutrophication or harmful algal blooms, do not directly cause toxicity in the water. The Listing Policy, Section 3.9, states that the biological communities must be compared to reference sites and that the results be associated with "*water or sediment concentrations of pollutants including but not limited to chemical concentrations, temperature, dissolved oxygen, and trash.*" Nutrients such as total nitrogen and total phosphorus are not included on this list of associated pollutants in the Listing Policy, and should not be included as secondary LOEs.

7. CSCI Impairment Threshold of 0.79 is Overly Conservative
   The CSCI is a relatively new indexing tool that has recently been published for use in California (Mazor, et al 2016) and includes a predictive approach to estimate expected reference conditions at a sampling location. While the tool is an improvement over

historic benthic community index tools (i.e., Index of Biotic Integrity (IBI) and the observed to expected ratio (O/E)) there are still specific details of the tool that are currently under revision (e.g., use of "distinct" or "non-distinct" Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT) Level 1 or 2 taxonomic data). The revisions are ongoing and do affect CSCI results. In addition, the Regional Board's selection of the threshold for impairment of a CSCI < 0.79 is overly conservative and the basis is unclear. Mazor et al 2016, Table 6 indicates that 52% of sites located in "high activity" areas of the South Coast received CSCI scores of <0.63. Combining "moderate" and "high activity," 32% of sites in the South Coast were <0.63. A CSCI ≥ 0.79 is considered "possibly altered," and only 40% of samples in Table 6 met this criterion in the South Coast. For the purposes of developing the §303(d) list the Regional Board should use the category "likely altered" (CSCI≥0.63), which would protect the biologic beneficial use and allow stakeholders to accurately prioritize impaired waterways. Further, the use of the CSCI is not consistent with the policy currently under development at the State Water Resources Control Board for biological objectives and is not explicitly included in the Listing Policy.

8. Selenium De-Listing Letters not Considered in Draft 2014 303(d) List
   In May 2014, the County of San Diego submitted five comment letters related to the 2010 §303d listings for selenium in five creeks. Additional data were collected by the County of San Diego for use in the de-listing evaluation and compared to the California Toxics Rule (CTR) Freshwater Criterion of 0.005 mg/L. The County requests that these data be considered as part of the 2014 §303(d) list development process.

Specific Comments by Constituent

1. Nitrogen
   Numerous pollutant-waterbody combinations were included on the Draft 2014 §303(d) list for total nitrogen based on sample sizes of four or less, with exceedance counts of four or less. Per Table 3.2 of the Listing Policy, the number of exceedances required to list a waterbody for a conventional or other pollutant is at least five. The 14 waterbodies listed below do not meet the listing criteria and should be removed from the 2014 §303(d) list.

Water Body	HSA	Decision ID	LOE Notes
Sandia Creek	902.22	43855	2 of 4 samples exceeded
Santa Margarita River (Upper)	902.22	43136	2 of 4 samples exceeded
Keys Creek	903.12	43330	4 of 4 samples exceeded
Buena Creek	904.32	44287	4 of 4 samples exceeded
Cloverdale Creek	905.32	44129	3 of 3 samples exceeded
Poway Creek	906.2	43500	4 of 4 samples exceeded
Alvarado Creek	907.11	42850	2 of 4 samples exceeded
Forester Creek	907.13	42728	4 of 4 samples exceeded
Los Coches Creek	907.14	43119	4 of 4 samples exceeded
Chocolate Creek	907.33	42678	3 of 3 samples exceeded
Telegraph Canyon Creek	909.11	32905	4 of 4 samples exceeded
Sweetwater River, Upper	909.21	43750	2 of 4 samples exceeded
Poggi Canyon Creek	910.2	43074	3 of 3 samples exceeded
Tecate Creek	911.23	43237	4 of 4 samples exceeded

LOE = Line of Evidence

Recommendation
Remove Sandia Creek, Santa Margarita River (Upper), Keys Creek, Buena Creek, Cloverdale Creek, Poway Creek, Alvarado Creek, Forester Creek, Los Coches Creek, Chocolate Creek, Telegraph Canyon Creek, Sweetwater River (Upper), Poggi Canyon Creek, and Tecate Creek from the Draft 2014 §303(d) List for Total Nitrogen because each waterbody segment has less than the minimum of five samples required by the Listing Policy for conventional and other pollutants.

2. Phosphorus
New pollutant-waterbody combinations were included on the Draft 2014 §303(d) list for total phosphorus based on exceedance counts of four or less. Per Table 3.2 of the Listing Policy, the number of exceedances required to list a waterbody for a conventional or other pollutant is at least five. The 12 waterbodies listed below do not meet the listing criteria and should not be included on the 2014 §303(d) list.

Water Body	HSA	Decision ID	LOE Notes
San Luis Rey River, Upper (East of I-15)	903.12	35149	4 of 4 samples exceeded
Buena Creek	904.32	33504	4 of 4 samples exceeded
Encinitas Creek	904.51	33095	4 of 4 samples exceeded
Reidy Canyon Creek	904.62	32634	2 of 2 samples exceeded
Sutherland Reservoir	905.53	43121	4 of 9 samples exceeded
Forester Creek	907.13	44281	3 of 10 samples exceeded
Los Coches Creek	907.14	44602	2 of 4 samples exceeded
San Vicente Creek	907.22	43874	2 of 5 samples exceeded
Chocolate Creek	907.33	43144	2 of 3 samples exceeded
Otay Reservoir, Lower	910.31	43242	3 of 28 samples exceeded
Tecate Creek	911.23	42788	4 of 4 samples exceeded
Barrett Lake	911.3	42328	4 of 9 s samples exceeded

LOE = Line of Evidence

Recommendation
Remove San Luis Rey River (Upper), Buena Creek, Encinitas Creek, Reidy Canyon Creek, Sutherland Reservoir, Forester Creek, Los Coches Creek, San Vicente Creek, Chocolate Creek, Otay Reservoir (Lower), Tecate Creek, and Barrett Lake from the Draft 2014 §303(d) List for Total Phosphorus because each waterbody segment has less than the minimum of five samples required by the Listing Policy for conventional and other pollutants.

3. Surfactants
Agua Hedionda Creek, Escondido Creek, and San Diego River (Lower) were listed for surfactants (MBAS) based on one LOE, and each listing referenced the Copermittee monitoring data from 2001 to 2008 as the basis of the listing. Further examination of the available data resulted in the following comments:

- Agua Hedionda Creek, Decision ID 47481; the single LOE states that eight of 11 samples collected by the San Diego County Municipal Copermittees (Copermittees) between 2001 and 2008 at AHC-MLS and AHC-TWAS-1 exceeded the criterion for surfactants (MBAS) (0.5 mg/L). According to the latest Copermittee monitoring report (Transitional Monitoring and Assessment Program Report for the Carlsbad Watershed Management Area (2014-2015)), zero of two dry weather and zero of two

wet weather samples at AHC-TWAS-1 exceeded the criteria between 2001 and October 2010. Additionally, between 2001 and October 2010, zero of three dry weather and zero of 31 wet weather samples collected at AHC-MLS exceeded the criterion. A total of 38 samples were collected between 2001 and October 2010, with zero exceedances of the criterion for surfactants (MBAS). Table 3.2 of the Listing Policy states that a minimum of seven exceedances are needed to list a waterbody for a conventional or other pollutant with 38 samples. These data do not meet the listing criteria for listing Agua Hedionda Creek for surfactants (MBAS).

- Escondido Creek, Decision ID 47747; LOE 78020 states that nine of 12 samples collected by the Copermittees between 2001 and 2008 exceeded the criterion for surfactants (MBAS) (0.5 mg/L) at ESC-MLS and ESC-TWAS-1. According to the latest Copermittee monitoring report (Transitional Monitoring and Assessment Program Report for the Carlsbad Watershed Management Area (2014-2015)), zero of two samples exceeded the criterion during dry weather and zero of two samples exceeded the criterion during wet weather at ESC-TWAS-1 between 2001 and October 2010. Additionally, between 2001 and October 2010, zero of three samples exceeded the criterion during dry weather and zero of 22 samples exceeded the criterion during wet weather at ESC-MLS. A total of 29 samples were collected between 2001 and October 2010 in the Escondido subwatershed (904.6) and none of those samples exceeded the criterion for surfactants (MBAS). Table 3.2 of the Listing Policy states that a minimum of five exceedances are needed to list a waterbody for a conventional or other pollutant. These data do not meet the listing criteria for listing Escondido Creek for surfactants (MBAS).

- San Diego River (Lower), Decision ID 51367; According to LOE 78088, four wet weather samples were collected at SDR-MLS, and two of those four samples exceeded the criterion of 0.5 mg/L for surfactants (MBAS) between 2001 and 2008. Further examination of the Copermittee monitoring data collected between 2001-2008 and 2008-2010 shows that zero of two samples collected during dry weather (January 2010 and May 2010) and two of 21 samples collected during wet weather (between February 2002 and November 2009) at SDR-MLS exceeded the criterion. A total of two out of 23 samples exceeded the criterion between 2001 and October 2010 (Transitional Monitoring and Assessment Program Report for the San Diego River Watershed Management Area (2014-2015)). Table 3.2 of the Listing Policy states that a minimum of five exceedances are needed to list a waterbody for a conventional or other pollutant. These data do not meet the listing criteria for listing San Diego River (Lower) for surfactants (MBAS).

<u>Recommendations</u>

- Recommend removal of Agua Hedionda Creek for surfactants (MBAS) from the Draft 2014 §303(d) list; the total number of exceedances for Agua Hedionda Creek is zero of 38 (AHC-MLS and AHC-TWAS-1).
- Recommend removal of Escondido Creek for surfactants (MBAS) from the Draft 2014 §303(d) list; the total number of exceedances for Escondido Creek (ESC-MLS and ESC-TWAS-1) was zero of 29.
- Recommend removal of San Diego River (Lower) for surfactants (MBAS) from the Draft 2014 §303(d) list; the total number of exceedances for SDR-MLS was two of 23 samples, which does not meet the criteria for listing.

4. Chlorpyrifos

Los Peñasquitos Creek and Lower Sweetwater River were placed on the Draft 2014 §303d list for Chlorpyrifos. Both listings were based on the Copermittee data collected between 2001 and 2008. In addition to the Chlorpyrifos results included in the analysis, toxicity at Los Peñasquitos Creek was used as a secondary line of evidence. Re-evaluation of the data available up to October 2010 and to 2015 results in the following findings:

- Los Peñasquitos Creek, Decision ID 47517; LOE ID 77794 notes that two exceedances of the Chlorpyrifos criteria were observed from samples collected at LPC-MLS. The two exceedances occurred during wet weather in 2002, and since 2002 there have been no exceedances of the Chlorpyrifos standard (Transitional Monitoring and Assessment Program Report for the Los Peñasquitos Creek Watershed Management Area (2014-2015)) during either wet or dry weather. Re-analysis of wet weather monitoring data collected between 2001 and October 2010 results in two exceedances out of 16 samples, and inclusion of samples collected to 2015 results in two exceedances out of 22 samples. Two dry weather samples were collected in 2007-2008 and one sample in September 2010, and Chlorpyrifos was not detected in any sample. Note that six samples were not included in the analysis because the method reporting limit was greater than the criterion of 0.014 µg/L. Although the Listing Policy does not place a limit on the age of data used in assessments, data over 10 years old are likely not representative of current water quality conditions. Additionally, no exceedances (and no detections) of Chlorpyrifos have been observed since the two exceedances in 2002. See Attachment A for monitoring results.

  In addition to the LOE based on Chlorpyrifos results, toxicity was also included as a LOE (LOE ID 74173). Seven of 27 results were found to exhibit toxicity; however, no toxicity was observed for the two samples which exceeded the criteria for Chlorpyrifos (November and December 2002).

  Therefore, based on analysis of Chlorpyrifos and toxicity data, inclusion of Los Peñasquitos Creek on the Draft 2014 §303d list for Chlorpyrifos is not representative of current water quality conditions. Los Peñasquitos Creek should not be included on the 2014 §303d list for Chlorpyrifos.

- Sweetwater River (Lower), Decision ID 53457; LOE ID 77930 states that three of 14 samples exceeded the Chlorpyrifos criterion at SR-MLS and SR-TWAS-1 between 2001 and 2008. Re-analysis of available data (Transitional Monitoring and Assessment Program Report for the San Diego Bay Watershed Management Area (2014-2015)) shows that there have been no exceedances of the Chlorpyrifos criterion at SR-MLS or SR-TWAS-1 since 2003. Between 2001 and 2010, three of 16 wet weather samples and zero of two dry weather samples exceeded the criterion at SR-MLS, and zero of two samples for both wet and dry weather exceeded the criterion at SR-TWAS-1 for a total of three out of 22 samples exceeding the Chlorpyrifos criterion. Given the age of the exceedances, it is prudent to consider the available data from 2001 through 2014. During this time period, three of 21 wet weather samples and zero of seven dry weather samples exceeded the criterion at SR-MLS, and zero of six samples exceeded the criterion at SR-TWAS-1 during both wet and dry weather. The total number of exceedances between 2001 and 2014 was three out of 40 samples. This does not meet the criteria for listing presented in Table 3.1 of the Listing Policy. See Attachment A for monitoring results.

Recommendations

- Recommend Los Peñasquitos Creek should not be included on the 2014 §303(d) list for Chlorpyrifos, two of 19 samples exceeded the criterion between 2001 and October 2010; and two of 28 samples exceeded the criterion up to 2015. Additionally, no samples have exceeded or been detected since 2002. Per Section 3.10 item 6 of the Listing Policy, Chlorpyrifos is not expected to exceed the criterion by the next listing cycle and should be removed from the 2014 §303d list.
- Recommend Sweetwater River, Lower should not be included on the 2014 §303d list. Three of 22 samples exceed the criterion between 2001 and 2010, however only three of 40 samples exceeded the criterion between 2001 and 2014. Additionally, no exceedances of Chlorpyrifos have been observed in Sweetwater River at the two monitoring stations since 2003. Per Section 3.10 item 6 of the Listing Policy, Chlorpyrifos is not expected to exceed the criterion by the next listing cycle and should be removed from the 2014 §303d list.

5. Diazinon

Diazinon was banned from sale in 2005, and since that time significant decreases in concentrations of this pesticide have been observed in receiving water bodies in San Diego County. Due to the inclusion of data greater than 10 years old in the Draft 2014 §303d list evaluation, the number of exceedances for this pesticide meets listing criteria in some water bodies. However, due to the ban on sales of Diazinon in the past 11 years, evaluation of the data should be limited to data collected since the time of the ban. Additionally, sections 3.10 and 4.10 of the Listing Policy allow for the inclusion of trend evaluation during §303d list development. The following water bodies are currently proposed for listing on the Draft 2014 §303d list for Diazinon; however there have been no exceedances of the criteria for Diazinon since the early 2000's at any of the stations included in the analysis.

- Agua Hedionda Creek, Decision ID 47453; LOE ID 72872 states that nine of 28 samples exceeded the criterion for Diazinon at AHC-MLS and AHC-TWAS-1 between 2001 and 2008. Re-analysis of available data (Transitional Monitoring and Assessment Program Report for the Carlsbad Watershed Management Area (2014-2015)) shows that there have been zero exceedances of the criterion for Diazinon since 2006 at these two monitoring locations (zero of 18 samples during wet and dry weather). Based on the age of the exceedances and significantly decreasing trend results (step six of section 3.10 of the Listing Policy) this pollutant is not likely to exceed the criterion in the future. Therefore, Diazinon should not be included on the 2014 §303d list for Agua Hedionda Creek. See Attachment A for a table of monitoring results.

- Escondido Creek, Decision ID 47734; LOE ID 73584 states that five of 35 samples exceeded the criterion for Diazinon at ESC-MLS and ESC-TWAS-1 between 2001 and 2008. Re-analysis of available data (Transitional Monitoring and Assessment Program Report for the Carlsbad Watershed Management Area (2014-2015)) shows that there have been zero exceedances of the criterion for Diazinon since 2003 at these two monitoring locations (zero of 35 samples during wet and dry weather). Based on the age of the exceedances (pre-dating the ban on Diazinon) and significantly decreasing trend results (step six of section 3.10 of the Listing Policy) this pollutant is not likely to exceed the criterion in the future. Therefore, Diazinon should not be included on the 2014 §303d list for Escondido Creek. See Attachment A for a table of monitoring results.

- Los Peñasquitos Creek, Decision ID 47555; LOE ID 74219 states that three of 27 samples exceeded the criterion for Diazinon at LPC-MLS and LPC-TWAS-2 between 2001 and 2008. Re-analysis of available data (Transitional Monitoring and Assessment Program Report for the Los Peñasquitos Creek Watershed Management Area (2014-2015)) shows that there have been zero exceedances of the criterion for Diazinon since 2002 up to 2014 at LPC-MLS (zero of 33 samples during wet and dry weather). LPC-TWAS-2 is located in a separate waterbody and therefore was not included in this reanalysis. Based on the age of the exceedances (pre-dating the ban on Diazinon) and significantly decreasing trend results (step six of section 3.10 of the Listing Policy) this pollutant is not likely to exceed the criterion in the future. Therefore, Diazinon should not be included on the 2014 §303d list for Los Peñasquitos Creek. See Attachment A for a table of monitoring results.

- San Diego River (Lower), Decision ID 49392; LOE ID 75599 states that two of 19 samples exceeded the criterion for Diazinon at SDR-MLS between 2001 and 2008. Re-analysis of available data (Transitional Monitoring and Assessment Program Report for the San Diego River Watershed Management Area (2014-2015)) shows that there have been zero exceedances of the criteria for Diazinon since 2002 at this monitoring location (zero of 30 samples during wet and dry weather). Based on the age of the exceedances (pre-dating the ban on Diazinon) and significantly decreasing trend results (step six of section 3.10 of the Listing Policy) this pollutant is not likely to exceed the criterion in the future. Therefore, Diazinon should not be included on the 2014 §303d list for the Lower San Diego River. See Attachment A for a table of monitoring results.

- Sweetwater River (Lower), Decision ID 53461; LOE ID 77012 states that five of 27 samples exceeded the criterion for Diazinon at SR-MLS and SR-TWAS-1 between 2001 and 2008. Re-analysis of available data (Transitional Monitoring and Assessment Program Report for the San Diego Bay Watershed Management Area (2014-2015)) shows that there have been zero exceedances of the criterion for Diazinon since 2003 at these two monitoring locations (zero of 38 samples). Based on the age of the exceedances (pre-dating the ban on Diazinon) and significantly decreasing trend results (step six of section 3.10 of the Listing Policy) this pollutant is not likely to exceed the criterion in the future. Therefore, Diazinon should not be included on the 2014 §303d list for the Lower Sweetwater River. See Attachment A for a table of monitoring results.

Recommendations

- Recommend Agua Hedionda Creek be removed from the Draft 2014 §303d list due to the ban on the sale of Diazinon, the significantly decreasing trends in Diazinon since 2005, no observed exceedances of Diazinon since 2006 (zero of 18 samples), and the likelihood that Diazinon will not exceed the criterion in the future.
- Recommend Escondido Creek be removed from the Draft 2014 §303d list due to the ban on the sale of Diazinon, the significantly decreasing trends in Diazinon since 2005, no observed exceedances of Diazinon since 2003 (zero of 35 samples), and the likelihood that Diazinon will not exceed the criterion in the future.
- Recommend Los Peñasquitos Creek, be removed from the Draft 2014 §303d list due to the ban on the sale of Diazinon, the significantly decreasing trends in Diazinon since

2005, no observed exceedances of Diazinon since 2002 (zero of 33 samples) and the likelihood that Diazinon will not exceed the criterion in the future.

- Recommend San Diego River, Lower be removed from the Draft 2014 §303d list due to the ban on the sale of Diazinon, the significantly decreasing trends in Diazinon since 2005, no observed exceedances of Diazinon since 2002 (zero of 30 samples) and the likelihood that Diazinon will not exceed the criterion in the future.
- Recommend Sweetwater River, Lower be removed from the Draft 2014 §303d list due to the ban on the sale of Diazinon, the significantly decreasing trends in Diazinon since 2005, no exceedances of Diazinon since 2003 (zero of 38 samples) and the likelihood that Diazinon will not exceed the criterion in the future.

6. Malathion

Five lines of evidence were used as the basis to list Escondido Creek for Malathion (Decision ID 47742) on the Draft 2014 §303d list. One LOE was based on the data collected by the Copermittees from 2001-2008, and one LOE was based on data collected by the County of San Diego between 2003 and 2009. The remaining LOEs compare the same two datasets with a different criterion for Malathion (drinking water standard of 500 µg/L), and one LOE presents toxicity findings from the Copermittee dataset. Based on re-analysis of the Copermittee data ((Transitional Monitoring and Assessment Program Report for the Carlsbad Watershed Management Area (2014-2015)), additional data are available to complete the data analysis from 2001 through October 2010. Below are the findings from this re-analysis.

- LOE ID: 73609; the fact sheet states that three of 24 samples exceeded the Malathion criterion during wet and dry weather at ESC-MLS and ESC-TWAS-1 between 2001 and 2008. Inclusion of data up to October of 2010 results in three exceedances out of 26 samples. However, inclusion of data up to 2014 results in a finding of three of 38 samples exceeding the criterion for Malathion (not enough to list, per Table 3.1 of the Listing Policy). In addition, no samples have exceeded the Malathion criterion at the two stations since 2007, and due to the low levels observed since 2007 this pollutant is not likely to exceed the criterion in the future. See Attachment A for a table of monitoring results.

- LOE ID: 73610; Zero of seven samples exceeded the criterion for Malathion at two locations in Escondido Creek between 2006 and 2009 (Escondido Creek at El Camino Del Norte and Escondido Creek at East Country Club Drive).

- LOE ID: 73566; Toxicity was observed in seven of 27 samples collected as part of the County of San Diego Copermittee monitoring program between 2001 and 2008. Further examination of the data available up to October 2010 shows that although toxicity was observed in some samples, Malathion levels were below the detection limit when toxicity was observed during dry weather at ESC-MLS, and no toxicity was observed during wet weather when Malathion levels were above the criterion (i.e., Malathion levels were below the detection limit when toxicity was observed during wet weather). See Attachment A for a table of monitoring results.

Recommendation

Based on the findings above, it is recommended that the listing for Malathion at Escondido Creek be removed from the Draft 2014 §303d list because no exceedances have been observed since 2007. Although three of 26 samples exceeded the criterion between 2001 and 2010, the number of exceedances does not warrant a listing using the dataset available up to

2014 (three of 38 samples). In addition, the pollutant is not likely to exceed the criterion based on historical monitoring results and trend patterns, and no toxicity was associated with exceedances of Malathion in the sampling results.

7. Toxicity

   Santa Margarita River (Lower), Decision ID: 43103. Six LOEs are included as the basis for inclusion of the Lower Santa Margarita River on the 2014 §303d list for toxicity. Of the six LOEs, two reference data collected in the Santa Margarita Lagoon (LOE ID 76545 and 72834) which should not be included in the listing assessment for the Lower Santa Margarita River, as they are located in a downstream waterbody. Of the four remaining LOEs, two are for sediment and two are for water.

   LOEs 76546 and 30287 present sediment samples collected as part of the Surface Water Ambient Monitoring Program (SWAMP), and no toxicity is exhibited for either set of samples. Therefore, sediment toxicity should not be included on the 2014 §303d list for the Lower Santa Margarita River.

   LOEs 76544 and 7501 do indicate toxicity at a frequency that would cause the Lower Santa Margarita River to be listed for toxicity. Therefore, the Lower Santa Margarita River §303d listing should be revised to indicate impairment for water toxicity only, and the sediment toxicity listing should be removed.

   San Diego River (Lower), Decision ID 51375. Four LOEs were used as the basis of the listing for toxicity in the Lower San Diego River. Of the four LOEs, one (LOE ID 75571) is for sediment collected as part of Bight ’08 and should not be included in the evaluation (as the data were collected in the San Diego River Estuary, and not the freshwater lower San Diego River). The other three LOEs are based on toxicity in water. However, LOEs 25293 and 75570 are presenting the same data separately and counting the results twice. LOE 25293 is based on the Copermittee data presented in the San Diego County Municipal Copermittees Urban Runoff Monitoring Report, 2007. LOE 745570 is based on a longer time-range of the same dataset (2001-2008). The first LOE (25293) should be removed. The revised total exceedance count should be six of 23 water samples exhibiting toxicity, not eight of 38.

Recommendations

- Recommend that reference to sediment toxicity in the Lower Santa Margarita River be removed from Decision ID 43103 because the samples included in the analysis are downstream of the waterbody (LOE 76545 and 72834) and no sediment toxicity is observed for LOE 76546 and 30287.
- Recommend that the reference to sediment toxicity be removed from the San Diego River (Lower) Decision ID51375 because LOE 75571 was based on data collected from the San Diego River estuary (downstream of the waterbody in this Decision ID). No other LOEs were included in the Decision ID referencing sediment toxicity.
- Recommend revision of the assessment results for San Diego River (Lower); should be revised to six of 23 water samples exhibiting toxicity, not eight of 38.

8. Benthic Community Effects

   Numerous listings for benthic community were added to the Draft 2014 §303d list. The following two listings did not meet the threshold for listing based on Table 3.2 of the Listing Policy, which states that greater than or equal to five samples must be below the CSCI threshold of 0.79 to list the water bodies. All LOEs are assessed for the Santa Margarita River (Lower) Decision ID in this comment letter as a specific example of how toxicity and

Chlorpyrifos LOEs were used in the listing assessment without consideration of temporal and seasonal requirements necessary to conduct the data analysis. For example, Chlorpyrifos exceedances from 2003 during wet weather are not likely indicative of the potential for beneficial use impairments during dry weather in 2007 collection of BMI data. Additionally, as stated in the general comments, the use of total nitrogen and total phosphorus LOEs does not support benthic community listings in general.

- Santa Margarita River (Lower) Decision ID: 49149 is based on nine LOEs:
  - LOE ID: 79700 states that two of six CSCI scores were below a threshold of 0.79. The Listing Policy states, per Table 3.2, that a minimum of five exceedances are required to list a water body for a conventional or other pollutant. Further, the LOE states that "more recent data from the Stormwater Monitoring Condition was not included in this listing cycle but confirms this listing." Examination of SMC data collected after 2008 shows that no samples have been collected downstream of Deluz Creek. All samples have been collected upstream of Deluz Creek, which is considered Santa Margarita River, Upper. Of the samples collected for both the SMC program and National Pollutant Discharge Elimination System (NPDES) program upstream of Deluz Creek, all CSCI results are above the threshold of 0.79.
  - LOE ID: 76471 notes that seven of eight bioassessment samples collected at SMR-CP as part of the County of San Diego Copermittee program had IBI results of less than 40. The Integrated Report notes that the CSCI will be used to determine whether or not benthic community impairment is occurring, because the index more accurately compares observed benthic community results to "reference" conditions. The use of the IBI score should not be used as a LOE to assess benthic community impairment, as a better measure has been adopted (CSCI).
  - LOE ID: 77848 includes an assessment of Chlorpyrifos data collected at SMR-MLS. Note that the data used in the assessment, and the samples that exceeded the Chlorpyrifos criterion, were collected during wet weather sampling. Bioassessment occurs during dry weather. During dry weather sampling at SMR-MLS, no exceedances of the Chlorpyrifos criterion were observed. This LOE does not support a benthic community listing for Santa Margarita River, Lower.
  - LOE ID: 7497 states that 5 of 6 samples at SMR-MLS exceeded the criterion of 1 mg/L for total nitrogen. Note that total nitrogen, in and of itself, does not cause toxicity. Nitrate and nitrite do have the potential to cause toxicity, but were not observed at levels above Basin Plan objectives at SMR-MLS during either wet or dry weather. Total nitrogen is an indication of the potential for eutrophication, which could cause benthic impairments. However, total nitrogen does not directly impact the benthic community, and therefore does not support a benthic community listing for Santa Margarita River, Lower.
  - LOE ID 7498 states that three of five samples exceeded the criterion for total nitrogen at SMR-MLS. As noted in comments for LOE ID 7497, total nitrogen does not itself cause toxicity. This LOE does not support listing for benthic community at Santa Margarita River, Lower.
  - LOE ID: 7501 includes an assessment of toxicity results collected in 2003 at station Santa Margarita 10 as part of the SWAMP program. One of three results showed toxicity, but no toxicity identification evaluation (TIE) was conducted to determine the pollutant causing the toxicity. There is no direct

link between toxicity observed at this station and any benthic community results, as the data were not collected at the same time.

- LOE ID: 76544 presents the toxicity results from SMR-MLS collected as part of the County of San Diego Copermittee program. Five of 11 samples exhibited toxicity, however the five samples with toxicity were collected during wet weather, and bioassessment is conducted during dry weather. There is no evidence that wet weather toxicity directly affects the bioassessment community during the dry season. Therefore, this LOE does not support a listing for benthic community at Santa Margarita River, Lower.
- LOE ID: 7500 notes that five of five samples collected during 2003 as part of the County of San Diego Copermittees monitoring program at SMR-MLS exceeded the total phosphorus water quality criterion of 0.1 mg/L. Total phosphorus is not a toxicant, and does not directly cause toxicity to the benthic community. Note that total phosphorus can contribute to harmful algal blooms and other water quality issues that may indirectly affect benthic community health, but total phosphorus does not directly degrade the benthic community. Therefore, this LOE does not support a listing for benthic community at Santa Margarita River, Lower.
- LOE ID: 7499 presents the same data as LOE ID 7500 (County of San Diego Copermittee dataset), with an additional year of monitoring. Recommend that LOE ID 7500 be dropped. See comments presented in LOE 7500, total phosphorous does not directly impact the benthic community, and therefore this LOE does not support a listing for benthic community at Santa Margarita River, Lower.

- Sweetwater River, Upper, Decision ID 51753
  - Numerous LOEs were included in the fact sheet for benthic community at Sweetwater River, Upper. Of note, the combined evaluation of LOEs 79676 and 79675 shows that four of nine samples were below the threshold of 0.79 for listing benthic community. Per Table 3.2 of the Listing Policy, this is not enough samples to justify listing Sweetwater River (Upper), for benthic community. A minimum of five samples below the threshold is required. The IBI was also used as in LOEs 76859 and 72768. It is not clear why the Regional Board is using the IBI and the CSCI for LOEs for benthic community listings, as the Staff Report clearly states that CSCI will be used as the basis of listing decisions. Recommend removal of Sweetwater River, Upper for benthic community as the number of samples below the threshold is not equal to or greater than five.

Recommendation

It is recommended that both Santa Margarita River (Lower) and Sweetwater River (Upper) be removed from the Draft 2014 §303d list for benthic community, as the number of samples below the threshold of 0.79 for the CSCI was not equal to or greater than five for either waterbody.

9. Selenium

   In May 2014, the County submitted five comment letters related to the 2010 §303d listings for selenium in five creeks. Additional data were collected by the County for use in the de-listing evaluation and compared to the California Toxics Rule (CTR) Freshwater Criterion of 0.005 mg/L.

The results are as follows:

- Keys Creek: 0 of 28 samples exceeded the criterion
- San Marcos Creek: 0 of 31 samples exceeded the criterion
- Escondido Creek: 0 of 32 samples exceeded the criterion
- Los Coches Creek: 0 of 31 samples exceeded the criterion
- Lower Sweetwater River: 0 of 31 samples exceeded the criterion

The original letters are included as Attachment B to this comment letter. The data used as the basis of the de-listing evaluations are included in each letter.

Recommendation

It is recommended that Keys Creek, San Marcos Creek, Escondido Creek, Los Coches Creek, and Lower Sweetwater River be removed from the Draft 2014 §303d list for selenium, as data collected in each creek support de-listing based on California's Listing Policy.

We thank you in advance for your consideration of our comments. If you have any questions or require additional information, please feel free to contact Jo Ann Weber at (858) 495-5317 or e-mail at JoAnn.Weber@sdcounty.ca.gov.

Sincerely,

TODD E. SNYDER, LUEG Program Manager
Watershed Protection Program

Attachments: Database to support delisting recommendations
County of San Diego Selenium Delisting letters

Dry Weather Historical Monitoring Table for AHC-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data							Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015		
					09/18/07-09/19/07	05/13/08-05/14/08	-	-	-	-	-	-	-		
Physical Chemistry															
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.93	8.01	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	0%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,610	1,844									
2007, 2013	Water Temperature	Celsius	NA		19.60	17.00									
2007, 2013	Turbidity	NTU	20	1. Basin Plan	<2	1.2J								0%	NA[1]
Bacteriological															
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	40	**260**								50%	NA[1]
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	300	**2,300**								50%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		3,000	2,300									
Nutrients															
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.02J	<0.03								0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.11	5.6								0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05								0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.56	0.98									
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.67	**6.62**								50%	NA[1]
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	**0.11**	**0.11**								100%	NA[1]
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.1	**0.11**								50%	NA[1]
General Chemistry															
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	<2								0%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	13	14								0%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		4.9	5.8									
2007, 2013	Total Organic Carbon	mg/L	NA		6	5.7									
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	1.7J	<5								0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.049	0.055								0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,460**	**1,438**								100%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	3.2J	1.7J								0%	NA[1]
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		453.6	492.4									
Total Metals															
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0003J	0.0003J								0%	NA[1]
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0027	0.0032								0%	NA[1]
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004								0%	NA[1]
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0001J	0.0001J								0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0015	0.0019								0%	NA[1]
2007, 2013	Lead	mg/L	NA		0.00006J	0.00006J									
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0025	0.0022								0%	NA[1]
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0002J	0.0007								0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0034	0.0038								0%	NA[1]
Dissolved Metals															
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0003J	0.0003J								0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0029	0.0031								0%	NA[1]
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004								0%	NA[1]
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0001J	<0.0005								0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0012	0.0017								0%	NA[1]
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001								0%	NA[1]
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0024	0.0021								0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.0002J	0.0007									
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0023	0.0031								0%	NA[1]
Organophosphorus Pesticides															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002								0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	0.0031J								0%	NA[1]
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006								0%	NA[1]
Toxicity															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100								0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100								0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100								0%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100								0%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		**50**	100								50%	NA[1]

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for AHC-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Water Quality Benchmark is based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for AHC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					09/18/07-09/19/07	05/13/08-05/14/08	-	-	09/14/10-09/15/10	05/09/11-05/10/11	-	09/05/12-09/06/12	05/14/13 - 05/15/13	-	09/10/14	05/13/15		
Physical Chemistry																		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.73	8.49	No Samples Collected	No Samples Collected	8.08	8.13	No Samples Collected	7.63	7.82	No Samples Collected	8.06	8.06	0%	0.23
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,480	3,390			3,530	3,140		3,990	3,040		4397	3487		
2007, 2013	Water Temperature	Celsius	NA		20.70	23.00			26.00	19.80		24.4	25.3		28.59	22.65		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	3.1	1.2J			1.3	0.61		0.91	1.8		2.2	2.2	0%	0.08
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**300**	**300**			**800**	**500**		**1,700**	**230**		≤78AE	**2200**	88%	5.06
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**500**	**1,300**			**1,300**	230		300	**800**		**2200**	**500**	75%	2.23
2007, 2013	Total Coliform	MPN/100 mL	NA		3,000	2,800			11,000	3,000		3,000	1,700		4900	2400		
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.03J	<0.03			<0.1	<0.1		0.048J	0.064J		<0.10	<0.10	0%	0.05
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.21	0.8			0.44	0.97		0.091J	0.31		0.15	0.36	0%	0.04
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05			0.019J	0.017J		<0.1	0.014J		0.051J	0.019J	0%	0.03
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.7	0.7			0.34	0.41		0.42	0.12		0.41	0.24		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.91	**1.5**			0.799	**1.397**		0.511	0.444		0.611	0.619	25%	0.85
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.02J	0.05			0.0061J	0.023		0.024	0.03		0.0071J	0.02	0%	0.23
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.02J	0.033J			0.0069J	0.028		0.028	0.038		0.046	0.023	0%	0.28
General Chemistry																		
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	<2			0.58J	1.3J		1.5J	0.84J		<2.0	<2.0	0%	0.10
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	12	19			9.4	29		17	3.7J		18	17	0%	0.13
2007, 2013	Dissolved Organic Carbon	mg/L	NA		4.2	5.2			2.4	3.6		3.2	2.1		3.3	3.2		
2007, 2013	Total Organic Carbon	mg/L	NA		5.1	9			2.6	3.5		2.5	2.3		3.6	3.1		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5			<5	<5		1.9J	<5		<5.0	<5.0	0%	0.24
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.044	0.041			0.033J			0.031J	0.048J		0.11	0.054	0%	0.10
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,900**	**2,076**			**2,200**	**2,200**		**2,500**	**2,200**		**2800**	**2200**	100%	4.52
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	7.5	2J			1	2		2	3		3	2	0%	0.05
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		531.4	548.7			1,100	1,000		1,100	989		1320	1090		
Total Metals																		
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0002J	0.0002J			0.0001J	0.00019J		0.00008J	0.00018J		0.000095J	0.00020J	0%	0.03
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0041	0.0046			0.0028	0.0034		0.0032	0.0029		0.0025	0.0022	0%	0.32
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			0.000028J	0.000042J		0.00007J	0.00011		<0.00010	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0002J	0.0005			0.00013J	0.00011J		<0.0002	0.00019J		0.000098J	0.00013J	0%	0.00
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.002	0.001			0.00072	0.0017		0.00029J	0.0018		0.00061	0.0021	0%	0.00
2007, 2013	Lead	mg/L	NA		<0.0001	<0.0001			0.000035J	0.00009J		0.00008J	0.000054J		0.000037J	<0.00020		
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0025	0.0031			0.0033	0.0049		0.002	0.0069		0.0022	0.0067	0%	0.04
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0008	0.0015			0.00075	0.00076		0.00055	0.0016		0.00033J	0.0024	0%	0.22
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.01	0.001			0.0014J	0.002J		0.0036J	0.0022J		0.0015J	0.0018J	0%	0.00
Dissolved Metals																		
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0002J	0.0002J			0.000098J	0.00018J		0.00008J	0.00017J		0.00011J	0.00021J	0%	0.03
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0039	0.0044			0.0028	0.0034		0.003	0.0025		0.0023	0.002	0%	0.02
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000029J	0.000043J		0.00007J	0.000084J		<0.00010	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0001J	0.0001J			0.000042J	0.000051J		<0.0002	0.000073J		0.000034J	0.000074J	0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0011	0.0012			0.00097	0.0018		0.00039J	0.0016		0.00059	0.0025	0%	0.04
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			0.000034J	0.000023J		0.00006J	<0.0002		0.000045J	<0.00020	0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0023	0.003			0.0037	0.0048		0.002	0.0065		0.0022	0.0069	0%	0.02
2007, 2013	Selenium	mg/L	NA		0.0008	0.0015			0.00068	0.00074		0.00053	0.0014		0.00031J	0.0025		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0034	0.0008			0.0017J	0.0025J		0.0035J	0.0025J		0.0014J	0.0022J	0%	0.01
Organophosphorus Pesticides																		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.29
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.09
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.05
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**50**	100			**50**	<6.25CF		**50**	100		**50**	**<25**	71%	2.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		**6.25**	100			100	**50**		**50**	100		**50**	**50**	63%	3.38

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for AHC-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
AE - Analysis error.
CF-Control failed; results not used in assessment.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NR -Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for BVC-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					09/18/07-09/19/07	05/13/08-05/14/08	-	-	09/14/10-09/15/10	05/09/11-05/10/11	-	09/05/12-09/06/12	05/01/13-05/02/13	-	09/10/15	05/13/15		
Physical Chemistry							No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected				
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.97	8.65			8.35	8.23		7.62	8.04		7.95	8.18	0%	0.33
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,620	19			2,430	1,913		2,540	1,984		2,651	2,122		
2007, 2013	Water Temperature	Celsius	NA		20.80	20.20			19.10	20.80		22.3	18.8		23.07	17.51		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	3	4			0.85	3.2		1.2	2		2	2.4	0%	0.12
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**1,100**	80			130	80		**900**	**300**		**<330AE**	**3,400**	63%	5.23
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	80	80			130	130		170	170		**790**	**1,100**	25%	0.83
2007, 2013	Total Coliform	MPN/100 mL	NA		8,000	13,000			5,000	2,300		3,000	30,000		13,000	2,200		
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.03J	0.1			<0.1	<0.1		<0.1	<0.1		<0.10	<0.10	0%	0.05
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.53	1.3			0.58	1.7		0.32	0.24		0.11	0.11	0%	0.06
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05			<0.1	<0.1		<0.1	<0.15		0.030J	<0.10	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.98	1.1			0.28	0.41		0.54	0.75		0.26	0.51		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**1.51**	**2.40**			0.86	**2.11**		0.86	0.99		0.4	0.62	38%	1.22
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.1	0.07			0.029	0.065		0.032	0.058		0.054	0.081	0%	0.61
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.09	0.07			0.028	0.074		0.041	0.065		0.073	0.091	0%	0.67
General Chemistry																		
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	<2			1.6J	0.74J		1.4J	1.2J		<2.0	<2.0	0%	0.11
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	11	17			7.1	12		16	14		17	24	0%	0.12
2007, 2013	Dissolved Organic Carbon	mg/L	NA		4.1	5.3			2.8	4		3.2	3.5		4	7.4		
2007, 2013	Total Organic Carbon	mg/L	NA		5.1	5.2			3	3.7		2.7	2.1		4.1	7.5		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	1.1J	<5			<5	<5		<5	1.9J		<5.0	1.9J	0%	0.22
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.044	0.034			0.031J			0.06	0.043J		0.11	0.077	0%	0.11
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,357**	**1,394**			**1,400**	**1,400**		**1,500**	**1,500**		**1,700**	**1,300**	100%	2.89
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	14.8	4.7J			6	8		12	7		10	4	0%	0.14
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		365	360.6			650	670		639	646		729	190		
Total Metals																		
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0004J	0.0003J			0.00023J	0.00025J		0.0002J	0.00028J		0.00025J	0.00046J	0%	0.05
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0078	0.0075			0.0066	0.006		0.0071	0.0064		0.0062	0.0047	0%	0.65
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			0.000032J	0.000037J		0.00009J	0.00005J		<0.00010	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0002J	0.0001J			0.00036	0.00036		0.00009J	0.00029		0.00033	0.00029	0%	0.01
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0016	0.0022			0.0014	0.0023		0.00088	0.0018		0.0013	0.0025	0%	0.00
2007, 2013	Lead	mg/L	NA		0.0002	0.0002			0.00018J	0.00019J		0.00009J	0.00023		0.00025	0.000044J		
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0014	0.0014			0.0024	0.0031		0.0013	0.0014		0.0014	0.0039	0%	0.02
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0010	0.0018			0.00074	0.001		0.00072	0.00078		0.0006	0.0016	0%	0.21
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0043	0.0043			0.0024J	0.0033J		0.0015J	0.0033J		0.0031J	0.0043J	0%	0.00
Dissolved Metals																		
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0004J	0.0003J			0.00023J	0.00024J		0.0002J	0.00026J		0.00024J	0.00049J	0%	0.05
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0075	0.0074			0.0067	0.0058		0.0072	0.0061		0.0061	0.0046	0%	0.04
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000026J	0.000031J		0.00009J	0.00005J		<0.00010	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0001J	0.0001J			0.00011J	0.00016J		0.00009J	0.00012J		0.000059J	0.00013J	0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0012	0.0014			0.0012	0.0018		0.00096	0.0016		0.00077	0.0021	0%	0.06
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			0.000049J	0.000047J		0.00008J	0.00004J		0.000043J	<0.00020	0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0013	0.0014			0.002	0.0028		0.0013	0.0012		0.0012	0.0038	0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0009	0.0019			0.00073	0.001		0.00073	0.00075		0.00058	0.0017		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0020	0.0020			0.0024J	0.0029J		0.0031J	0.0022J		0.0014J	0.0038J	0%	0.01
Organophosphorus Pesticides																		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.29
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.09
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.05
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100			100	<6.25CF		100	100		100	100	0%	1.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			100	100		100	**50**		100	100	13%	1.13

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for BVC-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
AE - Analysis error.
CF - Control failed; results not used in assessment.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for ESC-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data							Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015		
					09/18/07-09/19/07	05/13/08-05/14/08	-	-	-	-	-	-	-		
Physical Chemistry															
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.40	8.30	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	0%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,552	1,619									
2007, 2013	Water Temperature	Celsius	NA		21.60	18.20									
2007, 2013	Turbidity	NTU	20	1. Basin Plan	1.1J	2								0%	NA[1]
Bacteriological															
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	80	140								0%	NA[1]
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**500**	40								50%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		2,200	1,100									
Nutrients															
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.04J	0.03								0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	5.63	6.37								0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.06	0.04J								0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.84	1.1									
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**6.53**	**7.51**								100%	NA[1]
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.05	0.07								0%	NA[1]
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.05	0.057								0%	NA[1]
General Chemistry															
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	<2								0%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	**150**	13								50%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		3.5	5									
2007, 2013	Total Organic Carbon	mg/L	NA		13	4.6									
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5								0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.036	0.049								0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,204**	**1,242**								100%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	1.5J	1J								0%	NA[1]
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		315.2	342.3									
Total Metals															
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0003J	0.0003J								0%	NA[1]
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0014	0.0014								0%	NA[1]
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004								0%	NA[1]
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0003J	0.0003J								0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0018	0.0017								0%	NA[1]
2007, 2013	Lead	mg/L	NA		0.00007J	0.0001									
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0011	0.0009								0%	NA[1]
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0021	0.0030								0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0048	0.0069								0%	NA[1]
Dissolved Metals															
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0003J	0.0003J								0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0015	0.0015								0%	NA[1]
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004								0%	NA[1]
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0003J	0.0003J								0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0016	0.0014								0%	NA[1]
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001								0%	NA[1]
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0010	0.0008								0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.0022	0.0031									
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0035	0.0039								0%	NA[1]
Organophosphorus Pesticides															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002								0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004								0%	NA[1]
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006								0%	NA[1]
Toxicity															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100								0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100								0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100								0%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100								0%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100								0%	NA[1]

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for ESC-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for ESC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015				
					09/18/07-09/19/07	05/13/08-05/14/08	-	-	09/21/10-09/22/10	05/11/11-05/12/11	-	09/12/12-09/13/12	05/14/13-05/15/13	-	09/23/14-09/24/14	01/07/15-01/08/15	05/05/15-05/06/15		
Physical Chemistry																			
2013	Dissolved Oxygen	mg/L	<6.0 (a)	1. Basin Plan			No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected	6.92	9.96	7.88	0%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.14	7.89			8.02	7.69		7.9	7.99		7.76	7.91	8.01	0%	0.15
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,988	1,813			2,610	2,510		2,420	1,656		2,829	2,311	2,436		
2007, 2013	Water Temperature	Celsius	NA		20.7	16.70			19.20	17.20		23.7	20.9		22.97	9.88	15.38		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	4.3	7.8			1.2	3.2		5.9	2.4		3.2	0.7	3.9	0%	0.18
Bacteriological																			
2007, 2013	Enterococcus	MPN/100 mL	151 (b)	1. Basin Plan	**230**	**230**			130	**230**		**300**	**1,700**		**790**	70	90	67%	2.77
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	260	90			230	20		230	220		78	40	110	0%	0.36
2007, 2013	Total Coliform	MPN/100 mL	NA		7,000	2,200			1,400	700		11,000	1,700		700	5,000	700		
Nutrients																			
2007, 2013	Ammonia as N	mg/L	(c)	6. USEPA Water Quality Criteria (Freshwater)	0.03J	0.21			<0.1	0.1		0.56	0.077J		<0.10	<0.10	<0.10	0%	0.08
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.85	0.05			1.4	0.14		1.4	1.2		0.15	2.6	0.61	0%	0.10
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05			<0.1	0.026J		<0.1	0.012J		0.015J	0.020J	<0.10	0%	0.03
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.7	1.5			0.44	0.4		1.3	0.21		0.4	0.32	0.36		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**2.55**	**1.55**			**1.84**	0.566		**2.7**	**1.422**		0.565	**2.94**	0.97	67%	1.68
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.09	0.03J			**0.11**	0.042		**0.16**	**0.11**		**0.13**	NR	**0.11**	63%	0.98
2013	Orthophosphate	mg/L	NA												0.13	AE	0.12		
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.08	**0.11**			**0.13**	0.088		**0.15**	**0.13**		**0.18**	**0.12**	**0.16**	78%	1.27
General Chemistry																			
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	<2			2.5	1.1J		0.73J	0.8J		<2.0	NR	<2.0	0%	0.11
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	9	30			20	18		11	7.4		9.8	NR	16	0%	0.13
2007, 2013	Dissolved Organic Carbon	mg/L	NA		4.3	5			3.6	3.2		4.8	3.8		3.8	4.5	5.1		
2007, 2013	Total Organic Carbon	mg/L	NA		5.4	5.2			3.5	3.2		4.7	3.5		4.1	4.6	5.1		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5			<5	<5		<5	<5		<5.0	NR	<5.0	0%	0.25
2013	Sulfate	mg/L	250 (a)	1. Basin Plan											**560**	**390**	**460**	100%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.051	0.05			0.021J	0.066		0.033J	0.056J		0.12	0.08	0.040J	0%	0.11
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan	**1,591**	**2,620**			**1,700**	**2,200**		**1,500**	**1,400**		**1,800**	**1,500**	**1,600**	100%	3.54
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	5.7	2.4J			4	3		11	11		13	3	12	0%	0.12
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		445.0	603.7			680	890		590	609		837	722	722		
Total Metals																			
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0003J	<0.0005			0.00019J	0.00005J		0.00019J	0.00036J		0.00014J	NR	0.00025J	0%	0.04
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0015	0.0026			0.00081	0.0019		0.00089	0.0012		0.0008	0.00084	0.00098	0%	0.13
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			0.000092J	0.00002J		0.00007J	0.00012		0.000025J	0.00023	0.00011	0%	0.02
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0003J	<0.0005			0.00036	0.00008J		0.00011J	0.00035		0.00041	0.00014J	0.00038	0%	0.01
2013	Chromium, Trivalent	mg/L	NA												<0.00050	<0.00020	0.00022		
2013	Chromium, Hexavalent	mg/L	0.010 (d)	1. Basin Plan											0.000043J	0.00012	0.00015	0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0029	<0.0008			0.0026	0.00031J		0.0015	0.0031		0.0033	0.0021	0.0029	0%	0.00
2013	Iron	mg/L	0.3 (a)	1. Basin Plan											**0.6**	0.13	**0.57**	67%	NA[1]
2007, 2013	Lead	mg/L	NA		0.0002	0.00005J			0.00028	0.00008J		0.00011J	0.00035		0.00036	0.00011J	0.00047		
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan											**0.27**	**0.21**	**0.3**	100%	NA[1]
2013	Mercury	mg/L	0.002 (d)	1. Basin Plan											<0.000050	0.0000040J	<0.000050	0%	NA[1]
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0017	0.0014			0.0029	0.0011		0.0012	0.0038		0.0013	0.0014	0.0015	0%	0.02
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0017	0.0002J			0.0012	0.00018J		0.0016	0.0019		0.0011	0.0014	0.0011	0%	0.23
2013	Silver	mg/L	0.1 (d)	1. Basin Plan											<0.00020	<0.00020	<0.00020	0%	NA[1]
2013	Thallium	mg/L	0.002 (d)	1. Basin Plan											<0.00020	<0.00020	<0.00020	0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0328	0.0032			0.0028J	0.0018J		0.0026J	0.0042J		0.0029J	0.0061	0.0048J	0%	0.00
Dissolved Metals																			
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0003J	<0.0005			0.00018J	0.00005J		0.00018J	0.00036J		0.00011J	NR	0.00029J	0%	0.04
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0015	0.0025			0.00076	0.0015		0.00085	0.0013		0.00069	0.00079	0.00091	0%	0.01
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000042J	0.00002J		0.00007J	0.000086J		<0.00010	0.00017	0.000051J	0%	0.02
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0001J	<0.0005			0.000083J	0.00002J		0.00009J	0.000098J		0.000043J	0.00011J	<0.00020	0%	0.00
2013	Chromium, Trivalent	mg/L	(e)	16. 40 CFR 131.38											AE	<0.0002	<0.0002	0%	NA[1]
2013	Chromium, Hexavalent	mg/L	0.011	16. 40 CFR 131.38											AE	0.00013H	0.00014	0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0022	<0.0008			0.0021	0.00007J		0.0014	0.0026		0.00098	0.0018	0.0022	0%	0.05
2013	Iron	mg/L	NA												<0.010	<0.010	0.0032J		
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			<0.0002	0.00003J		0.00002J	<0.0002		<0.00020	<0.00020	<0.00020	0%	0.01
2013	Manganese	mg/L	NA												0.11	0.18	0.15		
2013	Mercury	mg/L	NA												<0.000050	<0.000050	<0.000050		
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0014	0.0014			0.0026	0.001		0.0012	0.0037		0.0011	0.0013	0.0013	0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0017	0.0002J			0.0011	0.00022J		0.0016	0.0017		0.0011	0.0013	0.001		
2013	Silver	mg/L	(e)	16. 40 CFR 131.38											<0.00020	<0.00020	<0.00020	0%	0.04
2013	Thallium	mg/L	NA												<0.00020	<0.00020	<0.00020		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0256	0.0025			0.0021J	0.0032J		0.0032J	0.0025J		0.0012J	0.0039J	0.0019J	0%	0.01

Dry Weather Historical Monitoring Table for ESC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015				
					09/18/07-09/19/07	05/13/08-05/14/08	-	-	09/21/10-09/22/10	05/11/11-05/12/11	-	09/12/12-09/13/12	05/14/13-05/15/13	-	09/23/14-09/24/14	01/07/15-01/08/15	05/05/15-05/06/15		
Chlorinated Pesticides							No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected					
2013	2,4'-DDE	µg/L	NA												<0.0050	<0.0050	<0.0050		
2013	2,4'-DDT	µg/L	NA												<0.0050	<0.0050	<0.0050		
2013	4,4´-DDE	µg/L	NA												<0.0050	<0.0050	<0.0050		
2013	4,4´-DDT	µg/L	0.001	16. 40 CFR 131.38											<0.0050	<0.0050	<0.0050	0%	NA[1]
Organophosphorus Pesticides																			
2013	Azinphos methyl (Guthion)	µg/L	NA												<0.010	<0.010	<0.010		
2013	Bolstar	µg/L	NA												<0.010	<0.010	<0.010		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.29
2013	Coumaphos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Demeton-o	µg/L	NA												<0.010	<0.010	<0.010		
2013	Demeton-s	µg/L	NA												<0.010	<0.010	<0.010		
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.09
2013	Dichlorvos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Dimethoate	µg/L	NA												<0.010	<0.010	<0.010		
2013	Disulfoton	µg/L	NA												<0.010	<0.010	<0.010		
2013	Ethoprop	µg/L	NA												<0.010	<0.010	<0.010		
2013	Ethyl parathion	µg/L	NA												<0.010	<0.010	<0.010		
2013	Fensulfothion	µg/L	NA												<0.010	<0.010	<0.010		
2013	Fenthion	µg/L	NA												<0.010	<0.010	<0.010		
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.05
2013	Merphos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Methyl parathion	µg/L	NA												<0.010	<0.010	<0.010		
2013	Mevinphos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Naled	µg/L	NA												<0.010	<0.010	<0.010		
2013	Phorate	µg/L	NA												<0.010	<0.010	<0.010		
2013	Ronnel	µg/L	NA												<0.010	<0.010	<0.010		
2013	Stirophos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Tokuthion (Prothiofos)	µg/L	NA												<0.010	<0.010	<0.010		
2013	Trichloronate	µg/L	NA												<0.010	<0.010	<0.010		
Pyrethroids																			
2013	Allethrin	µg/L	NA												<0.002	<0.002	<0.002		
2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006											<0.002	<0.002	<0.002	0%	NA[1]
2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Cyhalothrin, Total Lambda	µg/L	0.2	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Cypermethrin	µg/L	0.344	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Danitol (Fenpropathrin)	µg/L	NA												<0.002	<0.002	<0.002		
2013	Deltamethrin/Tralomethrin	µg/L	NA												<0.002	<0.002	<0.002		
2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Fenvalerate	µg/L	NA												<0.002	<0.002	<0.002		
2013	Fluvalinate	µg/L	NA												<0.002	<0.002	<0.002		
2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006											<0.01	<0.01	<0.01	0%	NA[1]
2013	Prallethrin	µg/L	NA												<0.002	<0.002	<0.002		
2013	Resmethrin	µg/L	NA												<0.01	<0.01	<0.01		
Toxicity																			
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	NR	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	NR	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**50**	100			100	100		100	100		100	NR	100	13%	1.13
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	NR	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	**50**			100	**50**		100	100		100	NR	100	25%	1.25
2013	*Strongylocentrotus 96-hr*	TST	Pass/Fail												Pass	Pass	Pass		

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for ESC-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(b) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(c) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
AE - Analysis error.
H - Sample analyzed and/or extracted past the recommended holding time.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NR -Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for LPC-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data								Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	2013-2014	2014-2015		
					09/26/07-09/27/07	06/02/08-06/03/08	-	-	09/23/10	05/11/11-05/12/11	-	-	-	-		
Physical Chemistry																
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.00	8.28	No Samples Collected	No Samples Collected	7.75	8.28	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	0%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,420	3,920			4,340	3,790						
2007, 2013	Water Temperature	Celsius	NA		19.80	27.40			14.90	28.50						
2007, 2013	Turbidity	NTU	20	1. Basin Plan	2.23	2.3			0.62	0.22					0%	NA[1]
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**500**	**500**			40	<20					50%	NA[1]
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	220	230			20	172					0%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		6,000	1,300			5,000	1,300						
Nutrients																
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.02J	<0.03			<0.1	<0.1					0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	<0.05	0.03J			<0.1	0.066J					0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	0.04J			<0.1	0.031J					0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.98	0.56			0.22	0.3						
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.98	0.63			0.22	0.397					0%	NA[1]
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	<0.05	0.09			0.0018J	0.0067J					0%	NA[1]
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	<0.05	0.034J			<0.01	0.0065J					0%	NA[1]
General Chemistry																
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	<2			0.48J	1.7J					0%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	23	14			26	31					0%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		6.8	5.3			2.6	2.9						
2007, 2013	Total Organic Carbon	mg/L	NA		7.1	5.4			2.6	3.1						
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	1J	<5			<5	<5					0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.084	0.097			0.036J	0.056					0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**2,446**	**2,638**			**3,200**	**2,700**					100%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	1J	1.7J			<1	2					0%	NA[1]
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		699.5	746.8			1,400	1,400						
Total Metals																
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0008	0.0008			0.00047J	0.00037J					0%	NA[1]
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0024	0.0027			0.0011	0.0017					0%	NA[1]
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			<0.0001	<0.0001					0%	NA[1]
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0002J	0.0001J			0.00021	0.00008J					0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0026	0.0014			0.0011	0.0012					0%	NA[1]
2007, 2013	Lead	mg/L	NA		<0.0001	<0.0001			0.00002J	0.00003J						
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0019	0.0013			0.0044	0.0011					0%	NA[1]
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0012	0.0015			0.00083	0.0012					0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0051	0.0026			0.00074J	0.0014J					0%	NA[1]
Dissolved Metals																
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0008	0.0008			0.00047J	0.00038J					0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0025	0.0026			0.0011	0.0017					0%	NA[1]
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			<0.0001	0.00002J					0%	NA[1]
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0001J	<0.0005			0.000044J	0.00007J					0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0029	0.0012			0.0013	0.0013					0%	NA[1]
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			<0.0002	0.00002J					0%	NA[1]
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0020	0.0012			0.004	0.00099					0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.0012	0.0014			0.00086	0.0013						
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0061	0.0021			0.0016J	0.0025J					0%	NA[1]
Organophosphorus Pesticides																
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01					0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01					0%	NA[1]
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01					0%	NA[1]
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100					0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100					0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**50**	**50**			100	<6.25CF					67%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100					0%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	**<6.25**			**50**	100					50%	NA[1]

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for LPC-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
CF- control failed; results not used in assessment.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for LPC-TWAS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					09/26/07-09/27/07	06/02/08-06/03/08	-	-	09/21/10-09/22/10	05/11/11-05/12/11	-	09/12/12-09/13/12	05/14/13-05/15/13	-	09/23/14	05/13/15		
Physical Chemistry																		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.60	7.68	No Samples Collected	No Samples Collected	7.51	7.79	No Samples Collected	7.55	7.53	No Samples Collected	7.32	7.96	0%	0.16
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,430	3,070			3,890	3,050		3,510	2,680		3,886	2,362		
2007, 2013	Water Temperature	Celsius	NA		19.00	19.40			18.40	16.70		21.7	19.6		22.46	17.48		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	4.4	6			1.8	2.2		2.1	3.8		1.6	2	0%	0.15
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**700**	**800**			**700**	**300**		**170**	**500**		45	**2,200**	88%	4.48
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	300	170			170	220		110	80		78	**700**	13%	0.57
2007, 2013	Total Coliform	MPN/100 mL	NA		2,300	17,000			3,000	5,000		3,000	800		490	3,000		
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	<0.05	0.04			0.073J	0.058J		<0.1	0.091J		<0.10	<0.10	0%	0.03
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.255	0.2			0.045J	0.27		0.13	0.13		0.24	0.047J	0%	0.02
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.01J	0.05			<0.1	0.039J		<0.1	<0.1		0.014J	<0.10	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.4	0.98			0.48	0.48		0.64	0.19		0.39	0.54		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**1.67**	**1.23**			0.525	0.789		0.77	0.32		0.644	0.587	25%	0.82
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.062	0.09			0.056	0.061		0.082	**0.11**		0.093	0.1	13%	0.82
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.101**	**0.130**			0.068	0.075		0.096	**0.14**		**0.12**	**0.12**	63%	1.06
General Chemistry																		
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	<2			1.7J	1.6J		1.3J	0.94J		<2.0	<2.0	0%	0.12
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	41	27			35	24		26	14		34	27	0%	0.24
2007, 2013	Dissolved Organic Carbon	mg/L	NA		11.8	8.5			4.9	6.5		7.6	6.9		5.9	9.2		
2007, 2013	Total Organic Carbon	mg/L	NA		12	8.1			4.6	6.5		6.8	7.9		6.1	9.6		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<2.2	1.5J			<5	<5		<5	<5		<5.0	2.1J	0%	0.22
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.11	0.083			0.048J	0.073		0.045J	0.086		0.11	0.083	0%	0.16
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,942**	**1,802**			**2,600**	**2,000**		**2,200**	**1,700**		**2,200**	**1,200**	100%	3.91
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	1.3J	9.7			2	3		3	2		2	1	0%	0.05
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		506.4	475.7			930	770		790	684		1,040	521		
Total Metals																		
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0005	0.0004J			0.00023J	0.00021J		0.00017J	0.00029J		0.00016J	0.00044J	0%	0.05
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0053	0.0037			0.0024	0.0025		0.003	0.0025		0.0025	0.0022	0%	0.30
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			<0.0001	0.00002J		0.00002J	0.000028J		<0.00010	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0002J	0.0001J			0.0014	0.00011J		<0.0002	0.00012J		0.000097J	0.00019J	0%	0.01
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0021	0.0019			0.0052	0.0011		0.00028J	0.0016		0.00075	0.0021	0%	0.00
2007, 2013	Lead	mg/L	NA		0.0001	0.0001			0.000062J	0.00012J		0.00005J	0.000031J		0.000075J	<0.00020		
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0029	0.0014			0.0086	0.00098		0.0012	0.004		0.001	0.0035	0%	0.03
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0007	0.0008			0.0037	0.00063		0.00041	0.00095		0.00028J	0.0013	0%	0.22
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0047	0.0031			0.0032J	0.0017J		<0.005	0.0016J		0.0014J	0.0036J	0%	0.00
Dissolved Metals																		
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0005	0.0003J			0.00025J	0.00021J		0.00016J	0.0003J		0.00015J	0.00044J	0%	0.05
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0045	0.0030			0.0021	0.0023		0.0028	0.0024		0.0023	0.0021	0%	0.02
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000021J	0.00002J		0.00003J	0.000024J		<0.00010	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0001J	<0.0005			0.000053J	0.00006J		<0.0002	0.00011J		0.000043J	0.00013J	0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0020	0.0012			0.0009	0.0011		0.00032J	0.0017		0.00049J	0.002	0%	0.04
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			0.000021J	0.00006J		<0.0002	<0.0002		<0.00020	<0.00020	0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0029	0.0014			0.0036	0.001		0.0012	0.0041		0.00099	0.0035	0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0006	0.0008			0.00047	0.00067		0.00044	0.0011		0.00022J	0.0014		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0049	0.0020			0.0015J	0.003J		0.0022J	0.0027J		0.0012J	0.0029J	0%	0.01
Organophosphorus Pesticides																		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.29
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01		0.01	<0.01		<0.010	<0.010	0%	0.10
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.05
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**50**	100			100	100C		100	100		**50**	100	25%	1.25
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			**50**	**50**		**50**	100		**50**	100	50%	1.50

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for LPC-TWAS-2

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
C-Control failed; however, sample showed no toxic response.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for LPC-TWAS-3

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data		Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2012-2013		2013-2014	2014-2015			
					09/12/12-09/13-12	05/14/13-05/15/13	-	09/23/14	05/13/15		
Physical Chemistry											
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.7	7.69	No Samples Collected	7.61	7.82	0%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		4,950	4,180		5,287	4,757		
2007, 2013	Water Temperature	Celsius	NA		24.2	19.5		22.35	18.14		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	6.9	2.8		0.9	1	0%	NA[1]
Bacteriological											
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**230**	**300**		**230**	**17,000**	100%	NA[1]
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	300	300		20	1,300	25%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		17,000	1,400		7,000	9,000		
Nutrients											
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	<0.1	0.064J		<0.10	<0.10	0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.081J	0.063J		0.1	<0.10	0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.011J	<0.1		0.015J	<0.10	0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.6	0.15		0.52	0.33		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.692	0.213		0.635	0.33	0%	NA[1]
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.066	0.083		0.1	0.085	0%	NA[1]
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.12**	**0.11**		**0.18**	**0.11**	100%	NA[1]
General Chemistry											
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	0.79J	**14**		<2.0	<2.0	25%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	27	13		34	23	0%	NA[1]
2007	Dissolved Organic Carbon	mg/L	NA		5.7	2.7		3.4	4.8		
2007, 2013	Total Organic Carbon	mg/L	NA		5	2.9		3.6	5.2		
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5		<5.0	3.3J	0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.028J	0.056J		0.1	0.07	0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**3,800**	**3,200**		**3,800**	**3,100**	100%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	45	8		40	2	0%	NA[1]
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		1,400	1,370		1,750	1,490		
Total Metals											
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.00009J	0.00015J		0.000080J	0.00016J	0%	NA[1]
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0055	0.0052		0.0056	0.0046	0%	NA[1]
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0001	<0.0001		<0.00010	<0.00010	0%	NA[1]
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	<0.0002	0.0002		0.0012	0.000068J	0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	<0.0005	0.0012		0.00075	0.0015	0%	NA[1]
2007, 2013	Lead	mg/L	NA		0.00007J	0.000094J		0.00014J	<0.00020		
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0016	0.0077		0.0029	0.0078	0%	NA[1]
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.0004	0.0015		0.00015J	0.0027	0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0015J	0.0014J		0.0049J	0.00097J	0%	NA[1]
Dissolved Metals											
2007	Antimony	mg/L	0.006	1. Basin Plan	0.00009J	0.00016J		0.000073J	0.00018J	0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0054	0.0053		0.0044	0.0042	0%	NA[1]
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001		<0.00010	<0.00010	0%	NA[1]
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	<0.0002	0.000064J		0.000034J	0.000043J	0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	<0.0005	0.0014		0.00025J	0.002	0%	NA[1]
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	0.00009J	<0.0002		<0.00020	<0.00020	0%	NA[1]
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0016	0.0084		0.0017	0.0086	0%	NA[1]
2007, 2013	Selenium	mg/L	NA		<0.0004	0.0019		0.00012J	0.0034		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0029J	0.002J		0.00096J	0.0016J	0%	NA[1]
Organophosphorus Pesticides											
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01		0.01	<0.010	0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.01	<0.01		<0.010	<0.010	0%	NA[1]
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.01	<0.01		<0.010	<0.010	0%	NA[1]
Toxicity											
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100	0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100	0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**25**	**50**		**50**	**25**	100%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100	0%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		**50**	**50**		**25**	**25**	100%	NA[1]

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for LPC-TWAS-3

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.

(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).

(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.

(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.

(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).

(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.

CF- control failed; results not used in assessment.

J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources

Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for LPC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015				
					09/26/07-09/27/07	06/02/08-06/03/08	-	-	09/22/10	05/11/11-05/12/11	-	09/12/12-09/13/12	05/14/13-05/15/13	-	09/23/14	01/07/15	05/13/15		
Physical Chemistry																			
2013	Dissolved Oxygen	mg/L	<5.0 (a)	1. Basin Plan											4.79	10.29	8.33	33%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.07	8.10			8.10	7.96		7.92	7.75		7.57	7.19	8.08	0%	0.00
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,500	3,200			3,520	3,290		3,200	1,966		3,858	2,541	2,147		
2007, 2013	Water Temperature	Celsius	NA		17.70	19.10			17.50	18.00		21.9	17.8		20.88	7.35	17.24		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	3.25	5			0.78	3.1		6.4	2.3		1.4	0.3	1.7	0%	0.13
Bacteriological																			
2007, 2013	Enterococcus	MPN/100 mL	151 (b)	1. Basin Plan	300	170			700	170		110	500		1,700	<20	500	78%	3.07
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	20	80			40	130		500	130		700	20	500	0%	0.13
2007, 2013	Total Coliform	MPN/100 mL	NA		2,200	1,879			800	700		7,000	300		13,000	220	1100		
Nutrients																			
2007, 2013	Ammonia as N	mg/L	(c)	6. USEPA Water Quality Criteria (Freshwater)	0.01J	0.03			<0.1	<0.1		0.06J	<0.1		<0.10	<0.10	<0.10	0%	0.03
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	<0.05	0.03J			<0.1	0.067J		<0.1	0.07J		0.079J	<0.10	<0.10	0%	0.01
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	0.05			<0.1	0.043J		<0.1	<0.1		0.015J	<0.10	0.014J	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.1	0.84			0.44	0.51		0.43	0.27		0.4	0.21	0.33		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	1.1	0.92			0.44	0.62		0.43	0.34		0.494	0.21	0.344	11%	0.54
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.04J	0.03J			0.082	0.12		0.08	0.093		0.083	NR	0.067	13%	0.74
2013	Orthophosphate	mg/L	NA												0.075	AE	0.068		
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.07	0.09			0.1	0.16		0.11	0.11		0.1	0.041	0.085	33%	0.96
General Chemistry																			
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	<2			1.5J	1.5J		0.94J	0.95J		<2.0	NR	<2.0	0%	0.11
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	45	13			33	41		20	13		25	NR	23	0%	0.22
2007, 2013	Dissolved Organic Carbon	mg/L	NA		13.6	9.9			4.5	5.5		6.4	5.3		5.3	5	8.2		
2007, 2013	Total Organic Carbon	mg/L	NA		13.2	9.5			4	5.3		6.3	5.9		5.5	5.1	8.2		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<1.1	<5			<5	<5		<5	<5		<5.0	NR	<5.0	0%	0.23
2013	Sulfate	mg/L	250 (a)	1. Basin Plan											570	310	260	#DIV/0!	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.15	0.11			0.033J	0.051		0.033J	0.071		0.096	0.084	0.083	0%	0.16
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan	2,057	1,798			2,300	2,100		2,300	1,700		2,300	1,500	1,300	100%	3.86
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	5.3	8			3	26		14	5		8	1	4	0%	0.14
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		547.5	511.3			890	910		840	688		1,160	707	571		
Total Metals																			
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0004J	0.0004J			0.00015J	0.0002J		0.00017J	0.00032J		0.00027J	NR	0.00044J	0%	0.05
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0048	0.0037			0.0029	0.0038		0.0036	0.0027		0.0028	0.0017	0.0025	0%	0.32
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			<0.0001	0.00002J		0.00003J	0.000027J		<0.00010	<0.00010	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0002J	0.0002J			0.00032	0.00049		<0.0002	0.00018J		0.00024	0.000056J	0.0002	0%	0.00
2013	Chromium, Trivalent	mg/L	NA												<0.00050	<0.00020	0.00016J		
2013	Chromium, Hexavalent	mg/L	0.010 (d)												0.00012J	0.00012	0.000041	0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0017	0.0009			0.00096	0.0012		<0.0005	0.0013		0.00083	0.001	0.0019	0%	0.00
2013	Iron	mg/L	0.3 (a)	1. Basin Plan											0.26	0.083	0.16	0%	NA[1]
2007, 2013	Lead	mg/L	NA		0.0002	0.00016			0.00024	0.00063		0.00011J	0.0001J		0.00035	0.000035J	<0.00020		
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan											0.36	0.041	0.085	67%	NA[1]
2013	Mercury	mg/L	0.002 (d)												<0.000050	0.0000050J	<0.000050		
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.002	0.0018			0.0032	0.0013		0.0011	0.0039		0.0011	0.00086	0.0033	0%	0.02
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0005	0.0005			0.00036J	0.00044		<0.0004	0.00089		0.00019J	0.00021J	0.0011	0%	0.10
2013	Silver	mg/L	0.1 (d)												0.000050J	<0.00020	0.000064J	0%	NA[1]
2013	Thallium	mg/L	0.002 (d)												<0.00020	<0.00020	<0.00020	0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.002	0.002			0.0015J	0.0045J		0.0018J	0.0014J		0.0039J	0.0015J	0.0017J	0%	0.00
Dissolved Metals																			
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0005	0.0004J			0.00015J	0.00018J		0.00016J	0.00032J		0.00026J	NR	0.00046J	0%	0.05
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0049	0.0036			0.0028	0.0033		0.0035	0.0024		0.0025	0.0015	0.0022	0%	0.02
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			<0.0001	<0.0001		0.00003J	0.000018J		<0.00010	<0.00010	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0001J	<0.0005			0.000043J	0.00005J		<0.0002	0.000086J		0.000030J	0.000043J	0.000054J	0%	0.01
2013	Chromium, Trivalent	mg/L	(e)	16. 40 CFR 131.38											AE	AE	0.00002J	0%	NA[1]
2013	Chromium, Hexavalent	mg/L	0.011	16. 40 CFR 131.38											AE	AE	0.000039	0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0018	0.0009			0.00079	0.00066		<0.0005	0.0012		0.00045J	0.00091	0.0021	0%	0.03
2013	Iron	mg/L	NA						0.000069J	0.00007J		0.00004J	<0.0002		<0.010	<0.010	0.0015J		
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			0.000069J	0.00007J		0.00004J	<0.0002		<0.00020	<0.00020	<0.00020	0%	0.00
2013	Manganese	mg/L	NA												0.053	0.036	0.0055		
2013	Mercury	mg/L	NA												<0.000050	0.0000050J	<0.000050		
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0027	0.0016			0.0031	0.00094		0.0011	0.0035		0.00092	0.00083	0.0032	0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0006	0.0005			0.00033J	0.00043		<0.0004	0.00083		0.00015J	0.00019J	0.0012		
2013	Silver	mg/L	(e)	16. 40 CFR 131.38											0.000062J	<0.00020	<0.00020	0%	NA[1]
2013	Thallium	mg/L	NA												<0.00020	<0.00020	<0.00020		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0036	0.0006			0.0015J	0.0023J		0.0019J	0.0019J		0.0015J	0.0012J	0.0014J	0%	0.00

No Samples Collected

Dry Weather Historical Monitoring Table for LPC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015				
					09/26/07-09/27/07	06/02/08-06/03/08	-	-	09/22/10	05/11/11-05/12/11	-	09/12/12-09/13/12	05/14/13-05/15/13	-	09/23/14	01/07/15	05/13/15		
Organophosphorus Pesticides																			
2013	Azinphos methyl (Guthion)	µg/L	NA				No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected	<0.010	<0.010	<0.010		
2013	Bolstar	µg/L	NA												<0.010	<0.010	<0.010		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.29
2013	Coumaphos	µg/L	NA												0.00015J	0.00019J	0.0012		
2013	Demeton-o	µg/L	NA												0.00015J	0.00019J	0.0012		
2013	Demeton-s	µg/L	NA												0.0015J	0.0012J	0.0014J		
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.09
2013	Dichlorvos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Dimethoate	µg/L	NA												<0.010	<0.010	<0.010		
2013	Disulfoton	µg/L	NA												<0.010	<0.010	<0.010		
2013	Ethoprop	µg/L	NA												<0.010	<0.010	<0.010		
2013	Ethyl parathion	µg/L	NA												<0.010	<0.010	<0.010		
2013	Fensulfothion	µg/L	NA												<0.010	<0.010	0.0059J		
2013	Fenthion	µg/L	NA												<0.010	<0.010	<0.010		
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.05
2013	Merphos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Methyl parathion	µg/L	NA												<0.010	<0.010	<0.010		
2013	Mevinphos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Naled	µg/L	NA												<0.010	<0.010	<0.010		
2013	Phorate	µg/L	NA												<0.010	<0.010	<0.010		
2013	Ronnel	µg/L	NA												<0.010	<0.010	<0.010		
2013	Stirophos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Tokuthion (Prothiofos)	µg/L	NA												<0.010	<0.010	<0.010		
2013	Trichloronate	µg/L	NA												<0.010	<0.010	<0.010		
Pyrethroids																			
2013	Allethrin	µg/L	NA												<0.002	<0.002	<0.002		
2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006											<0.002	<0.002	<0.002	0%	NA[1]
2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Cyhalothrin, Total Lambda	µg/L	0.2	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Cypermethrin	µg/L	0.344	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Danitol (Fenpropathrin)	µg/L	NA												<0.002	<0.002	<0.002		
2013	Deltamethrin/Tralomethrin	µg/L	NA												<0.002	<0.002	<0.002		
2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Fenvalerate	µg/L	NA												<0.002	<0.002	<0.002		
2013	Fluvalinate	µg/L	NA												<0.002	<0.002	<0.002		
2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006											<0.01	<0.01	<0.01	0%	NA[1]
2013	Prallethrin	µg/L	NA												<0.002	<0.002	<0.002		
2013	Resmethrin	µg/L	NA												<0.01	<0.01	<0.01		
Toxicity																			
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	NR	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	NR	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**50**	**50**			100	100		100	100		**50**	NR	100	38%	1.38
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	NR	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			**50**	100		**50**	100		**50**	NR	100	38%	1.38
2013	*Strongylocentrotus 96-hr*	TST	Pass/Fail												Pass	Pass	Pass	0%	

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for LPC-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(b) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(c) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
AE - Analysis error.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NR -Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SDR-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014		2014-2015		
					01/06/10	05/18/10	-	09/12/11-09/13/11	05/16/12-05/17/12	-	09/17/13-09/18/13	05/07/14-05/08/14	-		
Physical Chemistry															
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	6.74	7.23	No Samples Collected	7.74	7.41	No Samples Collected	7.45	7.56	No Samples Collected	0%	0.32
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,250	2,160		3,280	1,765		4,058	2,466			
2007, 2013	Water Temperature	Celsius	NA		12.00	21.10		23.4	22.7		27.67	18.97			
2007, 2013	Turbidity	NTU	20	1. Basin Plan	5.7	3.3		6.5	10		13.9	5.1		0%	0.37
Bacteriological															
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	20	40		**230**	20		<18	45		17%	0.41
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	170	40		230	40		45	<18		0%	0.23
2007, 2013	Total Coliform	MPN/100 mL	NA		20	5,000		3,000	8,000		230	7,900			
Nutrients															
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	<0.03	0.11		0.062J	0.18		0.44	0.070J		0%	0.06
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	<0.05	0.051J		<0.1	<0.1		0.042J	<0.10		0%	0.00
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	0.033J		<0.1	<0.1		<0.1	<0.10		0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.712J	0.57		1.1	0.88		1.3	0.56			
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.712	0.654		**1.1**	0.88		**1.342**	0.56		33%	0.87
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	**0.129**	**0.15**		**0.36**	**0.16**		**0.23**	**0.18**		100%	2.02
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.144**	**0.19**		**0.45**	**0.2**		**0.29**	**0.19**		100%	2.44
General Chemistry															
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	**12.1**	1.5J		4.4	1.7J		**11**	7.6		33%	0.64
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	24.8	21		40	25		52	34		0%	0.27
2007, 2013	Dissolved Organic Carbon	mg/L	NA		8.3B	6.9		9	5.8		8.4	7.8			
2007, 2013	Total Organic Carbon	mg/L	NA		7.8	6.8		8.8	5.4		8.1	8.1			
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5		<5	<5		2.5J	<5.0		0%	0.25
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.105	0.043J		0.07	0.027J		0.11	0.11		0%	0.16
2007, 2013	Total Dissolved Solids	mg/L	1,500 (c)	1. Basin Plan	1,352B	1,200		**2,600**	1,000		**2,500**	1,500		33%	1.13
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	5.5	6		10	20		27	7		0%	0.22
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		476.2	520		940	450		1,050	638			
Total Metals															
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0005	0.00028J		0.00051	0.00042J		0.00023J	0.00031J		0%	0.06
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0027	0.0033		0.0066	0.0034		0.0032	0.0027		0%	0.37
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	0.000017J		0.00002J	0.00003J		<0.00010	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	<0.0005	0.000076J		0.00011J	0.00048		0.000062J	0.00013J		0%	0.00
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0007J	0.00055		0.00045J	0.0014		0.0009	0.00058		0%	0.00
2007, 2013	Lead	mg/L	NA		0.0002	0.000099J		0.00018J	0.00082		0.000047J	0.00018J			
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0011	0.0028		0.0011	0.0013		0.0054	0.0011		0%	0.02
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0004J	0.0004		<0.0004	0.00032J		0.00087	0.00019J		0%	0.08
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0007	0.00079J		0.0012J	0.0049J		0.00065J	0.0021J		0%	0.00
Dissolved Metals															
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0005	0.00029J		0.0005	0.00037J		0.00024J	0.00026J		0%	0.06
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0025	0.0032		0.0064	0.0032		0.0033	0.0026		0%	0.02
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0001		<0.0001	0.00002J		<0.00010	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	<0.0005	0.000051J		<0.0002	0.0001J		<0.00020	0.000055J		0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0007J	0.00061		0.00039J	0.00062		0.00088	0.00023J		0%	0.02
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0002		<0.0002	0.00003J		<0.00020	<0.00020		0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0011	0.0026		0.0011	0.001		0.0052	0.0011		0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0002J	0.00041		<0.0004	0.00031J		0.00078	0.00016J			
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0002J	0.0017J		0.0019J	0.0019J		0.0012J	0.0023J		0%	0.00
Organophosphorus Pesticides															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.31
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.09
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.05
Toxicity															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100		100	100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100		100	100		**50**	100		17%	1.17
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100		**50**	100		**50**	100		33%	1.33

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SDR-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area/subarea.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
B-Analyte was detected in the associated method blank.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SDR-TWAS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014		2014-2015		
					01/06/10	05/18/10	-	09/12/11-09/13/11	05/16/12-05/17/12	-	09/17/13-09/18/13	05/07/14-05/08/14	-		
Physical Chemistry							No Samples Collected			No Samples Collected			No Samples Collected		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.32	7.73		7.67	7.55		7.71	7.69		0%	0.11
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,320	1,912		2,510	2,180		2,959	2,411			
2007, 2013	Water Temperature	Celsius	NA		12.2	20.8		20.6	19.0		23.09	17.08			
2007, 2013	Turbidity	NTU	20	1. Basin Plan	3.2	2.9		6.1	3.3		4.4	3.4		0%	0.19
Bacteriological															
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	110	**500**		**500**	**300**		**310**	**700**		83%	2.67
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	<20	230		**7,000**	**500**		230	330		33%	3.46
2007, 2013	Total Coliform	MPN/100 mL	NA		2,200	3,000		17,000	17,000		3,300	4,600			
Nutrients															
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.03J	0.09J		0.2	0.057J		<0.10	0.049J		0%	0.03
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.49	1.1		0.72	0.56		0.14	0.1		0%	0.05
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	0.037J		0.021J	<0.1		<0.1	0.013J		0%	0.03
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.734J	0.57		1	0.59		0.37	0.38			
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**1.224**	**1.707**		**1.741**	**1.15**		0.51	0.493		67%	1.14
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.095	**0.11**		**0.16**	**0.11**		**0.16**	**0.16**		83%	1.33
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.104**	**0.13**		**0.26**	**0.13**		**0.16**	**0.21**		100%	1.66
General Chemistry															
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	1.5J		1.2J	1.5J		0.88J	6.3		0%	0.21
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	26.8	22		28	14		26	23		0%	0.19
2007, 2013	Dissolved Organic Carbon	mg/L	NA		7.6B	6.4		8	4.1		6.2	5.8			
2007, 2013	Total Organic Carbon	mg/L	NA		7.5	6.3		8.4	4.2		6.1	6.1			
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5		<5	<5		<5.0	<5.0		0%	0.25
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.09	0.046J		0.11	0.023J		0.074	0.077		0%	0.14
2007, 2013	Total Dissolved Solids	mg/L	1,000 (c)	1. Basin Plan	**1,338B**	**1,300**		**1,800**	**1,300**		**1,800**	**1,500**		100%	2.79
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	2.8J	<5		8	3		3	2		0%	0.06
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		465.1	540		650	520		710	629			
Total Metals															
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0004J	0.0002J		0.00039J	0.00021J		0.00017J	0.00016J		0%	0.04
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0023	0.0017		0.0026	0.0019		0.002	0.0016		0%	0.20
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0001		0.00004J	0.00002J		0.000040J	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	<0.0005	0.000083J		0.00033	0.0002		0.00013J	0.00010J		0%	0.00
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0007J	0.00085		0.0012	0.00094		0.0011	0.0006		0%	0.00
2007, 2013	Lead	mg/L	NA		<0.0001	0.000093J		0.00068	0.00016J		0.00015J	0.00014J			
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0014	0.0025		0.0022	0.0013		0.0039	0.0011		0%	0.02
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0007	0.00069		0.00058	0.00052		0.00073	0.00030J		0%	0.12
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	<0.0005	0.0016J		0.0038J	0.0025J		0.0014J	0.0023J		0%	0.00
Dissolved Metals															
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0004J	0.00021J		0.00038J	0.0002J		0.00017J	0.00014J		0%	0.04
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0019	0.0016		0.0022	0.0018		0.0018	0.0015		0%	0.01
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0001		0.00003J	0.00002J		0.000037J	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	<0.0005	0.000066J		0.00012J	0.00011J		<0.00020	0.000057J		0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0007J	0.00083		0.0015	0.00079		0.00098	0.00036J		0%	0.03
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	0.000034J		0.00008J	0.00004J		<0.00020	0.000038J		0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0012	0.0027		0.002	0.0012		0.0041	0.001		0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0004J	0.00058		0.00056	0.00053		0.0012	0.00025J			
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0006	0.003J		0.0031J	0.0025J		0.0014J	0.0020J		0%	0.01
Organophosphorus Pesticides															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.31
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.09
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.05
Toxicity															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100		100	100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100		100	100		100	**50**		17%	1.17
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100		100	100		**50**	100		17%	1.17

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SDR-TWAS-2

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area/subarea.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
B-Analyte was detected in the associated method blank.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SDR-TWAS-3

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014		2014-2015		
					01/06/10	05/18/10	-	09/12/11-09/13/11	05/16/12-05/17/12	-	01/13/14-01/14/14	05/07/14-05/08/14	-		
Physical Chemistry															
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.39	7.70	No Samples Collected	7.83	7.61	No Samples Collected	7.84	7.81	No Samples Collected	0%	0.10
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,160	1,837		1,812	2,240		2,077	1,830			
2007, 2013	Water Temperature	Celsius	NA		10.60	21.20		23.50	21.20		10.27	19.32			
2007, 2013	Turbidity	NTU	20	1. Basin Plan	6	3.3		12	12		2.8	3.6		0%	0.33
Bacteriological															
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	<20	**230**		70	40		<18	20		17%	0.44
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	120	<20		20	110		<18	<18		0%	0.13
2007, 2013	Total Coliform	MPN/100 mL	NA		300	700		1,100	30,000		140	170			
Nutrients															
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.03J	0.21		0.091J	0.098J		<0.10	0.054J		0%	0.04
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	<0.05	0.13		<0.1	<0.1		<0.10	<0.10		0%	0.01
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	0.035J		<0.1	<0.1		0.029J	<0.10		0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		2.4	0.79		0.92	0.96		0.48	0.53			
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**2.4**	0.955		0.92	0.96		0.509	0.53		17%	1.05
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.09	**0.14**		**0.11**	**0.14**		0.013	**0.12**		67%	1.02
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.081	**0.17**		**0.21**	**0.18**		0.05	**0.14**		67%	1.39
General Chemistry															
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	6.5	3		2.6	2.9		<2.0	6.6		0%	0.38
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	34.8	24		26	24		12	28		0%	0.21
2007, 2013	Dissolved Organic Carbon	mg/L	NA		5.9	6		6.4	4.9		4.6	6.9			
2007, 2013	Total Organic Carbon	mg/L	NA		7.2	5.7		5.9	3.6		4.6	7.2			
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5		<5	<5		<5.0	<5.0		0%	0.25
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.092	0.025J		0.039J	0.023J		0.056	0.079		0%	0.10
2007, 2013	Total Dissolved Solids	mg/L	1,000 (c)	1. Basin Plan	**1,232B**	**1,300**		**1,600**	**1,400**		**1,300**	**1,100**		100%	2.44
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	10.3	9		11	18		8	4		0%	0.17
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		486.8	600		650	610		610	527			
Total Metals															
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0002J	0.00023J		0.00019J	0.0002J		0.00018J	0.00020J		0%	0.03
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0013	0.0015		0.0012	0.0016		0.00062	0.00098		0%	0.12
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	0.000042J		0.00002J	0.00003J		0.000035J	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	<0.0005	0.000071J		0.00008J	0.00033		0.00013J	0.00013J		0%	0.00
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0005J	0.00062		0.00046J	0.00087		0.00084	0.00049J		0%	0.00
2007, 2013	Lead	mg/L	NA		0.00006J	0.0001J		0.00014J	0.00037		0.00012J	0.000061J			
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0012	0.0027		0.00088	0.001		0.0033	0.00069J		0%	0.02
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0008	0.00069		0.00048	0.00079		0.0016	0.00044		0%	0.16
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0021B	0.0015J		0.0025J	0.003J		0.0051	0.0027J		0%	0.00
Dissolved Metals															
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0002J	0.00021J		0.00018J	0.00015J		0.00019J	0.00018J		0%	0.03
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.001	0.0014		0.0011	0.0016		0.00058	0.00093		0%	0.01
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0001		<0.0001	0.00002J		0.000030J	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	<0.0005	0.000042J		<0.0002	0.0001J		0.000045J	0.000035J		0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0005J	0.00055		<0.0005	0.00046J		0.00075	0.00031J		0%	0.02
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0002		<0.0002	<0.0002		<0.00020	<0.00020		0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0011	0.0026		0.00081	0.00082		0.0033	0.00066J		0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0011	0.00074		0.00047	0.00075		0.0016	0.00035J			
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0003J,B	0.0019J		0.002J	0.0015J		0.0037J	0.0013J		0%	0.00
Organophosphorus Pesticides															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.31
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.09
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.05
Toxicity															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	**25**		100	100		17%	1.50
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100		100	100		100	100		0%	1.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		**50**	**50**		**50**	**50**		**50**	100		83%	1.83

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SDR-TWAS-3

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area/subarea.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
B-Analyte was detected in the associated method blank.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SDR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014			2014-2015		
					01/07/10	05/22/10	-	09/12/11-09/13/11	05/16/12-05/17/12	-	09/17/13-09/18/13	01/13/14-01/14/14	05/07/14-05/08/14	-		
Physical Chemistry																
2013	Dissolved Oxygen	mg/L	<5.0 (a)								7.18	6.53	**4.31**		33%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	6.58	7.58		7.41	7.34		7.72	7.55	7.39		0%	0.31
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,490	2,410		3,450	2,200		3,429	2,882	2,181			
2007, 2013	Water Temperature	Celsius	NA		12.90	21.20		23.9	23.1		24.33	13.31	19.12			
2013	Color	Color Units	20	1. Basin Plan							15	**30**	**30**		67%	NA[1]
2007, 2013	Turbidity	NTU	20	1. Basin Plan	4.8	2.7		4	6.4		3.9	8.4	6.6		0%	0.26
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	151 (b)	1. Basin Plan	110	40		<20	110		**330**	**330**	**220**		43%	1.10
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	20	90E		230	40		230	130	**2,300**		14%	1.09
2007, 2013	Total Coliform	MPN/100 mL	NA		80	5,000		3,000	3,000		7,000	790	2,300			
Nutrients																
2007, 2013	Ammonia as N	mg/L	(c)	6. USEPA Water Quality Criteria (Freshwater)	<0.03	0.1		0.11	0.092J		<0.10	0.58	0.084J		0%	0.04
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.02J	0.055J		0.089J	0.12		0.093J	<0.10	<0.10		0%	0.01
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.1		0.013J	<0.1		<0.1	0.013J	0.013J		0%	0.03
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		<1	0.59		0.68	0.56		0.34	0.95	0.68			
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.02	0.645		0.782	0.68		0.433	0.963	0.693		0%	0.60
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	**0.101**	**0.17**		**0.34**	**0.16**		0.062	NR	**0.16**		83%	1.66
2013	Orthophosphate	mg/L	NA								0.045	0.048	0.16			
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.104**	0.0054J		**0.39**	**0.18**		0.064	0.06	**0.17**		57%	1.39
General Chemistry																
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	3.8	0.91J		0.92J	1.9J		1.3J	NR	**23**		17%	0.53
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	32.8	23		31	19		26	NR	32		0%	0.23
2013	Chloride	mg/L	400 (a)	1. Basin Plan							**870**	**630**	**470**		100%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		7.9B	6.7		8	4.3		6.6	6.4	9.1			
2007, 2013	Total Organic Carbon	mg/L	NA		7.7	7.2		7.6	4.7		6.6	6.3	8.8			
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5		<5	2.5J		<5.0	NR	3.9J		0%	0.27
2013	Sulfate	mg/L	500 (a)	1. Basin Plan							330	290	210		0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.115	0.14		0.092	0.048J		0.072	0.091	0.17		0%	0.21
2007, 2013	Total Dissolved Solids	mg/L	1,500 (a)	1. Basin Plan	1,454B	1,300		**2,400**	1,300		**2,100**	**1,700**	1,400		43%	1.11
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	5.3	4		4	9		5	2	9		0%	0.09
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		539.3	580		920	530		803	767	608			
Total Metals																
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0006	0.00047J		0.00065	0.00055		0.0006	NR	0.00045J		0%	0.09
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0036	0.0043		0.007	0.0044		0.0036	0.0023	0.0027		0%	0.40
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0001		0.00002J	0.00004J		0.000022J	0.000020J	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	<0.0005	0.00021		0.00008J	0.00041		0.000075J	0.00023	0.00034		0%	0.00
2013	Chromium, Trivalent	mg/L	NA								<0.0005	<0.0005	<0.0005			
2013	Chromium, Hexavalent	mg/L	0.010 (d)	1. Basin Plan							0.000030J	0.00014J	0.00021J		0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0008	0.0015		0.0008	0.0013		0.001	0.002	0.0022		0%	0.00
2013	Iron	mg/L	1.0 (a)	1. Basin Plan							0.035	0.082	0.16		0%	NA[1]
2007, 2013	Lead	mg/L	NA		0.00078	0.00034		0.00024	0.0007		0.000077J	0.00013J	0.00033			
2013	Manganese	mg/L	1.0 (a)	1. Basin Plan							0.07	0.088	0.95		0%	NA[1]
2013	Mercury	mg/L	0.002 (d)	1. Basin Plan							0.000040J	<0.000050	<0.000050		0%	NA[1]
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0014	0.0032		0.0013	0.0015		0.004	0.005	0.0012		0%	0.03
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0009	0.00088		0.0011	0.00086		0.0016	0.0023	0.00052		0%	0.23
2013	Silver	mg/L	0.1 (d)	1. Basin Plan							<0.00020	0.00011J	0.000069J		0%	NA[1]
2013	Thallium	mg/L	0.002 (d)	1. Basin Plan							<0.00020	<0.00020	<0.00020		0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0029	0.0026J		0.0022J	0.0048J		0.0026J	0.0046J	0.0051		0%	0.00
Dissolved Metals																
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0006	0.00046J		0.00062	0.00051		0.00059	NR	0.00044J		0%	0.09
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0032	0.0041		0.0066	0.0041		0.0033	0.0022	0.0028		0%	0.03
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0001		0.00002J	0.00002J		0.000022J	0.000029J	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	<0.0005	0.000069J		<0.0002	0.00018J		<0.00020	0.00015J	0.000069J		0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0009	0.0021		0.00067	0.0012		0.00099	0.0019	0.00064		0%	0.04
2013	Iron	mg/L	NA								<0.010	0.02	0.021			
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	0.000074J		0.00002J	0.00005J		<0.00020	0.000037J	<0.00020		0%	0.01
2013	Manganese	mg/L	NA								0.0067	0.069	0.88			
2013	Mercury	mg/L	NA								0.000042J	<0.000050	<0.000050			
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0014	0.0028		0.0013	0.0014		0.0038	0.0049	0.0011		0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0011	0.00083		0.0011	0.0008		0.0015	0.0023	0.00045			
2013	Silver	mg/L	(e)	16. 40 CFR 131.38							<0.00020	0.00010J	0.00011J		0%	NA[1]
2013	Thallium	mg/L	NA								<0.00020	<0.00020	<0.00020			
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0002J	0.0023J		0.0025J	0.0032J		0.0022J	0.0057	0.0026J		0%	0.01

No Samples Collected

No Samples Collected

No Samples Collected

Dry Weather Historical Monitoring Table for SDR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014			2014-2015		
					01/07/10	05/22/10	-	09/12/11-09/13/11	05/16/12-05/17/12	-	09/17/13-09/18/13	01/13/14-01/14/14	05/07/14-05/08/14	-		
Organophosphorus Pesticides																
2013	Azinphos methyl (Guthion)	µg/L	NA				No Samples Collected			No Samples Collected	<0.010	<0.010	<0.010	No Samples Collected		
2013	Bolstar	µg/L	NA								<0.010	<0.010	<0.010			
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010		0%	0.32
2013	Coumaphos	µg/L	NA								<0.010	<0.010	<0.010			
2013	Demeton-o	µg/L	NA								<0.010	<0.010	<0.010			
2013	Demeton-s	µg/L	NA								<0.010	<0.010	<0.010			
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010		0%	0.09
2013	Dichlorvos	µg/L	NA								<0.010	<0.010	<0.010			
2013	Dimethoate	µg/L	NA								<0.010	<0.010	<0.010			
2013	Disulfoton	µg/L	NA								<0.010	<0.010	<0.010			
2013	Ethoprop	µg/L	NA								<0.010	<0.010	<0.010			
2013	Ethyl parathion	µg/L	NA								<0.010	<0.010	<0.010			
2013	Fensulfothion	µg/L	NA								<0.010	<0.010	<0.010BS-L			
2013	Fenthion	µg/L	NA								<0.010	<0.010	<0.010			
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010		0%	0.47
2013	Merphos	µg/L	NA								<0.010	<0.010	<0.010			
2013	Methyl parathion	µg/L	NA								<0.010	<0.010	<0.010			
2013	Mevinphos	µg/L	NA								<0.010	<0.010	<0.010			
2013	Naled	µg/L	NA								<0.010	<0.010BS-L	<0.010			
2013	Phorate	µg/L	NA								<0.010	<0.010	<0.010			
2013	Ronnel	µg/L	NA								<0.010	<0.010	<0.010			
2013	Stirophos	µg/L	NA								<0.010	<0.010	<0.010			
2013	Tokuthion (Prothiofos)	µg/L	NA								<0.010	<0.010	<0.010			
2013	Trichloronate	µg/L	NA								<0.010	<0.010	<0.010			
Pyrethroids																
2013	Allethrin	µg/L	NA								<0.002	<0.002	<0.002			
2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006							<0.002	<0.002	<0.002		0%	NA[1]
2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004							<0.002	<0.002	<0.002		0%	NA[1]
2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004							<0.002	<0.002	<0.002		0%	NA[1]
2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004							<0.002	<0.002	0.0052		0%	NA[1]
2013	Danitol (Fenpropathrin)	µg/L	NA								<0.002	<0.002	<0.002			
2013	Deltamethrin/Tralomethrin	µg/L	NA								<0.002	<0.002	<0.002			
2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004							<0.002	<0.002	0.0005J		0%	NA[1]
2013	Fenvalerate	µg/L	NA								<0.002	<0.002	0.0006J			
2013	Fluvalinate	µg/L	NA								<0.002	<0.002	<0.002			
2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006							<0.01	<0.01	<0.01		0%	NA[1]
2013	Prallethrin	µg/L	NA								<0.002	<0.002	<0.002			
2013	Resmethrin	µg/L	NA								<0.01	<0.01	<0.01			
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	NR	>100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100		100	NR	100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100		100	100		50	NR	100		17%	1.17
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	NR	>100		0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100		100	100		100	NR	100		0%	1.00
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail								Pass	Pass	Pass		0%	

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SDR-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area/subarea.
(b) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(c) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
B-Analyte was detected in the associated method blank.
BS-L-Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
E-Result calculated using Tomas Equation.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
R-Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Results for SDC-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					03/04/08-03/05/08	06/02/08-06/03/08	-	-	09/22/10-09/23/10	05/11/11-05/12/11	-	09/12/12-09/13/12	05/14/13-05/15/13	-	01/07/15	05/05/15		
Physical Chemistry							No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected				
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.31	7.91			7.85	7.81		6.94	7.68		6.62	8.02	0%	0.32
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,650	2,360			2,610	2,420		3,240	1,431		1,138	2,029		
2007, 2013	Water Temperature	Celsius	NA		14.00	21.30			19.20	20.50		21.5	19.3		11.24	14.04		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	3.2	9.2			2	1.9		1.6	3.2		1.2	2	0%	0.15
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**230**	130			**700**	80		40	**300**		130	<20	38%	1.35
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	20	80			40	70		<20	220		<20	80	0%	0.17
2007, 2013	Total Coliform	MPN/100 mL	NA		500	3,000			3,000	2,200		800	3,000		500	2,400		
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.03	0.06			<0.1	0.081J		<0.1	<0.1		<0.10	<0.10	0%	0.03
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.85	0.12			<0.1	0.19		0.18	0.23		0.18	0.059J	0%	0.02
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	0.05			<0.1	0.031J		<0.1	<0.1		0.016J	<0.10	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.3	1.3			0.33	0.57		0.49	0.25		0.38	0.26		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**2.15**	**1.47**			0.33	0.791		0.67	0.48		0.576	0.319	25%	0.85
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.09	**0.12**			**0.13**	0.1		0.06	0.091		0.046	0.016	25%	0.82
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.118**	**0.162**			0.056	**0.12**		0.092	**0.16**		0.067	0.034	50%	1.01
General Chemistry																		
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	2.4			0.65J	1.9J		6.3	4.6		2.6	<2.0	0%	0.26
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	16	26			15	32		17	9.6		3.9J	19	0%	0.14
2007, 2013	Dissolved Organic Carbon	mg/L	NA		7.1	8.8			4.1	4.9		6.5	4		4.8	7.2		
2007, 2013	Total Organic Carbon	mg/L	NA		7.5	9.7			4	5.1		6.4	4.7		5.1	7		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5			<5	<5		<5	<5		<5.0	<5.0	0%	0.25
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.103	0.11			0.032J	0.062		0.035J	0.076		0.088	0.083	0%	0.15
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,752**	**1,476**			**1,700**	**1,800**		**1,800**	**1,300**		**780**	**1,300**	100%	2.98
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	3.3J	19.3			2	11		7	6		2	1	0%	0.11
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		508.1	452.9			840	810		800	594		414	679		
Total Metals																		
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0003J	0.0004J			0.00011J	0.0002J		0.00011J	0.00019J		0.00034J	0.00011J	0%	0.04
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0024	0.0029			0.0013	0.0021		0.0013	0.0018		0.0012	0.0014	0%	0.18
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			0.000017J	0.00002J		0.00005J	0.000039J		<0.00010	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0002J	0.0002J			0.0011	0.00036		<0.0002	0.00018J		0.00018J	0.00022	0%	0.01
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0020	0.0025			0.00044J	0.0012		<0.0005	0.001		0.0021	0.00063	0%	0.00
2007, 2013	Lead	mg/L	NA		0.0001	0.0002			0.000022J	0.00053		0.00004J	0.000054J		0.000078J	0.000040J		
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0013	0.0016			0.0042	0.0018		0.0013	0.0034		0.0013	0.0018	0%	0.02
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0014	0.0008			0.0003J	0.0007		<0.0004	0.00079		0.00059	0.00035J	0%	0.13
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0041	0.0054			0.0028J	0.003J		0.0076	0.0028J		0.0061	0.027	0%	0.00
Dissolved Metals																		
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0003J	0.0004J			0.000089J	0.00018J		0.00011J	0.00019J		0.00036J	0.00012J	0%	0.04
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0024	0.0025			0.0013	0.002		0.0014	0.0017		0.0009	0.0012	0%	0.00
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000015J	0.00002J		0.00006J	0.000039J		<0.00010	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0001J	0.0001J			0.00012J	0.00007J		0.00008J	0.0001J		0.000078J	0.00011J	0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0019	0.0016			0.00061	0.00092		<0.0005	0.0011		0.0017	0.00059	0%	0.04
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			<0.0002	0.00005J		0.00003J	<0.0002		<0.00020	<0.00020	0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0013	0.0014			0.004	0.0015		0.0013	0.0034		0.0011	0.0018	0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0015	0.0007			0.00021J	0.00071		<0.0004	0.00081		0.00053	0.0004		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0023	0.0018			0.002J	0.002J		0.0055	0.0025J		0.0027J	0.022	0%	0.01
Organophosphorus Pesticides																		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.29
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.09
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.05
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	**<6.25**			100	50CF		100	100		100	100	14%	3.14
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			**50**	**50**		100	100		100	**50**	38%	1.38

See last page for footnotes and source references.

Dry Weather Historical Monitoring Results for SDC-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary based on hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
CF-Control failed; results not used in assessment.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Results for SDC-TWAS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data								Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	2013-2014	2014-2015		
					03/04/08-03/05/08	06/02/08-06/03/08	-	-	01/11/11-01/12/11	05/09/11-05/10/11	-	-	-	-		
Physical Chemistry																
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.16	7.73	No Samples Collected	No Samples Collected	7.50	7.85	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	0%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,902	3,000			1,617	2,380						
2007, 2013	Water Temperature	Celsius	NA		12.50	19.20			11.00	16.00						
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**102.8**	**105.2**			6.2	14					50%	NA[1]
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**170**	**7,000**			130	**300**					75%	NA[1]
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	80	170			80	170					0%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		2,200	30,000			3000	80,000						
Nutrients																
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.09	0.59			0.2	<0.1					0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	2.25	0.05			2.9	0.8					0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	0.07			0.095J	0.01J					0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.7	2.4			1.2	0.89						
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**3.95**	**2.52**			**4.195**	**1.7**					100%	NA[1]
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.1	0.07			**0.33**	0.065					25%	NA[1]
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.452**	**0.279**			**0.35**	**0.17**					100%	NA[1]
General Chemistry																
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	**65.1**	**66.4**			1.9J	1.1J					50%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	22	33			29	33					0%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		16.5	15.2			11	10						
2007, 2013	Total Organic Carbon	mg/L	NA		13.7	15.1			11	8.9						
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	1.2J	2.6J			<5	<5					0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	**0.72**	0.088			0.06						33%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,330**	**1,940**			**1,200**	**1,700**					100%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	**264**	**102.7**			10	17					50%	NA[1]
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		348.9	525.3			560	830						
Total Metals																
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0002J	0.0002J			0.00018J	0.00013J					0%	NA[1]
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0016	0.0021			0.0012	0.001					0%	NA[1]
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			0.000028J	0.000021J					0%	NA[1]
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0015	0.0013			0.0011	0.00062					0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0057	0.0034			0.0032	0.0017					0%	NA[1]
2007, 2013	Lead	mg/L	NA		0.0060	0.0039			0.00055	0.00046						
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0019	0.0021			0.0034	0.0035					0%	NA[1]
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0004J	0.0003J			0.00068	0.00032J					0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0145	0.0062			0.0041J	0.0034J					0%	NA[1]
Dissolved Metals																
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0002J	0.0002J			0.00018J	0.00012J					0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0010	0.0018			0.001	0.00064					0%	NA[1]
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000023J	0.000016J					0%	NA[1]
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0001J	0.0001J			0.00014J	0.000074J					0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0009	0.0009			0.0026	0.0011					0%	NA[1]
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			0.000046J	0.000018J					0%	NA[1]
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0009	0.0012			0.0032	0.003					0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.0003J	0.0003J			0.0005	0.00028J						
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0003J	0.0004J			0.0024J	0.0022J					0%	NA[1]
Organophosphorus Pesticides																
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01					0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01					0%	NA[1]
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01					0%	NA[1]
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100					0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100					0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100			100	**<6.25**					25%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100					0%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			100	**<6.25**					25%	NA[1]

See last page for footnotes and source references.

Dry Weather Historical Monitoring Results for SDC-TWAS-2

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary based on hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SDC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015				
					03/04/08 03/05/08	06/02/08-06/03/08	-	-	12/02/10	05/11/11-05/12/11	-	02/25/13-02/26/13	05/01/13-05/02/13	-	01/07/15	02/11/15	05/13/15		
Physical Chemistry							No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected					
2013	Dissolved Oxygen	mg/L	<6.0 (a)	1. Basin Plan											7.18	**5.25**	7.27	33%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.77	7.96			6.98	6.97		7.04	7.43		7.47	7.06	7.66	0%	0.34
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,740	3,760			3,740	2,840		3,500	3,420		3,630	3,917	3,624		
2007, 2013	Water Temperature	Celsius	NA		15.30	23.40			11.30	19.10		13.7	20.8		11.32	16.55	21		
2013	Color	Color Units	20	1. Basin Plan											**30**	15	20	33%	NA[1]
2007, 2013	Turbidity	NTU	20	1. Basin Plan	8.1	3.5			1	3.9		2.1	2.5		1	5.3	5.8	0%	0.18
Bacteriological																			
2007, 2013	Enterococcus	MPN/100 mL	151 (b)	1. Basin Plan	110	**471**			**500**	**1,300**		**230**	**700**		20	130	**300**	67%	2.77
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	20	**500**			140	300		110	40		20	20	270	11%	0.39
2007, 2013	Total Coliform	MPN/100 mL	NA		500	1,700			800	11,000		1,300	23,000		800	500	1,700		
Nutrients																			
2007, 2013	Ammonia as N	mg/L	(c)	6. USEPA Water Quality Criteria (Freshwater)	0.13	0.05			0.074J	0.17		0.077J	0.087J		<0.10	0.079J	<0.10	0%	0.03
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.48	0.11			0.45	0.61		0.36	0.35		0.22	0.17	<0.10	0%	0.04
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	0.05			0.035J	0.043J		0.037J	<0.15		0.033J	0.016J	0.013J	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		7	0.98			1.1	0.98		0.46	0.6		0.56	0.63	1.5		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**8.48**	**1.14**			**1.585**	**1.633**		0.857	0.95		0.813	0.816	**1.513**	56%	1.98
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.09	0.05			**0.12**	0.097		0.082	0.088		0.087	NR	**0.14**	25%	0.94
2013	Orthophosphate	mg/L	NA												0.074	0.057	0.071		
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.13**	0.08			**0.13**	**0.21**		**0.11**	**0.11**		**0.12**	**0.13**	**0.23**	89%	1.39
General Chemistry																			
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	**10.2**			1.4J	1.1J		1.8J	2.3		2.2	NR	9.3	13%	0.37
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	19	28			38	<5		27	19		33	NR	62	0%	0.24
2013	Chloride	mg/L	250 (a)	1. Basin Plan											**920**	**980**	**870**	100%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		8.2	7.9			8.7	6.4		6.3	4.9		7.5	5.5	8.7		
2007, 2013	Total Organic Carbon	mg/L	NA		9.7	8.1			8.5	6.7		6.4	4.2		7.7	5.2	9.7		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5			<5.9	<5		<5	<5		<5.0	NR	<5.0	0%	0.26
2013	Sulfate	mg/L	250 (a)	1. Basin Plan											**460**	**490**	**450**	100%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.09	0.068			0.058	0.049J		0.036J	0.052J		0.079	0.12	0.08	0%	0.14
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan	**2,266**	**2,160**			**2,300**	**1,600**		**2,000**	**2,200**		**2,200**	**2,400**	**2,200**	100%	4.29
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	7.6	5			5	27		5	6		7	12	29	0%	0.20
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		332.1	560.3			960	760		923	914		1,060	1,070	1,000		
Total Metals																			
2013	Aluminum	mg/L	1.0 (d)	1. Basin Plan											0.046	0.13	0.071	0%	NA[1]
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0003J	0.0002J			0.00018J	0.00016J		0.00014J	0.00018J		0.00015J	NR	0.00020J	0%	0.03
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0026	0.0027			0.0017	0.0024		0.002	0.0018		0.0021	0.0019	0.0028	0%	0.22
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			<0.0001	0.00004J		0.00002J	0.00003J		<0.00010	<0.00010	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0002J	<0.0005			0.0014	0.0013		0.00039	0.00023		0.00011J	0.00023	0.00017J	0%	0.01
2013	Chromium, Trivalent	mg/L	NA												<0.00020	<0.00020	<0.00020		
2013	Chromium, Hexavalent	mg/L	0.010 (d)	1. Basin Plan											0.00006	0.000035	0.000028	0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0014	0.0005J			0.0012	0.0017		0.00092	0.00097		0.00072	0.00068	0.0017	0%	0.00
2013	Iron	mg/L	0.3 (a)	1. Basin Plan											**0.35**	**0.57**	0.3	67%	NA[1]
2007, 2013	Lead	mg/L	NA		0.0001	0.00013			0.000095J	0.00063		0.00024	0.00019J		0.000060J	0.00016J	<0.00020		
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan											**0.32**	**0.7**	**0.22**	100%	NA[1]
2013	Mercury	mg/L	0.002 (d)	1. Basin Plan											0.0000070J	<0.000050	<0.000050	0%	NA[1]
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0018	0.0021			0.0073	0.0027		0.0024	0.0022		0.0024	0.0025	0.0064	0%	0.03
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0008	0.0004J			0.00062	0.00044		0.0005	0.00037J		0.00029J	0.0004	0.002	0%	0.13
2013	Silver	mg/L	0.1 (d)	1. Basin Plan											<0.00020	<0.00020	<0.00020	0%	NA[1]
2013	Thallium	mg/L	0.002 (d)	1. Basin Plan											<0.00020	<0.00020	<0.00020	0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.003	0.001			0.0015J	0.0066		0.0046J	0.0016J		0.0031J	0.0030J	0.0023J	0%	0.00
Dissolved Metals																			
2013	Aluminum	mg/L	NA												0.0017J	0.0019J	<0.0050		
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0003J	0.0002J			0.00019J	0.00015J		0.00015J	0.00015J		0.00016J	NR	0.00020J	0%	0.03
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0022	0.0027			0.0015	0.0018		0.0018	0.0018		0.0018	0.0015	0.0023	0%	0.01
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000013J	<0.0001		<0.0001	0.00002J		<0.00010	<0.00010	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.0001J	<0.0005			0.00036	0.00005J		0.00008J	0.00008J		0.000043J	<0.00020	0.000052J	0%	0.00
2013	Chromium, Trivalent	mg/L	(e)	16. 40 CFR 131.38											AE	<0.0002	<0.0002	0%	NA[1]
2013	Chromium, Hexavalent	mg/L	0.011	16. 40 CFR 131.38											AE	0.000045	0.000019J	0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0012	0.0006J			0.001	0.00077		0.00071	0.00082		0.00049J	0.00042J	0.0015	0%	0.03
2013	Iron	mg/L	NA												0.044	0.03	<0.010		
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			0.000021J	0.00007J		0.00012J	0.00006J		<0.00020	<0.00020	<0.00020	0%	0.01
2013	Manganese	mg/L	NA												0.18	0.51	0.0019		
2013	Mercury	mg/L	NA												0.0000060J	<0.000050	<0.000050		
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0018	0.0021			0.0066	0.0021		0.0022	0.0021		0.0023	0.0023	0.0065	0%	0.02
2007, 2013	Selenium	mg/L	NA		0.0007	0.0004J			0.00058	0.00043		0.00044	0.00033J		0.00035J	0.00035J	0.0021		
2013	Silver	mg/L	(e)	16. 40 CFR 131.38											<0.00020	<0.00020	<0.00020	0%	0.00
2013	Thallium	mg/L	NA												<0.00020	<0.00020	<0.00020		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0008	0.0005			0.002J	0.005		0.0026J	0.0016J		0.0024J	0.0013J	0.0012J	0%	0.01

Dry Weather Historical Monitoring Table for SDC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015				
					03/04/08 03/05/08	06/02/08-06/03/08	-	-	12/02/10	05/11/11-05/12/11	-	02/25/13-02/26/13	05/01/13-05/02/13	-	01/07/15	02/11/15	05/13/15		
Acid Extractable Compounds							No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected					
2013	Pentachlorophenol	µg/L	(f)	16. 40 CFR 131.38											AE	<1.0	<1.0	0%	NA[1]
Organophosphorus Pesticides																			
2013	Azinphos methyl (Guthion)	µg/L	NA												<0.010	<0.010	<0.010		
2013	Bolstar	µg/L	NA												<0.010	<0.010	<0.010		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.29
2013	Coumaphos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Demeton-o	µg/L	NA												<0.010	<0.010	<0.010		
2013	Demeton-s	µg/L	NA												<0.010	<0.010	<0.010		
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.09
2013	Dichlorvos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Dimethoate	µg/L	NA												<0.010	<0.010	<0.010		
2013	Disulfoton	µg/L	NA												<0.010	<0.010	<0.010		
2013	Ethoprop	µg/L	NA												<0.010	<0.010	<0.010		
2013	Ethyl parathion	µg/L	NA												<0.010	<0.010	<0.010		
2013	Fensulfothion	µg/L	NA												<0.010	0.0035J	0.0060J		
2013	Fenthion	µg/L	NA												<0.010	<0.010	<0.010		
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.05
2013	Merphos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Methyl parathion	µg/L	NA												<0.010	<0.010	<0.010		
2013	Mevinphos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Naled	µg/L	NA												<0.010	<0.010BS-L	<0.010		
2013	Phorate	µg/L	NA												<0.010	<0.010	<0.010		
2013	Ronnel	µg/L	NA												<0.010	<0.010	<0.010		
2013	Stirophos	µg/L	NA												<0.010	<0.010	<0.010		
2013	Tokuthion (Prothiofos)	µg/L	NA												<0.010	<0.010	<0.010		
2013	Trichloronate	µg/L	NA												<0.010	<0.010	<0.010		
Pyrethroids																			
2013	Allethrin	µg/L	NA												<0.002	<0.002	<0.002		
2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006											<0.002	<0.002	<0.002	0%	NA[1]
2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Cypermethrin	µg/L	0.344	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Danitol (Fenpropathrin)	µg/L	NA												<0.002	<0.002	<0.002		
2013	Deltamethrin/Tralomethrin	µg/L	NA												<0.002	<0.002	<0.002		
2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004											<0.002	<0.002	<0.002	0%	NA[1]
2013	Fenvalerate	µg/L	NA												<0.002	<0.002	<0.002		
2013	Fluvalinate	µg/L	NA												<0.002	<0.002	<0.002		
2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006											<0.01	<0.01	<0.01	0%	NA[1]
2013	Prallethrin	µg/L	NA												<0.002	<0.002	<0.002		
2013	Resmethrin	µg/L	NA												<0.01	<0.01	<0.01		
Toxicity																			
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	NR	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	NR	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100			**50**	**<6.25**		100	**50**		**50**	NR	100	50%	3.25
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	NR	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	**50**			100	100		100	100*		**50**	NR	100	38%	1.25
2013	*Strongylocentrotus 96-hr*	TST	Pass/Fail												Pass	Pass	Pass	0%	

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SDC-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(b) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(c) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
(f) Water Quality Benchmark for pentachlorophenol are based on pH and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
AE-Analysis error.
BS-L-Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
NR-Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).
* Originally tested with first batch. Showed slight toxicity (TU=2) but was out of holding time. Re-run with second batch.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SLR-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					09/18/07-09/19/07	05/13/08-05/14/08	-	-	01/11/11-01/12/11	05/10/11	-	02/25/13-02/26/13	05/01/13-05/02/13	-	01/07/15	5/5/2015-5/6/2015		
Physical Chemistry																		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.42	7.68	No Samples Collected	No Samples Collected	7.34	7.75	No Samples Collected	7.45	7.62	No Samples Collected	6.66	7.59	0%	0.25
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,320	1,878			1,773	1,811		2,670	2,580		2,283	2,955		
2007, 2013	Water Temperature	Celsius	NA		18.9	15.90			12.70	17.20		12.20	15.80		14.58	15.69		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	5.3	8.4			8.8	3.2		13	2.6		2.7	2.5	0%	0.29
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**500**	**800**			**1,300**	**500**		60	**500**		40	20	63%	3.08
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	170	140			300	230		40	230		<20	40	0%	0.37
2007, 2013	Total Coliform	MPN/100 mL	NA		800	5,000			5,000	1,700		3,000	3,000		300	230		
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.004	0.03			0.1	<0.1		0.15	<0.1		<0.10	<0.10	0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.01	0.48			4.6	1.6		0.99	0.24		0.092J	<0.10	0%	0.10
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05			0.038J	<0.1		0.029J	<0.15		0.017J	<0.10	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.56	1.1			0.71	0.5		0.41	0.54		0.3	0.2		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.57	**1.58**			**5.35**	**2.10**		**1.429**	0.78		0.409	0.2	50%	1.55
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.04J	0.08			0.099	0.1		**0.11**	0.093		0.017	0.022	13%	0.70
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.1	**0.147**			**0.15**	**0.15**		**0.20**	**0.17**		0.064	0.08	63%	1.33
General Chemistry																		
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	3.6			1.3J	0.68J		1.2J	0.91J		<2.0	<2.0	0%	0.13
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	**160**	16			12	17		17	21		15	17	13%	0.29
2007, 2013	Dissolved Organic Carbon	mg/L	NA		5	6.4			6.2	5.1		4.8	4.4		5.3	4.9		
2007, 2013	Total Organic Carbon	mg/L	NA		39.4	5.8			6.4	5.1		5.1	4.1		5.4	4.9		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	1J	<5			<5	<5		<5	2.1J		<5.0	1.7J	0%	0.22
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.04	0.029			0.037J			<0.05	0.033J		0.056	0.049J	0%	0.08
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,740**	**1,552**			**1,400**	**1,500**		**1,700**	**1,800**		**1,800**	**2,000**	100%	3.37
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	2J	10			11	10		19	25		3	4	0%	0.18
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		499.8	447.7			710	750		887	880		978	1,100		
Total Metals																		
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	<0.0005	0.0001J			0.00011J	0.000064J		0.00006J	0.00008J		0.000081J	<0.00050	0%	0.02
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0012	0.0014			0.0013	0.0011		0.001	0.0011		0.00096	0.00065	0%	0.11
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			0.000036J	0.000023J		0.00003J	0.00004J		0.000057J	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0001J	<0.0005			0.00095	0.00033		0.00072	0.00062		0.000077J	0.000050J	0%	0.01
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	<0.0008	0.0007J			0.0035	0.0022		0.0017	0.0018		0.00056	0.00026J	0%	0.00
2007, 2013	Lead	mg/L	NA		<0.0001	0.0001			0.00034	0.00014J		0.0004	0.00045		0.000068J	<0.00020		
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0007	0.0008			0.0042	0.003		0.0017	0.0014		0.0022	0.0015	0%	0.02
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.0005	0.0006			0.00071	0.00056		0.00038J	0.00027J		0.00017J	<0.00040	0%	0.08
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0011	0.0017			0.0039J	0.0019J		0.0039J	0.0042J		0.0026J	0.0011J	0%	0.00
Dissolved Metals																		
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.0005	0.0001J			0.000091J	0.000071J		0.00006J	0.00005J		0.000080J	<0.00050	0%	0.02
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0011	0.0013			0.0009	0.00081		0.00078	0.00083		0.00069	0.00053	0%	0.00
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000027J	0.000022J		0.00004J	0.00003J		<0.00010	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	<0.0005	<0.0005			0.000079J	0.0001J		<0.0002	0.00007J		0.000039J	<0.00020	0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	<0.0008	<0.0008			0.0024	0.0012		0.00081	0.00067		0.00030J	0.00025J	0%	0.03
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			0.000022J	<0.0002		0.00007J	0.00004J		<0.00020	<0.00020	0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0006	0.0007			0.0037	0.0025		0.0013	0.0011		0.0022	0.0015	0%	0.01
2007, 2013	Selenium	mg/L	NA		<0.0005	0.0006			0.00066	0.00062		0.00035J	0.00019J		0.00015J	<0.00040		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	<0.0005	0.0004J			0.002J	0.0021J		0.0024J	0.0019J		0.0012J	0.0012J	0%	0.00
Organophosphorus Pesticides																		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.29
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01		<0.01	<0.01		0.0056J	<0.010	0%	0.09
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.05
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100			100	6.25Q		100	**50**		**50**	**50**	43%	1.43
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			100	100		100	**50**		100	**25**	25%	1.50

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SLR-TWAS-1

Blank spaces have been verified and no data is available due.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary based on hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
Q-Results did not meet quality control criteria; results not used in assessment.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SLR-TWAS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Long Term Monitoring					Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2010-2011		2011-2012	2012-2013		2013-2014	2014-2015		
					01/11/11-01/12/11	05/09/11-05/10/11	-	02/25/13-02/26/13	05/01/13-05/02/13	-	-		
Physical Chemistry													
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.62	8.02	No Samples Collected	7.91	7.68	No Samples Collected	No Samples Collected	0%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,758	1,931		2,740	2,780				
2007, 2013	Water Temperature	Celsius	NA		13.60	18.80		13.7	17.3				
2007, 2013	Turbidity	NTU	20	1. Basin Plan	12	2		9.6	**43**			25%	NA[1]
Bacteriological													
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**300**	110		20	**700**			50%	NA[1]
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	170	110		40	300			0%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		5,000	1,700		800	5000				
Nutrients													
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.1	<0.1		<0.1	0.069J			0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	5.8	4.1		4.1	7.6			0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.059J	0.04J		0.071J	<0.15			0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.53	0.35		0.32	0.87				
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**6.39**	**4.49**		**4.491**	**8.47**			100%	NA[1]
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	**0.17**	**0.14**		**0.14**	**0.13**			100%	NA[1]
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.21**	**0.15**		**0.18**	**0.24**			100%	NA[1]
General Chemistry													
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	1.6J	3.6		1.2J	1.5J			0%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	31	24		12	23			0%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		6.7	5.2		4.9	4.7				
2007, 2013	Total Organic Carbon	mg/L	NA		6.9	5.1		5.4	4.4				
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5		<5	2J			0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.031J			<0.05	0.024J			0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,400**	**1,500**		**1,800**	**1,900**			100%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	18	4		24	**71**			25%	NA[1]
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		690	780		906	894				
Total Metals													
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.00013J	0.000079J		0.0001J	0.00018J			0%	NA[1]
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0014	0.0011		0.0012	0.0019			0%	NA[1]
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	0.00003J	0.000026J		0.00006J	0.00007J			0%	NA[1]
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0021	0.00022		0.00091	0.0047			0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0041	0.0017		0.0018	0.0066			0%	NA[1]
2007, 2013	Lead	mg/L	NA		0.00047	0.00028		0.00034	0.0018				
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0046	0.003		0.002	0.0034			0%	NA[1]
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.00088	0.0008		0.00061	0.00071			0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0062	0.0011J		0.0061	0.022			0%	NA[1]
Dissolved Metals													
2007	Antimony	mg/L	0.006	1. Basin Plan	0.00011J	0.000076J		0.00007J	0.00009J			0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.00096	0.0011		0.001	0.0013			0%	NA[1]
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	0.000027J	0.000027J		0.00003J	0.00003J			0%	NA[1]
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.00013J	0.000056J		<0.0002	0.00009J			0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0024	0.0016		0.00095	0.0014			0%	NA[1]
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	0.000041J	<0.0002		0.00009J	<0.0002			0%	NA[1]
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0038	0.0028		0.0015	0.0013			0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.0008	0.00069		0.0006	0.00059				
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0022J	0.0024J		0.0033J	0.0023J			0%	NA[1]
Organophosphorus Pesticides													
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01		<0.01	<0.01			0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.01	<0.01		<0.01	<0.01			0%	NA[1]
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.01	<0.01		<0.01	<0.01			0%	NA[1]
Toxicity													
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100			0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100			0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	**<6.25**		100	100			25%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100	**57.4***			25%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100		**50**	100			25%	NA[1]

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SLR-TWAS-2

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmarks are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hyrdologic area/subarea.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
* Fungus observed on bodies of dead Hyalella. TIE not run.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SLR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Long Term and Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015		
					09/18/10-09/19/10	05/13/08-05/14/08	-	-	01/11/11-01/12/11	05/09/11-05/10/11	-	02/25/13-02/26/13	05/01/13-05/02/13	-	-		
Physical Chemistry							No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected	No Samples Collected		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.74	7.87			7.75	8.05		7.74	7.22			0%	0.13
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,360	1,983			1,661	2,410		2,790	3,310				
2007, 2013	Water Temperature	Celsius	NA		18.20	16.30			14.40	16.30		11.6	17.90				
2007, 2013	Turbidity	NTU	20	1. Basin Plan	3.9	**25.4**			12	19		1.6	5			17%	0.56
Bacteriological																	
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**1,700**	70			**1,700**	**500**		130	80			50%	4.61
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**800**	110			**1,100**	170		40	110			33%	0.97
2007, 2013	Total Coliform	MPN/100 mL	NA		2,300	1,879E			6,000	30,000		2,800	3,000				
Nutrients																	
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.04J	0.03			0.1	<0.1		0.082J	<0.1			0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.16	1.23			4.5	2		0.8	<0.11			0%	0.15
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05			0.03J	<0.1		0.05J	<0.15			0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.7	0.56			0.62	0.63		0.48	1.1				
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.86	**1.79**			**5.15**	**2.63**		**1.33**	**1.1**			83%	2.14
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	**0.14**	**0.16**			**0.17**	**0.14**		0.063	0.095			67%	1.28
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.16**	**0.30**			**0.24**	**0.25**		0.082	**0.18**			83%	2.02
General Chemistry																	
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	<2			1.4J	0.96J		1.5J	3.1			0%	0.15
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	61	18			20	37		22	36			0%	0.27
2007, 2013	Dissolved Organic Carbon	mg/L	NA		4.02	6.8			7.7	5.8		7	7				
2007, 2013	Total Organic Carbon	mg/L	NA		4.2	6.5			7.4	5.6		7	6.6				
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5			<5	<5		2J	1.5J			0%	0.23
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.045	0.047			0.031J			0.029J	0.085			0%	0.09
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,685**	**1,630**			**1,400**	**1,500**		**1,700**	**2,400**			100%	3.44
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	4.7J	36			14	32		3	17			0%	0.31
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		450	440			660	780		860	1090				
Total Metals																	
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0001J	0.0001J			0.00014J	0.00011J		0.00016J	0.00012J			0%	0.02
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0018	0.0018			0.0013	0.0015		0.0011	0.0014			0%	0.15
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0004			0.000031J	0.000035J		0.00005J	0.00005J			0%	0.02
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0001J	0.0001J			0.00084	0.00081		0.00035	0.00016J			0%	0.01
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0005J	0.0036			0.0029	0.0025		0.0013	0.00053			0%	0.00
2007, 2013	Lead	mg/L	NA		0.00006J	0.0004			0.0003	0.00037		0.00009J	0.00022				
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.001	0.0017			0.0038	0.0033		0.002	0.0014			0%	0.02
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0004J	0.0007			0.00073	0.00051		0.00043	0.00034J			0%	0.10
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.001	0.004			0.0035J	0.0035J		0.0028J	0.003J			0%	0.00
Dissolved Metals																	
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0001J	0.0001J			0.00013J	0.000094J		0.00016J	0.0001J			0%	0.02
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0016	0.0017			0.001	0.0012		0.00092	0.0012			0%	0.01
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000022J	0.000022J		0.00004J	0.00005J			0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	<0.0005	<0.0005			0.00011J	0.000059J		<0.0002	0.00008J			0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0007J	0.0009			0.0022	0.0012		0.0013	0.00044J			0%	0.04
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0001			0.000023J	<0.0002		0.00011J	<0.0002			0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0009	0.0013			0.0034	0.0027		0.0018	0.0013			0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0004J	0.0007			0.00067	0.00053		0.00046	0.00034J				
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0001J	0.0007			0.0021J	0.002J		0.0035J	0.0026J			0%	0.00
Organophosphorus Pesticides																	
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01			0%	0.26
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01		<0.01	<0.01			0%	0.08
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01		<0.01	<0.01			0%	0.04
Toxicity																	
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100			0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100			0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100			100	**25**		100	100			17%	1.50
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100			0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			100	100		100	**25**			17%	1.50

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SLR-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
E-Results calculated using Thomas Equation.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SM-TWAS-1b

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data					Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					09/14/10-09/15/10	05/11/11-05/12/11	-	09/05/12-09/06/12	05/14/13-05/15/13	-	1/7/2015-1/8/2015	5/5/2015-5/6/2015		
Physical Chemistry														
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.24	7.89	No Samples Collected	7.86	7.91	No Samples Collected	6.96	8.15	0%	0.28
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,823	2,250		1,746	1,370		1,869	1,848		
2007, 2013	Water Temperature	Celsius	NA		17.70	15.90		20.2	16.9		13.83	16.44		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	4.4	**35**		8.4	14		2.7	3.4	17%	0.57
Bacteriological														
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**1,300**	**300**		**4,000**	**5,000**		110	80	67%	11.91
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	170	**500**		**3,000**	**500**		40	140	50%	1.81
2007, 2013	Total Coliform	MPN/100 mL	NA		80,000	14,000		5,000	8,000		900	2,400		
Nutrients														
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	<0.1	<0.1		0.072J	0.17		<0.10	<0.10	0%	0.04
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.7	3.6		0.97	1		1	0.32	0%	0.14
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.08J	0.04J		<0.1	<0.1		0.013J	0.010J	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.78	0.9		0.68	0.26		0.33	0.41		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**2.56**	**4.54**		**1.65**	**1.26**		**1.343**	0.74	83%	2.02
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.066	**0.11**		0.056	**0.15**		0.037	0.092	33%	0.85
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.08	**0.18**		0.076	**0.18**		0.051	**0.18**	50%	1.25
General Chemistry														
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	3.4	1.3J		1.6J	0.88J		<2.0	<2.0	0%	0.15
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	25	50		19	5.5		9.9	15	0%	0.17
2007, 2013	Dissolved Organic Carbon	mg/L	NA		3.8	4.4		4.9	3.2		5.3	7.4		
2007, 2013	Total Organic Carbon	mg/L	NA		4.1	4.4		5.5	3.8		5.4	7.4		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5		<5	<5		<5.0	<5.0	0%	0.25
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.028J	0.046J		0.037J	0.053J		0.091	0.076	0%	0.11
2007, 2013	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,300**	**1,400**		**1,200**	**1,200**		**1,300**	**1,100**	100%	2.50
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	55	**60**		31	16		2	8	17%	0.49
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		580	650		528	531		665	574		
Total Metals														
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.00028J	0.00027J		0.00028J	0.00038J		0.00029J	0.00029J	0%	0.05
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0015	0.0018		0.002	0.0015		0.00091	0.002	0%	0.16
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	0.000053J	0.00006J		0.00006J	0.000031J		0.000042J	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	0.0021	0.0019		0.0002	0.00018J		0.00014J	0.00033	0%	0.02
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0054	0.0062		0.0012	0.0021		0.0016	0.0017	0%	0.00
2007, 2013	Lead	mg/L	NA		0.0014	0.0016		0.00017J	0.000088J		0.00010J	0.00031		
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0035	0.0027		0.0018	0.0035		0.002	0.002	0%	0.03
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0012	0.0012		0.0009	0.0011		0.00058	0.00054	0%	0.18
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.02	0.019		0.0026J	0.0035J		0.0071	0.0063		
Dissolved Metals														
2007	Antimony	mg/L	0.006	1. Basin Plan	0.00025J	0.00021J		0.00028J	0.00038J		0.00029J	0.00028J	0%	0.05
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0013	0.0016		0.0019	0.0015		0.00077	0.0015	0%	0.01
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	0.000016J	0.00002J		0.00006J	0.000031J		<0.00010	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	0.00012J	0.00016J		0.00008J	0.00014J		0.000055J	0.000043J	0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0017	0.0021		0.00097	0.0019		0.0014	0.00096	0%	0.05
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	0.000045J	0.00005J		0.00009J	0.000024J		<0.00020	<0.00020	0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0023	0.0015		0.0015	0.0038		0.0021	0.0018	0%	0.01
2007, 2013	Selenium	mg/L	NA		0.00098	0.0011		0.00088	0.0011		0.00066	0.00043		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0035J	0.0036J		0.0024J	0.0037J		0.0045J	0.0028J	0%	0.01
Organophosphorus Pesticides														
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.36
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.01	<0.01		0.0065J	<0.01		<0.010	<0.010	0%	0.11
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.05
Toxicity														
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100C		100	100		100	100	0%	1.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	**50**		100	100		**50**	100	33%	1.33

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SM-TWAS-1b

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary based on hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
C-Control failed; however, sample showed no toxic response.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SMR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data 2007-2008 03/06/08	Historical Monitoring Data 2007-2008 05/08/08	Frequency Above Benchmarks	Mean Ratio to Benchmarks
Physical Chemistry								
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.02	8.21	0%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,280	1,180		
2007, 2013	Water Temperature	Celsius	NA		12.72	18.61		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	8.76	1.18	0%	NA[1]
Bacteriological								
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	8	22	0%	NA[1]
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	17	50	0%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		110	1,600		
Nutrients								
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	<0.02	<0.02	0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.82	0.26	0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.007	<0.007	0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		<0.3	1.2		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**1.82**	**1.46**	100%	NA[1]
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	<0.05	<0.05	0%	NA[1]
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan				
General Chemistry								
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2.00	<2.00	0%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	<25	<25	0%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		4.83	3.71		
2007, 2013	Total Organic Carbon	mg/L	NA		6.32	6.61		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5	0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.1	<0.1	0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	750 (c)	1. Basin Plan	**830**	**819**	100%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	<1	<1	0%	NA[1]
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		494	521		
Total Metals								
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	<0.001	<0.001	0%	NA[1]
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	<0.001	<0.001	0%	NA[1]
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.001	<0.001	0%	NA[1]
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	<0.004	<0.004	0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	<0.002	<0.002	0%	NA[1]
2007, 2013	Lead	mg/L	NA		<0.004	<0.004		
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	<0.002	<0.002	0%	NA[1]
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.005	<0.005	0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	<0.010	<0.010	0%	NA[1]
Dissolved Metals								
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	<0.001	<0.001	0%	NA[1]
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.001	<0.001	0%	NA[1]
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	<0.004	<0.004	0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	<0.001	<0.001	0%	NA[1]
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.001	<0.001	0%	NA[1]
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	<0.002	<0.002	0%	NA[1]
2007, 2013	Selenium	mg/L	NA		<0.005	<0.005		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	<0.010	<0.010	0%	NA[1]
Organophosphorus Pesticides								
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.04*	<0.04*		
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.04	<0.04	0%	NA[1]
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.05	<0.05	0%	NA[1]
Toxicity								
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100					
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100	0%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100					
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100	0%	NA[1]

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SMR-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SMR-MLS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data							Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015				
					-	-	09/14//10-09/15/10	05/10/11	-	09/05/12-09/06/12	05/01/13-05/02/13	-	09/10/14	01/07/15	05/05/15		
Physical Chemistry																	
2013	Dissolved Oxygen	mg/L	<6.0 (a)	1. Basin Plan	No samples collected	No samples collected			No samples collected			No samples collected	6.92	10.43	7.64	0%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan			7.03	8.19		7.39	7.4		7.56	7.3	7.55	0%	0.31
2007, 2013	Specific Conductivity	µmhos/cm	NA				1,288	1,256		1,153	1,057		1,293	1,412	1,416		
2007, 2013	Water Temperature	Celsius	NA				20.40	15.90		21.5	19.6		23.17	12.13	19.05		
2007, 2013	Turbidity	NTU	20	1. Basin Plan			1.4	1.4		0.52	1.4		1.2	0.9	0.6	0%	0.05
Bacteriological																	
2007, 2013	Enterococcus	MPN/100 mL	151 (b)	1. Basin Plan			40	40		130	**170**		≤110AE	40	70	14%	0.57
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2			20	70		20	80		20	40	110	0%	0.13
2007, 2013	Total Coliform	MPN/100 mL	NA				5,000	1,300		800	2,300		490	2,400	500		
Nutrients																	
2007, 2013	Ammonia as N	mg/L	(c)	6. USEPA Water Quality Criteria (Freshwater)			<0.1	<0.1		<0.1	<0.1		<0.10	<0.10	<0.10	0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan			0.37	2.7		0.32	0.48		0.063J	3.2	0.51	0%	0.11
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan			0.016J	<0.1		<0.1	<0.15		0.028J	0.017J	<0.10	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA				0.23	0.17		0.23	0.23		0.16	0.18	0.14		
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan			0.616	**2.87**		0.55	0.71		0.251	**3.397**	0.65	29%	1.29
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan			0.037	0.018		0.012	0.011		0.015	NR	0.01	0%	0.17
2013	Orthophosphate	mg/L	NA										0.014	AE	0.012		
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan			0.038	0.021		0.015	0.022		0.026	0.036	0.019	0%	0.25
General Chemistry																	
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)			4.7	0.59J		1.5J	1.2J		<2.0	NR	<2.0	0%	0.17
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015			3.9J	7.2		11	6.2		12	NR	11	0%	0.07
2007, 2013	Dissolved Organic Carbon	mg/L	NA				2.2	3.2		3.8	3.2		3.2	4	3.7		
2007, 2013	Total Organic Carbon	mg/L	NA				2.3	3.2		2.9	2.9		3.3	4.2	3.1		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL			<5	<5		4.5J	1.5J		<5.0	NR	<5.0	0%	0.27
2013	Sulfate	mg/L	250 (a)	1. Basin Plan									**290**	**330**	**330**	100%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan			<0.05			0.034J	0.035J		0.038J	0.06	0.032J	0%	0.07
2007, 2013	Total Dissolved Solids	mg/L	750 (a)	1. Basin Plan			**870**	**840**		**850**	**810**		**860**	**1,000**	**950**	100%	1.18
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan			1	31		3	4		6	3	2	0%	0.12
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA				430	440		402	385		426	542	481		
Total Metals																	
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan			0.0002J	0.00013J		0.00008J	0.00017J		0.000088J	NR	0.000045J	0%	0.02
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan			0.001	0.0014		0.0017	0.0012		0.0014	0.0014	0.0012	0%	0.13
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan			0.000017J	<0.0001		0.00002J	<0.0001		<0.00010	<0.00010	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan			0.0001J	0.00015J		<0.0002	0.00021		0.00031	0.00012J	0.00013J	0%	0.00
2013	Chromium, Trivalent	mg/L	NA										<0.00050	<0.00020	<0.00020		
2013	Chromium, Hexavalent	mg/L	0.010 (d)	1. Basin Plan									0.000053J	0.000095	0.000084	0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan			0.00067	0.0013		0.00045J	0.0013		0.00067	0.0013	0.00088	0%	0.00
2013	Iron	mg/L	0.3 (a)	1. Basin Plan									**0.39**	0.13	0.15	33%	NA[1]
2007, 2013	Lead	mg/L	NA				0.0001J	0.000062J		0.00002J	0.00019J		0.000085J	0.000067J	0.000058J		
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan									**0.063**	0.034	0.049	33%	NA[1]
2013	Mercury	mg/L	0.002 (d)	1. Basin Plan									0.000026J	0.0000040J	<0.000050	0%	NA[1]
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan			0.0014	0.0016		0.00075J	0.00079J		0.00075J	0.001	0.00068J	0%	0.01
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38			0.00056	0.0012		0.00065	0.00079		0.00043	0.0012	0.00053	0%	0.15
2013	Silver	mg/L	0.1 (d)	1. Basin Plan									<0.00020	<0.00020	<0.00020	0%	NA[1]
2013	Thallium	mg/L	0.002 (d)	1. Basin Plan									<0.00020	<0.00020	<0.00020	0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan			0.0011J	0.0013J		<0.005	0.0015J		0.0018J	0.0030J	<0.0050	0%	0.00
Dissolved Metals																	
2007	Antimony	mg/L	0.006	1. Basin Plan			0.00014J	0.00012J		0.0001J	0.00012J		0.000086J	NR	0.000095J	0%	0.02
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38			0.001	0.0013		0.0016	0.0012		0.0011	0.0013	0.0012	0%	0.00
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38			<0.0001	<0.0001		0.00002J	<0.0001		<0.00010	<0.00010	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38			0.000056J	0.000074J		<0.0002	0.00016J		0.000086J	0.000047J	<0.00020	0%	0.00
2013	Chromium, Trivalent	mg/L	(e)	16. 40 CFR 131.38									AE	AE	<0.0002	0%	NA[1]
2013	Chromium, Hexavalent	mg/L	0.011	16. 40 CFR 131.38									AE	AE	0.000076	0%	NA[1]
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38			0.00061	0.0012		0.0005	0.00095		0.00048J	0.0012	0.00092	0%	0.03
2013	Iron	mg/L	NA										0.027	0.0077J	0.039		
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38			<0.0002	0.000039J		<0.0002	<0.0002		<0.00020	<0.00020	0.000045J	0%	0.01
2013	Manganese	mg/L	NA										0.012	0.018	0.04		
2013	Mercury	mg/L	NA										0.000015J	<0.000050	<0.000050		
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38			0.0014	0.0016		0.00071J	0.0008		0.00065J	0.00092	0.00067J	0%	0.01
2007, 2013	Selenium	mg/L	NA				0.00065	0.0012		0.00067	0.00071		0.00035J	0.0012	0.00058		
2013	Silver	mg/L	(e)	16. 40 CFR 131.38									<0.00020	<0.00020	<0.00020	0%	NA[1]
2013	Thallium	mg/L	NA										<0.00020	<0.00020	<0.00020		
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38			0.0017J	0.0024J		0.0016J	0.0046J		0.0011J	0.0013J	0.0012J	0%	0.01

Dry Weather Historical Monitoring Table for SMR-MLS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data							Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015				
					-	-	09/14//10-09/15/10	05/10/11	-	09/05/12-09/06/12	05/01/13-05/02/13	-	09/10/14	01/07/15	05/05/15		
Organophosphorus Pesticides					No samples collected	No samples collected			No samples collected			No samples collected					
2013	Azinphos methyl (Guthion)	µg/L	NA										<0.010	<0.010	<0.010		
2013	Bolstar	µg/L	NA										<0.010	<0.010	<0.010		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.36
2013	Coumaphos	µg/L	NA										<0.010	<0.010	<0.010		
2013	Demeton-o	µg/L	NA										<0.010	<0.010	<0.010		
2013	Demeton-s	µg/L	NA										<0.010	<0.010	<0.010		
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.10
2013	Dichlorvos	µg/L	NA										<0.010	<0.010	<0.010		
2013	Dimethoate	µg/L	NA										<0.010	<0.010	<0.010		
2013	Disulfoton	µg/L	NA										<0.010	<0.010	<0.010		
2013	Ethoprop	µg/L	NA										<0.010	<0.010	<0.010		
2013	Ethyl parathion	µg/L	NA										<0.010	<0.010	<0.010		
2013	Fensulfothion	µg/L	NA										<0.010	<0.010	<0.010		
2013	Fenthion	µg/L	NA										<0.010	<0.010	<0.010		
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.05
2013	Merphos	µg/L	NA										<0.010	<0.010	<0.010		
2013	Methyl parathion	µg/L	NA										<0.010	<0.010	<0.010		
2013	Mevinphos	µg/L	NA										<0.010	<0.010	<0.010		
2013	Naled	µg/L	NA										<0.010	<0.010	<0.010		
2013	Phorate	µg/L	NA										<0.010	<0.010	<0.010		
2013	Ronnel	µg/L	NA										<0.010	<0.010	<0.010		
2013	Stirophos	µg/L	NA										<0.010	<0.010	<0.010		
2013	Tokuthion (Prothiofos)	µg/L	NA										<0.010	<0.010	<0.010		
2013	Trichloronate	µg/L	NA										<0.010	<0.010	<0.010		
Pyrethroids																	
2013	Allethrin	µg/L	NA										<0.002	<0.002	<0.002		
2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006									<0.002	<0.002	<0.002	0%	NA[1]
2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004									<0.002	<0.002	<0.002	0%	NA[1]
2013	Cyhalothrin, Total Lambda	µg/L	0.2	17. Wheelock et al., 2004									<0.002	<0.002	<0.002	0%	NA[1]
2013	Cypermethrin	µg/L	0.344	17. Wheelock et al., 2004									<0.002	<0.002	<0.002	0%	NA[1]
2013	Danitol (Fenpropathrin)	µg/L	NA										<0.002	<0.002	<0.002		
2013	Deltamethrin/Tralomethrin	µg/L	NA										<0.002	<0.002	<0.002		
2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004									<0.002	<0.002	<0.002	0%	NA[1]
2013	Fenvalerate	µg/L	NA										<0.002	<0.002	<0.002		
2013	Fluvalinate	µg/L	NA										<0.002	<0.002	<0.002		
2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006									<0.01	<0.01	<0.01	0%	NA[1]
2013	Prallethrin	µg/L	NA										<0.002	<0.002	<0.002		
2013	Resmethrin	µg/L	NA										<0.01	<0.01	<0.01		
Toxicity																	
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100				>100	>100		>100	>100		>100	NR	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100				100	100		100	100		100	NR	100	0%	1.00
2013	*Ceriodaphnia 7-day survival*	TST	Pass/Fail										Pass	Pass	Pass	0%	
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100				100	<6.25CF		100	100		100	NR	100	0%	1.00
2013	*Ceriodaphnia 7-day reproduction*	TST	Pass/Fail										Pass	Pass	Pass	0%	
2007	*Hyalella* 96-hr	LC_{50} (%)	>100				>100	>100		>100	>100		>100	NR	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100				100	100		100	100		100	NR	100	0%	1.00
2013	*Selenastrum 96-hr*	TST	Pass/Fail										Pass	Pass	Pass	0%	
2013	*Pimephales 7-day survival*	TST	Pass/Fail										Pass	Pass	Pass	0%	
2013	*Pimephales 7-day biomass*	TST	Pass/Fail										Pass	Pass	Pass	0%	

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SMR-MLS-2

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(b) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011)
(c) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
AE-Analysis error.
CF-Control failed; results not used in assessment.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
NR-Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SR-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014		2014-2015		
					01/06/10	05/18/10	-	09/12/11-09/13/11	05/08/12-05/09/12	-	01/13/14-01/14/14	05/01/14-05/02/14	-		
Physical Chemistry															
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.15	7.51		7.09	7.39		7.3	7.25		0%	0.37
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,110	2,970		2,470	2,680		2,652	2,743			
2007, 2013	Water Temperature	Celsius	NA		11.80	17.4		18.4	16.3		12.28	16.39			
2007, 2013	Turbidity	NTU	20	1. Basin Plan	10.9	9.4		11	10		16.7	**47.8**		17%	0.88
Bacteriological															
2007, 2013	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	130	**170**		140	**300**		78	**790**		50%	1.77
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	<20	20		300	40		<18	170		0%	0.22
2007, 2013	Total Coliform	MPN/100 mL	NA		800	8,000		5,000	2,200		1,300	790			
Nutrients															
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.04	0.1		0.094J	0.058J		0.030J	<0.10		0%	0.01
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.17	0.13		0.27	0.23		0.062J	<0.10		0%	0.02
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.04J	<0.1		<0.1	<0.1		0.014J	0.011J		0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		<1	0.4		0.4	0.45		0.25	0.28			
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.21	0.53		0.67	0.68		0.326	0.291		0%	0.45
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.076	0.02		0.054	0.053		0.01	0.024		0%	0.40
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.086	0.086		**0.13**	**0.11**		0.062	0.068		33%	0.90
General Chemistry															
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	1.1J		1.3J	0.42J		<2.0	<2.0		0%	0.10
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	24.8	10		22	12		13	6.8		0%	0.12
2007, 2013	Dissolved Organic Carbon	mg/L	NA		5.1	5.7		4.7	5.6		4.5	4.4			
2007, 2013	Total Organic Carbon	mg/L	NA		5.7	5.3		4.7	5.3		4.4	4.5			
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5		<5	<5		<5.0	3.7J		0%	0.27
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.058	0.032J		0.065	0.039J		0.066	0.058		0%	0.11
2007, 2013	Total Dissolved Solids	mg/L	1,500 (c)	1. Basin Plan	**1,952B**	**1,900**		**1,800**	**1,800**		**1,700**	**1,800**		100%	1.22
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	8.2	6		10	9		5	12		0%	0.14
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		801.3	860		780	780		835	893			
Total Metals										No Samples Collected			No Samples Collected		
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	<0.0005	0.000085J		0.0001J	0.00009J		0.000060J	0.000044J		0%	0.02
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.001	0.00096		0.0013	0.0017		0.001	0.00076		0%	0.11
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	0.000016J		0.00002J	0.00002J		0.000032J	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	<0.0005	0.000072J		0.00022	0.00022		0.00012J	<0.00020		0%	0.00
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	<0.0008	0.00036J		0.00073	0.00034J		0.00065	0.00018J		0%	0.00
2007, 2013	Lead	mg/L	NA		<0.0001	0.000033J		0.00026	0.00014J		0.000065J	<0.00020			
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0012	0.0031		0.00093	0.001		0.0043	0.00066J		0%	0.02
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0003J	0.00044		<0.0004	0.00036J		0.0015	0.00011J		0%	0.10
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	<0.0005	0.00096J		0.0026J	0.0023J		0.0022J	0.00078J		0%	0.00
Dissolved Metals															
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0001J	0.000093J		0.00015J	0.00008J		0.000060J	0.000050J		0%	0.01
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0011	0.00076		0.00095	0.0013		0.00072	0.00075		0%	0.01
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	0.000017J		0.00002J	0.00003J		0.000040J	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	<0.0005	0.000069J		0.00019J	<0.0002		0.000057J	0.000058J		0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	<0.0008	0.00045J		0.00046J	<0.0005		0.00061	0.00012J		0%	0.01
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0002		<0.0002	<0.0002		<0.00020	<0.00020		0%	0.01
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.001	0.0034		0.00086	0.001		0.0043	0.00065J		0%	0.01
2007, 2013	Selenium	mg/L	NA		0.0004J	0.00034J		<0.0004	0.00037J		0.0015	0.00012J			
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	<0.0005	0.0024J		0.0022J	0.0016J		0.0026J	0.0011J		0%	0.00
Organophosphorus Pesticides															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.22
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.06
2007^, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.01		<0.01	<0.01		<0.010	<0.010		0%	0.01
Toxicity															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100		100	100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100		100	100		**50**	**50**		33%	1.33
2007, 2013	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100C	>100		>100	>100		0%	1.00
2007	*Selenastrum* 96-hr	NOEC (%)	100		**25**	**25**		**50**	**50**		**50**	**50**		100%	2.67

See last page for footnotes and source references.

Dry Weather Historical Monitoring Table for SR-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial use as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, may 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria concentration (CCC) were used.
B-Analyte was detected in the associated method blank.
C - Control failed; however, sample showed no toxic response.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Dry Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014			2014-2015		
					01/06/10	05/18/10	-	09/12/11-09/13/11	05/08/12-05/09/12	-	09/17/13-09/18/13	1/13/14-1/14/14	05/01/14-05/02/14	-		
Physical Chemistry																
2013	Dissolved Oxygen	mg/L	<5.0 (a)	1. Basin Plan			No Samples Collected			No Samples Collected	**3**	6.44	5.68	No Samples Collected	33%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.38	7.39		7.26	7.29		7.36	7.38	7.46		0%	0.31
2007, 2013	Specific Conductivity	µmhos/cm	NA		4,810	4,630		5,010	4,640		5,229	5,167	5,109			
2007, 2013	Water Temperature	Celsius	NA		12.70	18.10		19.3	16.8		21.24	16.28	19.91			
2013	Color	Color units	20	1. Basin Plan							20	20	**25**		33%	NA[1]
2007, 2013	Turbidity	NTU	20	1. Basin Plan	1.4J	2.5		0.98	4		3.2	0.1	**63.4**		14%	0.54
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	151 (b)	1. Basin Plan	80	**170**		130	**300**		78	140	**310**		43%	1.14
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	120	90		20	<20		130	45	20		0%	0.02
2007, 2013	Total Coliform	MPN/100 mL	NA		800	13,000		1,300	500		1,400	490	1,100			
Nutrients																
2007, 2013	Ammonia as N	mg/L	(c)	6. USEPA Water Quality Criteria (Freshwater)	0.03J	0.14		0.18	0.06J		0.11	<0.10	0.044J		0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.17	0.33		0.063J	0.24		0.085J	0.098J	0.065J		0%	0.02
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	0.045J		<0.1	<0.1		<0.1	0.012J	0.022J		0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.554J	0.51		0.62	0.46		0.4	0.3	0.42			
2007, 2013	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.724	0.885		0.683	0.7		0.485	0.41	0.507		0%	0.63
2007	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	**0.132**	0.077		**0.18**	0.097		**0.15**	NR	0.1		50%	1.23
2013	Orthophosphate	mg/L	NA								0.15	0.097	0.11			
2007, 2013	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.098	**0.14**		**0.21**	**0.12**		**0.16**	0.096	**0.11**		71%	1.33
General Chemistry																
2007	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	1.5J		2.7	0.54J		1.5J	NR	<2.0		0%	0.14
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	40.9	22		29	22		24	NR	28		0%	0.23
2007, 2013	Dissolved Organic Carbon	mg/L	NA		7.8	6.7		5.3	6		6.1	3.9	4.9			
2007, 2013	Total Organic Carbon	mg/L	NA		7.7	6.1		4.3	6.2		5.9	3.8	4.9			
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5		<5	2J		<5.0	NR	1.4J		0%	0.22
2013	Sulfate	mg/l	500 (a)	1. Basin Plan							410	420	470		0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.074	0.06		0.063	0.057		0.071	0.059	0.072		0%	0.13
2007, 2013	Total Dissolved Solids	mg/L	1,500 (a)	1. Basin Plan	**2,642B**	**2,700**		**3,400**	**2,700**		**3,200**	**2,900**	**3,000**		100%	1.96
2007, 2013	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	1.8J	5		2	4		4	6	4		0%	0.07
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		978.7	1,100		1,200	1,100		1,290	1,270	1,260			
Total Metals																
2013	Aluminum	mg/L	0.2 (d)	1. Basin Plan							0.0049J	0.0085	0.021		0%	0.06
2007	Antimony	mg/L	0.006 (d)	1. Basin Plan	0.0002J	0.00016J		0.00011J	0.00017J		0.000083J	0.000070J	0.00013J		0%	0.02
2007, 2013	Arsenic	mg/L	0.01 (d)	1. Basin Plan	0.0031	0.0016		0.0014	0.0024		0.0014	0.00092	0.0013		0%	0.17
2007, 2013	Cadmium	mg/L	0.005 (d)	1. Basin Plan	<0.0004	<0.0001		0.00002J	0.00002J		0.000025J	0.000022J	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	0.05 (d)	1. Basin Plan	<0.0005	0.000077J		<0.0002	0.00011J		0.00015J	0.000065J	0.000046J		0%	0.00
2013	Chromium, Trivalent	mg/L	NA								<0.0005	<0.0005	<0.0005			
2013	Chromium, Hexavalent	mg/L	0.010 (d)	1. Basin Plan							0.000036J	0.000025J	0.00016J		0%	NA[1]
2007, 2013	Copper	mg/L	1.0 (d)	1. Basin Plan	0.0005J	0.00063		<0.0005	<0.0005		0.0011	0.001	0.00040J		0%	0.00
2013	Iron	mg/L	0.3 (a)	1. Basin Plan							0.024	0.024	0.06		0%	NA[1]
2007, 2013	Lead	mg/L	NA		0.00007J,B	0.000062J		0.00004J	0.00011J		0.000028J	0.000030J	0.000061J			
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan							**0.39**	**0.14**	**0.31**		100%	NA[1]
2013	Mercury	mg/L	0.002 (d)	1. Basin Plan							0.000039J	<0.000050	<0.000050		0%	NA[1]
2007, 2013	Nickel	mg/L	0.1 (d)	1. Basin Plan	0.0015	0.0051		0.0011	0.0015		0.0069	0.0073	0.00093		0%	0.03
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0003J	0.00045		<0.0004	0.00043		0.001	0.0026	0.00022J		0%	0.15
2013	Silver	mg/L	0.1 (d)	1. Basin Plan							0.000013J	0.000056J	<0.00020		0%	NA[1]
2013	Thallium	mg/L	0.002 (d)	1. Basin Plan							<0.00020	<0.00020	<0.00020		0%	NA[1]
2007, 2013	Zinc	mg/L	5.0 (d)	1. Basin Plan	0.0023B	0.0017J		0.0011J	0.003J		0.0024J	0.0016J	0.0014J		0%	0.00
Dissolved Metals																
2013	Aluminum										<0.0050	<0.0050	<0.0050			
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0002J	0.00019J		0.0001J	0.00016J		0.000085J	0.000078J	0.00014J		0%	0.02
2007, 2013	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0033	0.0015		0.0014	0.002		0.0014	0.0009	0.0012		0%	0.01
2007, 2013	Cadmium	mg/L	(e)	16. 40 CFR 131.38	<0.0004	<0.0001		0.00002J	0.00002J		0.000022J	0.000017J	<0.00010		0%	0.01
2007, 2013	Chromium	mg/L	(e)	16. 40 CFR 131.38	<0.0005	0.000083J		<0.0002	<0.0002		<0.00020	0.000052J	0.000039J		0%	0.00
2007, 2013	Copper	mg/L	(e)	16. 40 CFR 131.38	0.0005J	0.0007		<0.0005	<0.0005		0.0011	0.0011	0.00030J		0%	0.02
2013	Iron	mg/L	NA								<0.010	0.0017J	<0.010			
2007, 2013	Lead	mg/L	(e)	16. 40 CFR 131.38	<0.0001	<0.0002		0.00002J	<0.0002		<0.00020	<0.00020	<0.00020		0%	0.01
2013	Manganese	mg/L	NA								0.38	0.1	0.27			
2013	Mercury	mg/L	NA								0.000048J	0.0000040J	<0.000050			
2007, 2013	Nickel	mg/L	(e)	16. 40 CFR 131.38	0.0014	0.0054		0.001	0.0014		0.007	0.0071	0.00084		0%	0.02
2007, 2013	Selenium	mg/L	NA		0.0005	0.00047		<0.0004	0.0004		0.00089	0.0025	0.00022J			
2013	Silver	mg/L	(e)	16. 40 CFR 131.38							0.000029J	0.000058J	<0.00020		0%	NA[1]
2013	Thallium	mg/L	NA								<0.00020	<0.00020	<0.00020			
2007, 2013	Zinc	mg/L	(e)	16. 40 CFR 131.38	0.0021B	0.0029J		0.0019J	0.0027J		0.0011J	0.0024J	0.0016J		0%	0.01

Dry Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014			2014-2015		
					01/06/10	05/18/10	-	09/12/11-09/13/11	05/08/12-05/09/12	-	09/17/13-09/18/13	1/13/14-1/14/14	05/01/14-05/02/14	-		
Organophosphorus Pesticides																
2013	Azinphos methyl (Guthion)	µg/L	NA								<0.010	<0.010	<0.010			
2013	Bolstar	µg/L	NA								<0.010	<0.010	<0.010			
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010		0%	0.32
2013	Coumaphos	µg/L	NA								<0.010	<0.010	<0.010			
2013	Demeton-o	µg/L	NA								<0.010	<0.010	<0.010			
2013	Demeton-s	µg/L	NA								<0.010	<0.010	<0.010			
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010		0%	0.09
2013	Dichlorvos	µg/L	NA								<0.010	<0.010	<0.010			
2013	Dimethoate	µg/L	NA								<0.010	<0.010	<0.010			
2013	Disulfoton	µg/L	NA								<0.010	<0.010	<0.010			
2013	Ethoprop	µg/L	NA								<0.010	<0.010	<0.010			
2013	Ethyl parathion	µg/L	NA								<0.010	<0.010	<0.010			
2013	Fensulfothion	µg/L	NA								<0.010	<0.010	<0.010			
2013	Fenthion	µg/L	NA								<0.010	<0.010	<0.010			
2007, 2013	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010		0%	0.47
2013	Merphos	µg/L	NA								<0.010	<0.010	<0.010			
2013	Methyl parathion	µg/L	NA								<0.010	<0.010	<0.010			
2013	Mevinphos	µg/L	NA								<0.010	<0.010	<0.010			
2013	Naled	µg/L	NA								<0.010	<0.010BS-L	<0.010			
2013	Phorate	µg/L	NA								<0.010	<0.010	<0.010BS-L			
2013	Ronnel	µg/L	NA								<0.010	<0.010	<0.010			
2013	Stirophos	µg/L	NA								<0.010	<0.010	<0.010			
2013	Tokuthion (Prothiofos)	µg/L	NA								<0.010	<0.010	<0.010			
2013	Trichloronate	µg/L	NA								<0.010	<0.010	<0.010			
PCB Congeners																
2013	PCB-8	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-18	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-28	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-44	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-52	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-66	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-77	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-81	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-101	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-105	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-114	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-118	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-123	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-126	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-128	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-138	µg/L	0.014 (f)	16. 40 CFR 131.38							<0.010	<0.010	<0.010		0%	NA[1]
Polynuclear Aromatic Hydrocarbons																
2013	1-Methylnaphthalene	µg/L	NA								<0.10	<0.10	<0.10			
2013	1-Methylphenanthrene	µg/L	NA								<0.10	<0.10	<0.10			
2013	2,6-Dimethylnaphthalene	µg/L	NA								<0.10	<0.10	<0.10			
2013	2-Methylnaphthalene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Acenaphthene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Acenaphthylene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Anthracene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Benzo (a) anthracene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Benzo (a) pyrene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Benzo (b) fluoranthene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Benzo (e) pyrene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Benzo (g,h,i) perylene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Benzo (k) fluoranthene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Biphenyl	µg/L	NA								<0.10	<0.10	<0.10			
2013	Chrysene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Dibenzo (a,h) anthracene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Fluoranthene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Fluorene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Indeno (1,2,3-cd) pyrene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Naphthalene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Perylene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Phenanthrene	µg/L	NA								<0.10	<0.10	<0.10			
2013	Pyrene	µg/L	NA								<0.10	<0.10	<0.10			

No Samples Collected

No Samples Collected

No Samples Collected

Dry Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014			2014-2015		
					01/06/10	05/18/10	-	09/12/11-09/13/11	05/08/12-05/09/12	-	09/17/13-09/18/13	1/13/14-1/14/14	05/01/14-05/02/14	-		
Pyrethroids																
2013	Allethrin	µg/L	NA				No Samples Collected			No Samples Collected	<0.002	<0.002	<0.002	No Samples Collected		
2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006							<0.002	<0.002	<0.002		0%	NA[1]
2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004							<0.002	<0.002	<0.002		0%	NA[1]
2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004							<0.002	<0.002	<0.002		0%	NA[1]
2013	Danitol (Fenpropathrin)	µg/L	NA								<0.002	<0.002	<0.002			
2013	Deltamethrin/Tralomethrin	µg/L	NA								<0.002	<0.002	<0.002			
2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004							<0.002	<0.002	<0.002		0%	NA[1]
2013	Fenvalerate	µg/L	NA								<0.002	<0.002	<0.002			
2013	Fluvalinate	µg/L	NA								<0.002	<0.002	<0.002			
2013	L-Cyhalothrin	µg/L	0.2	17. Wheelock et al., 2004							<0.002	<0.002	<0.002		0%	NA[1]
2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006							<0.01	<0.01	<0.01		0%	NA[1]
2013	Prallethrin	µg/L	NA								<0.002	<0.002	<0.002			
2013	Resmethrin	µg/L	NA								<0.01	<0.01	<0.01			
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	NR	>100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100		100	NR	**50**		17%	1.17
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**50**	**50**		**50**	**50**		**25**	NR	**25**		100%	2.67
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100C	>100		>100	NR	>100		0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		**50**	**50**		**50**	**50**		**25**	NR	**25**		100%	2.67
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail								Pass	Pass	Pass		0%	

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(b) Water Quality Benchmark for Enterococcus is based on the maximum criteria for infrequently used freshwater area by the San Diego Regional Water Quality Control Plan for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(c) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) and CCC (early life stages present) using water temperature and pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC and CCC were calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(d) Water Quality Benchmark for total metals is based on the MUN beneficial as described in the Basin Plan, 1994 (with amendments effective on or before April 4, 2011).
(e) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) and Continuous Criteria Concentration (CCC) were used.
(f) Water Quality Benchmark for PCBs is the CCC (USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000).
B-Analyte was detected in the associated method blank.
BS-L-Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
C - Control failed; however, sample showed no toxic response.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
NR-Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for AHC-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data							Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015		
					11/30/07	02/03/08	-	-	-	-	-	-	-		
Physical Chemistry							No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.34	8.02								0%	NA[1]
2007, 2013	Specific Conductivity	umhos/cm	NA		254	423									
2007, 2013	Water Temperature	Celsius	NA		16.60	13.20									
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**304**	**108**								100%	NA[1]
Bacteriological															
2007, 2013	Enterococcus	MPN/100 mL	NA		80,000	22,000									
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**110,000**	**2,200**								100%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		170,000	70,000									
Nutrients															
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.74	0.09								0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	2.5	1.9								0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.1	<0.03								0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		3.9	1.1									
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.74	0.26								0%	NA[1]
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	1.3	0.4								0%	NA[1]
General Chemistry															
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	11	2.7								0%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	62	23								0%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		14.7	5.4									
2007, 2013	Total Organic Carbon	mg/L	NA		15.9	5.6									
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	3.3J	2.2J								0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.03	0.1								0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**504**	406								50%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**440**	**122**								100%	NA[1]
2007, 2013	Hardness	mg $CaCO_3$/L	NA		88.5	86.6									
Total Metals															
2007	Antimony	mg/L	NA		0.0006	0.0006									
2007, 2013	Arsenic	mg/L	NA		0.0035	0.0023									
2007, 2013	Cadmium	mg/L	NA		0.0003J	<0.0004									
2007, 2013	Chromium	mg/L	NA		0.0065	0.0016									
2007, 2013	Copper	mg/L	NA		0.0379	0.0115									
2007, 2013	Lead	mg/L	NA		0.0099	0.0032									
2007, 2013	Nickel	mg/L	NA		0.0084	0.0025									
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0006	0.0003J								0%	NA[1]
2007, 2013	Zinc	mg/L	NA		0.1632	0.0509									
Dissolved Metals															
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0009	0.0007								0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0025	0.0020								0%	NA[1]
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004								0%	NA[1]
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0005	0.0005								0%	NA[1]
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0051	0.0042								0%	NA[1]
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.00009J	<0.0001								0%	NA[1]
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0021	0.0012								0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.0005	0.0004J									
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0125	0.0089								0%	NA[1]
Organophosphorus Pesticides															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	**0.25**	**0.07**								100%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	0.037	0.015								0%	NA[1]
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.058	0.048								0%	NA[1]
Pyrethroids															
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002									
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.0329**	**0.0693**								100%	NA[1]
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	0.007	<0.002								0%	NA[1]
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.002	<0.002								0%	NA[1]
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	0.01	<0.002								0%	NA[1]
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.002	0.001J									
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002									
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002								0%	NA[1]
2007, 2013	Fenvalerate	µg/L	NA		<0.002	<0.002									
2007, 2013	Fluvalinate	µg/L	NA		<0.002	0.0007J									
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.025*	<0.025*								0%	NA[1]
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002									
2007, 2013	Resmethrin	µg/L	NA												
Toxicity															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100								0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100								0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100								0%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		**90.93**	>100								50%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100								0%	NA[1]

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for AHC-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
*Indicates detection limit above water quality benchmark
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for AHC-MLS

Permit Requirements	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data																	
					1998-1999			1999-2000			2000-2001			2001-2002			2002-2003			2003-2004		
					11/08/98	01/31/99	03/15/99	01/25/00	02/20/00	03/05/00	10/27/00	01/08/01	02/23/01	02/17/02	03/08/02	03/17/02	11/08/02	02/11/03	02/25/03	11/12/03	01/19/04	02/18/04
Physical Chemistry																						
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan										7.6	7.8	7.5	7.76	7.5	7.67	7.70	8.00	7.61
2007, 2013	Specific Conductivity	µmhos/cm	NA		652	1,560	2,270	2,160	1,172	1,194	2,220	3,180	645	1,320	2,000	1,520	955	588	548	1,203	2,610	647
2007, 2013	Water Temperature	Celsius	NA														17.40	13.90	13.70	16.00	14.20	14.10
2007, 2013	Turbidity	NTU	20	1. Basin Plan		8	14	**22**	**52**	**58**	6.4	**66**	**302**	9.5	16	**55.1**	**264**	**184**	**290**	**295**	**135**	**27.7**
Bacteriological																						
2007, 2013	Enterococcus	MPN/100 mL	NA								3,000	9,000	13,000	13,000	11,000	30,000	50,000	13,000	110,000	11,000	5,000	3,000
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**>1600**	240	**>1600**	**>1600**	**>1600**	<2	**500**	**11,000**	**13,000**	**13,000**	**500**	**24,000**	**23,000**	**7,000**	**5,000**	**5,000**	**2,300**	**2,300**
2007, 2013	Total Coliform	MPN/100 mL	NA		>241,900	8,130	197,000	>1,600	>1,600	300	13,000	50,000	23,000	23,000	1,700	24,000	80,000	50,000	50,000	17,000	5,000	3,000
Nutrients																						
2007, 2013	Ammonia as N	mg/L	(a)	6. USEPA Water Quality Criteria (Freshwater)	0.3	0.15	0.21	0.4	<0.1	0.11	0.84	0.6	0.3	<0.1	0.1	0.1	0.25	0.25	0.62	0.43	<0.1	0.3
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	2.1	0.86	1.1	1.6	1.42	1.58	0.4	1.3	1.1	1.1	0.7	1.2	1.27	1.15	0.55	3.1	1.7	3.2
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	<0.05	0.057	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	0.06	<0.05	<0.05
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA			0.44	2.8	0.85	4.02	2.11	2.45	3	4.06	1.5	2.3	2.6	1.8	0.9	2.4	11	7.6	3.5
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.57	0.12	0.1	0.12	0.22	<0.1	0.06	0.22	0.42	<0.05	0.08	0.16	0.13	0.20	0.14	0.53	0.88	0.16
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.72	0.13	0.12	0.16	1.04	0.74	0.11	0.24	0.62	0.5	0.25	0.53	0.87	0.83	1.14	0.63	**2.28**	0.56
General Chemistry																						
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	20	<3	5.25	6	2.98	6.6	2	8.9	5	8	2.1	7.6	4.32	20.4	5.6	**45.3**	3.52	16
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	34	<5	21	70	66	41	62	69	56	50	44	61	88	46	60	**260**	**124**	106
2007, 2013	Dissolved Organic Carbon	mg/L	NA														11.0	9.75	11.9	19.6	8.28	32.9
2007, 2013	Total Organic Carbon	mg/L	NA														20.3	13.8	5.21	18.1	14.5	47.2
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	0.67	<0.5	<0.5	3.24	3.54	2.28	<1	<1	1	2	<1	2	<1.00	1.54	<1.00	<1	<1	<1
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.25	0.07	<0.05	0.33	0.21	0.08	<0.5*	<0.5*	<0.5*	<0.5*	<0.5*	<0.5*	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan		**892**	**1,611**	**1,356**	335	362	**1,300**	**1,290**	487	**1,050**	**1,250**	389	**851**	**641**	310	**951**	<20	**851**
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan		35	5	65	**134**	**286**	<20	**131**	**442**	39	**152**	**335**	**508**	**380**	**674**	**842**	<20	**403**
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		137	365	568	52.2	155	35.3	680	532	201	592	669	290	418	370	205	680	576	403
Total Metals																						
2007	Antimony	mg/L	NA			<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	0.003	<0.005	<0.006	<0.006
2007, 2013	Arsenic	mg/L	NA			<0.001	<0.001	<0.001	0.018	0.007	0.005	0.005	0.007	0.004	0.004	0.003	0.008	0.005	0.010	0.015	0.008	0.008
2007, 2013	Cadmium	mg/L	NA			<0.0003	<0.0003	<0.0003	0.001	0.00025	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
2007, 2013	Chromium	mg/L	NA			<0.005	0.12	<0.005	<0.005	<0.005	<0.005	<0.005	0.015	0.042	<0.005	<0.005	0.006	0.009	0.017	0.021	<0.005	0.009
2007, 2013	Copper	mg/L	NA			<0.005	<0.005	<0.005	0.054	0.020	<0.005	0.010	0.031	0.006	0.010	0.008	0.021	0.02	0.042	0.055	0.02	0.031
2007, 2013	Lead	mg/L	NA			<0.001	0.0017	<0.001	<0.001	<0.005	<0.002	0.002	0.010	<0.002	<0.002	0.003	0.008	0.006	0.008	0.012	0.002	0.007
2007, 2013	Nickel	mg/L	NA			<0.005	0.010	<0.005	0.050	<0.005	0.007	0.007	0.010	0.007	0.006	0.003	0.009	0.007	0.014	0.026	0.006	0.008
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38		<0.001	<0.001	<0.001	0.002	<0.001	0.002	0.003	<0.002	**0.006**	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005
2007, 2013	Zinc	mg/L	NA			0.194	0.035	0.010	0.110	0.050	<0.020	0.030	0.070	<0.020	0.027	<0.020	0.047	0.053	0.089	0.148	0.036	0.083
Dissolved Metals																						
2007	Antimony	mg/L	0.006	1. Basin Plan				<0.0015	<0.0015	<0.0015	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	0.002	<0.005	<0.006	<0.006
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38				<0.001	0.011	<0.001	0.005	0.003	0.003	<0.001	0.002	0.002	0.004	0.003	0.003	0.002	0.002	0.003
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38				<0.00025	<0.00025	<0.00025	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	0.005	0.041	0.010	<0.005	0.008	0.005
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38				<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38				<0.005	<0.005	<0.005	0.007	0.005	0.002	0.004	0.005	<0.002	0.005	0.003	0.002	0.004	0.002	0.002
2007, 2013	Selenium	mg/L	NA					<0.001	<0.001	<0.001	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.02	<0.005
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38				0.01	<0.001	0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.009	0.291	0.030	<0.02	<0.02	<0.02
Organophosphorus Pesticides																						
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000			<0.5*	<0.5*	<0.5*	<0.5*	<0.05*	<0.5*	<0.05*	<0.03*	<0.03*	<0.03*	**0.047**	<0.03*	<0.03*	<0.01	<0.01	**0.121**
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon		<0.5*	**0.38**	<0.5*	<0.5*	<0.5*	**0.41**	<0.5*	**0.1**	**0.18**	**0.13**	**0.28**	**0.464**	**0.194**	**0.320**	**0.165**	0.051	0.068
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook													0.10	0.36	0.11	<0.01	0.331	0.076
Pyrethroids																						
2007, 2013	Allethrin	µg/L	NA																			
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006																		
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004																		
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004																		
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004																		
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA																			
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA																			
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004																		
2007, 2013	Fenvalerate	µg/L	NA																			
2007, 2013	Fluvalinate	µg/L	NA																			
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006																		
2007, 2013	Prallethrin	µg/L	NA																			
2007, 2013	Resmethrin	µg/L	NA																			
Toxicity																						
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100											>100	>100	>100	**81.25**	>100	>100	>100	>100	>100
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100											100	100	100	**50**	**50**	**50**	100	100	100
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100											100	100	100	**50**	100	**50**	100	100	100
2007	*Hyalella* 96-hr	LC_{50} (%)	>100											>100	>100	>100	>100	>100	>100	>100	>100	>100
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100											100	100	100	100	100	100	100	100	100

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for AHC-MLS

Permit Requirements	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data																	
					2004-2005			2005-2006			2006-2007			2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	
					10/17/04	02/11/05	02/18/05	10/17/05	12/31/05	02/19/06	10/14/06	01/30/07	02/19/07	11/30/07	02/03/08	11/04/08	-	10/06/10	02/16/11	-	10/11/12-10/12/12	02/08/13
Physical Chemistry																	No Samples Collected			No Samples Collected		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.50		7.76	7.38	8.22	6.70	7.30	7.86	7.39	7.31	8.10	7.84		8.09	7.63		7.65	7.99
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,760	502	700	1,248	2,760	1,268	587	2,440	951	345	749	3,260		1,181	1,208		3,350	1,430
2007, 2013	Water Temperature	Celsius	NA		17.60	15.10	13.50	18.00	14.30	9.50	15.70	13.30	13.40	16.30	13.30	17.10		16.66	13.50		22.1	11.6
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**383**	**27.5**	**214**	**67.1**	**194**	**825**	**321**	**181**	**68.3**	**406**	**121**	15.4		11	6		**41**	18
Bacteriological																						
2007, 2013	Enterococcus	MPN/100 mL	NA		280,000	7,000	50,000	22,000	17,000	23,000	500,000	3,000	8,000	110,000	3,000	50,000		50,000	11000		170,000	17,000
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**30,000**	**5,000**	**50,000**	**14,000**	**5,000**	**11,000**	**22,000**	**11,000**	**3,000**	**130,000**	**5,000**	**30,000**		**23,000**	**5,000**		**70,000**	**5,000**
2007, 2013	Total Coliform	MPN/100 mL	NA		300,000	17,000	80,000	110,000	70,000	80,000	50,000	50,000	30,000	130,000	30,000	80,000		70,000	30000		300,000	22,000
Nutrients																						
2007, 2013	Ammonia as N	mg/L	(a)	6. USEPA Water Quality Criteria (Freshwater)	0.82	0.23	0.18	0.64	0.43	0.24	0.81	0.88	0.91	0.68	0.07	0.22		0.17	0.13		0.65	0.09J
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.93	2.41	0.88	2.23	1.66	2.58	1.77	<0.05	0.95	1.3	0.89	1.64		0.55	1.8		1.2	1.2
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	0.05		0.065J	0.073J		0.038J	0.043J
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		14.1	1.3	3.6	5.1	4.2	2.7	2.5	3.5	2.7	2.7	1.1	1.6		0.94	0.71		4.6	1.3
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	1.1	0.44	0.51	0.31	0.23	0.32	0.31	0.39	0.1	0.53	0.15	0.094		0.1	0.1		0.09	0.085
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	**2.15**	0.47	1.12	0.32	0.47	0.47	0.98	0.43	0.28	1.3	0.34	0.2		0.12	0.16		0.93	0.2
General Chemistry																						
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	**32.2**	4.67	3.64	7.76	8.59	<2	15.3	**49.4**	9.84	17	2.5	10.8		4.6	2.7		23	4.4
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	**279**	75	39	**157**	81	85	**552**	115	33	42	25	83		40	35		**130**	42
2007, 2013	Dissolved Organic Carbon	mg/L	NA		28.9	7.3	7.2	10.8	7.78	15.2	32.5	16.6	8.91	12.1	5.4	21.6		10	8.7		17	6.2
2007, 2013	Total Organic Carbon	mg/L	NA		44.7	7.31	14.2	34.3	18.7	17.5	47.5	17.9	9.49	13.4	5.3	22.4		12	9.2		18	6.8
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<1	<1	<1	<1	<1	<1	<5	<5	<5	2.2J	2.1J	<5		<5	<5		<5	<5
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.01	0.037	0.365		0.11	0.12		0.037J	0.063
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**852**	**752**	416	**617**	**1,010**	**800**	**518**	**806**	**573**	406	**580**	**1,870**		**1,200**	**1,200**		**920**	**990**
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**962**	**246**	**859**	**597**	**344**	**2,210**	**1,160**	**346**	**120**	**840**	**215**	44.5		29	34		**560**	74
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		422	387	225	442	606	532	419	413	300	80	126.4	672.2		550	570		420	496
Total Metals																						
2007	Antimony	mg/L	NA		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.003	0.002	0.003	0.0005	0.0005	0.0008		0.0011	0.00071		0.0016	0.00067
2007, 2013	Arsenic	mg/L	NA		0.008	0.007	<0.002	0.009	0.009	0.004	0.016	0.003	0.003	0.0054	0.0038	0.0045		0.0037	0.0032		0.0069	0.0033
2007, 2013	Cadmium	mg/L	NA		0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	0.0004	0.0002J	<0.0004		0.000091J	0.00014		0.00086	0.00014
2007, 2013	Chromium	mg/L	NA		<0.005	<0.005	<0.005	<0.005	0.013	<0.005	0.013	<0.005	0.007	0.0055	0.0021	0.0008		0.00074	0.0016		0.0064	0.0024
2007, 2013	Copper	mg/L	NA		0.032	0.012	0.018	0.03	0.028	0.021	0.036	0.015	0.025	0.037	0.016	0.007		0.0045	0.0085		0.03	0.0093
2007, 2013	Lead	mg/L	NA		0.007	0.004	0.006	0.008	0.006	0.004	0.015	0.006	0.004	0.0099	0.0039	0.00052		0.00056	0.00089		0.0054	0.0014
2007, 2013	Nickel	mg/L	NA		0.028	0.007	0.007	0.015	0.013	0.014	0.026	0.008	0.008	0.0115	0.0065	0.0086		0.0065	0.0083		0.013	0.0076
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.005	<0.004	<0.005	<0.004	<0.004	<0.004	0.0005	0.0005	0.0009		0.0006	0.00098		0.00077	0.00087
2007, 2013	Zinc	mg/L	NA		0.270	0.042	0.060	0.116	0.077	0.102	0.199	0.093	0.075	0.12	0.058	0.02		0.011	0.021		0.1	0.027
Dissolved Metals																						
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002	0.003	0.0006	0.0006	0.0009		0.0011	0.00066		0.0018	0.00053
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	<0.002	<0.002	<0.002	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.0027	0.0022	0.0038		0.003	0.0021		0.0032	0.0019
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0004	<0.0004	<0.0004		0.000036J	0.000059J		0.00013	0.000047J
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0003J	0.0003J	0.0002J		0.00022	0.00031		0.00027	0.00023
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.006	0.005	<0.005	<0.005	0.005	0.006	0.003	0.006	0.004	0.0042	0.0033	0.0035		0.0027	0.0046		0.0031	0.0028
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	0.00005J	<0.0001	<0.0001		0.000041J	0.000019J		<0.0002	0.000031J
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.007	0.003	0.002	0.007	0.003	0.003	0.003	0.003	0.003	0.0022	0.0002	0.0072		0.0052	0.0065		0.0048	0.0049
2007, 2013	Selenium	mg/L	NA		<0.005	<0.005	<0.005	<0.005	<0.004	<0.005	<0.004	<0.004	<0.004	0.0005	0.0006	0.0009		0.00066	0.00076		0.00033J	0.00069
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	<0.02	<0.02	<0.02	0.041	<0.02	<0.02	<0.02	<0.02	<0.02	0.0054	0.0038	0.0049		0.0044J	0.0041J		0.0095	0.006
Organophosphorus Pesticides																						
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.002	<0.002	<0.002	**0.0938**	**0.0354**	<0.002		<0.01	<0.01		<0.01	<0.01
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	**0.267**	0.044	<0.01	0.024	<0.02	<0.02	**0.451**	<0.004	<0.004	0.035	0.007	<0.004		0.016	0.01		0.0063J	<0.01
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.330	0.083	<0.01	0.247	**0.622**	0.035	**0.436**	0.064	0.062	0.398	0.034	0.078		0.094	0.012		0.13	<0.01
Pyrethroids																						
2007, 2013	Allethrin	µg/L	NA								<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006							**0.4869**	**0.1925**	**0.1374**	**0.0816**	**0.0386**	**0.0233**		<0.002	**0.0156**		**0.931**	**0.151**
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004							0.1013	<0.002	0.0101	0.02	0.004	<0.002		<0.002	<0.002		0.0575	<0.002
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004							0.0205	<0.002	<0.002	0.002J	0.0007J	<0.002		<0.002	<0.002		0.0081	0.029
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004							0.0682	<0.002	0.0047	<0.002	0.001J	<0.002		<0.002	<0.002		0.0244	<0.002
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA								<0.002	<0.002	<0.002	<0.002	<0.002	<0.002			<0.002		<0.002	<0.002
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA								<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		0.0154	<0.002
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004							<0.002	<0.002	<0.002	0.004	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Fenvalerate	µg/L	NA								<0.002	<0.002	<0.002	0.003	0.0007J	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Fluvalinate	µg/L	NA											<0.002	<0.002	<0.002			<0.002		0.006	<0.002
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006							<0.002	<0.002	<0.002	<0.025*	<0.025*	<0.025*		<0.005	<0.025*		<0.025††	<0.01
2007, 2013	Prallethrin	µg/L	NA								<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Resmethrin	µg/L	NA												<0.025	<0.025					<0.0025	<0.01
Toxicity																						
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	**77.11**	>100	>100	>100	>100	>100		>100	>100		>100	>100
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		**50**	100	100	100	100	100	**25**	100	100	100	100	100		100	100		100	100
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100	100	100	100	100	**25**	100	100	100	100	100		100	100		100	100
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		**72.17**	>100	>100	>100	**73.61**	>100	**6.53**	**46.97**	>100	**77.3**	>100	>100		>100	>100		**13.2**	>100
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100	100	100	100	100	100	100	100	100	100	100		100	100		100	100

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for AHC-MLS

Permit Requirements	Analyte	Units	Water Quality Benchmarks	Benchmark References	Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014	2014-2015			
					-	11/01/14	03/01/15		
Physical Chemistry									
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan		7.46	7.59	0%	0.20
2007, 2013	Specific Conductivity	µmhos/cm	NA			2546	343		
2007, 2013	Water Temperature	Celsius	NA			15.01	13.37		
2007, 2013	Turbidity	NTU	20	1. Basin Plan		**49.7**	**68.1**	72%	6.70
Bacteriological									
2007, 2013	Enterococcus	MPN/100 mL	NA			2,800H	30,000		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2		240,000H^	**50,000**	97%	40.32
2007, 2013	Total Coliform	MPN/100 mL	NA			300,000H	70,000		
Nutrients									
2007, 2013	Ammonia as N	mg/L	(a)	6. USEPA Water Quality Criteria (Freshwater)		0.14	<0.10	0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan		1.5	0.46	0%	0.14
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan		0.053J	0.027J	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA			3.3	2.6		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015		0.32	0.08	0%	0.13
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015		0.51	0.78	6%	0.31
General Chemistry									
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)		14	5.5	8%	0.36
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015		120	110	17%	0.76
2007, 2013	Dissolved Organic Carbon	mg/L	NA			22	6		
2007, 2013	Total Organic Carbon	mg/L	NA			22	6.9		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015		<5.0	3.0J	0%	0.15
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan		0.13	0.032J	0%	0.33
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan		**1,600**	460	72%	1.64
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan		**230**	**350**	69%	3.80
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA			775	234		
Total Metals									
2007	Antimony	mg/L	NA			0.0013	0.00078		
2007, 2013	Arsenic	mg/L	NA			0.009	0.0058		
2007, 2013	Cadmium	mg/L	NA			0.00043	0.00031		
2007, 2013	Chromium	mg/L	NA			0.0053	0.0099		
2007, 2013	Copper	mg/L	NA			0.02	0.03		
2007, 2013	Lead	mg/L	NA			0.0034	0.0056		
2007, 2013	Nickel	mg/L	NA			0.011	0.011		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38		0.0011	0.0011	3%	0.34
2007, 2013	Zinc	mg/L	NA			0.061	0.079		
Dissolved Metals									
2007	Antimony	mg/L	0.006	1. Basin Plan		0.001	0.00058	0%	0.25
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38		0.002	0.0014	0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38		0.000040J	<0.00010	0%	0.03
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38		0.00016J	0.00018J	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38		0.0036	0.0021	0%	0.15
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38		0.000025J	0.000031J	0%	0.00
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38		0.0045	0.002	0%	0.00
2007, 2013	Selenium	mg/L	NA			0.00071	0.0004		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38		0.0057	0.0028J	0%	0.06
Organophosphorus Pesticides									
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000		<0.010	<0.010	18%	0.87
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon		<0.010	<0.010	40%	1.52
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook		0.022	0.013	8%	0.35
Pyrethroids									
2007, 2013	Allethrin	µg/L	NA			<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006		**0.1173**	**0.0759**	92%	20.18
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004		0.0125	0.0194	0%	0.06
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004		<0.002	0.0069	0%	0.05
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004		<0.002	<0.002	0%	0.01
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA			<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA			0.0231	0.0349		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004		<0.002	<0.002	0%	0.01
2007, 2013	Fenvalerate	µg/L	NA			<0.002	<0.002		
2007, 2013	Fluvalinate	µg/L	NA			<0.002	0.0051		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006		<0.01	<0.01	0%	0.27
2007, 2013	Prallethrin	µg/L	NA			<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA			<0.01	<0.01		
Toxicity									
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100			>100	>100	7%	1.02
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100			100	100	19%	1.26
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100			100	100	11%	1.19
2007	*Hyalella* 96-hr	LC_{50} (%)	>100			>100	>100	22%	1.85
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100			100	100	0%	1.00

No Samples Collected

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for AHC-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L
^Results were not compared to the water quality benchmark for fecal coliform due to the sample being received and/or analyzed past the recommended holding time.
H-Sample analyzed and/or extracted past the recommended holding time.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for BVC-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					11/30/07	02/03/08	-	-	10/6/10	02/16/11	-	10/11/12	02/08/13-02/09/13	-	11/01/14	03/01/15		
Physical Chemistry							No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected				
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.75	8.02			7.59	7.78		7.26	8.28		7.58	7.77	0%	0.17
2007, 2013	Specific Conductivity	µmhos/cm	NA		286	361			1,108	1,160		562	1,961		1,576	644		
2007, 2013	Water Temperature	Celsius	NA		15.90	13.60			17.30	16.40		17.1	14		15.55	14.5		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**231**	**112**			11	6.9		**33**	6		**102.2**	**99.9**	63%	3.76
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	NA		70,000	17,000			110,000	8,000		140,000	11,000		3,300	30,000		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**28,000**	**5,000**			**17,000**	**9,000**		**80,000**	**1,300**		**30,000**	**17,000**	100%	58.53
2007, 2013	Total Coliform	MPN/100 mL	NA		70,000	80,000			170,000	50,000		600,000	30,000		50,000	50,000		
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.68	0.13			0.15	0.1		0.69	0.13		0.33	0.077J	0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.6	1.06			1.3	2.3		1.4	1.9		2.2	0.77	0%	0.16
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.07	0.03J			0.064J	0.07J		0.045J	0.026J		0.071J	0.031J	0%	0.05
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		5.9	1.1			1.6	0.92		4	0.89		4.9	1.7		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.95	0.18			0.23	0.16		0.39	0.08		0.39	0.22	0%	0.16
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	1.19	0.434			0.24	0.26		0.9	0.12		0.66	0.46	0%	0.27
General Chemistry																		
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	20	5.3			4.9	6.1		22	4		25	10	0%	0.41
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	60	26			47	45		**150**	25		**160**	70	25%	0.61
2007, 2013	Dissolved Organic Carbon	mg/L	NA		15.2	5.4			11	11		15	5.7		28	8.2		
2007, 2013	Total Organic Carbon	mg/L	NA		16.6	5.9			13	12		16	6		30	8.8		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	6.3	3.7J			2J	<5		<5	<5		<5.0	1.6J	0%	0.30
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.045	0.064			0.22	0.15		0.046J	0.08		0.16	0.042J	0%	0.20
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	434	402			**860**	**750**		**660**	**1,200**		**1,100**	**590**	75%	1.50
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**520**	**290**			42	66		**310**	15		**290**	**230**	63%	2.20
2007, 2013	Hardness	mg $CaCO_3$/L	NA		68.2	83.1			360	360		295	559		455	277		
Total Metals																		
2007	Antimony	mg/L	NA		0.0011	0.0008			0.0019	0.0014		0.0015	0.00067		0.002	0.00096		
2007, 2013	Arsenic	mg/L	NA		0.0081	0.0044			0.0059	0.0047		0.0063	0.0055		0.0087	0.0046		
2007, 2013	Cadmium	mg/L	NA		0.0005	0.0002J			0.000079J	0.000094J		0.00032	0.000087J		0.0003	0.00014		
2007, 2013	Chromium	mg/L	NA		0.0056	0.0019			0.0019	0.0033		0.0072	0.00079		0.009	0.0061		
2007, 2013	Copper	mg/L	NA		0.0479	0.0178			0.011	0.015		0.036	0.0045		0.039	0.019		
2007, 2013	Lead	mg/L	NA		0.0193	0.0072			0.0017	0.0029		0.0098	0.00049		0.0092	0.0056		
2007, 2013	Nickel	mg/L	NA		0.0092	0.0044			0.0039	0.0056		0.0074	0.005		0.0094	0.0057		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0005	0.0003J			0.00052	0.00067		0.00076	0.0012		0.0013	0.001	0%	0.16
2007, 2013	Zinc	mg/L	NA		0.2828	0.1068			0.031	0.044		0.19	0.013		0.16	0.071		
Dissolved Metals																		
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0011	0.0009			0.0018	0.0013		0.00093	0.00059		0.0017	0.00069	0%	0.19
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0040	0.0030			0.0053	0.0038		0.0042	0.0052		0.005	0.0028	0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000037J	0.000038J		0.00006J	0.000075J		0.000029J	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0004J	0.0005			0.00047	0.00064		0.00074	0.00023		0.00033	0.00028	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0044	0.0036			0.0061	0.0074		0.0057	0.0029		0.0078	0.0032	0%	0.19
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.0002	<0.0001			0.00009J	0.000033J		0.00026	0.000034J		0.000062J	0.000084J	0%	0.00
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0020	0.0012			0.003	0.0039		0.0026	0.0041		0.0038	0.0019	0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0004J	0.0003J			0.0006	0.0008		0.00051	0.0012		0.00073	0.00059		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0109	0.0075			0.012	0.011		0.031	0.0071		0.03	0.0076	0%	0.06
Organophosphorus Pesticides																		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.20
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	0.042	<0.004			<0.01	0.0092J		<0.01	<0.01		<0.010	<0.010	0%	0.12
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.106	0.020			<0.01	0.12		0.061	<0.01		0.14	0.025	0%	0.14
Pyrethroids																		
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002			<0.002	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.1024**	**0.0583**			<0.002	**0.0459**		**0.194**	**0.012**		**0.1098**	0.0084	75%	7.15
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	0.02	0.02			<0.002	0.0039		0.0398	<0.002		0.0425	<0.002	0%	0.05
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	0.005	<0.002			<0.002	0.0015J		0.0044	<0.002		0.0075	<0.002	0%	0.04
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002			<0.002	<0.002		0.0117	<0.002		0.0132	<0.002	0%	0.01
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		0.002	<0.002				<0.002		0.0009J	<0.002		<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002			<0.002	<0.002		<0.002	<0.002		0.0405	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	0.0009J			<0.002	<0.002		0.0011J	<0.002		0.0036	<0.002	0%	0.01
2007, 2013	Fenvalerate	µg/L	NA		<0.002	0.0009J			<0.002	<0.002		0.0008J	<0.002		0.0006J	<0.002		
2007, 2013	Fluvalinate	µg/L	NA		<0.002	<0.002				<0.002		<0.002	<0.002		0.0029	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	**0.235**	<0.025*			<0.005	<0.025*		**0.2759**	<0.01		**0.094**	<0.01	38%	3.81
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002			<0.002	0.0016J		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA			<0.025						<0.025	<0.01		<0.01	<0.01		
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		100	>100		>100	>100	13%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for BVC-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for ESC-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data							Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015		
					11/30/07	02/03/08	-	-	-	-	-	-	-		
Physical Chemistry							No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.41	8.32								0%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		252	165									
2007, 2013	Water Temperature	Celsius	NA		16.00	12.40									
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**114**	**82.2**								100%	NA[1]
Bacteriological															
2007, 2013	Enterococcus	MPN/100 mL	NA		80,000	23,000									
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**17,000**	**5,000**								100%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		50,000	170,000									
Nutrients															
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.48	0.13								0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.7	0.8								0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.1	0.03J								0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		3.2	0.84									
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.3	0.12								0%	NA[1]
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.60	0.33								0%	NA[1]
General Chemistry															
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	15	2.8								0%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	62	19								0%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		13	4									
2007, 2013	Total Organic Carbon	mg/L	NA		15.2	4.5									
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	4J	1.9J								0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.34	0.12								0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**546**	116								50%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**180**	96								50%	NA[1]
2007, 2013	Hardness	mg $CaCO_3$/L	NA		48.7	42.7									
Total Metals															
2007	Antimony	mg/L	NA		0.0012	0.0008									
2007, 2013	Arsenic	mg/L	NA		0.0018	0.0013									
2007, 2013	Cadmium	mg/L	NA		0.0002J	<0.0004									
2007, 2013	Chromium	mg/L	NA		0.0028	0.0017									
2007, 2013	Copper	mg/L	NA		0.0180	0.0125									
2007, 2013	Lead	mg/L	NA		0.0091	0.0062									
2007, 2013	Nickel	mg/L	NA		0.0035	0.0019									
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0004J	0.0002J									
2007, 2013	Zinc	mg/L	NA		0.1277	0.0926									
Dissolved Metals															
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0012	0.0008								0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0015	0.0010								0%	NA[1]
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004								0%	NA[1]
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0007	0.0006								0%	NA[1]
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0053	0.0034								0%	NA[1]
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.0003	<0.00007								0%	NA[1]
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0015	0.0007								0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.0004J	0.0002J									
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0262	0.0186								0%	NA[1]
Organophosphorus Pesticides															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002								0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	0.067	0.042								0%	NA[1]
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.175	0.048								0%	NA[1]
Pyrethroids															
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002									
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.0428**	**0.0532**								100%	NA[1]
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	0.02	0.02								0%	NA[1]
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	0.006	0.003								0%	NA[1]
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	0.02	<0.002									
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.002	<0.002									
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002									
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	0.0007J								0%	NA[1]
2007, 2013	Fenvalerate	µg/L	NA		<0.002	<0.002									
2007, 2013	Fluvalinate	µg/L	NA		<0.002	<0.002									
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.025*	<0.025*								0%	NA[1]
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002									
2007, 2013	Resmethrin	µg/L	NA			<0.025									
Toxicity															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100								0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100								0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100								0%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100								0%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100								0%	NA[1]

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for ESC-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for ESC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data														
					2001-2002			2002-2003			2003-2004			2004-2005			2005-2006		
					11/29/01	02/17/02	03/08/02	11/08/02	02/11/03	02/25/03	11/12/03	02/03/04	03/02/04	10/17/04	02/11/05	02/18/05	10/17/05	02/19/06	03/11/06
Physical Chemistry																			
2013	Dissolved Oxygen	mg/L	<6.0 (a)	1. Basin Plan															
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.7	7.7	7.7	7.55	7.46	7.41	7.78	8.02	7.83	7.91	8.16	8.10	7.80	6.70	7.69
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,810	2,540	1,620	1,826	1,192	1,675	1,736	1,452	1,595	2,860	2,530	1,390	2,550	1,618	778
2007, 2013	Water Temperature	Celsius	NA					15.30	14.60	16.80	16.00	12.10	12.50	17.80	13.60	14.20	17.00	9.70	12.10
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**31.3**	4.33	**24.5**	**38.3**	**111**	**192**	**40.1**	**116**	**26**	15.4	13.4	**117**	**30.9**	**39.3**	**137**
Bacteriological																			
2007, 2013	Enterococcus	MPN/100 mL	NA		8,000	1,400	17,000	50,000	80,000	80,000	22,000	170,000	80,000	8,000	1,700	50,000	80,000	5,000	90,000
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**3,000**	**8,000**	**1,700**	**13,000**	**23,000**	**22,000**	**17,000**	**23,000**	**17,000**	**1,300**	**1,100**	**50,000**	**80,000**	**17,000**	**17,000**
2007, 2013	Total Coliform	MPN/100 mL	NA		50,000	30,000	8,000	30,000	50,000	80,000	70,000	30,000	80,000	17,000	13,000	230,000	130,000	300,000	170,000
Nutrients																			
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.4	0.19	0.18	0.29	0.32	0.41	<0.1	0.18	1.2	0.33	0.26	0.32	0.95	0.23	<0.1
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	2.6	3.2	2.2	2.32	0.95	2.25	1.72	1.66	3.8	2.71	7.2	6.32	4.63	3.77	4.15
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	0.05	0.06
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		2.1	1.2	1.6	1.6	2.0	1.7	3.2	4.2	1.7	2	0.7	3	3	6.5	1.3
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.29	<0.05	0.14	0.32	0.32	0.13	0.36	0.25	0.22	0.26	<0.05	<0.05	0.42	0.36	0.26
2013	Orthophosphate	mg/L	NA																
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	1.75	0.8	0.29	0.49	0.62	0.72	0.46	0.52	0.3	0.28	0.26	0.62	0.44	0.39	0.5
General Chemistry																			
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	5.2	4.4	5.3	4.07	9.93	5.00	4.4	**43.1**	21.7	6.26	3.32	5.2	7.62	4.54	7.29
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	<25	25	40	73	51	69	45	**126**	59	68	37	42	75	64	69
2007, 2013	Dissolved Organic Carbon	mg/L	NA					4.1	11.1	9.86	10.9	6.31	13.4	29	3.86	6.47	5.66	18.2	5.56
2007, 2013	Total Organic Carbon	mg/L	NA					14.5	14.0	8.04	11.1	13.1	12.7	34	6.9	13.8	32.2	18.2	14.1
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<1	<1	1	<1.00	1.16	<1.00	<1	<1	<1	<1	<1	<1	<1	<1	<1
2013	Sulfate	mg/L	250 (a)	1. Basin Plan															
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan	**1,150**	**1,460**	**1,160**	**1,360**	**681**	**717**	**1,300**	**665**	**1,310**	**1,460**	**1,410**	**965**	**1,220**	**844**	**929**
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	53	<20	60	54	**150**	**221**	75	<20	55	60	72	**264**	**102**	36	**155**
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		564	681	532	530	365	388	610	284	547	700	663	514	668	447	502
Total Metals																			
2007	Antimony	mg/L	NA		<0.002	<0.002	<0.002	<0.002	0.003	0.004	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Arsenic	mg/L	NA		<0.001	<0.001	0.002	0.003	0.003	0.004	0.003	0.004	0.003	0.003	0.004	<0.002	0.004	0.002	0.005
2007, 2013	Cadmium	mg/L	NA		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.009
2007, 2013	Chromium	mg/L	NA		0.006	<0.005	<0.005	<0.005	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	NA		<0.006	<0.005	0.009	0.009	0.015	0.019	0.009	0.018	0.006	0.008	0.022	0.02	0.012	0.009	0.01
2013	Iron	mg/L	0.3 (a)	1. Basin Plan															
2007, 2013	Lead	mg/L	NA		<0.002	<0.002	<0.002	0.005	0.005	0.005	0.002	0.006	<0.002	<0.002	0.002	0.005	0.004	<0.002	0.005
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan															
2013	Mercury	mg/L	NA																
2007, 2013	Nickel	mg/L	NA		0.002	0.002	0.004	0.004	0.004	0.006	0.004	0.003	<0.002	0.004	0.002	0.003	0.004	0.003	0.004
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.002	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2013	Thallium	mg/L	NA																
2007, 2013	Zinc	mg/L	NA		<0.020	<0.020	0.028	0.022	0.046	0.066	0.033	0.065	<0.02	0.020	0.022	0.052	0.030	0.038	0.079
Dissolved Metals																			
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	<0.002	<0.002	0.002	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	<0.001	<0.001	0.002	0.002	0.002	0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	<0.005	0.012	0.005	<0.005	**0.049**	0.008	<0.005	0.005	<0.005	<0.005	0.007	<0.005	0.005	0.007	<0.005
2013	Iron	mg/L	NA																
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2013	Manganese	mg/L	NA																
2013	Mercury	mg/L	NA																
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.002	0.005	0.002	0.003	0.002	<0.002	0.002	0.002	0.002	0.003	0.002	<0.002	0.003	0.003	0.002
2007, 2013	Selenium	mg/L	NA		<0.002	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2013	Thallium	mg/L	NA																
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	<0.020	<0.020	<0.020	<0.020	0.230	0.022	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.023	0.03

Wet Weather Historical Monitoring Table for ESC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data														
					2001-2002			2002-2003			2003-2004			2004-2005			2005-2006		
					11/29/01	02/17/02	03/08/02	11/08/02	02/11/03	02/25/03	11/12/03	02/03/04	03/02/04	10/17/04	02/11/05	02/18/05	10/17/05	02/19/06	03/11/06
Chlorinated Pesticides																			
2013	2,4'-DDE	µg/L	NA																
2013	2,4'-DDT	µg/L	NA	16. 40 CFR 131.38															
2013	4,4´-DDE	µg/L	NA																
2013	4,4´-DDT	µg/L	1.1	16. 40 CFR 131.38															
Organophosphorus Pesticides																			
2013	Azinphos methyl (Guthion)	µg/L	NA																
2013	Bolstar	µg/L	NA																
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.03*	<0.03*	<0.03*	<0.03*	<0.03*	**0.030**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
2013	Coumaphos	µg/L	NA																
2013	Demeton-o	µg/L	NA																
2013	Demeton-s	µg/L	NA																
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	**0.94**	**0.27**	**0.27**	**0.122**	**0.163**	0.063	0.061	0.067	0.037	<0.01	<0.01	<0.01	<0.01	0.045	<0.02
2013	Dichlorvos	µg/L	NA																
2013	Dimethoate	µg/L	NA																
2013	Disulfoton	µg/L	NA																
2013	Ethoprop	µg/L	NA																
2013	Ethyl parathion	µg/L	NA																
2013	Fensulfothion	µg/L	NA																
2013	Fenthion	µg/L	NA																
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook				<0.10	<0.10	<0.10	0.205	0.037	0.047	<0.01	<0.01	<0.01	0.052	<0.02	<0.02
2013	Merphos	µg/L	NA																
2013	Methyl parathion	µg/L	NA																
2013	Mevinphos	µg/L	NA																
2013	Naled	µg/L	NA																
2013	Phorate	µg/L	NA																
2013	Ronnel	µg/L	NA																
2013	Stirophos	µg/L	NA																
2013	Tokuthion (Prothiofos)	µg/L	NA																
2013	Trichloronate	µg/L	NA																
Pyrethroids																			
2007, 2013	Allethrin	µg/L	NA																
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006															
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004															
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004															
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004															
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA																
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA																
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004															
2007, 2013	Fenvalerate	µg/L	NA																
2007, 2013	Fluvalinate	µg/L	NA																
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006															
2007, 2013	Prallethrin	µg/L	NA																
2007, 2013	Resmethrin	µg/L	NA																
Toxicity																			
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		**35.36**	>100	>100	>100	>100	>100	>100	>100	> 100	>100	>100	>100	>100	>100	>100
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		**25**	**50**	100	100	100	100	100	100	100	100	100	100	100	100	100
2013	*Ceriodaphnia* 7-day survival	TST	Pass/Fail																
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**25**	100	100	100	100	100	100	100	100	100	100	100	100	100	100
2013	*Ceriodaphnia* 7-day reproduction	TST	Pass/Fail																
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
2013	*Selenastrum* 96-hr	TST	Pass/Fail																
2013	*Pimephale*s 7-day survival	TST	Pass/Fail																
2013	*Pimephales* 7-day biomass	TST	Pass/Fail																
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail																

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for ESC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data											
					2006-2007			2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	
					10/14/06	01/31/07	02/19/07	11/30/07	02/03/08-02/04/08	11/04/08	-	10/06/10-10/07/10	02/16/11	-	10/12/12	02/08/13-02/09/13
Physical Chemistry											No Samples Collected			No Samples Collected		
2013	Dissolved Oxygen	mg/L	<6.0 (a)	1. Basin Plan												
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.50	8.01	6.97	7.57	8.38	7.78		8.09	7.95		8.04	8.22
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,400	1,654	1,086	496	1,759	2,770		2,410	1,620		2,510	1,572
2007, 2013	Water Temperature	Celsius	NA		15.40	13.70	14.30	16.10	12.10	14.80		18.10	15.00		18.6	11.8
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**57.5**	**52**	**62.3**	**126**	**75.3**	14.6		6.7	4.8		5.2	5.5
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	NA		80,000	5,000	110,000	130,000	3,000	30,000		13,000	3000		5,000	5,000
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**23,000**	**2,800**	**4,000**	**110,000**	**1,100**	**30,000**		**17,000**	**3,000**		**3,000**	**5,000**
2007, 2013	Total Coliform	MPN/100 mL	NA		130,000	14,000	170,000	800,000	22,000	80,000		170,000	30000		70,000	50,000
Nutrients																
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.44	1.41	1.24	0.38	0.1	0.08		0.099J	0.18		0.26	0.1
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	5.3	<0.05	2.38	1.6	1.6	3.57		2.2	5.1		3.8	3.6
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	0.1	0.05	0.08	0.03J	0.04J		0.062J	0.15		0.13	0.031J
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.8	3	2.4	2.9	1.1	1.4		1	1.2		1.3	0.61
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.35	0.35	0.28	0.51	0.33	0.148		0.19	0.16		0.16	0.094
2013	Orthophosphate	mg/L	NA													
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.4	0.52	0.4	0.63	0.46	0.22		0.21	0.24		0.26	0.13
General Chemistry																
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	14.5	**33.1**	8.8	9.1	5.5	5.5		1.9J	4.5		7.6	1.6J
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	58	116	37	47	24	39		33	29		33	22
2007, 2013	Dissolved Organic Carbon	mg/L	NA		76.9	27.3	10.7	13.1	6.9	8.8		10	8.4		8.6	5.1
2007, 2013	Total Organic Carbon	mg/L	NA		77.1	31.9	11	14.6	6.6	8.8		11	9.3		8.8	5.2
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<5	<5	<5	3.1J	1.5J	1J		<5	2.3J		<5	<5
2013	Sulfate	mg/L	250 (a)	1. Basin Plan												
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	0.28	0.107	0.138		0.11	0.2		0.044J	0.053
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan	**1,590**	**715**	**748**	448	364	**1,686**		**1,600**	**1,200**		**1,700**	**1,300**
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	97	**103**	65	**160**	46	22		23	54		76	26
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		772	331	329	95.7	87.6	671.6		670	560		724	578
Total Metals																
2007	Antimony	mg/L	NA		0.002	0.002	0.003	0.001	0.0007	0.0004J		0.00057	0.00058		0.0004J	0.00037J
2007, 2013	Arsenic	mg/L	NA		0.01	<0.001	0.002	0.0023	0.0015	0.0023		0.0018	0.0013		0.0018	0.0011
2007, 2013	Cadmium	mg/L	NA		0.003	<0.001	0.001	0.0003J	<0.0004	0.0003J		0.00057	0.00015		0.00033	0.0002
2007, 2013	Chromium	mg/L	NA		<0.005	<0.005	<0.005	0.0023	0.0011	0.0004J		0.00059	0.00099		0.00068	0.00067
2007, 2013	Copper	mg/L	NA		0.008	0.014	0.026	0.015	0.0068	0.005		0.0047	0.006		0.004	0.004
2013	Iron	mg/L	0.3 (a)	1. Basin Plan												
2007, 2013	Lead	mg/L	NA		0.002	0.005	0.005	0.0067	0.0025	0.0006		0.00067	0.00094		0.0013	0.00052
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan												
2013	Mercury	mg/L	NA													
2007, 2013	Nickel	mg/L	NA		0.004	0.004	0.005	0.0036	0.0014	0.0022		0.0034	0.0041		0.0024	0.0043
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.004	<0.004	<0.004	0.0006	0.0004J	0.0015		0.0011	0.0013		0.002	0.0021
2013	Thallium	mg/L	NA													
2007, 2013	Zinc	mg/L	NA		0.026	0.061	0.08	0.083	0.033	0.017		0.01	0.013		0.015	0.0089
Dissolved Metals																
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	0.002	0.0009	0.0008	0.0004J		0.00057	0.00057		0.0004J	0.00035J
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	<0.001	<0.001	<0.001	0.0017	0.0013	0.0019		0.0016	0.0011		0.0018	0.00092
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.0004	<0.0004	0.0002J		0.00035	0.000053J		0.00012	0.00012
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	0.0005	0.0006	0.0001J		0.00014J	0.00039		0.00008J	0.0002
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.004	0.007	0.005	0.0048	0.0037	0.0032		0.003	0.0041		0.002	0.0027
2013	Iron	mg/L	NA													
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	0.00027	<0.0001	<0.0001		0.000045J	<0.0002		<0.0002	0.000021J
2013	Manganese	mg/L	NA													
2013	Mercury	mg/L	NA													
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.002	<0.002	<0.002	0.0014	0.0009	0.0019		0.0027	0.0037		0.0017	0.0036
2007, 2013	Selenium	mg/L	NA		<0.004	<0.004	<0.004	0.0007	0.0004J	0.0014		0.0011	0.0013		0.0017	0.0018
2013	Thallium	mg/L	NA													
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	<0.02	<0.02	0.07	0.0134	0.0068	0.0075		0.0053	0.0036J		0.0047J	0.0044J

Wet Weather Historical Monitoring Table for ESC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data										
					2006-2007			2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	
					10/14/06	01/31/07	02/19/07	11/30/07	02/03/08-02/04/08	11/04/08	-	10/06/10-10/07/10	02/16/11	-	10/12/12	02/08/13-02/09/13
Chlorinated Pesticides											No Samples Collected			No Samples Collected		
2013	2,4'-DDE	µg/L	NA													
2013	2,4'-DDT	µg/L	NA	16. 40 CFR 131.38												
2013	4,4´-DDE	µg/L	NA													
2013	4,4´-DDT	µg/L	1.1	16. 40 CFR 131.38												
Organophosphorus Pesticides																
2013	Azinphos methyl (Guthion)	µg/L	NA													
2013	Bolstar	µg/L	NA													
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.01	<0.01		<0.01	<0.01
2013	Coumaphos	µg/L	NA													
2013	Demeton-o	µg/L	NA													
2013	Demeton-s	µg/L	NA													
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004	<0.004	0.015	0.007	<0.004		<0.01	<0.01		<0.01	<0.01
2013	Dichlorvos	µg/L	NA													
2013	Dimethoate	µg/L	NA													
2013	Disulfoton	µg/L	NA													
2013	Ethoprop	µg/L	NA													
2013	Ethyl parathion	µg/L	NA													
2013	Fensulfothion	µg/L	NA													
2013	Fenthion	µg/L	NA													
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.032	<0.006	<0.006	0.136	0.038	<0.006		<0.01	0.026		<0.01	<0.01
2013	Merphos	µg/L	NA													
2013	Methyl parathion	µg/L	NA													
2013	Mevinphos	µg/L	NA													
2013	Naled	µg/L	NA													
2013	Phorate	µg/L	NA													
2013	Ronnel	µg/L	NA													
2013	Stirophos	µg/L	NA													
2013	Tokuthion (Prothiofos)	µg/L	NA													
2013	Trichloronate	µg/L	NA													
Pyrethroids																
2007, 2013	Allethrin	µg/L	NA					<0.002	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006				**0.0907**	**0.0108**	<0.002		<0.002	0.0081		0.0018J	**0.0107**
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004				0.01	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004				0.002J	0.0005J	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004				<0.002	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA					0.003	<0.002	<0.002			<0.002		<0.002	<0.002
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA					<0.002	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004				0.0006J	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Fenvalerate	µg/L	NA					0.0008J	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Fluvalinate	µg/L	NA					0.0011J	<0.002	<0.002			<0.002		<0.002	<0.002
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006				<0.025*	<0.025*	<0.025*		<0.005	<0.025*		<0.025††	<0.01
2007, 2013	Prallethrin	µg/L	NA					<0.002	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002
2007, 2013	Resmethrin	µg/L	NA						<0.025	<0.025						<0.01
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100		>100	>100		>100	>100
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100	100	100	100		100	100		100	100
2013	*Ceriodaphnia* 7-day survival	TST	Pass/Fail													
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100	100	100	100	100		100	100		100	100
2013	*Ceriodaphnia* 7-day reproduction	TST	Pass/Fail													
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100		>100	>100		>100	>100
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100	100	100	100	100		100	100		100	100
2013	*Selenastrum* 96-hr	TST	Pass/Fail													
2013	*Pimephales* 7-day survival	TST	Pass/Fail													
2013	*Pimephales* 7-day biomass	TST	Pass/Fail													
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail													

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for ESC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014	2014-2015				
					-	11/1/14	11/21/14-11/22/14	03/01/15-03/02/15		
Physical Chemistry					No Samples Collected					
2013	Dissolved Oxygen	mg/L	<6.0 (a)	1. Basin Plan		7.31	8.26	9.07	0%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan		7.66	7.71	7.76	0%	0.20
2007, 2013	Specific Conductivity	µmhos/cm	NA			2,548	2,397	696		
2007, 2013	Water Temperature	Celsius	NA			14.76	15.72	13.58		
2007, 2013	Turbidity	NTU	20	1. Basin Plan		4.3	19.6	12.4	61%	2.47
Bacteriological										
2007, 2013	Enterococcus	MPN/100 mL	NA			170	300	50,000		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2		**30,000**	80	**35,000**	96%	49.83
2007, 2013	Total Coliform	MPN/100 mL	NA			30,000	110	160,000		
Nutrients										
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)		0.16	0.12	0.057J	0%	0.03
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan		1.4	3.1	1.5	0%	0.30
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan		0.036J	0.063J	0.032J	0%	0.05
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA			2.1	1.6	1		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015		0.44	NR	0.24	0%	0.12
2013	Orthophosphate	mg/L	NA			0.36	0.27	0.22		
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015		0.44	0.44	0.39	0%	0.24
General Chemistry										
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)		3.2	NR	2.7	7%	0.29
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015		63	NR	41	4%	0.43
2007, 2013	Dissolved Organic Carbon	mg/L	NA			13	16	9.1		
2007, 2013	Total Organic Carbon	mg/L	NA			14	16	9.7		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015		<5.0	NR	<5.0	0%	0.14
2013	Sulfate	mg/L	250 (a)	1. Basin Plan		**410**	**290**	150	67%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan		0.081	0.15	0.094	0%	0.37
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan		**1,400**	**990**	**590**	93%	2.21
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan		**110**	25	44	29%	0.80
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA			662	424	281		
Total Metals										
2007	Antimony	mg/L	NA			0.00059	NR	0.00087		
2007, 2013	Arsenic	mg/L	NA			0.002	0.0016	0.0012		
2007, 2013	Cadmium	mg/L	NA			0.00023	0.00065	0.00023		
2007, 2013	Chromium	mg/L	NA			0.0026	0.0009	0.0013		
2007, 2013	Copper	mg/L	NA			0.013	0.009	0.0083		
2013	Iron	mg/L	0.3 (a)	1. Basin Plan		**3.5**	**0.87**	**1.4**	100%	NA[1]
2007, 2013	Lead	mg/L	NA			0.0023	0.001	0.0015		
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan		**0.59**	**0.22**	**0.24**	100%	NA[1]
2013	Mercury	mg/L	NA			0.000017J	<0.000050	0.000011J		
2007, 2013	Nickel	mg/L	NA			0.0037	0.0041	0.0028		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38		0.003	0.0021	0.0012	0%	0.38
2013	Thallium	mg/L	NA			0.000034J	<0.00020	0.000014J		
2007, 2013	Zinc	mg/L	NA			0.035	0.018	0.019		
Dissolved Metals										
2007	Antimony	mg/L	0.006	1. Basin Plan		0.00036J	NR	0.00073	0%	0.24
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38		0.0012	0.0015	0.00091	0%	0.00
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38		0.000038J	0.00041	0.000085J	0%	0.03
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38		0.00016J	0.00031	0.00037	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38		0.0038	0.0065	0.0039	4%	0.15
2013	Iron	mg/L	NA			0.047	0.068	0.056		
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38		0.000040J	0.000099J	0.000082J	0%	0.00
2013	Manganese	mg/L	NA			0.017	0.029	0.033		
2013	Mercury	mg/L	NA			0.000012J	<0.000050	0.0000080J		
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38		0.0018	0.0035	0.0017	0%	0.00
2007, 2013	Selenium	mg/L	NA			0.0023	0.0021	0.00082		
2013	Thallium	mg/L	NA			<0.00020	<0.00020	<0.00020		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38		0.0063	0.0085	0.0054	0%	0.06

Wet Weather Historical Monitoring Table for ESC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014	2014-2015				
					-	11/1/14	11/21/14-11/22/14	03/01/15-03/02/15		
Chlorinated Pesticides					No Samples Collected					
2013	2,4'-DDE	µg/L	NA			<0.0050	<0.0050	<0.0050		
2013	2,4'-DDT	µg/L	NA	16. 40 CFR 131.38		<0.0050	<0.0050	<0.0050		
2013	4,4´-DDE	µg/L	NA			<0.0050	<0.0050	<0.0050		
2013	4,4´-DDT	µg/L	1.1	16. 40 CFR 131.38		<0.0050	<0.0050	<0.0050	0%	NA[1]
Organophosphorus Pesticides										
2013	Azinphos methyl (Guthion)	µg/L	NA			<0.010	<0.010	<0.010		
2013	Bolstar	µg/L	NA			<0.010	<0.010	<0.010		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000		<0.010	<0.010	<0.010	4%	0.27
2013	Coumaphos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Demeton-o	µg/L	NA			<0.010	<0.010	<0.010BS-L		
2013	Demeton-s	µg/L	NA			<0.010	<0.010	<0.010		
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon		<0.010BS-L	<0.010	<0.010	18%	0.95
2013	Dichlorvos	µg/L	NA			<0.010	<0.010	0.048		
2013	Dimethoate	µg/L	NA			<0.010	<0.010	<0.010		
2013	Disulfoton	µg/L	NA			<0.010	<0.010	<0.010		
2013	Ethoprop	µg/L	NA			<0.010	<0.010	<0.010		
2013	Ethyl parathion	µg/L	NA			<0.010	<0.010	<0.010		
2013	Fensulfothion	µg/L	NA			<0.010	<0.010	<0.010		
2013	Fenthion	µg/L	NA			<0.010	<0.010	<0.010		
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook		0.073	0.017	<0.010	0%	0.08
2013	Merphos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Methyl parathion	µg/L	NA			<0.010	<0.010	<0.010		
2013	Mevinphos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Naled	µg/L	NA			<0.010	<0.010	<0.010		
2013	Phorate	µg/L	NA			<0.010	<0.010	<0.010		
2013	Ronnel	µg/L	NA			<0.010	<0.010	<0.010		
2013	Stirophos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Tokuthion (Prothiofos)	µg/L	NA			<0.010	<0.010	<0.010		
2013	Trichloronate	µg/L	NA			<0.010	<0.010	<0.010		
Pyrethroids										
2007, 2013	Allethrin	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006		**0.0783**	0.0076	<0.002	40%	2.27
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004		0.0273	<0.002	<0.002	0%	0.01
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004		0.0021	<0.002	<0.002	0%	0.04
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004		0.0048	<0.002	<0.002	0%	0.00
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA			0.0246	<0.002	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004		0.0054	<0.002	<0.002	0%	0.01
2007, 2013	Fenvalerate	µg/L	NA			0.0012J	<0.002	<0.002		
2007, 2013	Fluvalinate	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006		**0.123**	<0.01	<0.01	10%	0.90
2007, 2013	Prallethrin	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA			<0.01	<0.01	<0.01		
Toxicity										
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100			>100	NR	>100	4%	1.07
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100			100	NR	**50**	11%	1.19
2013	*Ceriodaphnia* 7-day survival	TST	Pass/Fail			NR	Pass	**Fail**	50%	
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100			100	NR	**50**	7%	1.15
2013	*Ceriodaphnia* 7-day reproduction	TST	Pass/Fail			NR	Pass	**Fail**	50%	
2007	*Hyalella* 96-hr	LC_{50} (%)	>100			**89**	NR	>100	4%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100			100	NR	100	0%	1.00
2013	*Selenastrum* 96-hr	TST	Pass/Fail			NR	Pass	Pass	0%	
2013	*Pimephale*s 7-day survival	TST	Pass/Fail			NR	Pass	Pass	0%	
2013	*Pimephales* 7-day biomass	TST	Pass/Fail			NR	Pass	Pass	0%	
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail			Pass	NR	NR	0%	

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for ESC-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
BS-L-Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
NR-Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks. Values that are underlined are above the CMC Water Quality Benchmark.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for LPC-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data								Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	2013-2014	2014-2015		
					11/30/07	02/03/08	-	-	10/6/10	02/16/11**	-	-	-	-		
Physical Chemistry																
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.04	7.43	No Samples Collected	No Samples Collected	7.37	**6.40**	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	25%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		196	208			380	720						
2007, 2013	Water Temperature	Celsius	NA		17.20	13.20			17.60	16.20						
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**164**	**65**			**32**	**28**					100%	NA[1]
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	NA		14,000	5,000			130,000	17,000						
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1. Basin Plan REC-1/REC-2	**17,000**	1,700			**50,000**	3,000					50%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		110,000	23,000			300,000	30,000						
Nutrients																
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.78	0.1			0.35	0.48					0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.3	0.2			0.45	0.45					0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.1	<0.05			0.3	0.054J					0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		3.9	0.84			3.5	1.9						
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.69	0.2			0.51	0.053					0%	NA[1]
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.606	0.33			0.83	0.53					0%	NA[1]
General Chemistry																
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	12	3.4			7	6.8					0%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	49	22			110	83					0%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		12.7	6.5			7.9	9.5						
2007, 2013	Total Organic Carbon	mg/L	NA		14.3	5.7			12	9.6						
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	4.4J	3.3J			<5	2.1J					0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.158	0.062			0.17	0.095					0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**524**	496			**600**	340					50%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**260**	40			**330**	**220**					75%	NA[1]
2007, 2013	Hardness	mg $CaCO_3$/L	NA		49.2	45.2			360	180						
Total Metals																
2007	Antimony	mg/L	NA		0.0014	0.0011			0.0024	0.0026						
2007, 2013	Arsenic	mg/L	NA		0.0074	0.0032			0.013	0.012						
2007, 2013	Cadmium	mg/L	NA		0.0004	<0.0004			0.00051	0.00038						
2007, 2013	Chromium	mg/L	NA		0.0047	0.0015			0.0088	0.0094						
2007, 2013	Copper	mg/L	NA		0.0417	0.0128			0.062	0.05						
2007, 2013	Lead	mg/L	NA		0.0152	0.0037			0.019	0.015						
2007, 2013	Nickel	mg/L	NA		0.0087	0.0028			0.01	0.0097						
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0004J	0.0002J			0.00087	0.00056					0%	NA[1]
2007, 2013	Zinc	mg/L	NA		0.2228	0.0708			0.23	0.22						
Dissolved Metals																
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0014	0.0012			0.0014	0.0019					0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0025	0.0020			0.0017	0.0012					0%	NA[1]
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000027J	0.000014J					0%	NA[1]
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0006	0.0006			0.00026	0.00073					0%	NA[1]
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0056	0.0053			0.0049	0.0096					0%	NA[1]
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.0002	<0.0001			0.00023	0.000079J					0%	NA[1]
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0020	0.0012			0.0025	0.0023					0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.0004J	0.0002J			0.00048	0.00041						
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0125	0.0120			0.014	0.01					0%	NA[1]
Organophosphorus Pesticides																
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01					0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01					0%	NA[1]
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01					0%	NA[1]
Pyrethroids																
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002			<0.002	<0.002						NA[1]
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.0323**	<0.002			<0.002	**0.0288**					50%	NA[1]
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	0.02	0.01			<0.002	0.0125					0%	NA[1]
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	0.001J	<0.002			<0.002	0.0018J					0%	NA[1]
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002			<0.002	<0.002					0%	NA[1]
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		0.001J	<0.002				<0.002						
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002			<0.002	<0.002						
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002			<0.002	<0.002					0%	NA[1]
2007, 2013	Fenvalerate	µg/L	NA		<0.002	<0.002			<0.002	<0.002						
2007, 2013	Fluvalinate	µg/L	NA		0.0006J	<0.002				0.006						
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.025*	<0.025*			<0.005	<0.025*					0%	NA[1]
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002			<0.002	<0.002						
2007, 2013	Resmethrin	µg/L	NA			<0.025										
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100					0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100					0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100			100	100					0%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100					0%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			100	100					0%	NA[1]

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for LPC-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
**Sample was taken upstream of LPC-TWAS-1.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations

Wet Weather Historical Monitoring Table for LPC-TWAS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					11/30/07	02/03/08	-	-	10/19/10-10/20/10	02/16/11	-	10/11/12	02/20/13	-	11/01/14	03/01/15-03/02/15		
Physical Chemistry							No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected				
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.28	7.62			7.30	7.65		7.54	7.62		7.23	7.62	0%	0.21
2007, 2013	Specific Conductivity	µmhos/cm	NA		567	373			548	1,334		1,735	641		1,089	451		
2007, 2013	Water Temperature	Celsius	NA		16.80	12.50			17.50	15.10		20	10.8		17.64	13.27		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**84**	**147**			**77**	4.9		18	11		**75.7**	**26.6**	63%	2.78
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	NA		80,000	5,000			280,000	17,000		50,000	50,000		2,200	50,000		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**70,000**	**1,700**			**50,000**	**17,000**		**80,000**	**11,000**		**110,000**	**7,000**	100%	108.34
2007, 2013	Total Coliform	MPN/100 mL	NA		110,000	17,000			300,000	30,000		300,000	60,000		170,000	9,000		
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.62	0.08			0.33	0.16		0.87	0.14		0.28	<0.10	0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.3	0.44			0.67	1		2.1	0.45		1.4	0.28	0%	0.10
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.09	0.02J			0.13	0.078J		0.13	0.047J		0.075J	0.020J	0%	0.07
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		2.2	0.98			2.3	1.2		6.2	1.3		3.1	0.71		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.1	0.16			0.29	0.098		0.18	0.13		0.47	0.13	0%	0.10
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	1.01	0.41			0.42	0.15		0.87	0.27		0.66	0.25	0%	0.25
General Chemistry																		
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	15	2.2			6.6	4.9		**82**	6.4		15	6.3	13%	0.58
2007	Chemical Oxygen Demand	mg/L	120	.	60	23			82	40		**230**	54		**130**	35	25%	0.68
2007, 2013	Dissolved Organic Carbon	mg/L	NA		16.4	5.3			8.6	11		41	6.1		28	8.1		
2007, 2013	Total Organic Carbon	mg/L	NA		16.9	5.5			8.7	12		42	5.8		32	8.6		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	2.8J	2.2J			2.6J	<5		<5	<5		<5.0	<5.0	0%	0.25
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.268	0.096			<0.05	0.2		0.095	0.065		0.15	0.096	0%	0.25
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	322	298			330	**1,000**		**1,200**	430		**1,300**	390	38%	1.32
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**113**	**200**			**130**	27		**380**	**150**		**120**	45	75%	1.46
2007, 2013	Hardness	mg $CaCO_3$/L	NA		93.9	66.5			150	430		505	198		553	174		
Total Metals																		
2007	Antimony	mg/L	NA		0.0014	0.0007			0.0012	0.0011		0.0023	0.001		0.0015	0.00095		
2007, 2013	Arsenic	mg/L	NA		0.0046	0.0033			0.004	0.0022		0.0066	0.0025		0.0048	0.0021		
2007, 2013	Cadmium	mg/L	NA		<0.0004	<0.0004			0.00014	0.000029J		0.00029	0.0001		0.00015	0.000046J		
2007, 2013	Chromium	mg/L	NA		0.0016	0.0014			0.0043	0.00069		0.004	0.0025		0.0033	0.0015		
2007, 2013	Copper	mg/L	NA		0.0183	0.0093			0.019	0.0071		0.034	0.015		0.016	0.0076		
2007, 2013	Lead	mg/L	NA		0.0047	0.0046			0.0062	0.00053		0.0071	0.0037		0.0036	0.0014		
2007, 2013	Nickel	mg/L	NA		0.0032	0.0020			0.0045	0.0037		0.009	0.0027		0.0046	0.0022		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0006	0.0002J			0.00064	0.00072		0.0012	0.00041		0.00079	0.00064	0%	0.13
2007, 2013	Zinc	mg/L	NA		0.0635	0.0465			0.076	0.011		0.15	0.068		0.066	0.026		
Dissolved Metals																		
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0012	0.0007			0.00087	0.0011		0.0019	0.00058		0.0012	0.00072	0%	0.17
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0028	0.0024			0.0022	0.0019		0.0035	0.0012		0.0025	0.0014	0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004			<0.0001	0.000014J		0.00007J	0.00002J		0.000054J	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0003J	0.0005			0.00032	0.00045		0.00067	0.00028		0.00036	0.00034	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0042	0.0035			0.0051	0.0059		0.0074	0.003		0.0048	0.0031	0%	0.20
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.0001	<0.0001			0.00013J	0.000026J		0.00024	<0.0002		0.00022	0.000062J	0%	0.00
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0017	0.0009			0.0016	0.0034		0.0059	0.00085		0.0028	0.0012	0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0006	0.0003J			0.00036J	0.00085		0.00084	<0.0004		0.00049	0.00047		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0090	0.0043			0.009	0.0059		0.034	0.0082		0.019	0.0051	0%	0.05
Organophosphorus Pesticides																		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.20
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	0.057	0.006			<0.01	0.0063J		<0.01	<0.01		<0.010BS-L	<0.010	0%	0.15
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.121	0.014			<0.01	0.023		0.069	0.081		0.017	<0.010	0%	0.10
Pyrethroids																		
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.0549**	**0.0534**			0.0023J	**0.0437**		**0.1197**	**0.2351**		**0.0507**	0.0051	75%	7.59
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	0.01	0.009			<0.005	<0.002		0.0175	0.071		0.0154	<0.002	0%	0.05
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	0.02	0.0007J			<0.005	<0.002		0.0024	<0.002		0.0016J	<0.002	0%	0.05
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	0.05	<0.002			<0.005	<0.002		0.0072	<0.002		0.0064	<0.002	0%	0.01
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.002	<0.002				<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		0.0215	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	0%	0.00
2007, 2013	Fenvalerate	µg/L	NA		<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Fluvalinate	µg/L	NA		<0.002	<0.002				<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.025*	<0.025*			<0.005	<0.025*		**0.1607**	<0.01		**0.082**	<0.01	25%	1.71
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA			<0.025						<0.025	<0.01		<0.01	<0.01		
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	**94.2**			>100	**58**		>100	>100		>100	>100	25%	1.10
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for LPC-TWAS-2

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.

(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.

(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.

(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.

* Indicates detection limit above water quality benchmark.

£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.

BS-L Blank Spike recovery of this analyte was below the control limits. Results may be biased low.

J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources

Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for LPC-TWAS-3

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data		Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2012-2013		2013-2014	2014-2015			
					12/13/12	02/08/13-02/09/13	-	11/01/14	03/01/15		
Physical Chemistry							No Samples Collected				
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.33	7.62		7.23	7.9	0%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,247	3,600		2,096	1,783		
2007, 2013	Water Temperature	Celsius	NA		13.5	10.5		16.99	14.32		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**42**	4.9		**29.5**	**31**	75%	NA[1]
Bacteriological											
2007, 2013	Enterococcus	MPN/100 mL	NA		110,000	2,200		17,000H	50,000		
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1. Basin Plan REC-1/REC-2	**50,000**	2,200		240,000H^	**110,000**	67%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		140,000	17,000		500,000H	170,000		
Nutrients											
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.22	0.061J		<0.10	<0.10	0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.76	0.087J		0.99	0.18	0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.038J	0.018J		0.066J	0.024J	0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.2	0.42		2.8	0.63		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.33	0.094		0.72	0.14	0%	NA[1]
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.71	0.26		0.94	0.24	0%	NA[1]
General Chemistry											
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	8	3.4		9.6	5.8	0%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120		47	25		110	39	0%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		11	6.2		29	8.8		
2007, 2013	Total Organic Carbon	mg/L	NA		11	5.7		32	9.2		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<5	1.5J		<5.0	<5.0	0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.05	0.068		0.12	0.053	0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**590**	**2,600**		**1,900**	**1,300**	100%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**150**	7		**110**	35	50%	NA[1]
2007, 2013	Hardness	mg $CaCO_3$/L	NA		247	1,210		825	571		
Total Metals											
2007	Antimony	mg/L	NA		0.00043J	0.00028J		0.00062	0.00042J		
2007, 2013	Arsenic	mg/L	NA		0.0068	0.004		0.012	0.0041		
2007, 2013	Cadmium	mg/L	NA		0.000071J	<0.0001		0.000098J	<0.00010		
2007, 2013	Chromium	mg/L	NA		0.0021	0.00025		0.0016	0.0013		
2007, 2013	Copper	mg/L	NA		0.0063	0.0023		0.0071	0.0034		
2007, 2013	Lead	mg/L	NA		0.0021	0.00012J		0.0013	0.00052		
2007, 2013	Nickel	mg/L	NA		0.003	0.0079		0.0027	0.004		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.00099	0.0012		0.0013	0.0014	0%	NA[1]
2007, 2013	Zinc	mg/L	NA		0.022	0.0046J		0.018	0.0075		
Dissolved Metals											
2007	Antimony	mg/L	0.006	1. Basin Plan	0.00035J	0.00026J		0.00042J	0.00034J	0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0033	0.0031		0.0062	0.0024	0%	NA[1]
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0001	<0.0001		<0.00010	<0.00010	0%	NA[1]
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.00022	0.00011J		0.00017J	0.0003	0%	NA[1]
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0024	0.0018		0.0036	0.0024	0%	NA[1]
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.000059J	0.000016J		0.000026J	<0.00020	0%	NA[1]
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0018	0.0076		0.0018	0.0026	0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.00076	0.00091		0.00098	0.0013		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.005	0.0038J		0.0046J	0.0025J	0%	NA[1]
Organophosphorus Pesticides											
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01		<0.010	<0.010	0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.01	<0.01		<0.010	<0.010	0%	NA[1]
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.01	<0.01		0.087	<0.010	0%	NA[1]
Pyrethroids											
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.1048**	**0.1463**		**0.0219**	<0.002	75%	NA[1]
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.002	<0.002		0.0642	<0.002	0%	NA[1]
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.002	0.0156		<0.002	<0.002	0%	NA[1]
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002		<0.002	<0.002	0%	NA[1]
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002		<0.002	<0.002	0%	NA[1]
2007, 2013	Fenvalerate	µg/L	NA		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Fluvalinate	µg/L	NA		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.025††	<0.01		<0.01	<0.01	0%	NA[1]
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA		<0.025	<0.01		<0.01	<0.01		
Toxicity											
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100	0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100	0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	**50**		100	100	25%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		**35.8**	**68.6**		>100	>100	50%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100		100	100	0%	NA[1]

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for LPC-TWAS-3

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
^Results were not compared to the water quality benchmark for fecal coliform due to the sample being received and/or analyzed past the recommended holding time.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for LPC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data														
					2001-2002			2002-2003			2003-2004			2004-2005			2005-2006		
					11/29/01	02/17/02	03/17/02	11/08/02	12/16/02	02/11/03	11/12/03	02/03/04	02/18/04	10/17/04	02/11/05	02/18/05	10/17/05	02/20/06	02/28/06
Physical Chemistry																			
2013	Dissolved Oxygen	mg/L	<5.0 (a)	1. Basin Plan															
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.70	7.80	7.50	7.46	7.63	7.78	6.91	7.83	8.29	7.76	7.48	6.85	7.32	6.66	6.79
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,640	2,700	1,590	1,827	1,939	2,600	2,470	3,060	3,540	3,270	2,690	1,213	2,980	2,440	113
2007, 2013	Water Temperature	Celsius	NA					16.30	15.00	12.80	15.60	12.40	12.20	18.00	12.30	13.90	17.40	11.50	13.70
2007, 2013	Turbidity	NTU	20	1. Basin Plan	3.8	3.33	5.05	17.1	**45.4**	**29.9**	7.53	8.98	2.74	7.89	9.05	**56.4**	16.4	17.1	**30.3**
Bacteriological																			
2007, 2013	Enterococcus	MPN/100 mL	NA		500	1,700	3,000	230,000	500	22,000	700	1,700	500	1,112	3,000	8,000	1,300,000	2,300	30,000
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	130	500	300	**30,000**	500	1,700	1,300	130	130	500	500	2,200	**170,000**	1,112	**5,000**
2007, 2013	Total Coliform	MPN/100 mL	NA		1,700	3,000	500	500,000	1,400	50,000	5,000	13,000	230	17,000	13,000	50,000	1,300,000	30,000	30,000
Nutrients																			
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.14	<0.1	<0.1	0.3	0.11
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.2	0.3	0.3	1.32	0.98	0.60	0.28	0.11	<0.05	0.09	0.6	1.06	1.24	0.94	0.9
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	<0.05	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.7	1	1.2	1.9	0.8	1.2	1.2	2.5	2.1	1.6	1.9	0.8	1	2.5	1.1
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.9	<0.05	0.15	0.52	0.40	0.28	0.21	0.13	0.11	0.14	0.1	0.51	0.29	0.45	0.37
2013	Orthophosphate	mg/L	NA																
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.1	0.15	0.23	0.73	0.60	0.39	0.23	0.2	0.17	0.14	0.28	0.69	0.48	0.47	0.38
General Chemistry																			
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2000, 8. McNeeley (1979)	3.1	5.6	21.3	5.55	<2.0	8.31	3.28	28.6	5.28	23.7	3.75	2.31	6.16	<2	5.24
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	<25	50	54	73	53	115	47	108	56	**143**	62	36	63	42	76
2007, 2013	Dissolved Organic Carbon	mg/L	NA					16.8	11.0	11.2	14	6.41	77.2	27.2	4.44	4.66	10.6	14.4	12.2
2007, 2013	Total Organic Carbon	mg/L	NA					22.7	57.4	13.6	10.5	8.86	95.6	29.9	9.51	10.8	22.1	14.5	14.9
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<1	1	<1	3.24	<1.00	1.39	<1	<1	<1	<1	<1	<1	<1	1.05	<1
2013	Sulfate	mg/L	250 (a)	1. Basin Plan															
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	0.2	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan	**1,580**	**1,590**	**1,010**	**955**	**1,280**	**997**	**1,380**	**1,890**	**2,040**	**2,120**	**1,500**	**804**	**1,940**	**1,030**	52
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015 , 1. Basin Plan	<20	<20	<20	35	58	38	27	<20	<20	<20	<20	**108**	20	30	**182**
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		808	815	551	428	602	602	692	805	880	1,000	707	379	932	563	373
Total Metals																			
2007	Antimony	mg/L	NA		<0.002	<0.002	<0.002	<0.002	0.005	0.009	<0.005	<0.005	<0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Arsenic	mg/L	NA		0.002	0.002	0.003	0.012	0.005	0.003	<0.002	0.006	0.005	0.005	0.004	<0.002	0.006	0.004	0.007
2007, 2013	Cadmium	mg/L	NA		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
2007, 2013	Chromium	mg/L	NA		<0.005	<0.005	<0.005	0.008	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	NA		<0.005	<0.005	0.008	0.021	0.004	0.010	<0.005	0.008	0.006	<0.005	<0.005	<0.005	0.005	0.005	0.006
2013	Iron	mg/L	0.3 (a)	1. Basin Plan															
2007, 2013	Lead	mg/L	NA		<0.002	<0.002	0.003	0.011	0.004	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	0.003
2013	Mercury	mg/L	NA																
2007, 2013	Nickel	mg/L	NA		<0.002	<0.002	<0.002	0.026	<0.002	0.002	0.003	<0.002	<0.002	0.003	0.002	0.002	0.005	0.004	0.003
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.002	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2013	Thallium	mg/L	NA																
2007, 2013	Zinc	mg/L	NA		<0.020	<0.020	0.020	0.058	0.006	<0.020	0.028	<0.02	<0.02	<0.02	<0.02	<0.02	0.039	<0.02	<0.02
Dissolved Metals																			
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.005	<0.005	<0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.002	<0.001	0.003	0.004	0.003	0.003	0.002	0.004	0.004	<0.002	<0.002	<0.002	0.002	<0.001	<0.001
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	0.007	<0.005	0.027	<0.005	0.005	0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005
2013	Iron	mg/L	NA																
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2013	Mercury	mg/L	NA																
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	<0.002	0.003	<0.002	0.003	<0.002	0.002	0.002	0.002	<0.002	0.003	0.002	0.002	0.003	0.003	0.002
2007, 2013	Selenium	mg/L	NA		<0.002	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2013	Thallium	mg/L	NA																
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	<0.020	<0.020	<0.020	<0.020	0.020	0.106	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.036	<0.02	<0.02

Wet Weather Historical Monitoring Table for LPC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data														
					2001-2002			2002-2003			2003-2004			2004-2005			2005-2006		
					11/29/01	02/17/02	03/17/02	11/08/02	12/16/02	02/11/03	11/12/03	02/03/04	02/18/04	10/17/04	02/11/05	02/18/05	10/17/05	02/20/06	02/28/06
Organophosphorus Pesticides																			
2013	Azinphos methyl (Guthion)	µg/L	NA																
2013	Bolstar	µg/L	NA																
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.03*	<0.03*	<0.03*	**0.055**	**0.067**	<0.03*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
2013	Coumaphos	µg/L	NA																
2013	Demeton-o	µg/L	NA																
2013	Demeton-s	µg/L	NA																
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	**0.12**	0.06	**0.13**	**0.231**	0.040	0.077	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
2013	Dichlorvos	µg/L	NA																
2013	Dimethoate	µg/L	NA																
2013	Disulfoton	µg/L	NA																
2013	Ethoprop	µg/L	NA																
2013	Ethyl parathion	µg/L	NA																
2013	Fensulfothion	µg/L	NA																
2013	Fenthion	µg/L	NA																
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook				<0.10	<0.10	<0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.045	0.028	0.039
2013	Merphos	µg/L	NA																
2013	Methyl parathion	µg/L	NA																
2013	Mevinphos	µg/L	NA																
2013	Naled	µg/L	NA																
2013	Phorate	µg/L	NA																
2013	Ronnel	µg/L	NA																
2013	Stirophos	µg/L	NA																
2013	Tokuthion (Prothiofos)	µg/L	NA																
2013	Trichloronate	µg/L	NA																
Pyrethroids																			
2007, 2013	Allethrin	µg/L	NA																
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006															
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004															
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004															
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004															
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA																
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA																
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004															
2007, 2013	Fenvalerate	µg/L	NA																
2007, 2013	Fluvalinate	µg/L	NA																
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006															
2007, 2013	Prallethrin	µg/L	NA																
2007, 2013	Resmethrin	µg/L	NA																
Toxicity																			
2007	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
2007	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
2013	Ceriodaphnia 7-day survival	TST	Pass/Fail																
2007	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
2013	Ceriodaphnia 7-day reproduction	TST	Pass/Fail																
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
2007	*Selenastrum* 96-hr	NOEC (%)	100		100	100	100	100	100	100	100	100	100	100	100	100	100^	100	100
2013	Selenastrum 96-hr	TST	Pass/Fail																
2013	Pimephales 7-day survival	TST	Pass/Fail																
2013	Pimephales 7-day biomass	TST	Pass/Fail																
2013	Strongylocentrotus 96-hr	TST	Pass/Fail																

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for LPC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data											
					2006-2007			2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	
					12/10/06	01/30/07	02/19/07	11/30/07	02/03/08-02/04/08	11/11/08	-	10/20/10	02/17/11-02/18/11	-	10/12/12	02/09/13
Physical Chemistry																
2013	Dissolved Oxygen	mg/L	<5.0 (a)	1. Basin Plan												
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.73	8.08	7.21	7.11	8.33	7.82		7.28	7.96		7.63	7.99
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,300	3,270	974	1,253	1,336	4,760		687	2,960		4,440	3,000
2007, 2013	Water Temperature	Celsius	NA		13.50	10.50	14.60	16.40	12.30	15.00		16.80	10.40		16.3	10.1
2007, 2013	Turbidity	NTU	20	1. Basin Plan	6.86	3.6	**70.8**	**73**	14.9	4.1		16	2.6		8.2	1.5
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	NA		230	300	13,000	22,000	3,000	11,000		170,000	1,700		5,000	500
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	800	500	2,300	**22,000**	300	**5,000**		**50,000**	1,112		**30,000**	500
2007, 2013	Total Coliform	MPN/100 mL	NA		1,300	800	30,000	22,000	5,000	50,000		230,000	35,000		500,000	13,000
Nutrients																
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.37	<0.1	0.94	0.44	<0.03	0.08		0.14	0.15		0.3	0.07J
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	<0.05	<0.05	0.47	1.7	0.38	0.55		0.93	0.21		0.84	<0.1
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	<0.05	0.07	<0.05	0.06		0.15	0.024J		0.19	<0.1
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.5	0.6	2.1	2.7	0.84	1.7		0.88	0.56		1.9	0.45
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.09	0.1	0.26	0.63	0.17	0.301		0.35	0.12		0.4	0.11
2013	Orthophosphate	mg/L	NA													
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.22	0.24	0.35	0.91	0.21	0.35		0.37	0.14		0.53	0.12
General Chemistry																
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2000, 8. McNeeley (1979)	<2	3.87	6.01	15	<2	4.7		5.2	2.3		15	1.6J
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	58	45	37	75	28	99		45	27		73	26
2007, 2013	Dissolved Organic Carbon	mg/L	NA		11.6	10.4	11	20	7	19		12	7.9		24	6.3
2007, 2013	Total Organic Carbon	mg/L	NA		11.6	11.2	11.9	21.7	6.5	18.7		11	8		24	6.6
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<5	<5	<5	2.3J	<5	<5		<5	<5		<5	<5
2013	Sulfate	mg/L	250 (a)	1. Basin Plan							No Samples Collected			No Samples Collected		
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	0.25	0.10	0.24		<0.05	0.099		0.18	0.054
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan	**1,890**	**1,760**	**1,080**	**906**	**822**	**2,360**		**630**	**1,400**		**2,400**	**1,600**
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015 , 1. Basin Plan	22	<20	81	**130**	26	6.8		34	8		43	3
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		1,080	908	572	219.6	178.4	809.5		250	700		1,020	728
Total Metals																
2007	Antimony	mg/L	NA		<0.002	<0.002	0.002	0.001	0.0007	0.0007		0.00093	0.00038J		0.00067	0.00031J
2007, 2013	Arsenic	mg/L	NA		<0.001	<0.001	0.003	0.0048	0.0028	0.0048		0.0033	0.0024		0.0051	0.0024
2007, 2013	Cadmium	mg/L	NA		0.007	<0.001	<0.001	<0.0004	<0.0004	<0.0004		0.000048J	0.000024J		0.00009J	0.00002J
2007, 2013	Chromium	mg/L	NA		<0.005	<0.005	<0.005	0.0013	0.0008	0.0003J		0.0012	0.00042		0.00049	0.00022
2007, 2013	Copper	mg/L	NA		0.006	0.006	0.011	0.0077	0.0033	0.0023		0.0055	0.0023		0.004	0.0016
2013	Iron	mg/L	0.3 (a)	1. Basin Plan												
2007, 2013	Lead	mg/L	NA		0.001	<0.001	0.003	0.0023	0.00039	0.0002		0.0012	0.00015J		0.00049	0.00006J
2013	Mercury	mg/L	NA													
2007, 2013	Nickel	mg/L	NA		0.004	0.004	0.005	0.0025	0.0012	0.0023		0.0023	0.0037		0.0027	0.0011
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.004	<0.004	<0.004	0.0006	0.0005	0.0007		0.00046	0.00082		0.00077	0.0005
2013	Thallium	mg/L	NA													
2007, 2013	Zinc	mg/L	NA		<0.02	0.024	0.064	0.025	0.006	0.004		0.012	0.002J		0.013	0.0018J
Dissolved Metals																
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	0.002	0.0009	0.0007	0.0007		0.00089	0.00037J		0.0006	0.00031J
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	<0.001	<0.001	<0.001	0.0038	0.0029	0.0053		0.0028	0.0022		0.0046	0.0023
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.0004	<0.0004	<0.0004		0.000017J	0.000021J		0.00006J	0.00002J
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	0.0003J	0.0004J	0.0001J		0.00023	0.00021		0.00014J	0.00028
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.002	0.003	0.003	0.0037	0.0028	0.0023		0.0039	0.0021		0.0032	0.0015
2013	Iron	mg/L	NA													
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	0.00006J	<0.0001	<0.0001		0.000071J	<0.0002		0.00006J	<0.0002
2013	Mercury	mg/L	NA													
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.003	0.002	0.002	0.0015	0.0012	0.0021		0.0019	0.0034		0.0024	0.0011
2007, 2013	Selenium	mg/L	NA		<0.004	<0.004	<0.004	0.0005	0.0005	0.0008		0.00046	0.00065		0.00064	0.00049
2013	Thallium	mg/L	NA													
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	<0.02	<0.02	<0.02	0.0055	0.0023	0.0029		0.0053	0.0019J		0.0094	0.0048J

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Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data											
					2006-2007			2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	
					12/10/06	01/30/07	02/19/07	11/30/07	02/03/08-02/04/08	11/11/08	-	10/20/10	02/17/11-02/18/11	-	10/12/12	02/09/13
Organophosphorus Pesticides											No Samples Collected			No Samples Collected		
2013	Azinphos methyl (Guthion)	µg/L	NA													
2013	Bolstar	µg/L	NA													
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.01	<0.01		<0.01	<0.01
2013	Coumaphos	µg/L	NA													
2013	Demeton-o	µg/L	NA													
2013	Demeton-s	µg/L	NA													
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	0.020	<0.004	<0.004	<0.004	<0.004	<0.004		<0.01	<0.01		<0.01	<0.01
2013	Dichlorvos	µg/L	NA													
2013	Dimethoate	µg/L	NA													
2013	Disulfoton	µg/L	NA													
2013	Ethoprop	µg/L	NA													
2013	Ethyl parathion	µg/L	NA													
2013	Fensulfothion	µg/L	NA													
2013	Fenthion	µg/L	NA													
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006	<0.006	0.068	<0.006	<0.006		<0.01	<0.01		<0.01	<0.01
2013	Merphos	µg/L	NA													
2013	Methyl parathion	µg/L	NA													
2013	Mevinphos	µg/L	NA													
2013	Naled	µg/L	NA													
2013	Phorate	µg/L	NA													
2013	Ronnel	µg/L	NA													
2013	Stirophos	µg/L	NA													
2013	Tokuthion (Prothiofos)	µg/L	NA													
2013	Trichloronate	µg/L	NA													
Pyrethroids																
2007, 2013	Allethrin	µg/L	NA					<0.002	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006				**0.0181**	0.0063	<0.002		<0.005	<0.002		0.0027	<0.002
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004				<0.002	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004				0.001J	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004				<0.002	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA					<0.002	<0.002	<0.002			<0.002		<0.002	<0.002
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA					<0.002	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004				0.0008J	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002
2007, 2013	Fenvalerate	µg/L	NA					<0.002	<0.002	<0.002		<0.005	<0.002		0.0007J	<0.002
2007, 2013	Fluvalinate	µg/L	NA					<0.002	<0.002	<0.002			<0.002		<0.002	<0.002
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006				<0.025*	<0.025*	<0.025*		<0.005	<0.025*		<0.025††	<0.01
2007, 2013	Prallethrin	µg/L	NA					<0.002	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002
2007, 2013	Resmethrin	µg/L	NA						<0.025	<0.025					<0.025	<0.01
Toxicity																
2007	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100		>100	>100		>100	>100
2007	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100	100	100	100		100	100		100	100
2013	Ceriodaphnia 7-day survival	TST	Pass/Fail													
2007	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	**6.25**	100	100	100	100		100	100		100	100
2013	Ceriodaphnia 7-day reproduction	TST	Pass/Fail													
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100		>100	>100		>100	>100
2007	*Selenastrum* 96-hr	NOEC (%)	100		100	100	100	100	100	100		100	100		**50**	100
2013	Selenastrum 96-hr	TST	Pass/Fail													
2013	Pimephales 7-day survival	TST	Pass/Fail													
2013	Pimephales 7-day biomass	TST	Pass/Fail													
2013	Strongylocentrotus 96-hr	TST	Pass/Fail													

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for LPC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014	2014-2015				
					-	11/01/14	11/21/14-11/22/14	03/01/15-03/02/15		
Physical Chemistry					No Samples Collected					
2013	Dissolved Oxygen	mg/L	<5.0 (a)	1. Basin Plan		7.48	8.12	8.42	0%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan		7.63	7.29	7.64	0%	0.28
2007, 2013	Specific Conductivity	µmhos/cm	NA			2,677	3,433	2,117		
2007, 2013	Water Temperature	Celsius	NA			15.21	16.02	13.3		
2007, 2013	Turbidity	NTU	20	1. Basin Plan		1.7	11.4	0.2	21%	0.85
Bacteriological										
2007, 2013	Enterococcus	MPN/100 mL	NA			500	<2.0	22,000		
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2		**9,000**	13	**110,000**	32%	3.98
2007, 2013	Total Coliform	MPN/100 mL	NA			24,000	30	170,000		
Nutrients										
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)		0.059J	0.050J	<0.10	0%	0.01
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan		0.51	0.45	0.28	0%	0.05
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan		0.014J	0.020J	0.013J	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA			0.96	0.76	0.44		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015		0.24	NR	0.17	0%	0.14
2013	Orthophosphate	mg/L	NA			0.21	0.19	0.16		
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015		0.29	0.30	0.20	0%	0.17
General Chemistry										
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2000, 8. McNeeley (1979)		4.6	NR	2	0%	0.23
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000		49	NR	28	4%	0.49
2007, 2013	Dissolved Organic Carbon	mg/L	NA			16	15	9.2		
2007, 2013	Total Organic Carbon	mg/L	NA			15	14	9		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015		<5.0	NR	<5.0	0%	0.16
2013	Sulfate	mg/L	250 (a)	1. Basin Plan		**320**	**350**	140	67%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan		0.1	0.15	0.094	0%	0.38
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan		**1,400**	**1,900**	**810**	96%	2.79
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015 , 1. Basin Plan		34	7	6	11%	0.35
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA			651	800	349		
Total Metals										
2007	Antimony	mg/L	NA			0.00042J	NR	0.0007		
2007, 2013	Arsenic	mg/L	NA			0.0029	0.0033	0.0024		
2007, 2013	Cadmium	mg/L	NA			0.000049J	0.000065J	0.000061J		
2007, 2013	Chromium	mg/L	NA			0.001	0.00027	0.00043		
2007, 2013	Copper	mg/L	NA			0.005	0.0035	0.0034		
2013	Iron	mg/L	0.3 (a)	1. Basin Plan		**1.2**	0.27	0.23	33%	NA[1]
2007, 2013	Lead	mg/L	NA			0.00098	0.00019J	0.00018J		
2013	Mercury	mg/L	NA			0.0000040J	<0.000050	0.000012J		
2007, 2013	Nickel	mg/L	NA			0.0017	0.0048	0.0024		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38		0.00025J	0.0026	0.00078	0%	NA[1]
2013	Thallium	mg/L	NA			<0.00020	<0.00020	<0.00020		
2007, 2013	Zinc	mg/L	NA			0.021	0.0034J	0.0046J		
Dissolved Metals										
2007	Antimony	mg/L	0.006	1. Basin Plan		0.00031J	NR	0.00062	0%	0.24
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38		0.0023	0.003	0.0021	0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38		<0.00010	0.000044J	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38		0.00013J	0.00015J	0.00026	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38		0.003	0.0032	0.0026	0%	0.09
2013	Iron	mg/L	NA			0.031	0.038	0.038		
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38		<0.00020	<0.00020	<0.00020	0%	0.00
2013	Mercury	mg/L	NA			<0.000050	<0.000050	0.000013J		
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38		0.0011	0.0048	0.0018	0%	0.00
2007, 2013	Selenium	mg/L	NA			0.00022J	0.0024	0.00067		
2013	Thallium	mg/L	NA			<0.00020	<0.00020	<0.00020		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38		0.0062	0.0022J	0.0027J	0%	0.03

Wet Weather Historical Monitoring Table for LPC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014	2014-2015				
					-	11/01/14	11/21/14-11/22/14	03/01/15-03/02/15		
Organophosphorus Pesticides					No Samples Collected					
2013	Azinphos methyl (Guthion)	µg/L	NA			<0.010	<0.010	<0.010		
2013	Bolstar	µg/L	NA			<0.010	<0.010	<0.010		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000		<0.010	<0.010	<0.010	8%	0.45
2013	Coumaphos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Demeton-o	µg/L	NA			<0.010	<0.010	<0.010BS-L		
2013	Demeton-s	µg/L	NA			<0.010	<0.010	<0.010		
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon		<0.010BS-L	<0.010	<0.010	11%	0.35
2013	Dichlorvos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Dimethoate	µg/L	NA			<0.010	<0.010	<0.010		
2013	Disulfoton	µg/L	NA			<0.010	<0.010	<0.010		
2013	Ethoprop	µg/L	NA			<0.010	<0.010	<0.010		
2013	Ethyl parathion	µg/L	NA			<0.010	<0.010	<0.010		
2013	Fensulfothion	µg/L	NA			<0.010	0.0036J	0.0031J		
2013	Fenthion	µg/L	NA			<0.010	<0.010	<0.010		
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook		<0.010	<0.010	<0.010	0%	0.04
2013	Merphos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Methyl parathion	µg/L	NA			<0.010	<0.010	<0.010		
2013	Mevinphos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Naled	µg/L	NA			<0.010	<0.010	<0.010		
2013	Phorate	µg/L	NA			<0.010	<0.010	<0.010		
2013	Ronnel	µg/L	NA			<0.010	<0.010	<0.010		
2013	Stirophos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Tokuthion (Prothiofos)	µg/L	NA			<0.010	<0.010	<0.010		
2013	Trichloronate	µg/L	NA			<0.010	<0.010	<0.010		
Pyrethroids										
2007, 2013	Allethrin	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006		0.0029	<0.002	<0.002	10%	0.40
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004		<0.002	<0.002	<0.002	0%	0.00
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004		0.0063	<0.002	<0.002	0%	0.05
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004		<0.002	<0.002	<0.002	0%	0.00
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004		<0.002	<0.002	<0.002	0%	0.00
2007, 2013	Fenvalerate	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Fluvalinate	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006		<0.01	<0.01	<0.01	0%	0.33
2007, 2013	Prallethrin	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA			<0.01	<0.01	<0.01		
Toxicity										
2007	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100			>100	NR	>100	0%	1.00
2007	*Ceriodaphnia* 7-day survival	NOEC (%)	100			100	NR	100	0%	1.00
2013	Ceriodaphnia 7-day survival	TST	Pass/Fail			NR	NR	Pass	0%	
2007	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100			100	NR	100	4%	1.56
2013	Ceriodaphnia 7-day reproduction	TST	Pass/Fail			NR	NR	Pass	0%	
2007	*Hyalella* 96-hr	LC_{50} (%)	>100			>100	NR	>100	0%	1.00
2007	*Selenastrum* 96-hr	NOEC (%)	100			100	NR	100	4%	1.04
2013	Selenastrum 96-hr	TST	Pass/Fail			NR	NR	Pass	0%	
2013	Pimephales 7-day survival	TST	Pass/Fail			NR	NR	Pass	0%	
2013	Pimephales 7-day biomass	TST	Pass/Fail			NR	NR	Pass	0%	
2013	Strongylocentrotus 96-hr	TST	Pass/Fail			Pass	Pass	NR	0%	

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for LPC-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.

* Indicates detection limit above water quality benchmark.
^ Indicates results should be interpreted with care due to method protocol discrepancy.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
BS-L - Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
NR - Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SDR-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data							Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010**			2010-2011	2011-2012		2012-2013	2013-2014		2014-2015		
					11/28/09	11/30/09	02/06/10	-	10/05/11-10/06/11	02/07/12	-	10/10/13	02/28/14-03/01/14	-		
Physical Chemistry								No Samples Collected			No Samples Collected			No Samples Collected		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.51	7.61	7.24		7.34	7.58		6.7	7.38		0%	0.33
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,750	4,580	1,431		1,388	1,523		1,832	737			
2007, 2013	Water Temperature	Celsius	NA		13.90	13.30	14.80		19.0	14.2		15.4	17.7			
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**31.2**	6.1	**25.2**		**36**	7.4		AE	AE		75%	1.25
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	NA		170,000	2,300	2,300		500,000	1,700		46,000	110,000			
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**140,000**	**5,000**	**3,000**		**80,000**	**700**		**33,000**	**7,000**		100%	109.88
2007, 2013	Total Coliform	MPN/100 mL	NA		280,000	70,000	30,000		300,000	13,000		170,000	49,000			
Nutrients																
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.95	<0.03	0.09		0.6	<0.1		1.2	0.14		0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.64	0.07	0.62		1.2	<0.1		1.7	0.33		0%	0.09
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.06	0.06	<0.15		0.035J	<0.1		0.096J	0.025J		0%	0.07
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		3.58	1.282	0.922J		2.9	0.85		3.3	0.78			
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.281	0.312	0.129		0.25	0.084		0.24	0.22		0%	0.10
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.441	0.394	0.214		0.49	0.11		0.28	0.19		0%	0.14
General Chemistry																
2007, 2013	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	<2	4.5	<2		18	3.9†		17	7.5		0%	0.29
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	98.9	50.3	53		89	32		120	32		0%	0.59
2007, 2013	Dissolved Organic Carbon	mg/L	NA		29.9	12.9	9.4		14	6.6		35	8.1			
2007, 2013	Total Organic Carbon	mg/L	NA		31.8	12.7	17.1		17	7.1		39	8.3			
2007, 2013	Oil & Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	1.4J	<5	1.7J		<5	<5		2.6J	1.6J		0%	0.21
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	**0.79H**	0.129	0.107		0.36	0.094		**1.1**	0.17		33%	0.87
2007, 2013	Total Dissolved Solids	mg/L	1,500 (b)	1. Basin Plan	**1,712**	**2,646**	804B		1,100	850		1,400	1,000		17%	0.87
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	26.8	<5	30.5		44	9		34	16		0%	0.27
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		643	1,040.7	301.7		500	510		564	411			
Total Metals																
2007	Antimony	mg/L	NA		0.0017	0.0003J	0.0007		0.0022	0.00055		0.0031	0.00097			
2007, 2013	Arsenic	mg/L	NA		0.0097	0.0088	0.0038		0.0075	0.0021		0.0068	0.0023			
2007, 2013	Cadmium	mg/L	NA		<0.0004	<0.0004	<0.0004		0.00015	0.000036J		0.00016	0.000049J			
2007, 2013	Chromium	mg/L	NA		0.0009	0.0001J	0.0006		0.0023	0.00048		0.002	0.00076			
2007, 2013	Copper	mg/L	NA		0.0093	0.0013	0.1004		0.019	0.002		0.017	0.0049			
2007, 2013	Lead	mg/L	NA		0.0027	0.0003	0.0023		0.0064	0.00051		0.0045	0.0013			
2007, 2013	Nickel	mg/L	NA		0.0038	0.0028	0.0017		0.0056	0.0022		0.0061	0.0013			
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.0005	0.0005	0.0007		0.00053	0.00034J		0.00097	0.00034J		0%	0.11
2007, 2013	Zinc	mg/L	NA		0.0328	<0.0005	0.0217		0.074	0.0041J		0.076	0.017			
Dissolved Metals																
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0013	0.0003J	0.0006		0.0014	0.0005		0.0025	0.0008		0%	0.20
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0082	0.0090	0.0031		0.0053	0.0019		0.0046	0.0019		0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004	<0.0004		0.000043J	0.000023J		0.000060J	0.000025J		0%	0.01
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0004J	0.0001J	0.0002J		0.00048	0.00025		0.00082	0.00044		0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0029	0.0009	0.0026		0.0053	0.0014		0.0069	0.0028		0%	0.08
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.0004	<0.0001	0.00008J		0.00031	0.00003J		0.00043	0.00014J		0%	0.00
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0035	0.0028	0.0014		0.0043	0.002		0.0052	0.0013		0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0006	0.0005	0.0006		0.00041	0.00031J		0.00083	0.00027J			
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0099	0.0017	0.0046		0.023	0.0029J		0.045	0.01		0%	0.04
Organophosphorus Pesticides																
2007, 2013	Chlorpyrifos	µg/L	0.2 (acute) / 0.014 (chronic)	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002	<0.002		<0.01	<0.01		<0.010	<0.010		0%	0.18
2007, 2013	Diazinon	µg/L	0.08 (acute) / 0.05 (chronic)	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004	<0.004		<0.01	<0.01		<0.010	<0.010		0%	0.05
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006	<0.006		0.05	<0.01		<0.010	<0.010		0%	0.03
Pyrethroids																
2007, 2013	Allethrin	µg/L	NA		<0.0005	<0.0005	0.0468B		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.0133**	<0.0005	**0.0338B**		**0.0412**	0.0023		**0.016**	<0.002		67%	1.93
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.0005	<0.0005	0.0151		0.0119	<0.002		0.0109	<0.002		0%	0.02
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.0005	<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002		0%	0.00
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.0005	<0.0005	0.0399		<0.002	<0.002		<0.002	<0.002		0%	0.01
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.0005	<0.0005	0.0357B		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.0005	<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.0005	<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002		0%	0.00
2007, 2013	Fenvalerate	µg/L	NA		<0.0005	<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Fluvalinate	µg/L	NA		<0.0005	<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.005	<0.005	<0.005		<0.025††	**0.0529**		<0.01	<0.01		17%	0.54
2007, 2013	Prallethrin	µg/L	NA		<0.0005	<0.0005	0.0529B		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Resmethrin	µg/L	NA		<0.005	<0.005			<0.025	<0.025		<0.01	<0.01			
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100		100	100		100	100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	**50**	100		100	100		100	100		14%	1.14
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100	100		100	100		100	100		0%	1.00

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SDR-TWAS-1

Blank spaces have been verified and no data is available due to changes in the monitoring program.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area/subarea.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
**Because of the unique drainage characteristics of the sample location, 2 peaks were monitored for this event. For conservative purposes, an exceedance of either sample was used to calculate exceedance frequencies.
† Result was from composite sample. The grab sample was analyzed outside of the holding time.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
AE-Analysis error.
B-Analyte was detected in the associated method blank.
H-Sample received and/or analyzed past the recommended holding time.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SDR-TWAS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014		2014-2015		
					11/28/09	02/06/10	-	10/05/11-10/06/11	02/07/12	-	10/10/13	02/28/14-03/01/14	-		
Physical Chemistry															
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	**5.91**	7.80	No Samples Collected	6.95	7.81	No Samples Collected	7.65	7.62	No Samples Collected	17%	0.33
2007, 2013	Specific Conductivity	µmhos/cm	NA		292	122		336	1,097		920	290			
2007, 2013	Water Temperature	Celsius	NA		13.20	15.30		18.4	13.3		17	17.78			
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**145.2**	**142.8**		**67**	**31**		AE	**59.3**		100%	4.45
Bacteriological															
2007, 2013	Enterococcus	MPN/100 mL	NA		70,000	110,000		220,000	80,000		110,000	110,000			
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**130,000**	**5,000**		**110,000**	**80,000**		**70,000**	**49,000**		100%	185.00
2007, 2013	Total Coliform	MPN/100 mL	NA		240,000	170,000		170,000	220,000		460,000	490,000			
Nutrients															
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	1.11	0.12		0.8	0.2		1.2	0.15		0%	0.03
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.55	0.74		1.9	2.1		2.1	0.58		0%	0.15
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.08	<0.15		0.049J	0.1		0.12	0.046J		0%	0.08
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		4.58	1.162		4.5	2.2		4.3	1.2			
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.337	0.12		0.15	0.095		0.25	0.16		0%	0.09
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.709	0.254		0.73	0.23		0.89	0.27		0%	0.26
General Chemistry															
2007, 2013	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	**39.4**	5.3		28	15†		**50**	6.9		33%	0.74
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	64.4	51.1		**140**	71		**140**	46		33%	0.71
2007, 2013	Dissolved Organic Carbon	mg/L	NA		22.6	7.3		14	11		32	6.8			
2007, 2013	Total Organic Carbon	mg/L	NA		25.4	8		19	14		38	7.9			
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	4.6J	2.8J		<5	<5		4.7J	2.1J		0%	0.32
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.48H	0.054		0.38	0.23		**0.85**	0.11		17%	0.70
2007, 2013	Total Dissolved Solids	mg/L	1,000 (b)	1. Basin Plan	342	304B		450	620		390	270		0%	0.40
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**233**	**209**		**250**	37		**230**	66		67%	1.71
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		131	110.9		220	290		163	109			
Total Metals															
2007	Antimony	mg/L	NA		0.0016	0.0010		0.0019	0.0016		0.0033	0.0015			
2007, 2013	Arsenic	mg/L	NA		0.0043	0.0029		0.012	0.0029		0.0059	0.0032			
2007, 2013	Cadmium	mg/L	NA		0.0003J	0.0002J		0.0005	0.00011		0.00047	0.00018			
2007, 2013	Chromium	mg/L	NA		0.0032	0.0020		0.0084	0.0019		0.0062	0.0033			
2007, 2013	Copper	mg/L	NA		0.0264	0.0158		0.042	0.013		0.038	0.015			
2007, 2013	Lead	mg/L	NA		0.0149	0.0133		0.023	0.0037		0.017	0.0074			
2007, 2013	Nickel	mg/L	NA		0.0053	0.0030		0.01	0.0039		0.01	0.0029			
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.0005	0.0009		0.00088	0.00052		0.00083	0.00028J		0%	0.12
2007, 2013	Zinc	mg/L	NA		0.1822	0.1080		0.21	0.039		0.21	0.068			
Dissolved Metals															
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0015	0.0009		0.0016	0.0013		0.0024	0.0012		0%	0.25
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0024	0.0017		0.0028	0.0022		0.0024	0.0016		0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004		0.000061J	0.000049J		0.00012	0.000026J		0%	0.02
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0009	0.0006		0.00078	0.00072		0.001	0.0007		0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0050	0.0034		0.0067	0.0078		0.0084	0.0045		0%	0.28
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.0015	0.0003		0.0006	0.00025		0.0012	0.00028		0%	0.01
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0030	0.0012		0.0042	0.0028		0.0062	0.0012		0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0008	<0.0005		0.00035J	0.00056		0.00059	0.00024J			
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0322	0.0124		0.022	0.016		0.062	0.012		0%	0.15
Organophosphorus Pesticides															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002		<0.01	<0.01		<0.010	<0.010		0%	0.18
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004		<0.01	<0.01		<0.010	<0.010		0%	0.05
2007^, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	0.0998		0.069	<0.01		<0.010	0.011		0%	0.07
Pyrethroids															
2007, 2013	Allethrin	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.084**	**0.0824B**		**0.0596**	**0.0648**		**0.0406**	**0.0151**		100%	6.21
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	0.1225	0.0876		0.0159	0.0389		0.0095	<0.002		0%	0.13
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.0005	0.01		<0.002	0.0042		<0.002	<0.002		0%	0.04
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	0.0564	0.054		<0.002	0.0125		0.0082	<0.002		0%	0.03
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.0005	0.0402B		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002		0%	0.00
2007, 2013	Fenvalerate	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Fluvalinate	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	**0.0493**	**0.1064**		<0.025††	**0.2326**		<0.01	<0.01		50%	3.16
2007, 2013	Prallethrin	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Resmethrin	µg/L	NA		<0.005			<0.025	<0.025		<0.01	<0.01			
Toxicity															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100		100	100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100		100	100		100	100		0%	1.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		**32.2**	>100		>100	>100		**97**	>100		33%	1.36
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100		100	100		100	100		0%	1.00

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SDR-TWAS-2

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area/subarea.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
*Indicates detection limit above water quality benchmark
† Result was from composite sample. The grab sample was analyzed outside of the holding time.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
AE-Analysis error.
B-Analyte was detected in the associated method blank.
H-Sample received and/or analyzed past the recommended holding time.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SDR-TWAS-3

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014		2014-2015		
					11/28/09	02/06/10	-	10/05/11-10/06/11	02/07/12-02/08/12	-	10/10/13	02/28/14-03/01/14	-		
Physical Chemistry							No Samples Collected			No Samples Collected			No Samples Collected		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.81	7.40		7.25	7.81		7.83	7.73		0%	0.14
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,403	1,744		2,330	1,986		2,206	1,566			
2007, 2013	Water Temperature	Celsius	NA		11.80	15.30		19.5	12.0		17.28	15.9			
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**68.7**	**78.8**		7.1	6.2		6.7	AE		40%	1.68
Bacteriological															
2007, 2013	Enterococcus	MPN/100 mL	NA		70,000	50,000		500	230		270	7,900			
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**110,000**	**17,000**		130	80		<18	**790**		50%	53.34
2007, 2013	Total Coliform	MPN/100 mL	NA		300,000	50,000		1,700	500		7,000	2,800			
Nutrients															
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.64	0.06		0.11	<0.1		0.34	0.1		0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.02	1.8		0.13	0.37		0.42	0.49		0%	0.07
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.05	<0.75		<0.1	0.015J		0.043J	0.029J		0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		2.88	0.794J		0.72	0.66		1.3	0.93			
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.332	0.129		0.057	0.052		0.23	0.2		0%	0.08
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.497	0.231		0.096	0.075		0.26	0.29		0%	0.12
General Chemistry															
2007, 2013	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	<2	3.8		2.5	3†		4.4	4		0%	0.10
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	58.4	31.5		22	18		27	32		0%	0.26
2007, 2013	Dissolved Organic Carbon	mg/L	NA		18.8	7.5		3.7	4.2		11	7			
2007, 2013	Total Organic Carbon	mg/L	NA		20.5	7.3		3.5	4.5		12	7.6			
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<5	<5		<5	1.7J		<5.0	1.6J		0%	0.22
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.059H	0.071		0.04J	0.062		**1.1**	0.074		17%	0.57
2007, 2013	Total Dissolved Solids	mg/L	1,000 (b)	1. Basin Plan	928	938B		**1,200**	1,000		**1,200**	860		33%	1.02
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	69	72.7		7	7		24	59		0%	0.40
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		410.1	459.4		700	680		568	379			
Total Metals															
2007	Antimony	mg/L	NA		0.0006	0.0005		0.00018J	0.00016J		0.00037J	0.00045J			
2007, 2013	Arsenic	mg/L	NA		0.0028	0.0018		0.0013	0.00072		0.0012	0.0014			
2007, 2013	Cadmium	mg/L	NA		<0.0004	<0.0004		0.000024J	<0.0001		0.000030J	0.000059J			
2007, 2013	Chromium	mg/L	NA		0.0012	0.0013		0.00035	0.00019J		0.00053	0.0022			
2007, 2013	Copper	mg/L	NA		0.0070	0.0055		0.001	0.00064		0.0034	0.0063			
2007, 2013	Lead	mg/L	NA		0.0036	0.0029		0.00029	0.00021		0.00068	0.0031			
2007, 2013	Nickel	mg/L	NA		0.0023	0.0019		0.0024	0.0018		0.0013	0.0017			
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0005	0.0007		0.00068	0.001		0.00046	0.00052		0%	0.13
2007, 2013	Zinc	mg/L	NA		0.0269	0.0196		0.0025J	0.0036J		0.014	0.022			
Dissolved Metals															
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0004J	0.0004J		0.00017J	0.00015J		0.00032J	0.00034J		0%	0.05
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0030	0.0011		0.0012	0.00067		0.001	0.00093		0%	0.00
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004		<0.0001	<0.0001		<0.00010	0.000018J		0%	0.00
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0002J	0.0003J		<0.0002	<0.0002		0.00016J	0.00033		0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0025	0.0022		0.00058	0.00043J		0.0025	0.002		0%	0.03
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.0003	<0.0001		0.000028J	0.000011J		<0.00020	0.000067J		0%	0.00
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0020	0.0013		0.0024	0.002		0.0011	0.00068J		0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0013	0.0005		0.00061	0.001		0.0004	0.00047			
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0060	0.0023		0.0024J	0.0016J		0.01	0.0047J		0%	0.01
Organophosphorus Pesticides															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002		<0.01	<0.01		<0.010	<0.010		0%	0.18
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004		<0.01	<0.01		<0.010	<0.010		0%	0.05
2007^, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006		<0.01	<0.01		<0.010	0.018		0%	0.02
Pyrethroids															
2007, 2013	Allethrin	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.0228**	**0.0395B**		<0.002	0.0011J		0.0051	<0.002		33%	1.26
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	0.0155	0.0161		<0.002	<0.002		0.0021	<0.002		0%	0.02
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002		0%	0.04
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.0005	0.0397		<0.002	<0.002		<0.002	<0.002		0%	0.01
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.0005	0.0366B		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002		0%	0.00
2007, 2013	Fenvalerate	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Fluvalinate	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	0.0208J	0.0155J		<0.025††	<0.025††		<0.01	<0.01		0%	0.37
2007, 2013	Prallethrin	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002			
2007, 2013	Resmethrin	µg/L	NA		<0.005			<0.025	<0.025		<0.01	<0.01			
Toxicity															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100		100	100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100		100	100		100	100		0%	1.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100		0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100		**50**	**25**		100	100		33%	1.67

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SDR-TWAS-3

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area/subarea.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
*Indicates detection limit above water quality benchmark
† Result was from composite sample. The grab sample was analyzed outside of the holding time.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
AE-Analysis error.
B-Analyte was detected in the associated method blank.
H-Sample received and/or analyzed past the recommended holding time.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SDR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data											
					2001-2002			2002-2003			2003-2004			2004-2005		
					11/29/01	02/17/02	03/17/02	11/08/02	12/16/02	02/11/03	11/12/03	02/03/04	03/02/04	10/27/04	02/11/05	02/18/05
Physical Chemistry																
2013	Dissolved Oxygen	mg/L	<5.0 (a)	1. Basin Plan												
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.30	7.60	7.50	7.68	7.64	7.61	7.48	7.70	7.26	7.16	7.63	7.20
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,680	2,230	2,270	1,568	811	1,550	2,470	1,546	995	560	1,260	747
2007, 2013	Water Temperature	Celsius	NA					17.40	15.00	15.00	17.40	14.20	13.70	15.40	14.40	16.00
2013	Color	Color Units	20	1. Basin Plan												
2007, 2013	Turbidity	NTU	20	1. Basin Plan	8.6	15.3	13.1	**40.7**	**104**	**34.5**	19.9	**31.2**	**22.4**	**234**	14.5	**30.9**
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	NA		80	2,200	170	17,000	13,000	7,000	11,000	23,000	358	22,000	2,300	22,000
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	130	**30,000**	170	**110,000**	**17,000**	**5,000**	**13,000**	**2,300**	**500**	**5,000**	**800**	**1,300**
2007, 2013	Total Coliform	MPN/100 mL	NA		2,300	80,000	3,000	220,000	50,000	23,000	50,000	28,000	11,000	300,000	30,000	50,000
Nutrients																
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.9	0.7	0.2	0.34	0.13	0.19	<0.1	<0.1	1.8	0.38	0.28	0.95
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.9	0.8	0.3	0.67	0.56	0.57	0.5	0.2	0.63	0.37	0.66	1.01
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.12	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		2.7	2.9	1.7	1.6	1.2	1.5	1.4	2.8	2	2.3	<0.5	23.3
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.3	0.03	0.12	0.19	0.24	0.19	0.41	0.13	0.15	0.44	<0.05	0.32
2013	Orthophosphate	mg/L	NA													
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	1.21	0.4	0.28	0.57	1.01	0.33	0.34	0.23	0.35	0.85	0.28	0.44
General Chemistry																
2007, 2013	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	12	**58.8**	3.4	4.73	<2.0	20.7	8.44	**45.2**	2.94	4.22	3.68	3.39
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	28	**154**	54	71	48	63	83	67	52	98	**283**	56
2013	Chloride	mg/L	400 (a)	1. Basin Plan												
2007, 2013	Dissolved Organic Carbon	mg/L	NA					6.80	8.68	10.70	16.6	4.26	5.57	33.2	2.94	5.62
2007, 2013	Total Organic Carbon	mg/L	NA					18.3	39.8	12.4	16.7	11.7	11.5	62	9.61	9.6
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<1	4	<1	**10.70**	<1.00	2.39	4.83	<1	<1	<1	<1	<1
2013	Sulfate	mg/L	500 (a)	1. Basin Plan												
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	**0.6**	<0.5	<0.1	<0.1	0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2007, 2013	Total Dissolved Solids	mg/L	1,500 (a)	1. Basin Plan	869	691	796	1,260	676	896	**1,540**	1,120	491	594	756	490
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	<20	24	20	43	**212**	66	34	<20	21	**477**	50	61
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		429	399	490	545	331	483	759	476	206	201	364	251
Total Metals																
2007	Antimony	mg/L	NA		<0.002	0.003	<0.002	<0.002	0.006	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Arsenic	mg/L	NA		0.003	0.002	0.005	0.005	0.008	0.004	0.005	0.006	0.003	0.006	0.006	<0.002
2007, 2013	Cadmium	mg/L	NA		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2007, 2013	Chromium	mg/L	NA		0.005	<0.005	0.007	<0.005	0.02	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	NA		0.007	0.028	0.011	0.009	0.021	0.017	0.008	0.013	0.006	0.025	0.006	0.006
2013	Iron	mg/L	1.0 (a)	1. Basin Plan												
2007, 2013	Lead	mg/L	NA		0.003	0.004	0.009	0.007	0.035	0.011	0.004	0.006	0.005	0.060	0.005	0.004
2013	Manganese	mg/L	1.0 (a)	1. Basin Plan												
2013	Mercury	mg/L	NA													
2007, 2013	Nickel	mg/L	NA		0.004	0.005	0.004	0.007	0.005	0.005	0.005	0.003	<0.002	0.006	0.003	0.002
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.002	0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2013	Thallium	mg/L	NA													
2007, 2013	Zinc	mg/L	NA		0.029	0.112	0.067	0.031	0.118	0.077	0.046	0.053	0.026	0.213	0.033	0.032
Dissolved Metals																
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	<0.002	0.002	**0.007**	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.002	<0.001	0.002	0.004	0.003	0.003	0.004	0.003	0.002	<0.002	<0.002	<0.002
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.006	0.015	<0.005	0.005	0.006	0.015	<0.005	0.005	<0.005	<0.005	<0.005	0.005
2013	Iron	mg/L	NA													
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.002	<0.002	<0.002	0.006	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2013	Manganese	mg/L	NA													
2013	Mercury	mg/L	NA													
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.003	0.005	0.002	0.006	<0.002	0.003	0.003	0.003	<0.002	0.003	0.002	0.002
2007, 2013	Selenium	mg/L	NA		<0.002	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2013	Thallium	mg/L	NA													
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.022	0.084	<0.020	0.026	0.037	0.070	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Wet Weather Historical Monitoring Table for SDR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data											
					2001-2002			2002-2003			2003-2004			2004-2005		
					11/29/01	02/17/02	03/17/02	11/08/02	12/16/02	02/11/03	11/12/03	02/03/04	03/02/04	10/27/04	02/11/05	02/18/05
Organophosphorus Pesticides																
2013	Azinphos methyl (Guthion)	µg/L	NA													
2013	Bolstar	µg/L	NA													
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.03*	<0.03*	**0.03**	0.0133	**0.0264**	**0.0227**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2013	Coumaphos	µg/L	NA													
2013	Demeton-o	µg/L	NA													
2013	Demeton-s	µg/L	NA													
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	**0.21**	**0.10**	0.08	0.051	0.051	0.038	<0.01	<0.01	<0.01	<0.01	0.038	<0.01
2013	Dichlorvos	µg/L	NA													
2013	Dimethoate	µg/L	NA													
2013	Disulfoton	µg/L	NA													
2013	Ethoprop	µg/L	NA													
2013	Ethyl parathion	µg/L	NA													
2013	Fensulfothion	µg/L	NA													
2013	Fenthion	µg/L	NA													
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook				<0.10	<0.10	<0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2013	Merphos	µg/L	NA													
2013	Methyl parathion	µg/L	NA													
2013	Mevinphos	µg/L	NA													
2013	Naled	µg/L	NA													
2013	Phorate	µg/L	NA													
2013	Ronnel	µg/L	NA													
2013	Stirophos	µg/L	NA													
2013	Tokuthion (Prothiofos)	µg/L	NA													
2013	Trichloronate	µg/L	NA													
Pyrethroids																
2007, 2013	Allethrin	µg/L	NA													
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006												
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004												
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004												
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004												
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA													
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA													
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004												
2007, 2013	Fenvalerate	µg/L	NA													
2007, 2013	Fluvalinate	µg/L	NA													
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006												
2007, 2013	Prallethrin	µg/L	NA													
2007, 2013	Resmethrin	µg/L	NA													
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100	100	100	100	100	100	100	100	100	100
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100	100	100	100	100	100	100	100	100	100	100
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	**25**	100	100	100	100	100	100	100	100	100	100
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail													

See last page for 1See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SDR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data													
					2005-2006			2006-2007			2007-2008	2008-2009	2009-2010		2010-2011	2011-2012		2012-2013
					10/18/05	02/19/06	03/11/06	10/14/06	01/30/07	02/19/07	-	11/04/08	11/28/09	02/06/10	-	10/05/11-10/06/11	02/07/12-02/08/12	-
Physical Chemistry																		
2013	Dissolved Oxygen	mg/L	<5.0 (a)	1. Basin Plan														
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.79	8.07	7.74	8.32	7.67	6.95		7.80	8.07	7.30		7.56	7.24	
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,870	2,490	1,262	1,499	2,830	994		2,860	3,160	1,512		1,735	1,633	
2007, 2013	Water Temperature	Celsius	NA		19.00	14.60	13.40	18.80	11.20	14.10		20.40	13.70	15.00		19.6	15.0	
2013	Color	Color Units	20	1. Basin Plan														
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**27.3**	**34.8**	**32.3**	**58.1**	**24.5**	**59.6**		16.8	19.5	**28.7**		**27**	13	
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	NA		50,000	3,000	5,000	17,000	2,300	9,000		30,000	30,000	8,000		110,000	2,300	
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**70,000**	**3,000**	**800**	**5,000**	**8,000**	**5,000**		**50,000**	**8,000**	**800**		**11,000**	**8,000**	
2007, 2013	Total Coliform	MPN/100 mL	NA		1,100,000	50,000	30,000	30,000	14,000	23,000		110,000	300,000	17,000		230,000	80,000	
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.19	0.31	<0.1	0.54	0.51	1.04		0.17	0.28	0.06		0.18	<0.1	
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.63	0.25	0.29	0.9	<0.05	0.1		0.46	0.65	0.54		0.36	0.16	
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		0.04J	0.05	0.03J		0.014J	0.025J	
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.6	4.3	1.5	2.2	1.7	3.1		2.2	2.3	0.714J		1.6	0.92	
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.24	0.37	0.11	0.29	0.07	0.1		0.14	0.097	0.146		0.24	0.076	
2013	Orthophosphate	mg/L	NA															
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.5	0.45	0.52	0.51	0.09	0.33		0.25	0.234	0.225		0.44	0.12	
General Chemistry																		
2007, 2013	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	8.24	2.21	5.17	15.6	14.8	5.51		10	**75.2**	2.4		9.4	4.3†	
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	62	65	74	112	59	52		60	58.4	53		56	39	
2013	Chloride	mg/L	400 (a)	1. Basin Plan														
2007, 2013	Dissolved Organic Carbon	mg/L	NA		9.41	12.8	5.59	66	13	9.03		12.4	17.9	9.1		9.7	7	
2007, 2013	Total Organic Carbon	mg/L	NA		22.4	14.1	8.57	69.4	16	9.85		14	19.8	8.5		10	8.1	
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<1	<1	<1	<5	<5	<5		<5	4.1J	2.6J		<5	<5	
2013	Sulfate	mg/L	500 (a)	1. Basin Plan														
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	No Sampled Collected	0.29	**0.68H**	0.127	No Sampled Collected	0.089	0.14	No Sampled Collected
2007, 2013	Total Dissolved Solids	mg/L	1,500 (a)	1. Basin Plan	1,490	1,370	655	1,200	1,350	642		**1,800**	**1,880**	628B		**1,600**	920	
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	31	42	48	**111**	34	**124**		19.3	23.8	31.1		58	12	
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		706	751	366	657	713	305		645.1	797.6	273.9		670	550	
Total Metals																		
2007	Antimony	mg/L	NA		<0.005	<0.005	<0.005	0.003	0.003	0.004		0.0019	0.0019	0.0012		0.002	0.001	
2007, 2013	Arsenic	mg/L	NA		0.008	0.005	0.006	0.015	<0.001	0.004		0.0071	0.0109	0.0044		0.0076	0.0024	
2007, 2013	Cadmium	mg/L	NA		<0.001	<0.001	0.012	0.003	<0.001	<0.001		<0.0004	<0.0004	<0.0004		0.00013	0.000048J	
2007, 2013	Chromium	mg/L	NA		<0.005	<0.005	<0.005	<0.005	<0.005	0.006		0.0008	0.0008	0.0008		0.0027	0.00078	
2007, 2013	Copper	mg/L	NA		0.01	0.008	0.008	0.02	0.009	0.029		0.0082	0.0082	0.006		0.015	0.0054	
2013	Iron	mg/L	1.0 (a)	1. Basin Plan														
2007, 2013	Lead	mg/L	NA		0.004	0.006	0.007	0.016	0.004	0.024		0.0026	0.00246	0.00482		0.0087	0.0016	
2013	Manganese	mg/L	1.0 (a)	1. Basin Plan														
2013	Mercury	mg/L	NA															
2007, 2013	Nickel	mg/L	NA		0.007	0.005	0.003	0.006	0.003	0.007		0.0035	0.0058	0.002		0.0058	0.0029	
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.004	0.004	<0.004		0.0018	0.002	0.0015		0.0012	0.0011	
2013	Thallium	mg/L	NA															
2007, 2013	Zinc	mg/L	NA		0.075	0.045	0.068	0.113	0.045	0.149		0.036	0.0311	0.0247		0.062	0.015	
Dissolved Metals																		
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.005	<0.005	<0.005	<0.002	<0.002	0.002		0.0017	0.0016	0.0011		0.0012	0.00077	
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.003	<0.001	<0.001	0.003	<0.001	<0.001		0.0058	0.0089	0.0039		0.0048	0.0019	
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.0004	<0.0004	<0.0004		0.000029J	0.000027J	
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		0.0003J	0.0003J	0.0004J		0.00037	0.00039	
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.005	<0.005	<0.005	0.003	0.005	0.003		0.0032	0.0034	0.0036		0.0032	0.0035	
2013	Iron	mg/L	NA															
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001		0.0001J	0.00017	0.00014		0.00017J	0.000065J	
2013	Manganese	mg/L	NA															
2013	Mercury	mg/L	NA															
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.003	0.004	0.002	0.004	<0.002	0.002		0.003	0.0051	0.0019		0.0041	0.0025	
2007, 2013	Selenium	mg/L	NA		<0.005	<0.005	<0.005	<0.004	<0.004	<0.004		0.0018	0.002	0.0014		0.0011	0.00087	
2013	Thallium	mg/L	NA															
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.053	0.026	0.035	<0.02	<0.02	<0.02		0.0161	0.0128	0.0099		0.013	0.0083	

Wet Weather Historical Monitoring Table for SDR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data												
					2005-2006			2006-2007			2007-2008	2008-2009	2009-2010		2010-2011	2011-2012		2012-2013
					10/18/05	02/19/06	03/11/06	10/14/06	01/30/07	02/19/07	-	11/04/08	11/28/09	02/06/10	-	10/05/11-10/06/11	02/07/12-02/08/12	-
Organophosphorus Pesticides											No Sampled Collected				No Sampled Collected			No Sampled Collected
2013	Azinphos methyl (Guthion)	µg/L	NA															
2013	Bolstar	µg/L	NA															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.02	<0.02	<0.002	<0.002	<0.002		<0.002	<0.002	<0.002		<0.01	<0.01	
2013	Coumaphos	µg/L	NA															
2013	Demeton-o	µg/L	NA															
2013	Demeton-s	µg/L	NA															
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.01	<0.02	<0.02	<0.004	<0.004	<0.004		<0.004	<0.004	<0.004		<0.01	<0.01	
2013	Dichlorvos	µg/L	NA															
2013	Dimethoate	µg/L	NA															
2013	Disulfoton	µg/L	NA															
2013	Ethoprop	µg/L	NA															
2013	Ethyl parathion	µg/L	NA															
2013	Fensulfothion	µg/L	NA															
2013	Fenthion	µg/L	NA															
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.01	<0.02	<0.02	0.095	<0.006	<0.006		0.048	<0.006	<0.006		<0.01	<0.01	
2013	Merphos	µg/L	NA															
2013	Methyl parathion	µg/L	NA															
2013	Mevinphos	µg/L	NA															
2013	Naled	µg/L	NA															
2013	Phorate	µg/L	NA															
2013	Ronnel	µg/L	NA															
2013	Stirophos	µg/L	NA															
2013	Tokuthion (Prothiofos)	µg/L	NA															
2013	Trichloronate	µg/L	NA															
Pyrethroids																		
2007, 2013	Allethrin	µg/L	NA									<0.002	<0.0005	<0.0005B		<0.002	<0.002	
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006								<0.002	<0.0005	**0.0321B**		**0.0222**	0.0089	
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004								0.0146	<0.0005	<0.0005		0.0093	0.0074	
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004								<0.002	<0.0005	0.0255		<0.002	<0.002	
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004								<0.002	<0.0005	<0.0005		<0.002	<0.002	
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA									<0.002	<0.0005	0.001J		<0.002	<0.002	
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA									<0.002	<0.0005	<0.0005		<0.002	<0.002	
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004								<0.002	<0.0005	0.0008J		<0.002	<0.002	
2007, 2013	Fenvalerate	µg/L	NA									<0.002	<0.0005	0.0066B		<0.002	<0.002	
2007, 2013	Fluvalinate	µg/L	NA									<0.002	<0.0005	<0.0005		<0.002	<0.002	
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006								<0.025*	<0.005	<0.005		<0.025[††]	**0.1116**	
2007, 2013	Prallethrin	µg/L	NA									<0.002	<0.0005	<0.0005B		<0.002	<0.002	
2007, 2013	Resmethrin	µg/L	NA									<0.025	<0.005			<0.025	<0.025	
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100		>100	>100	>100		>100	>100	
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100	100	100	100		100	100	100		100	100	
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**50**	100	100	100	100	100		100	100	100		100	100	
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100		>100	>100	>100		>100	>100	
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100	100	100	100	100		100	**50**	100		100	100	
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail															

See last page for f See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SDR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014			2014-2015		
					10/10/13	11/22/13	02/28/14-03/01/14	-		
Physical Chemistry								No Sampled Collected		
2013	Dissolved Oxygen	mg/L	<5.0 (a)	1. Basin Plan	9.49	**2.86**	**2.7**		67%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.82	7.19	7.12		10%	0.39
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,167	1,923	2,255			
2007, 2013	Water Temperature	Celsius	NA		19.29	16.1	17.12			
2013	Color	Color Units	20	1. Basin Plan	†	**40**	**30**			
2007, 2013	Turbidity	NTU	20	1. Basin Plan	8.5	13	12.1		58%	1.82
Bacteriological										
2007, 2013	Enterococcus	MPN/100 mL	NA		4,900	70,000	14,000			
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**2,200**	**22,000**	**3,300**		92%	36.76
2007, 2013	Total Coliform	MPN/100 mL	NA		33,000	330,000	330,000			
Nutrients										
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.22	<0.10	0.11		0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.38	0.34	0.34		0%	0.05
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.1	0.027J	0.025J		0%	0.03
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.93	1.1	0.74			
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.11	NR	0.11		0%	0.09
2013	Orthophosphate	mg/L	NA		0.045	0.069	0.099			
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.11	0.15	0.21		0%	0.20
General Chemistry										
2007, 2013	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	2.7	NR	4.5		12%	0.44
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	42	NR	45		8%	0.61
2013	Chloride	mg/L	400 (a)	1. Basin Plan	**780**	**520**	**420**		100%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		14	11	7.7			
2007, 2013	Total Organic Carbon	mg/L	NA		15	12	8.1			
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<5.0	NR	<5.0		4%	0.22
2013	Sulfate	mg/L	500 (a)	1. Basin Plan	300	200	210		0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.19	0.16	0.17		8%	0.48
2007, 2013	Total Dissolved Solids	mg/L	1,500 (a)	1. Basin Plan	**1,800**	1,400	1,200		19%	0.72
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	8	20	40		15%	0.63
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		745	594	472			
Total Metals										
2007	Antimony	mg/L	NA		0.0014	NR	0.0013			
2007, 2013	Arsenic	mg/L	NA		0.0037	0.0029	0.003			
2007, 2013	Cadmium	mg/L	NA		0.000070J	0.000050J	0.000059J			
2007, 2013	Chromium	mg/L	NA		0.00081	0.0012	0.0012			
2007, 2013	Copper	mg/L	NA		0.0063	0.01	0.0077			
2013	Iron	mg/L	1.0 (a)	1. Basin Plan	0.34	0.72	0.76		0%	NA[1]
2007, 2013	Lead	mg/L	NA		0.0011	0.0021	0.0031			
2013	Manganese	mg/L	1.0 (a)	1. Basin Plan	0.18	0.48	0.32		0%	NA[1]
2013	Mercury	mg/L	NA		<0.000050	NR	0.000023J			
2007, 2013	Nickel	mg/L	NA		0.0031	0.002	0.0019			
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0015	0.0009	0.00079		0%	0.39
2013	Thallium	mg/L	NA		<0.00020	<0.00020	<0.00020			
2007, 2013	Zinc	mg/L	NA		0.036	0.038	0.029			
Dissolved Metals										
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0012	NR	0.0011		4%	0.33
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0032	0.0023	0.0022		0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	0.000050J	0.000020J	0.000021J		0%	0.02
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.00028	0.00032	0.00024		0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0049	0.0051	0.003		0%	0.10
2013	Iron	mg/L	NA		0.0055J	0.0090J	0.046			
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.00020	<0.00020	0.00023		0%	0.00
2013	Manganese	mg/L	NA		0.002	0.00099	0.1			
2013	Mercury	mg/L	NA		<0.000050	NR	0.000020J			
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0029	0.0016	0.0013		0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0014	0.00085	0.0006			
2013	Thallium	mg/L	NA		<0.00020	0.000040J	<0.00020			
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.025	0.0096	0.012		0%	0.06

Wet Weather Historical Monitoring Table for SDR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014			2014-2015		
					10/10/13	11/22/13	02/28/14-03/01/14	-		
Organophosphorus Pesticides								No Sampled Collected		
2013	Azinphos methyl (Guthion)	µg/L	NA		<0.010BS-L	AE	<0.010			
2013	Bolstar	µg/L	NA		<0.010	AE	<0.010			
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.010	AE	<0.010		13%	0.38
2013	Coumaphos	µg/L	NA		<0.010	AE	<0.010			
2013	Demeton-o	µg/L	NA		<0.010	AE	<0.010			
2013	Demeton-s	µg/L	NA		<0.010	AE	<0.010			
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.010	AE	<0.010		8%	0.33
2013	Dichlorvos	µg/L	NA		<0.010	AE	<0.010			
2013	Dimethoate	µg/L	NA		<0.010	AE	<0.010			
2013	Disulfoton	µg/L	NA		<0.010	AE	<0.010			
2013	Ethoprop	µg/L	NA		<0.010	AE	<0.010			
2013	Ethyl parathion	µg/L	NA		<0.010	AE	<0.010			
2013	Fensulfothion	µg/L	NA		<0.010	AE	<0.010			
2013	Fenthion	µg/L	NA		<0.010	AE	<0.010			
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.010	AE	<0.010		0%	0.04
2013	Merphos	µg/L	NA		<0.010	AE	<0.010			
2013	Methyl parathion	µg/L	NA		<0.010	AE	<0.010			
2013	Mevinphos	µg/L	NA		<0.010	AE	<0.010			
2013	Naled	µg/L	NA		<0.010	AE	<0.010			
2013	Phorate	µg/L	NA		<0.010	AE	<0.010			
2013	Ronnel	µg/L	NA		<0.010	AE	<0.010			
2013	Stirophos	µg/L	NA		<0.010BS-L	AE	<0.010			
2013	Tokuthion (Prothiofos)	µg/L	NA		<0.010	AE	<0.010			
2013	Trichloronate	µg/L	NA		<0.010	AE	<0.010			
Pyrethroids										
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	0.0028	0.0088	0.0045		25%	1.08
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.002	<0.002	<0.002		0%	0.01
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.002	<0.002	<0.002		0%	0.06
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002	<0.002		0%	0.00
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002	<0.002		0%	0.00
2007, 2013	Fenvalerate	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Fluvalinate	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.01	<0.01	<0.01		13%	0.86
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Resmethrin	µg/L	NA		<0.01	<0.01	<0.01			
Toxicity										
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	NR	>100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	NR	100		0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	NR	100		4%	1.04
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	NR	>100		0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	NR	100		8%	1.16
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail		**Fail**	**Fail**	Pass		67%	

See last page for f See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SDR-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area/subarea.
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
† Result was from composite sample. The grab sample was analyzed outside of the holding time.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
AE-Analysis error.
B-Analyte was detected in the associated method blank.
BS-L-Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
H-Sample received and or/analyzed past the recommended holding time.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
NR-Not required.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SDC-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					11/30/07	02/03/08	-	-	10/6/10	02/16/11	-	10/11/12-10/12/12	02/08/13-02/09/13	-	11/01/14	03/01/15		
Physical Chemistry																		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.77	7.88	No Samples Collected	No Samples Collected	7.78	8.07	No Samples Collected	7.72	8	No Samples Collected	8.02	7.76	0%	0.11
2007, 2013	Specific Conductivity	µmhos/cm	NA		387	199.9			2,630	1,991		1,582	1,761		818	1,162		
2007, 2013	Water Temperature	Celsius	NA		17.90	11.90			20.90	14.50		20.1	13.6		17.3	16.15		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**292**	**43**			5.3	3		13	6.3		**33.4**	8.6	38%	2.53
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	NA		3,000	230			11,000	1,700		300,000	800		900	7,000		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**3,000**	20			**28,000**	**8,000**		**130,000**	230		**50,000**	**14,000**	75%	72.89
2007, 2013	Total Coliform	MPN/100 mL	NA		17,000	500			300,000	30,000		500,000	17,000		160,000	14,000		
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.68	0.12			0.14	0.29		0.29	0.12		0.27	0.12	0%	0.03
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.9	0.57			0.15	1.1		0.65	0.38		1.5	0.26	0%	0.07
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.08	0.03J			0.045J	0.068J		0.2	0.035J		0.041J	0.028J	0%	0.07
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		3.4	0.98			1.1	1.2		2.8	0.91		3	0.65		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.44	0.28			0.14	0.12		0.17	0.14		0.35	0.12	0%	0.11
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	1.1	0.36			0.15	0.14		0.38	0.16		0.49	0.18	0%	0.18
General Chemistry																		
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	14	2.6			2.1	5.2		**36**	6		12	6.8	13%	0.35
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	49	24			40	29		88	29		93	25	0%	0.39
2007, 2013	Dissolved Organic Carbon	mg/L	NA		12.9	6.3			12	9.1		20	6.5		21	6.8		
2007, 2013	Total Organic Carbon	mg/L	NA		13.6	6.3			12	10		21	7.3		23	6.7		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	2.8J	1.7J			<5	<5		<5	<5		<5.0	2.7J	0%	0.25
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.14	0.075			0.16	0.18		0.13	0.12		0.13	0.11	0%	0.26
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	378	**704**			**1,700**	**1,400**		**1,200**	**960**		500	**580**	75%	1.86
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**730**	80			16	11		86	7		72	15	13%	1.27
2007, 2013	Hardness	mg $CaCO_3$/L	NA		121	183.3			740	680		581	444		232	292		
Total Metals																		
2007	Antimony	mg/L	NA		0.0011	0.0006			0.00044J	0.00072		0.00083	0.00071		0.0013	0.00065		
2007, 2013	Arsenic	mg/L	NA		0.0035	0.0023			0.0022	0.0019		0.0028	0.0016		0.0019	0.0015		
2007, 2013	Cadmium	mg/L	NA		<0.0004	<0.0004			0.000025J	0.000037J		0.0001	0.000053J		0.00012	<0.00010		
2007, 2013	Chromium	mg/L	NA		0.0048	0.0010			0.00052	0.0011		0.0016	0.00049		0.005	0.00068		
2007, 2013	Copper	mg/L	NA		0.0230	0.0066			0.0022	0.0074		0.0092	0.0043		0.019	0.0038		
2007, 2013	Lead	mg/L	NA		0.0102	0.0015			0.00035	0.0005		0.0015	0.00035		0.0034	0.00042		
2007, 2013	Nickel	mg/L	NA		0.0063	0.0015			0.0034	0.0052		0.0042	0.0034		0.0058	0.0024		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0005	0.0008			0.00077	0.0011		0.00069	0.0012		0.00088	0.00081	0%	0.17
2007, 2013	Zinc	mg/L	NA	1. Basin Plan	0.1252	0.0241			0.0078	0.012		0.047	0.01		0.17	0.012		
Dissolved Metals																		
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0011	0.0005			0.00045J	0.00065		0.00067	0.0006		0.00064	0.00051	0%	0.11
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0023	0.0023			0.0019	0.0018		0.0024	0.0014		0.0014	0.0012	0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000019J	0.000022J		0.00005J	0.000033J		0.000036J	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0005	0.0005			0.00016J	0.00036		0.0003	0.00024		0.00047	0.00027	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0042	0.0035			0.0014	0.0056		0.004	0.0029		0.0055	0.0023	0%	0.12
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.0003	<0.0001			0.000031J	0.000018J		0.00008J	0.000047J		0.00029	<0.00020	0%	0.00
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0015	0.0010			0.003	0.0046		0.0031	0.0032		0.0027	0.0016	0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0005	0.0008			0.00078	0.0012		0.00081	0.0011		0.00073	0.00057		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0118	0.0056			0.0037J	0.006		0.017	0.0063		0.075	0.0053	0%	0.07
Organophosphorus Pesticides																		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	**0.25**	**0.025**			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	25%	1.91
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	0.025	0.006			<0.01	0.0084J		<0.01	<0.01		<0.010BS-L	<0.010	0%	0.10
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.244	0.002			<0.01	0.019		0.023	<0.01		0.058	<0.010	0%	0.10
Pyrethroids																		
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002			<0.002	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.0329**	**0.026**			<0.002	<0.002		**0.0343**	**0.0208**		**0.0474**	<0.002	63%	2.21
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	0.006	0.003			<0.002	<0.002		0.0088	0.0093		0.0327	<0.002	0%	0.02
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	0.007	<0.002			<0.002	<0.002		0.0011J	<0.002		0.0017J	<0.002	0%	0.04
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002			<0.002	<0.002		<0.002	<0.002		0.0068	<0.002	0%	0.00
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.002	<0.002				<0.002		0.0007J	<0.002		<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA		<0.002	<0.002			<0.002	<0.002		<0.002	<0.002		0.014	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	0.001J	<0.002			<0.002	<0.002		0.0006J	<0.002		<0.002	<0.002	0%	0.00
2007, 2013	Fenvalerate	µg/L			0.0016J	<0.002			<0.002	<0.002		0.0006J	<0.002		<0.002	<0.002		
2007, 2013	Fluvalinate	µg/L			0.0006J	<0.002				<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.025*	<0.025*			<0.005	<0.025*		<0.025††	<0.01		<0.01	<0.01	0%	0.31
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002			<0.002	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Resmethrin	µg/L				<0.025						<0.025	<0.01		<0.01	<0.01		
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		**70.37**	>100			>100	>100		>100	>100		>100	>100	13%	1.05
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SDC-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
BS-L Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SDC-TWAS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data								Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	2013-2014	2014-2015		
					11/30/07-12/01/07	02/03/08	-	-	02/01/11	02/17/11-02/18/11	-	-	-	-		
Physical Chemistry																
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	**9.64**	8.80	No Samples Collected	No Samples Collected	7.93	7.69	No Samples Collected	No Samples Collected	No Samples Collected	No Samples Collected	25%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,382	811			1936	2440						
2007, 2013	Water Temperature	Celsius	NA		14.50	11.10			12.00	11.40						
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**8,338**	**164**			5.6	4.9					50%	NA[1]
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	NA		170,000	17,000			1,400	500						
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1. Basin Plan REC-1/REC-2	**220,000**	**13,000**			300	80					50%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		9,000,000	17,000			7,000	8,000						
Nutrients																
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	**8.3**	0.71			0.077J	0.15					25%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	3.6	0.93			1.2	0.5					0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	**1.1**	0.03J			0.013J	0.033J					25%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		23	17			1.2	0.84						
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.83	0.67			0.17	0.1					0%	NA[1]
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	**13**	**4**			0.17	0.14					50%	NA[1]
General Chemistry																
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	**110**	**64.4**			3.1	1.3J					50%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	70	**140**			40	32					25%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		58	11.8			11	10						
2007, 2013	Total Organic Carbon	mg/L	NA		90.7	18.4			11	10						
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	1.8J	5.4			<5	<5					0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	**8.25**	0.28			0.062	0.048J					25%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**1,304**	394			**1,400**	**1,500**					75%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**7,100**	**2,030**			14	9					50%	NA[1]
2007, 2013	Hardness	mg $CaCO_3$/L	NA		255.8	106.9			620	740						
Total Metals																
2007	Antimony	mg/L	NA		0.0004J	0.0002J			0.00014J	0.00013J						
2007, 2013	Arsenic	mg/L	NA		0.0112	0.0042			0.00088	0.00092						
2007, 2013	Cadmium	mg/L	NA		0.0046	0.0007			0.000037J	0.000038J						
2007, 2013	Chromium	mg/L	NA		0.0377	0.0046			0.0004	0.00084						
2007, 2013	Copper	mg/L	NA		0.1289	0.0304			0.0019	0.0022						
2007, 2013	Lead	mg/L	NA		0.3442	0.0744			0.00025	0.00061						
2007, 2013	Nickel	mg/L	NA		0.0669	0.0104			0.0025	0.0038						
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0030	0.0004J			0.00032J	0.00046					0%	NA[1]
2007, 2013	Zinc	mg/L	NA		0.5719	0.1323			0.0025J	0.0034J						
Dissolved Metals																
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0019	0.0003J			0.00013J	0.00012J					0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0023	0.0013			0.00074	0.00073					0%	NA[1]
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000032J	0.00003J					0%	NA[1]
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0002J	0.0001J			0.00011J	0.00011J					0%	NA[1]
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0050	0.0021			0.0015	0.0019					0%	NA[1]
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.0001	<0.0001			<0.0002	0.000045J					0%	NA[1]
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0028	0.0005			0.0024	0.0036					0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.0014	0.0003J			0.00039J	0.0003J						
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0028	0.0007			0.0022J	0.0019J					0%	NA[1]
Organophosphorus Pesticides																
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002			<0.01	<0.01					0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004			<0.01	<0.01					0%	NA[1]
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			<0.01	<0.01					0%	NA[1]
Pyrethroids																
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002			<0.002	<0.002						NA[1]
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	<0.002	<0.002			<0.002	<0.002					0%	NA[1]
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.002	<0.002			<0.002	<0.002					0%	NA[1]
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.002	0.005			<0.002	<0.002					0%	NA[1]
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002			<0.002	<0.002					0%	NA[1]
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.002	<0.002			<0.002	<0.002						
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002			<0.002	<0.002						
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002			<0.002	<0.002					0%	NA[1]
2007, 2013	Fenvalerate	µg/L	NA		<0.002	<0.002			<0.002	<0.002						
2007, 2013	Fluvalinate	µg/L	NA		<0.002	<0.002			<0.002	<0.002						
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.025*	<0.025*			<0.025*	<0.025*					0%	NA[1]
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002			<0.002	<0.002						
2007, 2013	Resmethrin	µg/L	NA			<0.025										
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100					0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			>100	100					0%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		12.5**	100			>100	100					0%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100					0%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			100	100					0%	NA[1]

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SDC-TWAS-2

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
**For SDC-TWAS-2 on 11/30/07-12/1/07, the *C. dubia* 7-day reproduction endpoint test was inconclusive due to the high particulate content from fire related impacts to this portion of the watershed.
The sample required dilution to a 12.5% solution to run the test and no toxicity was observed in this diluted sample. No inference can be made to the 100% solution.
* Indicates detection limit above water quality benchmark.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Tables for SDC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data														
					2001-2002			2002-2003			2003-2004			2004-2005			2005-2006		
					11/29/01	01/29/02	02/17/02	02/11/03	02/25/03	03/15/03	02/03/04	02/18/04	03/02/04	10/17/04	02/11/05	02/18/05	10/18/05	01/02/06	02/20/06
Physical Chemistry																			
2013	Dissolved Oxygen	mg/L	<6.0 (a)	1. Basin Plan															
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.6	7.5	7.5	7.83	7.56	7.64	8.00	**5.22**	7.21	7.82	7.70	6.84	7.17	8.45	6.60
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,090	3,340	3,480	277	2,700	257	3,700	3,660	1,990	3,210	3,380	1,744	3,790	4,250	3,710
2007, 2013	Water Temperature	Celsius	NA					15.00	14.30	13.70	13.40	12.80	13.50	19.90	13.10	14.40	17.90	15.30	11.90
2013	Color	Color Units	20	1. Basin Plan															
2007, 2013	Turbidity	NTU	20	1. Basin Plan	17.6	3.69	3.12	4.72	17.5	17.7	**30.6**	19.3	**29.7**	6.77	6.01	18.3	3.02	7.89	**39.2**
Bacteriological																			
2007, 2013	Enterococcus	MPN/100 mL	NA		3,000	300	500	17,000	5,000	1,700	7,000	1,300	30,000	140,000	130	1,300	8,000	5,000	230
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	230	80	22	**5,000**	300	**700**	230	**1300**	**8,000**	**14,000**	230	**500**	**1,300**	**1,300**	230
2007, 2013	Total Coliform	MPN/100 mL	NA		230	1,300	170	50,000	3,000	13,000	500	3,000	130,000	300,000	800	3,000	2,300	3,000	500
Nutrients																			
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.2	0.13	<0.1	0.52	0.20	0.13	<0.1	0.17	1.7	<0.1	0.17	0.16	0.12	<0.1	0.39
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.1	0.2	0.2	0.06	0.40	0.27	0.05	0.13	1.01	0.16	1.67	1.81	0.18	0.07	0.45
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		2.4	1.35	1.4	0.8	1.4	0.9	0.8	2.8	1.8	1.4	1.6	2	2.9	1.9	4.1
2007, 2013	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.1	0.05	<0.05	0.11	0.08	<0.05	<0.05	0.2	0.19	0.16	0.13	0.12	0.4	0.09	0.2
2013	Orthophosphate	mg/L	NA																
2007	Total Phosphorus	mg/L	2	4. MSGP 2015	0.1	0.07	0.08	0.14	0.08	0.12	0.12	0.2	0.3	0.19	0.14	0.45	0.52	0.16	0.3
General Chemistry																			
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	14	3	2.1	15.9	2.51	3.89	**44.7**	7.46	4.37	21.8	3.33	<2	4.39	4.16	<2
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	34	61	60	51	41	82	**138**	57	81	<25	**123**	41	38	41	104
2013	Chloride	mg/L	250 (a)	1. Basin Plan															
2007, 2013	Dissolved Organic Carbon	mg/L	NA					7.98	10.4	7.67	5.74	61	9.19	35.9	5.42	5.21	5.53	14	9.66
2007, 2013	Total Organic Carbon	mg/L	NA					9.68	8.59	11.0	9.85	83.8	11.2	36.3	9.54	10.9	13.7	3.83	13.6
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<1	<1	<1	<1	<1	1.38	<1	<1	<1	<1	<1	<1	<1	<1	<1
2013	Sulfate	mg/L	250 (a)	1. Basin Plan															
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	<0.1	0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan	**1,750**	**1,940**	**2,080**	**1,900**	**1,440**	**1,490**	**2,220**	**2,580**	**1,350**	**2,100**	**1,630**	**982**	**2,020**	**2,090**	**1,950**
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	31	<20	<20	10	23	34	<20	44	**101**	28	24	28	<20	26	**174**
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		840	970	1,080	1,030	726	767	935	999	564	967	767	487	1,030	1,090	1,080
Total Metals																			
2013	Aluminum	mg/L	NA																
2007	Antimony	mg/L	NA		<0.002	<0.002	<0.002	0.002	0.003	<0.002	<0.005	<0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Arsenic	mg/L	NA		0.001	0.002	0.003	0.002	0.003	0.003	0.007	0.006	0.004	0.006	0.007	<0.002	0.009	0.005	0.005
2007, 2013	Cadmium	mg/L	NA		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003
2007, 2013	Chromium	mg/L	NA		0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	NA		<0.005	<0.005	<0.005	0.014	0.004	<0.005	0.012	0.006	0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2013	Iron	mg/L	0.3 (a)	1. Basin Plan															
2007, 2013	Lead	mg/L	NA		<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan															
2013	Mercury	mg/L	NA																
2007, 2013	Nickel	mg/L	NA		0.002	0.002	0.003	0.002	<0.002	0.003	0.003	<0.002	<0.002	0.003	0.003	0.002	0.003	0.003	0.003
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.002	<0.002	**0.007**	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.005
2013	Thallium	mg/L	NA																
2007, 2013	Zinc	mg/L	NA		<0.020	<0.020	<0.020	<0.020	0.008	0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.034	<0.02	0.026
Dissolved Metals																			
2013	Aluminum	mg/L	NA																
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	<0.002	<0.002	0.002	0.003	<0.005	<0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.001	0.002	0.001	0.002	0.002	0.002	0.003	0.004	<0.002	<0.002	<0.002	<0.002	0.003	<0.001	<0.001
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	0.016	0.005	0.005	0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2013	Iron	mg/L	NA																
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.002	<0.002	<0.002	<0.002	<0.002	0.0007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2013	Manganese	mg/L	NA																
2013	Mercury	mg/L	NA																
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	<0.002	0.003	0.005	0.002	<0.002	0.009	0.003	0.002	0.007	0.003	0.003	0.002	<0.002	0.003	0.003
2007, 2013	Selenium	mg/L	NA		<0.002	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.005
2013	Thallium	mg/L	NA																
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	<0.020	<0.020	<0.020	0.086	0.033	<0.020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Wet Weather Historical Monitoring Tables for SDC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data														
					2001-2002			2002-2003			2003-2004			2004-2005			2005-2006		
					11/29/01	01/29/02	02/17/02	02/11/03	02/25/03	03/15/03	02/03/04	02/18/04	03/02/04	10/17/04	02/11/05	02/18/05	10/18/05	01/02/06	02/20/06
Acid Extractable Compounds																			
2013	Pentachlorophenol	µg/L	(d)	16. 40 CFR 131.38															
Organophosphorus Pesticides																			
2013	Azinphos methyl (Guthion)	µg/L	NA																
2013	Bolstar	µg/L	NA																
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.03*	<0.03*	<0.03*	<0.03*	<0.03*	<0.03*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
2013	Coumaphos	µg/L	NA																
2013	Demeton-o	µg/L	NA																
2013	Demeton-s	µg/L	NA																
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.01	<0.01	0.032	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
2013	Dichlorvos	µg/L	NA																
2013	Dimethoate	µg/L	NA																
2013	Disulfoton	µg/L	NA																
2013	Ethoprop	µg/L	NA																
2013	Ethyl parathion	µg/L	NA																
2013	Fensulfothion	µg/L	NA																
2013	Fenthion	µg/L	NA																
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook				<0.10	<0.10	<0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
2013	Merphos	µg/L	NA																
2013	Methyl parathion	µg/L	NA																
2013	Mevinphos	µg/L	NA																
2013	Naled	µg/L	NA																
2013	Phorate	µg/L	NA																
2013	Ronnel	µg/L	NA																
2013	Stirophos	µg/L	NA																
2013	Tokuthion (Prothiofos)	µg/L	NA																
2013	Trichloronate	µg/L	NA																
Pyrethroids																			
2007, 2013	Allethrin	µg/L	NA																
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006															
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004															
2007, 2013	L-Cyhalothrin	µg/L	0.20	17. Wheelock et al., 2004															
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004															
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA																
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA																
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004															
2007, 2013	Fenvalerate	µg/L	NA																
2007, 2013	Fluvalinate	µg/L	NA																
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006															
2007, 2013	Prallethrin	µg/L	NA																
2007, 2013	Resmethrin	µg/L	NA																
Toxicity																			
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	>100	>100	> 100	>100	>100	>100	>100	>100	>100
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100	100	100	100	100	100	100	100	100	100	100	**50**	100
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**6.25**	100	**50**	**12.5**	100	**50**	100	100	100	**25**	100	100	100	**50**	100
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	**50**	**50**	100	100	100	100	**50**	100	100	100	100	100	**50**	**<6.25**
2013	Strongylocentrotus 96-hr	TST	Pass/Fail																

See last page for footnotes and source references.

Wet Weather Historical Monitoring Tables for SDC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data											
					2006-2007			2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	
					12/10/06	01/31/07	02/20/07	11/30/07	02/03/08-02/04/08	11/12/08	-	10/20/10	02/17/11-02/18/11	-	12/13/12-12/14/12	02/10/13
Physical Chemistry																
2013	Dissolved Oxygen	mg/L	<6.0 (a)	1. Basin Plan							No Samples Collected			No Samples Collected		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.46	8.04	7.53	7.90	7.75	7.56		7.39	7.55		7.63	7.06
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,650	3,470	3,080	3,720	2,740	4,170		406	3,310		3,680	3,520
2007, 2013	Water Temperature	Celsius	NA		16.40	11.90	16.20		13.00	18.70		20.00	12.70		14.6	11.2
2013	Color	Color Units	20	1. Basin Plan												
2007, 2013	Turbidity	NTU	20	1. Basin Plan	10.2	18.7	**36.1**	**28**	8	4.4		3.1	1.5		4	2.2
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	NA		1,300	110	13,000	8,000	2,300	500		11,000	700		8,000	1,300
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	130	20	**800**	**2,200**	80	**800**		**2,300**	170		**5,000**	230
2007, 2013	Total Coliform	MPN/100 mL	NA		1,300	500	3,000	17,000	5,000	2,200		13,000	5,000		30,000	1,400
Nutrients																
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.45	0.12	0.92	0.26	0.07	0.07		0.67	0.2		0.37	0.13
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	<0.05	<0.05	0.11	0.7	0.33	0.17		0.17	0.61		0.33	0.36
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	<0.05	0.08	<0.05	0.06		0.12	0.047J		0.043J	0.015J
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		2.5	2.9	4.5	1.8	1.3	1.7		1.2	1		0.91	1.1
2007, 2013	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	<0.05	0.05	<0.05	0.28	0.08	0.072		0.32	0.078		0.24	0.094
2013	Orthophosphate	mg/L	NA													
2007	Total Phosphorus	mg/L	2	4. MSGP 2015	0.43	0.16	0.18	0.35	0.15	0.12		0.34	0.19		0.3	0.11
General Chemistry																
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	2.18	3.89	7.07	11	2.7	<2		3.9	1.7J		2.5	1.2J
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	99	76	46	70	29	38		40	24		24	23
2013	Chloride	mg/L	250 (a)	1. Basin Plan												
2007, 2013	Dissolved Organic Carbon	mg/L	NA		10.5	9.56	10.3	11.6	8.4	6		5.9	6.3		9.1	6.6
2007, 2013	Total Organic Carbon	mg/L	NA		13.8	10.9	10.8	12.8	7.4	6.4		5.8	5.8		9.9	6.6
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<5	<5	<5	1.9J	2.3J	<5		<5	<5		<5	<5
2013	Sulfate	mg/L	250 (a)	1. Basin Plan												
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	0.14	0.072	0.05		0.059	0.038J		0.057	0.042J
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan	**2,180**	**2,340**	**1,840**	**2,034**	**1,528**	**2,374**		**2,600**	**1,900**		**2,100**	**2,000**
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**156**	**141**	39	28	7.3	5		14	17		11	3
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		1,190	1,210	985	510.1	358.9	842.7		1,000	970		921	912
Total Metals																
2013	Aluminum	mg/L	NA													
2007	Antimony	mg/L	NA		<0.002	<0.002	0.002	0.0003J	0.0004J	0.0001J		0.00016J	0.00016J		0.00017J	0.00017J
2007, 2013	Arsenic	mg/L	NA		<0.001	<0.001	0.003	0.0048	0.0029	0.0037		0.0027	0.0017		0.0027	0.0019
2007, 2013	Cadmium	mg/L	NA		0.007	<0.001	<0.001	<0.0004	<0.0004	<0.0004		0.000014J	0.00003J		0.000028J	0.00002J
2007, 2013	Chromium	mg/L	NA		<0.005	<0.005	<0.005	0.0006	<0.0002	0.0001J		0.00044	0.00056		0.00018J	0.00032
2007, 2013	Copper	mg/L	NA		0.006	0.007	0.012	0.0059	0.0018	<0.0008		0.00071	0.0014		0.0015	0.001
2013	Iron	mg/L	0.3 (a)	1. Basin Plan												
2007, 2013	Lead	mg/L	NA		0.002	0.002	0.002	0.00062	0.00025	0.0001J		0.000048J	0.00016J		0.000082J	0.00013J
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan												
2013	Mercury	mg/L	NA													
2007, 2013	Nickel	mg/L	NA		0.005	0.005	0.006	0.0026	0.002	0.0026		0.0048	0.0063		0.0056	0.002
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.004	0.005	<0.004	0.0003J	0.0007	0.0003J		0.0004	0.00081		0.00082	0.00047
2013	Thallium	mg/L	NA													
2007, 2013	Zinc	mg/L	NA		0.028	<0.02	0.101	0.018	0.0031	0.002		0.0017J	0.0015J		0.0017J	0.0014J
Dissolved Metals																
2013	Aluminum	mg/L	NA													
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	0.002	0.0002J	0.0004J	0.0001J		0.00015J	0.00016J		0.00016J	0.00017J
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	<0.001	<0.001	<0.001	0.0038	0.0028	0.0037		0.0026	0.0015		0.0028	0.0017
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.0004	<0.0004	<0.0004		0.00002J	0.000022J		0.000021J	<0.0001
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	0.0001J	0.0001J	<0.0005		0.00017J	0.00015J		0.00008J	0.00012J
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	<0.002	0.003	0.003	0.0023	0.0016	<0.0008		0.0006	0.0012		0.0014	0.00084
2013	Iron	mg/L	NA													
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	0.00008J	<0.0001	<0.0001		<0.0002	0.000017J		0.000012J	0.00003J
2013	Manganese	mg/L	NA													
2013	Mercury	mg/L	NA													
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.003	0.003	0.002	0.0022	0.0021	0.0024		0.0045	0.0062		0.0054	0.002
2007, 2013	Selenium	mg/L	NA		<0.004	<0.004	<0.004	0.0003J	0.0008	0.0002J		0.00037J	0.0008		0.00078	0.00047
2013	Thallium	mg/L	NA													
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	<0.02	<0.02	<0.02	0.0046	0.0008	0.0005		0.0018J	0.0011J		0.002J	0.0022J

Wet Weather Historical Monitoring Tables for SDC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data											
					2006-2007			2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013	
					12/10/06	01/31/07	02/20/07	11/30/07	02/03/08-02/04/08	11/12/08	-	10/20/10	02/17/11-02/18/11	-	12/13/12-12/14/12	02/10/13
Acid Extractable Compounds											No Samples Collected			No Samples Collected		
2013	Pentachlorophenol	µg/L	(d)	16. 40 CFR 131.38												
Organophosphorus Pesticides																
2013	Azinphos methyl (Guthion)	µg/L	NA													
2013	Bolstar	µg/L	NA													
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.01	<0.01		<0.01	<0.01
2013	Coumaphos	µg/L	NA													
2013	Demeton-o	µg/L	NA													
2013	Demeton-s	µg/L	NA													
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		<0.01	<0.01		<0.01	<0.01
2013	Dichlorvos	µg/L	NA													
2013	Dimethoate	µg/L	NA													
2013	Disulfoton	µg/L	NA													
2013	Ethoprop	µg/L	NA													
2013	Ethyl parathion	µg/L	NA													
2013	Fensulfothion	µg/L	NA													
2013	Fenthion	µg/L	NA													
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006	<0.006	0.029	<0.006	<0.006		<0.01	<0.01		<0.01	<0.01
2013	Merphos	µg/L	NA													
2013	Methyl parathion	µg/L	NA													
2013	Mevinphos	µg/L	NA													
2013	Naled	µg/L	NA													
2013	Phorate	µg/L	NA													
2013	Ronnel	µg/L	NA													
2013	Stirophos	µg/L	NA													
2013	Tokuthion (Prothiofos)	µg/L	NA													
2013	Trichloronate	µg/L	NA													
Pyrethroids																
2007, 2013	Allethrin	µg/L	NA					<0.002	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006				**0.0258**	<0.002	<0.002		<0.005	<0.002		0.0068	<0.002
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004				<0.002	<0.002	<0.002		0.0044J	<0.002		<0.002	<0.002
2007, 2013	L-Cyhalothrin	µg/L	0.20	17. Wheelock et al., 2004				0.0006J	<0.002	<0.002		0.0027J	<0.002		<0.002	<0.002
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004				<0.002	<0.002	<0.002		0.0042J	<0.002		<0.002	<0.002
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA					<0.002	<0.002	<0.002			<0.002		<0.002	<0.002
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA					<0.002	<0.002	<0.002		0.0047J	<0.002		<0.002	<0.002
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004				<0.002	<0.002	<0.002		0.0035J	<0.002		<0.002	<0.002
2007, 2013	Fenvalerate	µg/L	NA					<0.002	<0.002	<0.002		0.0035	<0.002		<0.002	<0.002
2007, 2013	Fluvalinate	µg/L	NA					<0.002	<0.002	<0.002			<0.002		<0.002	<0.002
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006				<0.025*	<0.025*	<0.025*		<0.005	<0.025*		<0.025††	<0.01
2007, 2013	Prallethrin	µg/L	NA					<0.002	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002
2007, 2013	Resmethrin	µg/L	NA						<0.025	<0.025					<0.025	<0.01
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	**18.95**	>100	>100	>100	>100		>100	>100		>100	>100
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	**12.5**	100	100	100	100		100	100		100	100
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**50**	**12.5**	100	**50**	100	100		100	**6.25**		100	100
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100		>100	>100		>100	>100
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		**50**	100	100	100	100	100		100	100		100	100
2013	Strongylocentrotus 96-hr	TST	Pass/Fail													

See last page for footnotes and source references.

Wet Weather Historical Monitoring Tables for SDC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014	2014-2015				
					-	11/22/14	12/02/14-12/04/14	03/01/15-03/02/15		
Physical Chemistry										
2013	Dissolved Oxygen	mg/L	<6.0 (a)	1. Basin Plan		6.03	**4.8**	7.02	33%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan		7.34	7.54	7.44	4%	0.29
2007, 2013	Specific Conductivity	µmhos/cm	NA			4,194	3,705	3,638		
2007, 2013	Water Temperature	Celsius	NA			13.87	16.92	14.7		
2013	Color	Color Units	20	1. Basin Plan		20	**30**	**25**	67%	NA[1]
2007, 2013	Turbidity	NTU	20	1. Basin Plan		8.5	1.4	0.5	18%	0.63
Bacteriological										
2007, 2013	Enterococcus	MPN/100 mL	NA			170	220	140,000		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2		130	**500**	**50,000**	54%	8.55
2007, 2013	Total Coliform	MPN/100 mL	NA			3,000	1,400	50,000		
Nutrients										
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)		0.15	0.53	<0.10	0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan		0.054J	0.11	0.090J	0%	0.04
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan		0.15	0.12	0.013J	0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA			0.87	1.6	0.6		
2007, 2013	Dissolved Phosphorus	mg/L	2	4. MSGP 2015		0.11	NR	0.13	0%	0.06
2013	Orthophosphate	mg/L	NA			0.064	0.12	0.12		
2007	Total Phosphorus	mg/L	2	4. MSGP 2015		0.14	0.27	0.16	0%	0.10
General Chemistry										
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)		8.5	NR	<2.0	4%	0.22
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015		36	NR	27	7%	0.46
2013	Chloride	mg/L	250 (a)	1. Basin Plan		**1,200**	**1,100**	**880**	100%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA			8.5	12	5.9		
2007, 2013	Total Organic Carbon	mg/L	NA			9.1	11	6.1		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015		1.7J	NR	<5.0	0%	0.14
2013	Sulfate	mg/L	250 (a)	1. Basin Plan		**610**	**570**	**450**	100%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan		0.098	0.18J	0.082	0%	0.34
2007, 2013	Total Dissolved Solids	mg/L	500 (a)	1. Basin Plan		**2,800**	**2,700**	**2,200**	100%	4.01
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan		4	8	9	14%	0.36
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA			1200	1230	1050		
Total Metals										
2013	Aluminum	mg/L	NA			<0.0050	0.0089	0.077		
2007	Antimony	mg/L	NA			0.00014J	NR	0.00019J		
2007, 2013	Arsenic	mg/L	NA			0.0022	0.0027	0.0023		
2007, 2013	Cadmium	mg/L	NA			0.000018J	0.000021J	<0.00010		
2007, 2013	Chromium	mg/L	NA			0.000067J	0.000082J	0.00021		
2007, 2013	Copper	mg/L	NA			0.0015	0.0017	0.0016		
2013	Iron	mg/L	0.3 (a)	1. Basin Plan		0.16	0.3	0.25	0%	NA[1]
2007, 2013	Lead	mg/L	NA			<0.00020	0.000030J	0.000079J		
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan		**0.38**	**0.56**	**0.19**	100%	NA[1]
2013	Mercury	mg/L	NA			<0.000050	<0.000050	0.000013J		
2007, 2013	Nickel	mg/L	NA			0.0085	0.0076	0.0065		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38		0.0034	0.0029	0.0018	4%	0.41
2013	Thallium	mg/L	NA			<0.00020	<0.00020	<0.00020		
2007, 2013	Zinc	mg/L	NA			0.023	0.0074	0.0023J		
Dissolved Metals										
2013	Aluminum	mg/L	NA			<0.0050	<0.0050	0.0018J		
2007	Antimony	mg/L	0.006	1. Basin Plan		0.00015J	NR	0.00017J	0%	0.23
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38		0.0021	0.0023	0.0019	0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38		0.000033J	0.000019J	<0.00010	0%	0.02
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38		0.000039J	0.000039J	0.000066J	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38		0.0014	0.00099	0.0013	0%	0.06
2013	Iron	mg/L	NA			0.0099J	0.039	0.0080J		
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38		<0.00020	<0.00020	<0.00020	0%	0.00
2013	Manganese	mg/L	NA			0.15	0.37	0.08		
2013	Mercury	mg/L	NA			<0.000050	<0.000050	0.0000080J		
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38		0.0084	0.0069	0.0055	0%	0.00
2007, 2013	Selenium	mg/L	NA			0.0033	0.0021	0.0013		
2013	Thallium	mg/L	NA			<0.00020	<0.00020	<0.00020		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38		0.02	0.0068	0.0011J	0%	0.03

No Samples Collected

Wet Weather Historical Monitoring Tables for SDC-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014	2014-2015				
					-	11/22/14	12/02/14-12/04/14	03/01/15-03/02/15		
Acid Extractable Compounds					No Samples Collected					
2013	Pentachlorophenol	µg/L	(d)	16. 40 CFR 131.38		<1.0	<1.0	AE	0%	NA[1]
Organophosphorus Pesticides										
2013	Azinphos methyl (Guthion)	µg/L	NA			<0.010	<0.010	<0.010		
2013	Bolstar	µg/L	NA			<0.010	<0.010	<0.010		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000		<0.010	<0.010	<0.010	0%	0.22
2013	Coumaphos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Demeton-o	µg/L	NA			<0.010	<0.010	<0.010BS-L		
2013	Demeton-s	µg/L	NA			<0.010	<0.010	<0.010		
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon		<0.010	<0.010	<0.010	0%	0.10
2013	Dichlorvos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Dimethoate	µg/L	NA			<0.010	<0.010	<0.010		
2013	Disulfoton	µg/L	NA			<0.010	<0.010	<0.010		
2013	Ethoprop	µg/L	NA			<0.010	<0.010	<0.010		
2013	Ethyl parathion	µg/L	NA			<0.010	<0.010	<0.010		
2013	Fensulfothion	µg/L	NA			<0.010	<0.010	<0.010		
2013	Fenthion	µg/L	NA			<0.010	<0.010	<0.010		
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook		<0.010	<0.010	0.0085J	0%	0.03
2013	Merphos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Methyl parathion	µg/L	NA			<0.010	<0.010	<0.010		
2013	Mevinphos	µg/L	NA			<0.010	<0.010	<0.010		
2013	Naled	µg/L	NA			<0.010	<0.010	<0.010		
2013	Phorate	µg/L	NA			<0.010	<0.010	<0.010		
2013	Ronnel	µg/L	NA			<0.010	<0.010	<0.010		
2013	Stirophos	µg/L	NA			<0.010	<0.010	0.0032J		
2013	Tokuthion (Prothiofos)	µg/L	NA			<0.010	<0.010	<0.010		
2013	Trichloronate	µg/L	NA			<0.010	<0.010	<0.010		
Pyrethroids										
2007, 2013	Allethrin	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006		<0.002	<0.002	<0.002	10%	0.45
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004		<0.002	<0.002	<0.002	0%	0.00
2007, 2013	L-Cyhalothrin	µg/L	0.20	17. Wheelock et al., 2004		<0.002	<0.002	<0.002	0%	0.04
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004		<0.002	<0.002	<0.002	0%	0.00
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004		<0.002	<0.002	<0.002	0%	0.01
2007, 2013	Fenvalerate	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Fluvalinate	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006		<0.01	<0.01	<0.01	0%	0.30
2007, 2013	Prallethrin	µg/L	NA			<0.002	<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA			<0.01	<0.01	<0.01		
Toxicity										
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100			>100	NR	>100	4%	1.16
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100			100	NR	100	7%	1.30
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100			**50**	NR	100	41%	2.96
2007	*Hyalella* 96-hr	LC_{50} (%)	>100			>100	NR	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100			**50**	NR	100	26%	1.78
2013	Strongylocentrotus 96-hr	TST	Pass/Fail			**Fail**	Pass	Pass	33%	

See last page for footnotes and source references.

Wet Weather Historical Monitoring Tables for SDC-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
(d) Water Quality Benchmark is based on pH and is calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
AE-Analysis error.
BS-L - Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
NR-Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SLR-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					11/30/07	02/03/08-02/04/08	-	-	10/19/10-10/20/10	02/16/11-02/17/11	-	10/11/12-10/12/12	02/08/13-02/09/13	-	11/21/14	03/01/15-03/02/15		
Physical Chemistry							No Samples Collected	No Samples Collected			No Samples Collected			No Samples Collected				
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.72	8.05			7.07	7.77		7.45	7.67		6.95	7.79	0%	0.23
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,945	1,467			1,553	2,140		1,911	2,417		3,022	1,825		
2007, 2013	Water Temperature	Celsius	NA		14.20	12.10			18.10	13.90		17.7	11.87		15.52	13.56		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**239**	**492**			**28**	3.6		15	4.5		16.5	4.6	38%	5.02
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	NA		11,000	3,000			80,000	3,000		130,000	300		17	50,000		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**30,000**	**1,700**			**50,000**	**500**		**500,000**	**500**		23	**240,000**	88%	257.10
2007, 2013	Total Coliform	MPN/100 mL	NA		220,000	50,000			220,000	8,000		1,100,000	2,200		23	900,000		
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.56	0.22			0.16	0.13		0.17	0.14		<0.10	<0.10	0%	0.01
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	3	3.6			1.7	3.4		2.5	1.5		<0.10	1.2	0%	0.21
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.07	0.09			0.14	0.04J		0.19	0.013J		<0.10	0.023J	0%	0.08
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		4.2	2			1.8	0.74		1.4	0.73		0.34	0.55		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	1.1	0.24			0.44	0.12		0.41	0.14		0.024	0.16	0%	0.16
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	1.3	0.97			1.1	0.17		0.68	0.21		0.091	0.29	0%	0.30
General Chemistry																		
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2000, 8. McNeeley (1979)	13	<2			7.5	1.5J		13	1.1J		<2.0	<2.0	0%	0.16
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	57	34			54	17		39	16		17	17	0%	0.26
2007, 2013	Dissolved Organic Carbon	mg/L	NA		17.9	8.2			9.1	5.2		12	5		5.7	6.1		
2007, 2013	Total Organic Carbon	mg/L	NA		18.2	8			8.7	5.1		12	4.9		5.9	6.5		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	1.5J	<5			<5	4.9J		<5	<5		<5.0	6.2	0%	0.31
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.039	0.048			<0.05	0.036J		0.066	0.03J		0.038J	0.054	0%	0.08
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**1,330**	**884**			**1,400**	**1,400**		**1,400**	**1,700**		**2,200**	**1,400**	100%	2.93
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**235**	**456**			**200**	16		49	16		5	8	38%	1.23
2007, 2013	Hardness	mg $CaCO_3$/L	NA		295.1	223			680	730		745	836		1160	766		
Total Metals																		
2007	Antimony	mg/L	NA		0.0003J	0.0002J			0.00036J	0.00012J		0.00044J	0.00012J		0.000075J	0.00023J		
2007, 2013	Arsenic	mg/L	NA		0.0021	0.0029			0.0023	0.0011		0.0018	0.00097		0.0013	0.0012		
2007, 2013	Cadmium	mg/L	NA		<0.0004	0.0003J			0.00011	0.000048J		0.00006J	0.000046J		0.000083J	0.000062J		
2007, 2013	Chromium	mg/L	NA		0.0027	0.0027			0.0086	0.0003		0.00086	0.00041		0.000093J	0.00031		
2007, 2013	Copper	mg/L	NA		0.0117	0.0176			0.021	0.0024		0.0048	0.0021		0.002	0.0021		
2007, 2013	Lead	mg/L	NA		0.0045	0.0090			0.0041	0.0002		0.00073	0.00019J		0.000045J	0.00012J		
2007, 2013	Nickel	mg/L	NA		0.0029	0.0039			0.0069	0.0035		0.0023	0.0053		0.0072	0.0056		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0005	0.0006			0.00062	0.00085		0.00047	0.0009		0.003	0.0012	0%	0.20
2007, 2013	Zinc	mg/L	NA		0.0581	0.0435			0.043	0.0022J		0.011	0.003J		0.01	0.0046J		
Dissolved Metals																		
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0003J	0.0002J			0.00034J	0.00012J		0.00041J	0.00012J		0.000074J	0.00019J	0%	0.04
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0015	0.0015			0.0013	0.00088		0.0014	0.00078		0.0011	0.001	0%	0.00
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004			0.000037J	0.000039J		0.00004J	0.000048J		0.000076J	0.000047J	0%	0.01
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0002J	0.0001J			0.00011J	0.000092J		0.00009J	0.00008J		0.000054J	0.000071J	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0040	0.0024			0.0038	0.0017		0.0031	0.0013		0.0015	0.0016	0%	0.06
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.00005J	<0.0001			<0.0002	<0.0002		0.00008J	0.000016J		0.000030J	<0.00020	0%	0.00
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0014	0.0008			0.0029	0.0032		0.0019	0.0052		0.007	0.0046	0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0005	0.0006			0.00039J	0.00086		0.00038J	0.00081		0.0031	0.001		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0075	0.0013			0.0043J	0.002J		0.0067	0.0028J		0.0069	0.0034J	0%	0.01
Organophosphorus Pesticides																		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	**0.0623**	<0.002			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	13%	0.58
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	0.013	<0.004			<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.07
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006			0.013	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.01
Pyrethroids																		
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.0197**	**0.0153**			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	25%	0.57
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	0.009	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	0%	0.01
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	0%	0.06
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	0%	0.00
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		0.002J	<0.002				<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	0%	0.00
2007, 2013	Fluvalinate	µg/L	NA		<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.002	<0.002				<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.03*	<0.03*			<0.005	<0.025*		<0.025††	<0.01		<0.01	<0.01	0%	0.37
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002			<0.005	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA			<0.025						<0.025	<0.01		<0.01	<0.01		
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100			100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	**25**			100	**50**		100	100		**50**	100	38%	1.63
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100			>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100			100	100		100	100		**50**	**50**	25%	1.25

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SLR-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SLR-TWAS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data					Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2010-2011		2011-2012	2012-2013		2013-2014	2014-2015		
					10/19/10-10/20/10	02/17/11-02/18/11	-	01/26/13	02/09/13	-	-		
Physical Chemistry							No Samples Collected			No Samples Collected	No Samples Collected		
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.78	7.85		7.68	8.02			0%	NA[1]
2007, 2013	Specific Conductivity	µmhos/cm	NA		730	2,171		1,670	1,962				
2007, 2013	Water Temperature	Celsius	NA		16.10	12.36		16.8	12.9				
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**1,800**	3.8		4.6	5.4			25%	NA[1]
Bacteriological													
2007, 2013	Enterococcus	MPN/100 mL	NA		300,000	800		22,000	230				
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**80,000**	300		**9,000**	130			50%	NA[1]
2007, 2013	Total Coliform	MPN/100 mL	NA		500,000	2,200		110,000	2,300				
Nutrients													
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.54	0.12		0.063J	0.17			0%	NA[1]
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	6.7	4.7		5.4	4.7			0%	NA[1]
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.27	0.052J		<0.15	0.051J			0%	NA[1]
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		6.3	0.55		0.57	0.54				
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	1.3	0.15		0.14	0.12			0%	NA[1]
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	**4**	0.16		0.18	0.12			25%	NA[1]
General Chemistry													
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	7.7	0.7J		1.9J	1.7J			0%	NA[1]
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	120	16		17	19			0%	NA[1]
2007, 2013	Dissolved Organic Carbon	mg/L	NA		13	5.1		5.5	5.3				
2007, 2013	Total Organic Carbon	mg/L	NA		13	4.8		5.9	5.2				
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<5	<5		1.6J	<5			0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.05	0.042J		0.04J	0.024J			0%	NA[1]
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**660**	**1,400**		**1,700**	**1,800**			100%	NA[1]
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**1,500**	9		20	5			25%	NA[1]
2007, 2013	Hardness	mg $CaCO_3$/L	NA		310	760		863	896				
Total Metals													
2007	Antimony	mg/L	NA		0.00027J	0.00011J		0.00011J	0.00007J				
2007, 2013	Arsenic	mg/L	NA		0.0046	0.0011		0.001	0.00094				
2007, 2013	Cadmium	mg/L	NA		0.00015	0.000037J		0.00005J	0.00004J				
2007, 2013	Chromium	mg/L	NA		0.018	0.00032		0.00044	0.00028				
2007, 2013	Copper	mg/L	NA		0.025	0.002		0.0018	0.0017				
2007, 2013	Lead	mg/L	NA		0.0049	0.00012J		0.00014J	0.00011J				
2007, 2013	Nickel	mg/L	NA		0.011	0.0037		0.0016	0.0014				
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0017	0.00074		0.00066	0.00066			0%	NA[1]
2007, 2013	Zinc	mg/L	NA		0.052	0.0018J		0.012	0.0066				
Dissolved Metals													
2007	Antimony	mg/L	0.006	1. Basin Plan	0.00036J	0.00011J		0.00011J	0.00007J			0%	NA[1]
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0031	0.00099		0.00092	0.00091			0%	NA[1]
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	0.000058J	0.000036J		0.00004J	0.00003J			0%	NA[1]
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.00038	0.0001J		<0.0002	0.00014J			0%	NA[1]
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.007	0.0017		0.0014	0.0011			0%	NA[1]
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.000025J	<0.0002		0.00004J	0.00005J			0%	NA[1]
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0032	0.0037		0.0014	0.0013			0%	NA[1]
2007, 2013	Selenium	mg/L	NA		0.0016	0.00072		0.00065	0.00066				
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0058	0.0017J		0.01	0.0048J			0%	NA[1]
Organophosphorus Pesticides													
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01		<0.01	<0.01			0%	NA[1]
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	**0.14**	<0.01		<0.01	<0.01			25%	NA[1]
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	**0.56**	<0.01		<0.01	<0.01			25%	NA[1]
Pyrethroids													
2007, 2013	Allethrin	µg/L	NA		<0.005	<0.002		<0.002	<0.002				
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	<0.005	<0.002		**0.0142**	<0.002			25%	NA[1]
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.005	<0.002		<0.002	<0.002			0%	NA[1]
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.005	<0.002		<0.002	<0.002			0%	NA[1]
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.005	<0.002		<0.002	<0.002			0%	NA[1]
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA			<0.002		0.0114	<0.002				
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.005	<0.002		<0.002	<0.002				
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.005	<0.002		<0.002	<0.002			0%	NA[1]
2007, 2013	Fenvalerate	µg/L	NA		<0.005	<0.002		<0.002	<0.002				
2007, 2013	Fluvalinate	µg/L	NA			<0.002		<0.002	<0.002				
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.005	<0.025*		<0.01	<0.01			0%	NA[1]
2007, 2013	Prallethrin	µg/L	NA		<0.005	<0.002		<0.002	<0.002				
2007, 2013	Resmethrin	µg/L	NA					<0.01	<0.01				
Toxicity													
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		**32.99**	>100		>100	>100			25%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		**12.50**	100		100	100			25%	NA[1]
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**<6.25**	100		100	100			25%	NA[1]
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		**6.83**	>100		>100	>100			25%	NA[1]
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100		100	100			0%	NA[1]

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SLR-TWAS-2

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SLR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data																	
					2001-2002			2002-2003			2003-2004			2004-2005			2005-2006			2006-2007		
					11/29/01	02/17/02	03/17/02	11/08/02	02/11/03	02/25/03	11/12/03	02/02/04	02/18/04	10/27/04	02/11/05	02/18/05	10/17/05	12/31/05	02/19/06	10/14/06	01/31/07	02/19/07
Physical Chemistry																						
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.50	7.50	7.60	**6.40**	7.32	7.67	7.44	7.94	8.20	7.20		8.06	7.30	8.42	6.97	7.35	8.02	7.35
2007, 2013	Specific Conductivity	µmhos/cm	NA		2,370	2,310	2,450	4,190	1,965	2,680	2,860	2,780	2,810	927	2,790	1,865	2,580	2,990	2,300	2,650	2,530	2,450
2007, 2013	Water Temperature	Celsius						19.70	11.70	13.30	15.80	10.70	13.50	14.30	15.10	14.50	17.00	13.00	11.00	15.50	12.50	14.30
2007, 2013	Turbidity	NTU	20	1. Basin Plan	5.7	2.14	2.1	6.96	3.3	**185**	2.98	4.49	1.23	**136**	11.9	**31.3**	11.4	15.6	13.1	**21.4**	4.8	4.78
Bacteriological																						
2007, 2013	Enterococcus	MPN/100 mL	NA		800	80	900	500	800	16,000	1,300	700	130	80,000	5,000	13,000	800	3,000	1,300	35,000	6,000	2,200
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	300	50	300	230	130	**500**	230	**500**	130	**50,000**	**1,700**	**8,000**	**8,000**	**3,000**	**1,300**	**3,000**	**500**	**900**
2007, 2013	Total Coliform	MPN/100 mL	NA		2,300	130	300	300	300	1,700	2,800	1,300	230	170,000	11,000	11,000	17,000	3,000	11,000	170,000	5,000	2,200
General Chemistry																						
2007, 2013	Ammonia as N	mg/L	(a)	6. USEPA Water Quality Criteria (Freshwater)	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.33	0.19	0.16	0.64	0.31	0.22
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.9	0.6	0.5	0.72	1.10	0.65	0.8	0.94	1.64	0.58	5.99	5.18	3.7	3.78	4.36	1.72	<0.05	2.5
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		2.2	1.3	1.2	<0.5	0.8	0.7	3.2	<0.5	0.8	2.4	1.7	2	1.5	0.8	2.2	3.8	1.9	1.2
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.16	<0.05	0.16	0.22	0.19	0.10	0.33	0.08	0.11	0.46	0.36	<0.05	0.81	0.31	0.36	<0.05	0.21	0.11
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	1.12	0.4	0.2	0.29	0.23	0.22	0.29	0.13	0.13	0.58	0.84	0.57	0.87	0.32	0.58	0.68	0.37	0.22
Nutrients																						
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	2.3	2	2.9	<2.0	3.34	2.02	<2	**33**	2.05	4.09	2.61	<2	3.49	<2	<2	5.56	**35.7**	7.78
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	<25	61	48	38	49	25	33	<25	<25	32	58	40	45	<25	30	67	44	28
2007, 2013	Dissolved Organic Carbon	mg/L	NA					1.49	6.86	9.36	9.3	2.8	80.1	37.9	5.81	4.27	5.96	3.59	7.44	78.2	13.3	8.08
2007, 2013	Total Organic Carbon	mg/L	NA					5.61	11.10	4.93	7.24	6.56	76.2	51.3	7.8	10.2	20	5.62	8.43	78.2	13.8	8.29
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	5
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**1,480**	**1,340**	**1,420**	**1,730**	**1,500**	**818**	**1,840**	**1,530**	**2,410**	**652**	**1,280**	**1,100**	**1,240**	**1,500**	**1,450**	**1,380**	**1,280**	**1,460**
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	<20	<20	<20	14	8	**152**	<20	<20	<20	**165**	30	78	47	27	<20	29	<20	<20
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		737	821	818	779	832	463	891	749	867	353	650	581	627	872	827	724	760	802
Total Metals																						
2007	Antimony	mg/L	NA		<0.002	<0.002	<0.002	<0.002	0.002	0.003	<0.005	<0.005	<0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.002	<0.002	0.003
2007, 2013	Arsenic	mg/L	NA		<0.001	0.002	0.001	0.001	0.001	0.003	0.003	0.004	0.003	0.002	0.003	<0.002	0.003	0.003	0.001	0.01	<0.001	0.001
2007, 2013	Cadmium	mg/L	NA		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
2007, 2013	Chromium	mg/L	NA		<0.005	<0.005	<0.005	<0.005	0.001	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	NA		<0.005	<0.005	<0.005	0.002	0.014	0.009	<0.005	0.006	<0.005	0.011	0.005	0.005	0.009	<0.005	<0.005	0.006	0.006	0.003
2007, 2013	Lead	mg/L	NA		<0.002	<0.002	<0.002	0.004	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	0.001	<0.001
2007, 2013	Nickel	mg/L	NA		<0.002	<0.002	<0.002	0.00175	0.002	0.006	0.002	0.002	<0.002	0.011	0.002	0.002	0.003	0.002	0.002	0.003	<0.002	0.002
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.002	0.005	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.005	<0.004	<0.004	<0.004
2007, 2013	Zinc	mg/L	NA		<0.020	<0.020	<0.020	0.0102	0.006	0.022	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.022	<0.02
Dissolved Metals																						
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	<0.002	<0.002	0.002	0.004	<0.005	<0.005	<0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.002	0.003
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	<0.001	<0.001	<0.001	0.001	0.002	0.001	<0.002	0.002	0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.001	0.0002	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.005	0.018	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	0.005	0.005	0.002
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	<0.002	0.002	<0.002	0.002	0.003	<0.002	<0.002	0.003	<0.002	<0.002	0.002	0.002	0.003	0.002	<0.002	0.003	<0.002	0.002
2007, 2013	Selenium	mg/L	NA		<0.002	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.004	<0.005	<0.004	<0.004	<0.004
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	<0.020	<0.020	<0.020	0.001	0.070	0.024	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Organophosphorus Pesticides																						
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.03*	<0.03*	<0.03*	<0.03*	<0.03*	<0.03*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.002	<0.002	<0.002
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	**0.12**	<0.03	<0.03	<0.03	<0.03	0.053	<0.01	<0.01	<0.01	<0.01	0.030	<0.01	<0.01	<0.02	<0.02	<0.004	<0.004	<0.004
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook				<0.10	<0.10	<0.10	<0.01	0.021	<0.01	<0.01	<0.01	<0.01	0.117	<0.02	<0.02	0.183	0.042	<0.006
Pyrethroids																						
2007, 2013	Allethrin	µg/L	NA																			
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006																		
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004																		
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004																		
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004																		
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA																			
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA																			
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004																		
2007, 2013	Fenvalerate	µg/L	NA																			
2007, 2013	Fluvalinate	µg/L	NA																			
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006																		
2007, 2013	Prallethrin	µg/L	NA																			
2007, 2013	Resmethrin	µg/L	NA																			
Toxicity																						
2007, 2013	*Ceriodaphnia* 96-hr survival	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100	**50**	100	100	100	**50**	100	100	100	100	100	100	100	100	100	100	100
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100	100	100	100	100	100	100	**50**	100	100	100	100	100	100	100	100	100

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SLR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data									Long Term and Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2007-2008		2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015		
					11/30/07	02/03/08-02/05/08	12/16/08	-	10/19/10-10/20/10	02/17/11-02/18/11	-	02/09/13	02/20/13-02/21/13	-	-		
Physical Chemistry																	
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.57	8.38	7.55	No Samples Collected	**9.20**	7.63	No Samples Collected	7.66	7.51	No Samples Collected	No Samples Collected	8%	0.09
2007, 2013	Specific Conductivity	µmhos/cm	NA		496	1,759	755		1,050	2,342		265	2,710				
2007, 2013	Water Temperature	Celsius			14.80	11.80	12.10		14.10	11.97		11.4	12.4				
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**27**	**136**	17.5		7.6	3.3		1.5	1.7			24%	1.32
Bacteriological																	
2007, 2013	Enterococcus	MPN/100 mL	NA		30,000	3,000	50,000		500,000	800		500	1,300				
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**17,000**	**1,700**	**13,000**		**500,000**	**3,000**		70	**5,000**			68%	61.85
2007, 2013	Total Coliform	MPN/100 mL	NA		28,000	50,000	110,000		500,000	5,000		22,000	23,000				
General Chemistry																	
2007, 2013	Ammonia as N	mg/L	(a)	6. USEPA Water Quality Criteria (Freshwater)	0.16	0.18	0.05		0.14	0.12		0.068J	<0.1			0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.7	3.27	1.17		0.64	3.1		0.94	0.93			0%	0.19
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.06	0.03J	0.04J		0.12	0.039J		0.026J	<0.15			0%	0.03
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.4	1.8	1.4		1	0.78		0.72	0.53				
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.76	0.35	0.5		0.7	0.14		0.13	0.061			0%	0.13
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.77	0.40	0.51		0.69	0.17		0.15	0.084			0%	0.22
Nutrients																	
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	8.5	<2	8		4.2	0.6J		2.4	2.3			8%	0.19
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	55	27	71		36	26		24	24			0%	0.30
2007, 2013	Dissolved Organic Carbon	mg/L	NA		14.6	9.5	13.3		9.9	5.5		8.2	7.9				
2007, 2013	Total Organic Carbon	mg/L	NA		17.9	8.7	13.8		9.6	5.2		7.9	7.2				
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	1.8J	1.9J	<5		<5	<5		<5	<5			0%	0.13
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.21	0.057	0.138		0.049J	0.048J		0.042J	0.053			0%	0.36
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**964**	**878**	**756**		**700**	**1,500**		**1,800**	**1,700**			100%	2.70
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	24	**129**	19.5		17	14		2	3			12%	0.34
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		151	242	251		290	760		884	820				
Total Metals																	
2007	Antimony	mg/L	NA		0.0005	0.0002J	0.0006		0.00051	0.00012J		0.00022J	0.00017J				
2007, 2013	Arsenic	mg/L	NA		0.0017	0.0024	0.002		0.0018	0.0012		0.0011	0.00096				
2007, 2013	Cadmium	mg/L	NA		<0.0004	<0.0004	<0.0004		0.000051J	0.000036J		0.00006J	0.00007J				
2007, 2013	Chromium	mg/L	NA		0.001	0.0016	0.0007		0.00092	0.0005		0.00028	0.00022				
2007, 2013	Copper	mg/L	NA		0.0043	0.0065	0.042		0.0041	0.0021		0.0017	0.0012				
2007, 2013	Lead	mg/L	NA		0.00078	0.0023	0.00049		0.00037	0.00016J		0.00008J	0.00006J				
2007, 2013	Nickel	mg/L	NA		0.0013	0.0025	0.0011		0.0019	0.0039		0.0019	0.0016				
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0003J	0.0006	0.0002J		0.00038J	0.00071		0.00093	0.00051			0%	0.36
2007, 2013	Zinc	mg/L	NA		0.012	0.015	0.009		0.007	0.0025J		0.0046J	0.0031J				
Dissolved Metals																	
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0004J	0.0002J	0.0005		0.00047J	0.00012J		0.00021J	0.00016J			0%	0.27
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0014	0.0019	0.0018		0.0017	0.001		0.00096	0.00084			0%	0.00
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004	<0.0004		0.000022J	0.000032J		0.00005J	0.00006J			0%	0.02
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0006	0.0002J	0.0003J		0.00038	0.000095J		0.00014J	0.00009J			0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0032	0.0029	0.0018		0.0033	0.0015		0.0017	0.0012			0%	0.08
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.00007J	<0.0001	<0.0001		0.000022J	<0.0002		0.00003J	0.00003J			0%	0.00
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0011	0.0014	0.0009		0.0017	0.0037		0.0017	0.0017			0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0002J	0.0005	<0.0005		0.00043	0.00073		0.00098	0.0005				
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.005	0.0025	0.0018		0.0039J	0.0014J		0.0059	0.004J			0%	0.03
Organophosphorus Pesticides																	
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002	<0.002		<0.01	<0.01		<0.01	<0.01			0%	0.21
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	0.010	0.016	<0.004		<0.01	<0.01		<0.01	<0.01			4%	0.18
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.083	<0.006	0.022		0.031	<0.01		<0.01	<0.01			0%	0.08
Pyrethroids																	
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002				
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	0.0089	<0.002	**0.0124**		<0.005	<0.002		<0.002	<0.002			14%	0.43
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.002	<0.002	<0.002		0.014	<0.002		<0.002	<0.002			0%	0.01
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.002	<0.002	<0.002		0.0063	<0.002		<0.002	<0.002			0%	0.09
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002	<0.002		0.012	<0.002		<0.002	<0.002			0%	0.00
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.002	0.005	<0.002			<0.002		<0.002	<0.002				
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002	<0.002		0.01	<0.002		<0.002	<0.002				
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	0.001 J	0.0008J		0.01	<0.002		<0.002	<0.002			0%	0.01
2007, 2013	Fenvalerate	µg/L	NA		<0.002	<0.002	0.0016		0.01	<0.002		<0.002	<0.002				
2007, 2013	Fluvalinate	µg/L	NA		<0.002	<0.002	<0.002			<0.002		<0.002	<0.002				
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.025*	<0.025*	<0.025*		<0.005	<0.025*		<0.01	<0.01			0%	0.39
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002	<0.002		<0.005	<0.002		<0.002	<0.002				
2007, 2013	Resmethrin	µg/L	NA			<0.025	<0.025					<0.01	<0.01				
Toxicity																	
2007, 2013	*Ceriodaphnia* 96-hr survival	LC_{50} (%)	>100		>100	>100	>100		>100	>100		>100	>100			0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100		100	100		100	100			0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100	100		100	**50**		100	100			12%	1.12
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100		>100	>100		>100	>100			0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100	**50**		100	100		100	100			8%	1.08

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SLR-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SM-TWAS-1a

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data					Transitional Monitoring			Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2010-2011		2011-2012	2012-2013		2013-2014	2014-2015			
					10/06/10	02/16/11-02/17/11	-	10/11/12	02/08/13-02/09/13	-	11/1/14	03/01/15-03/02/15		
Physical Chemistry							No Samples Collected			No Samples Collected				
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.20	7.06		7.39	7.75		7.31	7.4	0%	0.31
2007, 2013	Specific Conductivity	µmhos/cm	NA		873	1,036		1,447	1,230		489	268		
2007, 2013	Water Temperature	Celsius	NA		17.73	15.10		19.6	12		16.86	13.26		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	12	7.8		**25**	15		**47**	**22.7**	50%	1.08
Bacteriological														
2007, 2013	Enterococcus	MPN/100 mL	NA		230,000	80,000		110,000	30,000		2,700	22,000		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**70,000**	**11,000**		**8,000**	**13,000**		**22,000**	**11,000**	100%	56.25
2007, 2013	Total Coliform	MPN/100 mL	NA		170,000	22,000		80,000	230,000		140,000	50,000		
Nutrients														
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.3	0.082J		0.73	0.15		0.37	<0.10	0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	1.1	2.5		1.9	2.5		1.3	0.62	0%	0.17
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.088J	0.073J		0.092J	0.033J		0.051J	0.038J	0%	0.06
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.7	1		4.6	1.1		2.8	0.59		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.28	0.17		0.3	0.12		0.38	0.23	0%	0.12
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.29	0.21		0.52	0.18		0.52	0.31	0%	0.17
General Chemistry														
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	11	6.4		**33**	3		14	4.4	17%	0.40
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	63	33		**160**	47		110	33	17%	0.62
2007, 2013	Dissolved Organic Carbon	mg/L	NA		18	9.8		39	7.4		30	8.9		
2007, 2013	Total Organic Carbon	mg/L	NA		20	11		39	8.1		34	9.5		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	2.1J	<5		<5	<5		<5.0	1.6J	0%	0.23
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.3	0.056		0.2	0.12		0.17	0.11	0%	0.32
2007, 2013	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	**910**	**800**		**1,100**	**860**		**540**	280	83%	1.50
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	20	26		100	66		77	21	0%	0.52
2007, 2013	Hardness	mg $CaCO_3$/L	NA		360	340		411	387		206	146		
Total Metals														
2007	Antimony	mg/L	NA		0.002	0.0012		0.0042	0.0011		0.0021	0.00096		
2007, 2013	Arsenic	mg/L	NA		0.002	0.0018		0.0029	0.0017		0.0021	0.0013		
2007, 2013	Cadmium	mg/L	NA		0.00012	0.000052J		0.00037	0.0001		0.00038	0.000061J		
2007, 2013	Chromium	mg/L	NA		0.0016	0.0014		0.0035	0.002		0.0042	0.0015		
2007, 2013	Copper	mg/L	NA		0.012	0.0083		0.028	0.0092		0.027	0.007		
2007, 2013	Lead	mg/L	NA		0.0011	0.00075		0.0063	0.0016		0.0042	0.0011		
2007, 2013	Nickel	mg/L	NA		0.0047	0.0039		0.0095	0.0046		0.0074	0.0021		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0018	0.0014		0.0012	0.0012		0.0014	0.00048	0%	0.25
2007, 2013	Zinc	mg/L	NA		0.069	0.03		0.25	0.044		0.21	0.03		
Dissolved Metals														
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0019	0.0012		0.0019	0.00085		0.0013	0.00077	0%	0.22
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0019	0.0018		0.0023	0.0013		0.0014	0.0011	0%	0.00
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	0.000074J	0.000034J		0.00019	0.000044J		0.00014	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.00063	0.00072		0.0011	0.0004		0.00086	0.00048	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0078	0.0064		0.011	0.0052		0.0095	0.0035	0%	0.20
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	0.0002	0.000041J		0.00093	0.00009J		0.00055	0.00011J	0%	0.00
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0045	0.0035		0.0078	0.0034		0.0051	0.0013	0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0018	0.0015		0.00099	0.00096		0.0012	0.00047		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.044	0.019		0.14	0.016		0.088	0.011	0%	0.18
Organophosphorus Pesticides														
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	0%	0.25
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	0.013	0.0066J		<0.01	<0.01		<0.010BS-L	<0.010	0%	0.08
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.05	0.025		0.026	<0.01		0.05	0.0079J	0%	0.06
Pyrethroids														
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	<0.002	**0.0398**		**0.0674**	**0.0679**		**0.0481**	0.0034	67%	4.08
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.002	<0.002		0.0156	<0.002		0.0206	<0.002	0%	0.02
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.002	<0.002		0.0054	<0.002		0.0041	<0.002	0%	0.04
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002		<0.002	<0.002		0.0063	<0.002	0%	0.00
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA			<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002		<0.002	<0.002		<0.002	<0.002	0%	0.00
2007, 2013	Fenvalerate	µg/L	NA		<0.002	<0.002		<0.002	<0.002		0.0006J	<0.002		
2007, 2013	Fluvalinate	µg/L	NA			0.0036		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.005	<0.025*		**0.2575**	<0.01		<0.01	<0.01	17%	2.28
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA					<0.01	<0.01		<0.01	<0.01		
Toxicity														
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100		100	100		100	100	0%	1.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100		**<25**	100		100	100	17%	1.50

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SM-TWAS-1a

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
BS-L-Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SMR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data										Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2001-2002	2002-2003		2003-2004		2004-2005	2005-2006	2006-2007	2007-2008			
					11/29/01	02/12/03	02/25/03	02/03/04	02/24/04	-	02/28/06	-	11/30/07	02/03/08		
Physical Chemistry																
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.90	7.50	7.40	7.80	7.75	No Samples Collected	7.73	No Samples Collected	7.99	7.96	0%	0.00
2007, 2013	Specific Conductivity	µmhos/cm	NA		1,410	1,050	492	1,170	643		717		1,080	1,310		
2007, 2013	Water Temperature	Celsius	NA			13.00	13.00				12.00		12.00	13.67		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	2.5	**193**	**1,160**	**147**	0.095		**362**		10.9	6.72	50%	11.76
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	NA			130	300	4,106	5,172		11,000		1,600	23		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2		**>1,600**	**>1,600**	**500**	**1,300**		**500**		170	23	71%	2.03
2007, 2013	Total Coliform	MPN/100 mL	NA	1. Basin Plan		>1,600	>1,600	2,800	17,000		16,000		>1,600	>1,600		
Nutrients																
2007, 2013	Ammonia as N	mg/L	(a)	6. USEPA Water Quality Criteria (Freshwater)	<0.1	<4	0.1	0.228	0.237		0.286		<0.02	<0.02	0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.5	1.2	1.5	0.985	1.21		1.62		0.08	0.98	0%	0.10
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.1	<0.1	<0.1	<0.5	<0.5		<0.1		<0.007	<0.007	0%	0.09
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		<0.5	0.6	0.7	1.92	1.46		0.677		0.6	2.1		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.12	0.26	0.34	0.227	0.279				0.26	0.14	0%	0.10
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	<0.2	0.3	0.85	0.437	0.309		<0.05				0%	0.13
General Chemistry																
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	<5	16	22	14.1	6.72		10		2.09	<2.00	0%	0.31
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	<30	**185**	**447**	28	18		72.6		<25	<25	25%	0.82
2007, 2013	Dissolved Organic Carbon	mg/L	NA										8.24	5.52		
2007, 2013	Total Organic Carbon	mg/L	NA										11.7	6.99		
2007	Oil And Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<10	<5	<5	<1	<1		<1		<5	<5	0%	0.21
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.05	0.18	<0.04	0.154	0.095		<0.5		<0.1	<0.1	0%	0.21
2007, 2013	Total Dissolved Solids	mg/L	750 (b)	1. Basin Plan	**814**	616	374	**830**	446		490		716	719	25%	0.83
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	<5	**405**	**3,090**	**220**	69		**512**		<1	<1	50%	5.37
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		423	341	242	320	225		249		363	371		
Total Metals																
2007	Antimony	mg/L	NA		<0.002	<0.002	<0.002	<0.005	<0.005		0.001		<0.001	<0.001		
2007, 2013	Arsenic	mg/L	NA		<0.002	0.005	0.006	0.002	0.002		0.006		<0.001	<0.001		
2007, 2013	Cadmium	mg/L	NA		<0.001	<0.001	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001		
2007, 2013	Chromium	mg/L	NA		0.004	0.018	0.053	<0.005	<0.005		0.024		<0.004	<0.004		
2007, 2013	Copper	mg/L	NA		0.01	0.017	0.064	0.008	0.009		0.032		<0.002	<0.002		
2007, 2013	Lead	mg/L	NA		<0.005	0.008	0.039	0.010	0.007		0.008		<0.004	<0.004		
2007, 2013	Nickel	mg/L	NA		<0.005	0.013	0.024	0.003	0.003		0.013		<0.002	<0.002		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.005	**0.009**	<0.005	<0.005	<0.005		0.001		<0.005	<0.005	13%	0.64
2007, 2013	Zinc	mg/L	NA		0.04	0.05	0.2	0.035	0.027		0.093		<0.010	<0.010		
Dissolved Metals																
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	<0.002	<0.005	<0.005		0.001		<0.002	<0.002	0%	0.23
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	<0.002	0.005	<0.002	<0.002	0.002		0.006		<0.001	<0.001	0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001	0%	0.04
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.003	0.002	0.004	<0.005	<0.005		0.024		<0.004	<0.004	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.005	0.009	0.012	<0.005	0.007		0.030		<0.001	<0.001	0%	0.25
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.005	0.005	<0.005	<0.002	0.005		0.008		<0.001	<0.001	0%	0.02
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	<0.005	0.007	<0.005	<0.002	0.003		0.011		<0.002	<0.002	0%	0.00
2007, 2013	Selenium	mg/L	NA		<0.005	0.007	<0.005	<0.005	<0.005		0.001		<0.005	<0.005		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	<0.010	0.05	0.01	<0.02	0.029		0.086		<0.010	<0.010	0%	0.09
Organophosphorus Pesticides																
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<3.0*	<3.0*	0.015	**0.040**		<0.01			<0.04*	25%	0.81
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	0.08	<6.0*	<6.0*	0.011	0.031		<0.01			<0.04	0%	0.37
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook										<0.05	0%	NA[1]
Pyrethroids																
2007, 2013	Allethrin	µg/L	NA													
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006												
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004												
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004												
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004												
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA													
2007, 2013	Deltamethrin/Tralomethrin	µg/L	NA													
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004												
2007, 2013	Fenvalerate	µg/L	NA													
2007, 2013	Fluvalinate	µg/L	NA													
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006												
2007, 2013	Prallethrin	µg/L	NA													
2007, 2013	Resmethrin	µg/L	NA													
Toxicity	**Toxicity**															
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100	>100	**100**	**100**		**100**		>100	>100	38%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100	100	100		100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	**50**	**<25**	>100	100		100		100	100	25%	1.50
2007	*Hyalella* 96-hr	LC_{50} (%)	>100										>100	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100	100	100		100		100		100	100	0%	1.00

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SMR-MLS

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area/ subarea.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SMR-MLS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data							Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015				
					12/16/08	-	10/19/10	02/17/11	-	10/11/12-10/12/12	02/20/13	-	11/01/14	12/02/14-12/04/14	03/01/15-03/02/15		
Physical Chemistry						No Samples Collected			No Samples Collected			No Samples Collected					
2013	Dissolved Oxygen	mg/L	<6.0 (a)	1. Basin Plan									8.38	9.12	9.45	0%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	8.16		7.43	8.27		7.9	7.4		7.68	7.76	8.46	0%	0.25
2007, 2013	Specific Conductivity	µmhos/cm	NA		239		1,155	1,173		1,013	986		1363	1259	1378		
2007, 2013	Water Temperature	Celsius	NA		10.40		18.20	14.10		20.4	10.7		17.42	15.05	13.59		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	**855**		**180**	4.5		2.4	**31**		1.1	14.8	2.4	38%	6.82
Bacteriological																	
2007, 2013	Enterococcus	MPN/100 mL	NA		50,000		30,000	230		500	7,000		90	270	90,000		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	**23,000**		**80,000**	**700**		**500**	**3,000**		170	**5,000**	**30,000**	88%	44.49
2007, 2013	Total Coliform	MPN/100 mL	NA		90,000		110,000	7,000		7,000	30,000		1,400	5,000	70,000		
Nutrients																	
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.23		0.15	0.15		0.093J	0.54		<0.10	<0.10	<0.10	0%	0.02
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	3.01		2.1	5.9		0.99	4.4		0.74	4.1	2.9	0%	0.30
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.05		0.098J	0.14		<0.1	<0.15		0.015J	0.045J	0.026J	0%	0.06
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		4.8		2.3	0.71		0.26	1.6		0.25	3.2	0.25		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.295		0.088	0.04		0.02	0.058		0.016	NR	0.025	0%	0.04
2013	Orthophosphate	mg/L	NA										0.015	0.065	0.026		
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	1.115		0.31	0.084		0.039	0.19		0.026	0.51	0.056	0%	0.15
General Chemistry																	
2007	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	19.4		8.6	2.4		5.8	7		2.3	NR	<2.0	0%	0.22
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	68		54	19		10	31		7.5	NR	22	0%	0.25
2007, 2013	Dissolved Organic Carbon	mg/L	NA		10.3		5.6	4.4		3.9	4.1		3.6	10	3.5		
2007, 2013	Total Organic Carbon	mg/L	NA		8		5.9	4.4		5	4.7		3.7	11	3.7		
2007	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	1.7J		<5	6		<5	1.9J		<5.0	NR	<5.0	0%	0.28
2013	Sulfate	mg/L	250	1. Basin Plan									AE	**290**	250	50%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.005J		<0.05	0.03J		<0.05	0.033J		0.044J	0.040J	0.035J	0%	0.06
2007, 2013	Total Dissolved Solids	mg/L	750 (a)	1. Basin Plan	564		**870**	**830**		**880**	570		**900**	**830**	**810**	75%	1.04
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	**1,220**		**220**	44		10	63		3	**340**	15	38%	2.39
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		135.5		450	410		422	318		467	476	398		
Total Metals																	
2007	Antimony	mg/L	NA		0.0003J		0.00023J	0.00017J		0.00009J	0.00021J		0.00011J	NR	0.00028J		
2007, 2013	Arsenic	mg/L	NA		0.003		0.0043	0.0015		0.0015	0.002		0.0011	0.0065	0.0022		
2007, 2013	Cadmium	mg/L	NA		0.0004		0.00016	0.000063J		0.00003J	0.00005J		<0.00010	0.00021	<0.00010		
2007, 2013	Chromium	mg/L	NA		0.0072		0.013	0.0011		0.0002	0.0022		0.00011J	0.016	0.00084		
2007, 2013	Copper	mg/L	NA		0.0236		0.014	0.0025		0.00081	0.0043		0.00068	0.021	0.0024		
2013	Iron	mg/L	0.3 (a)	1. Basin Plan									0.16	**16**	**0.69**	67%	NA[1]
2007, 2013	Lead	mg/L	NA		0.01811		0.0046	0.00039		0.00006J	0.0009		0.000077J	0.0049	0.00021		
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan									0.031	**0.43**	0.039	33%	NA[1]
2013	Mercury	mg/L	NA										<0.000050H	<0.000050	0.0000050J		
2007, 2013	Nickel	mg/L	NA		0.0094		0.0082	0.0027		0.00074J	0.0017		0.00061J	0.01	0.0028		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0004J		0.0015	0.0013		0.00091	0.0009		0.00068	0.0031	0.0017	0%	0.26
2013	Thallium	mg/L	NA										<0.00020	0.00019J	0.000023J		
2007, 2013	Zinc	mg/L	NA		0.0971		0.04	0.0068		0.0014J	0.011		0.0016J	0.05	0.0030J		
Dissolved Metals																	
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0006		0.00021J	0.00016J		0.0001J	0.00018J		0.00013J	NR	0.00022J	0%	0.04
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0027		0.0016	0.0013		0.0015	0.0012		0.0011	0.0015	0.0017	0%	0.00
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004		0.000018J	0.000038J		0.00002J	0.00002J		0.000034J	0.000020J	<0.00010	0%	0.01
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0002J		0.000086J	0.00011J		<0.0002	0.00008J		0.000053J	0.00011J	0.00013J	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0017		0.0017	0.0015		0.00094	0.0015		0.00092	0.0019	0.0014	0%	0.04
2013	Iron	mg/L	NA										0.043	0.058	0.018		
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.0001		0.00016J	<0.0002		<0.0002	<0.0002		<0.00020	0.000024J	<0.00020	0%	0.00
2013	Manganese	mg/L	NA										0.0027	0.0035	0.0044		
2013	Mercury	mg/L	NA										<0.000050H	<0.000050	0.0000080J		
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.001		0.0027	0.0023		0.00083	0.00089		0.002	0.0028	0.0019	0%	0.00
2007, 2013	Selenium	mg/L	NA		0.0005		0.0011	0.0012		0.00089	0.00075		0.0013	0.0015	0.0014		
2013	Thallium	mg/L	NA										<0.00020	<0.00020	<0.00020		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0006		0.0026J	0.0023J		0.0022J	0.0024J		0.0013J	0.0025J	0.0014J	0%	0.01

Wet Weather Historical Monitoring Table for SMR-MLS-2

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data							Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Long Term Monitoring Only	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2008-2009	2009-2010	2010-2011		2011-2012	2012-2013		2013-2014	2014-2015				
					12/16/08	-	10/19/10	02/17/11	-	10/11/12-10/12/12	02/20/13	-	11/01/14	12/02/14-12/04/14	03/01/15-03/02/15		
Organophosphorus Pesticides						No Samples Collected			No Samples Collected			No Samples Collected					
2013	Azinphos methyl (Guthion)	µg/L	NA										<0.010	<0.010	<0.010		
2013	Bolstar	µg/L	NA										<0.010	<0.010	<0.010		
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002		<0.01	<0.01		<0.01	<0.01		<0.010	<0.010	<0.010	0%	0.23
2013	Coumaphos	µg/L	NA										<0.010	<0.010	<0.010		
2013	Demeton-o	µg/L	NA										<0.010	<0.010	<0.010BS-L		
2013	Demeton-s	µg/L	NA										<0.010	<0.010	<0.010		
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004		<0.01	<0.01		<0.01	<0.01		<0.010BS-L	<0.010	<0.010	0%	0.06
2013	Dichlorvos	µg/L	NA										<0.010	<0.010	<0.010		
2013	Dimethoate	µg/L	NA										<0.010	<0.010	<0.010		
2013	Disulfoton	µg/L	NA										<0.010	<0.010	<0.010		
2013	Ethoprop	µg/L	NA										<0.010	<0.010	<0.010		
2013	Ethyl parathion	µg/L	NA										<0.010	<0.010	<0.010		
2013	Fensulfothion	µg/L	NA										<0.010	<0.010	<0.010		
2013	Fenthion	µg/L	NA										<0.010	<0.010	<0.010		
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.0976		<0.01	0.02		<0.01	0.0092J		<0.010	0.014	<0.010	0%	0.05
2013	Merphos	µg/L	NA										<0.010	<0.010	<0.010		
2013	Methyl parathion	µg/L	NA										<0.010	<0.010	<0.010		
2013	Mevinphos	µg/L	NA										<0.010	<0.010	<0.010		
2013	Naled	µg/L	NA										<0.010	<0.010	<0.010		
2013	Phorate	µg/L	NA										<0.010	<0.010	<0.010		
2013	Ronnel	µg/L	NA										<0.010	<0.010	<0.010		
2013	Stirophos	µg/L	NA										<0.010	<0.010	<0.010		
2013	Tokuthion (Prothiofos)	µg/L	NA										<0.010	<0.010	<0.010		
2013	Trichloronate	µg/L	NA										<0.010	<0.010	<0.010		
Pyrethroids																	
2007, 2013	Allethrin	µg/L	NA		<0.002		<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	**0.1376**		<0.005	<0.002		<0.002	0.0076		<0.002	**0.0185**	<0.002	25%	2.29
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	0.0347		<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	<0.002	0%	0.02
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	0.0065		<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	<0.002	0%	0.06
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	0.0483		<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	<0.002	0%	0.01
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.002			<0.002		<0.002	<0.002		<0.002	0.005	<0.002		
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002		<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	0.0025		<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	<0.002	0%	0.01
2007, 2013	Fenvalerate	µg/L	NA										<0.002	<0.002	<0.002		
2007, 2013	Fluvalinate	µg/L	NA										<0.002	0.0032	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.025*		<0.005	<0.025*		<0.025††	<0.01		<0.01	<0.01	<0.01	0%	0.30
2007, 2013	Prallethrin	µg/L	NA		<0.002		<0.005	<0.002		<0.002	<0.002		<0.002	<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA										<0.01	<0.01	<0.01		
Toxicity																	
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100		>100	>100		>100	>100		>100	NR	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100		100	100		100	100		100	NR	100	0%	1.00
2013	*Ceriodaphnia* 7-day survival	TST	Pass/Fail										Pass	Pass	Pass	0%	
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**50**		100	100		100	100		100	NR	100	14%	1.14
2013	*Ceriodaphnia* 7-day reproduction	TST	Pass/Fail										Pass	Pass	Pass	0%	
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		**65.8**		>100	>100		>100	>100		>100	NR	>100	14%	1.07
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		100		100	100		100	100		100	NR	100	0%	1.00
2013	*Selenastrum* 96-hr	TST	Pass/Fail										Pass	**Fail**	Pass	33%	
2013	*Pimephales* 7-day survival	TST	Pass/Fail										Pass	Pass	Pass	0%	
2013	*Pimephales* 7-day biomass	TST	Pass/Fail										Pass	Pass	Pass	0%	

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SMR-MLS-2

Blank spaces have been verified and no data is available due to changes in the monitoring program.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area/subarea.
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
* Indicates detection limit above water quality benchmark.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
AE-Analysis error.
BS-L-Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
H-Sample analyzed and/or extracted past the recommended holding time.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
NR-Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SR-TWAS-1

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark References	Historical Monitoring Data						Transitional Monitoring		Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2009-2010		2010-2011	2011-2012		2012-2013	2013-2014			
					11/28/09	02/06/10	-	10/06/11	02/07/12-02/08/12	-	10/09/13-10/10/13	02/06/14-02/07/14		
Physical Chemistry														
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.36	7.38	No Samples Collected	7.49	8.24	No Samples Collected	8.02	7.29	0%	0.30
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,120	623		1,256	533		225	2,781		
2007, 2013	Water Temperature	Celsius	NA		13.20	14.00		16.5	12.0		15.48	15.22		
2007, 2013	Turbidity	NTU	20	1. Basin Plan	7.1	**61**		**40**	7.1		**106.8**	**23.7**	67%	2.05
Bacteriological														
2007, 2013	Enterococcus	MPN/100 mL	NA		3,000	5,000		800,000	230		49,000	130		
2007, 2013	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	**23,000**	**2,200**		**50,000**	20		**79,000**	45	67%	64.28
2007, 2013	Total Coliform	MPN/100 mL	NA		30,000	23,000		110,000	1,700		170,000	3,300		
Nutrients														
2007, 2013	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.04	0.03J		0.22	<0.1		<0.10	<0.10	0%	0.01
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.18	0.34		1.8	0.15		1.9	0.49	0%	0.08
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.05	<0.15		0.084J	<0.1		0.12	0.029J	0%	0.07
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.762J	0.492J		2.5	0.5		2.7	0.43		
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.041J	0.125		0.25	0.046		0.46	0.028	0%	0.08
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.074	0.159		0.6	0.063		0.77	0.15	0%	0.15
General Chemistry														
2007, 2013	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	3	2.5		16	2.7†		20	2.1	0%	0.26
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	17.8	51.1		91	19		110	14	0%	0.42
2007, 2013	Dissolved Organic Carbon	mg/L	NA		5	8.1		6.8	5.4		26	6.4		
2007, 2013	Total Organic Carbon	mg/L	NA		7	7.7		19	5.9		32	7.1		
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<5	<5		<5	1.3J		<5.0	<5.0	0%	0.23
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.1H	0.056		0.08	0.066		0.06	0.12	0%	0.16
2007, 2013	Total Dissolved Solids	mg/L	1500 (b)	1. Basin Plan	**1,862**	322B		1,000	290		1,100	1,500	17%	0.67
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	5.5	40		**110**	5		**160**	18	33%	0.56
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		798.7	163.6		500	180		516	803		
Total Metals														
2007	Antimony	mg/L	NA		0.0002J	0.0004J		0.001	0.00011J		0.0016	0.00042J		
2007, 2013	Arsenic	mg/L	NA		0.0018	0.0010		0.0025	0.00078		0.0026	0.0012		
2007, 2013	Cadmium	mg/L	NA		<0.0004	<0.0004		0.00011	<0.0001		0.00011	0.000044J		
2007, 2013	Chromium	mg/L	NA		0.0002J	0.0009		0.0059	0.0003		0.0056	0.00033		
2007, 2013	Copper	mg/L	NA		0.0016	0.0047		0.015	0.001		0.018	0.0017		
2007, 2013	Lead	mg/L	NA		0.00005J	0.0012		0.0043	0.00016J		0.0044	0.0002		
2007, 2013	Nickel	mg/L	NA		0.0019	0.0012		0.0071	0.00085		0.0059	0.0037		
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.0005	0.0007		0.00059	<0.0004		0.00082	0.0014	0%	0.13
2007, 2013	Zinc	mg/L	NA		0.0042	0.0128		0.043	0.0022J		0.07	0.0055		
Dissolved Metals														
2007	Antimony	mg/L	0.006	1. Basin Plan	0.0001J	0.0003J		0.00085	0.000098J		0.0012	0.00039J	0%	0.08
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0024	0.0010		0.0015	0.00072		0.0018	0.0007	0%	0.00
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.0004	<0.0004		0.000035J	<0.0001		0.000030J	0.000047J	0%	0.01
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.0001J	0.0002J		0.00042	0.0001J		0.00064	0.00010J	0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0012	0.0020		0.0059	0.00071		0.007	0.0012	0%	0.07
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.0001	0.00008J		0.00011J	0.000015J		0.00014J	<0.00020	0%	0.00
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0021	0.0007		0.0033	0.0009		0.0031	0.0041	0%	0.00
2007, 2013	Selenium	mg/L	NA		<0.0005	0.0002J		0.00038J	0.00035J		0.00073	0.0012		
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.0015	0.0018		0.011	0.015		0.033	0.0046J	0%	0.04
Organophosphorus Pesticides														
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002		<0.01	<0.01		<0.010	<0.010	0%	0.18
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004		<0.01	<0.01		<0.010	<0.010	0%	0.05
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006		0.03	<0.01		0.015	<0.010	0%	0.02
Pyrethroids														
2007, 2013	Allethrin	µg/L	NA		<0.0005	0.0064B		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	<0.0005	**0.0293B**		<0.002	<0.002		**0.0121**	0.0013J	33%	0.81
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.0005	0.0056		<0.002	<0.002		0.0047	<0.002	0%	0.01
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	<0.0005	0.0256		<0.002	<0.002		<0.002	<0.002	0%	0.06
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.0005	0.006		<0.002	<0.002		<0.002	<0.002	0%	0.00
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.0005	0.004B		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Deltamethrin/Tralomethrin£	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.0005	0.0026		<0.002	<0.002		<0.002	<0.002	0%	0.00
2007, 2013	Fenvalerate	µg/L	NA		<0.0005	0.0077		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Fluvalinate	µg/L	NA		<0.0005	<0.0005		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.005	<0.005		<0.025††	<0.025††		<0.01	<0.01	0%	0.08
2007, 2013	Prallethrin	µg/L	NA		<0.0005	0.0098B		<0.002	<0.002		<0.002	<0.002		
2007, 2013	Resmethrin	µg/L	NA		<0.005			<0.025	<0.025		<0.01	<0.01		
Toxicity														
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100		100	100		100	100	0%	1.00
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100		100	100		100	100	0%	1.00
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100		>100	>100		>100	>100	0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		**50**	100		100	100		100	**50**	33%	1.33

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SR-TWAS-1

Blank spaces have been verified and no data is available.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(b) Water Quality Benchmark is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011) and may vary by hydrologic area.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
*Indicates detection limit above water quality benchmark
[†] Result was from composite sample. The grab sample was analyzed outside of the holding time.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
[††] Permethrin was non-detect at the method detection limit of 0.005 µg/L.
B-Analyte was detected in the associated method blank.
H-Sample received and/or analyzed past the recommended holding time.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

Wet Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark Reference	Historical Monitoring Data											
					2001-2002			2002-2003			2003-2004			2004-2005		
					02/17/02	03/17/02	04/25/02	12/16/02	02/11/03	02/25/03	11/12/03	02/03/04	02/18/04	10/17/04	02/11/05	02/18/05
Physical Chemistry																
2013	Dissolved Oxygen	mg/L	<5.0 (a)													
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.5	7.4	7.3	7.56	6.87	6.94	7.20	7.83	7.58	7.24	7.52	7.49
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,820	3,430	2,980	2,990	2,760	1,955	3,040	1,742	1,995	529	5,070	3,260
2007, 2013	Water Temperature	Celsius	NA					14.30	17.00	14.40	14.90	12.20	15.40	19.30	14.60	14.00
2013	Color	Color units														
2007, 2013	Turbidity	NTU	20	1. Basin Plan	7.7	**20.2**	8.24	**62.9**	13	**46.5**	15.2	11.5	16.8	4.03	5.8	**48.8**
Bacteriological																
2007, 2013	Enterococcus	MPN/100 mL	NA		300	16,000	9,000	8,000	14,000	30,000	18,792	1,879	17,000	800	3,000	50,000
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	130	500	**11,000**	**23,000**	**7,000**	1,700	4,000	2,200	2,300	300	1,300	1,300
2007, 2013	Total Coliform	MPN/100 mL	NA		23,000	5,000	230,000	30,000	30,000	170,000	300,000	130,000	130,000	30,000	13,000	28,000
Nutrients																
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.16	0.3	0.2	0.25	0.28	0.19	0.16	0.1	0.15	0.39	0.14	0.14
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.4	0.3	0.2	0.54	0.81	0.39	2.19	0.25	0.27	0.07	1.02	1.93
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1.5	3	1.2	1.0	1.0	0.8	2.8	<0.5	0.7	2.1	1.4	1.8
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	<0.05	0.2	0.1	0.34	0.20	0.10	0.4	0.18	0.12	0.2	0.18	0.45
2013	Orthophosphate	mg/L	NA													
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.18	0.29	0.1	0.54	0.22	0.14	0.43	0.22	0.16	0.25	0.57	0.47
General Chemistry																
2007, 2013	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	2	14.2	4.7	<2.0	20.4	5.89	9.32	**46.7**	15.3	19.8	2.57	3.42
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	70	63	55	59	85	39	104	69	86	44	**123**	74
2007, 2013	Dissolved Organic Carbon	mg/L	NA					9.68	25.2	8.94	21.9	7.94	88.2	25.7	5.24	6.19
2007, 2013	Total Organic Carbon	mg/L	NA					40.7	12.9	6.72	20.8	12.5	96.4	30.1	10.9	11.7
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	1	1	1	4.47	2	1	4.43	<1	1.05	<1	<1	<1
2013	Sulfate	mg/L	500 (a)	1. Basin Plan												
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2007, 2013	Total Dissolved Solids	mg/L	1,500 (a)	1. Basin Plan	**2,000**	1,050	**2,870**	793	**1,660**	1,150	**1,880**	**1,780**	**2,230**	**2,860**	**2,370**	1,410
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	21	47	23	74	14	51	<20	<20	<20	20	26	**102**
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		932	499	1,010	344	758	549	817	728	816	1,210	991	556
Total Metals																
2013	Aluminum	mg/L	NA													
2007	Antimony	mg/L	NA		<0.002	<0.002	<0.002	0.004	0.004	0.003	<0.005	<0.005	<0.006	<0.005	<0.005	<0.005
2007, 2013	Arsenic	mg/L	NA		0.002	0.002	0.003	0.004	0.002	0.003	0.005	0.007	0.005	0.004	0.005	<0.002
2007, 2013	Cadmium	mg/L	NA		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2007, 2013	Chromium	mg/L	NA		<0.005	0.007	<0.005	0.009	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	NA		<0.005	0.010	0.006	0.010	0.018	0.007	0.009	0.013	0.012	<0.005	<0.005	0.005
2013	Iron	mg/L	0.3 (a)	1. Basin Plan												
2007, 2013	Lead	mg/L	NA		0.002	0.006	0.003	0.010	0.003	<0.002	0.002	<0.002	0.003	<0.002	<0.002	0.002
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan												
2013	Mercury	mg/L	NA													
2007, 2013	Nickel	mg/L	NA		0.003	0.003	0.004	<0.002	0.002	<0.002	0.004	0.002	<0.002	0.002	0.003	0.002
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.003	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2013	Thallium	mg/L	NA													
2007, 2013	Zinc	mg/L	NA		<0.02	0.045	<0.020	0.042	0.029	0.025	0.036	<0.02	0.029	<0.02	<0.02	<0.02
Dissolved Metals																
2013	Aluminum	mg/L	NA													
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.002	<0.002	<0.002	0.006	<0.002	0.004	<0.005	<0.005	<0.006	<0.005	<0.005	<0.005
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	<0.001	0.001	0.003	0.003	0.003	0.003	0.003	0.004	0.003	<0.002	<0.002	<0.002
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	0.007	0.025	0.008	0.005	0.006	0.008	<0.005	<0.005	<0.005
2013	Iron	mg/L	NA													
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
2013	Manganese	mg/L	NA													
2013	Mercury	mg/L	NA													
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.004	<0.002	0.003	<0.002	0.002	<0.002	0.003	0.002	<0.002	0.002	0.003	0.002
2007, 2013	Selenium	mg/L	NA		<0.002	<0.002	<0.002	<0.004	<0.004	<0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2013	Thallium	mg/L	NA													
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	<0.020	<0.020	<0.020	0.043	0.097	0.021	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Wet Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark Reference	Historical Monitoring Data											
					2001-2002			2002-2003			2003-2004			2004-2005		
					02/17/02	03/17/02	04/25/02	12/16/02	02/11/03	02/25/03	11/12/03	02/03/04	02/18/04	10/17/04	02/11/05	02/18/05
Chlorinated Pesticides																
2013	Chlordane (tech)	ug/L	2.4	16. 40 CFR 131.38												
Organophosphorus Pesticides																
2013	Azinphos methyl (Guthion)	µg/L	NA													
2013	Bolstar	µg/L	NA													
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.03*	<0.03*	**0.03**	**0.053**	**0.059**	<0.03*	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2013	Coumaphos	µg/L	NA													
2013	Demeton-o	µg/L	NA													
2013	Demeton-s	µg/L	NA													
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	**0.10**	**0.27**	<0.03	**0.301**	**0.146**	**0.171**	**0.084**	<0.01	0.026	<0.01	<0.01	<0.01
2013	Dichlorvos	µg/L	NA													
2013	Dimethoate	µg/L	NA													
2013	Disulfoton	µg/L	NA													
2013	Ethoprop	µg/L	NA													
2013	Ethyl parathion	µg/L	NA													
2013	Fensulfothion	µg/L	NA													
2013	Fenthion	µg/L	NA													
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook				0.24	<0.10	<0.10	0.423	<0.01	<0.01	<0.01	<0.01	<0.01
2013	Merphos	µg/L	NA													
2013	Methyl parathion	µg/L	NA													
2013	Mevinphos	µg/L	NA													
2013	Naled	µg/L	NA													
2013	Phorate	µg/L	NA													
2013	Ronnel	µg/L	NA													
2013	Stirophos	µg/L	NA													
2013	Tokuthion (Prothiofos)	µg/L	NA													
2013	Trichloronate	µg/L	NA													
PCB Congeners																
2013	PCB-8	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-18	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-28	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-44	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-52	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-66	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-77	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-81	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-101	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-105	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-114	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-118	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-123	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-126	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-128	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-138	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-153	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-156	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-157	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-167	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-169	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-170	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-180	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-187	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-189	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-195	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-206	µg/L	0.014 (d)	16. 40 CFR 131.38												
2013	PCB-209	µg/L	0.014 (d)	16. 40 CFR 131.38												

Wet Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark Reference	Historical Monitoring Data											
					2001-2002			2002-2003			2003-2004			2004-2005		
					02/17/02	03/17/02	04/25/02	12/16/02	02/11/03	02/25/03	11/12/03	02/03/04	02/18/04	10/17/04	02/11/05	02/18/05
Polynuclear Aromatic Hydrocarbons																
2013	1-Methylnaphthalene	µg/L	NA													
2013	1-Methylphenanthrene	µg/L	NA													
2013	2,6-Dimethylnaphthalene	µg/L	NA													
2013	2-Methylnaphthalene	µg/L	NA													
2013	Acenaphthene	µg/L	NA													
2013	Acenaphthylene	µg/L	NA													
2013	Anthracene	µg/L	NA													
2013	Benzo (a) anthracene	µg/L	NA													
2013	Benzo (a) pyrene	µg/L	NA													
2013	Benzo (b) fluoranthene	µg/L	NA													
2013	Benzo (e) pyrene	µg/L	NA													
2013	Benzo (g,h,i) perylene	µg/L	NA													
2013	Benzo (k) fluoranthene	µg/L	NA													
2013	Biphenyl	µg/L	NA													
2013	Chrysene	µg/L	NA													
2013	Dibenzo (a,h) anthracene	µg/L	NA													
2013	Fluoranthene	µg/L	NA													
2013	Fluorene	µg/L	NA													
2013	Indeno (1,2,3-cd) pyrene	µg/L	NA													
2013	Naphthalene	µg/L	NA													
2013	Perylene	µg/L	NA													
2013	Phenanthrene	µg/L	NA													
2013	Pyrene	µg/L	NA													
Pyrethroids																
2007, 2013	Allethrin	µg/L	NA													
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006												
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004												
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004												
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004												
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA													
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA													
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004												
2007, 2013	Fenvalerate	µg/L	NA													
2007, 2013	Fluvalinate	µg/L	NA													
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006												
2007, 2013	Prallethrin	µg/L	NA													
2007, 2013	Resmethrin	µg/L	NA													
Toxicity																
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	**70.71**	>100	**72.22**	>100	>100	>100	>100	>100	**80.53**	>100	>100
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	**25**	100	**50**	100	100	100	100	100	**25**	100	100
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	**50**	**50**	**50**	100	100	100	100	100	**12.5**	**50**	100
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		**50**	**50**	**25**	**12.5**	100	100	100	100	**50**	**50**	100	100
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail													

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark Reference	Historical Monitoring Data													
					2005-2006			2006-2007			2007-2008	2008-2009	2009-2010		2010-2011	2011-2012		2012-2013
					10/18/05	01/02/06	02/19/06	10/14/06	01/30/07	02/19/07	-	10/05/08	11/28/09	02/06/10	-	10/05/11-10/06/11	02/07/12	-
Physical Chemistry											No Sample Collected				No Sample Collected			No Sample Collected
2013	Dissolved Oxygen	mg/L	<5.0 (a)															
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.66	8.14	8.09	7.80	7.79	7.60		7.49	7.32	7.05		7.55	7.71	
2007, 2013	Specific Conductivity	µmhos/cm	NA		3,430	4,090	2,690	1,890	4,100	3,520		5,180	4,680	3,410		4,380	1,219	
2007, 2013	Water Temperature	Celsius	NA		16.50	15.20	12.20	16.10	11.10	13.10		14.90	12.80	16.30		16.6	13.9	
2013	Color	Color units																
2007, 2013	Turbidity	NTU	20	1. Basin Plan	11.4	9.07	**21.7**	**32.2**	9.6	**65.8**		3.7	5.4	**89.7**		9.4	16	
Bacteriological																		
2007, 2013	Enterococcus	MPN/100 mL	NA		50,000	5,000	13,000	110,000	3,000	1,300		80,000	340	8,000		50,000	5,000	
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	3,000	**8,000**	2,300	**8,000**	170	**5,000**		**230,000**	170	**17,000**		**23,000**	2,200	
2007, 2013	Total Coliform	MPN/100 mL	NA		130,000	30,000	80,000	50,000	3,000	30,000		500,000	2,300	220,000		80,000	80,000	
Nutrients																		
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	<0.1	<0.1	0.19	0.79	0.67	1.24		0.11	0.1	0.07		0.22	<0.1	
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.55	1.52	1.44	1.36	<0.05	0.74		0.22	0.36	0.67		0.39	0.64	
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.05	<0.05	0.06	<0.05	<0.05		<0.05	<0.05	<0.75		0.033J	0.021J	
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		1	1.7	2.5	2.2	1.4	2.4		2.4	1.12	0.644J		1	0.89	
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.26	0.43	0.24	0.28	0.21	0.32		0.133	0.163	0.263		0.2	0.11	
2013	Orthophosphate	mg/L	NA															
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.52	0.45	0.54	0.4	0.28	0.39		0.19	0.17	0.396		0.24	0.15	
General Chemistry																		
2007, 2013	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	4.96	3.72	2.22	**115**	3.66	3.36		**45.7**	5.5	2.9		10	3.5†	
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	47	44	102	119	54	45		52	36.1	55		34	36	
2007, 2013	Dissolved Organic Carbon	mg/L	NA		5.04	19	10.5	86.9	13.6	12.8		9.7	8.6	9.9		7.6	7.9	
2007, 2013	Total Organic Carbon	mg/L	NA		12.1	14	13.2	88.8	13.8	13		9.9	8.8	9.4		7.6	8.5	
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	<1	<1	<1	<5	<5	<5		**14.3**	3.4J	<5		1.9J	3.1J	
2013	Sulfate	mg/L	500 (a)	1. Basin Plan														
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		0.16	0.1H	0.031		0.1	0.14	
2007, 2013	Total Dissolved Solids	mg/L	1,500 (a)	1. Basin Plan	**2,640**	**2,140**	**2,070**	**1,990**	**2,060**	1,290		**3,038**	**2,878**	952B		**2,900**	**1,800**	
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	<20	<20	<20	45	<20	91		8.2	6.8	**106**		9	12	
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		1,130	1,020	966	807	999	626		1,010.8	1,086.9	336.8		1200	950	
Total Metals																		
2013	Aluminum	mg/L	NA															
2007	Antimony	mg/L	NA		<0.005	<0.005	<0.005	0.002	0.002	0.004		0.0009	0.0004J	0.0006		0.0006	0.00072	
2007, 2013	Arsenic	mg/L	NA		0.008	0.005	0.005	0.011	0.002	0.003		0.004	0.0084	0.0046		0.0017	0.002	
2007, 2013	Cadmium	mg/L	NA		<0.001	<0.001	<0.001	0.003	<0.001	<0.001		<0.0004	<0.0004	<0.0004		0.00004J	0.000037J	
2007, 2013	Chromium	mg/L	NA		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		0.0021	0.0006	0.0015		0.0019	0.0008	
2007, 2013	Copper	mg/L	NA		<0.005	0.005	0.005	0.011	0.006	0.012		0.0053	0.0035	0.0059		0.005	0.005	
2013	Iron	mg/L	0.3 (a)	1. Basin Plan														
2007, 2013	Lead	mg/L	NA		<0.002	<0.002	<0.002	0.003	<0.001	0.004		0.0005	0.00026	0.00338		0.00075	0.0013	
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan														
2013	Mercury	mg/L	NA															
2007, 2013	Nickel	mg/L	NA		0.007	0.004	0.003	0.004	0.003	0.004		0.0017	0.003	0.0022		0.005	0.0037	
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.005	<0.004	<0.005	<0.004	<0.004	<0.004		0.0002J	<0.0005	0.0013		0.0004	0.00062	
2013	Thallium	mg/L	NA															
2007, 2013	Zinc	mg/L	NA		0.044	<0.02	<0.02	0.047	0.022	0.047		0.021	0.011	0.0261		0.013	0.011	
Dissolved Metals																		
2013	Aluminum	mg/L	NA															
2007	Antimony	mg/L	0.006	1. Basin Plan	<0.005	<0.005	<0.005	<0.002	<0.002	0.002		0.0004J	0.0002J	0.0006		0.00034J	0.00047J	
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	<0.001	<0.001	<0.001	0.002	<0.001	<0.001		0.0041	0.008	0.0039		0.0017	0.0017	
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.0004	<0.0004	<0.0004		0.000034J	0.000029J	
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		0.0018	0.0005	0.0003J		0.0014	0.00043	
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	0.006	0.004	0.005		0.0026	0.0019	0.0029		0.0031	0.0029	
2013	Iron	mg/L	NA															
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001		<0.0001	0.00009J	0.00007J		0.000039J	0.000071J	
2013	Manganese	mg/L	NA															
2013	Mercury	mg/L	NA															
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	<0.002	0.004	0.003	0.004	<0.002	0.002		0.0017	0.0030	0.0014		0.0048	0.0031	
2007, 2013	Selenium	mg/L	NA		<0.005	<0.004	<0.005	<0.004	<0.004	<0.004		0.0002J	0.0003J	0.0007		0.00029J	0.00061	
2013	Thallium	mg/L	NA															
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.04	<0.02	<0.02	0.023	<0.02	<0.02		0.0135	0.0050	0.0021		0.01	0.0064	

Wet Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark Reference	Historical Monitoring Data												
					2005-2006			2006-2007			2007-2008	2008-2009	2009-2010		2010-2011	2011-2012		2012-2013
					10/18/05	01/02/06	02/19/06	10/14/06	01/30/07	02/19/07	-	10/05/08	11/28/09	02/06/10	-	10/05/11-10/06/11	02/07/12	-
Chlorinated Pesticides											No Sample Collected				No Sample Collected			No Sample Collected
2013	Chlordane (tech)	ug/L	2.4	16. 40 CFR 131.38														
Organophosphorus Pesticides																		
2013	Azinphos methyl (Guthion)	µg/L	NA															
2013	Bolstar	µg/L	NA															
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.02	<0.02	<0.002	<0.002	<0.002		<0.002	<0.002	<0.002		<0.01	<0.01	
2013	Coumaphos	µg/L	NA															
2013	Demeton-o	µg/L	NA															
2013	Demeton-s	µg/L	NA															
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.01	<0.02	<0.02	<0.004	<0.004	<0.004		<0.004	<0.004	<0.004		<0.01	<0.01	
2013	Dichlorvos	µg/L	NA															
2013	Dimethoate	µg/L	NA															
2013	Disulfoton	µg/L	NA															
2013	Ethoprop	µg/L	NA															
2013	Ethyl parathion	µg/L	NA															
2013	Fensulfothion	µg/L	NA															
2013	Fenthion	µg/L	NA															
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.01	<0.02	<0.02	0.097	0.063	<0.006		<0.006	<0.006	0.059		<0.01	<0.01	
2013	Merphos	µg/L	NA															
2013	Methyl parathion	µg/L	NA															
2013	Mevinphos	µg/L	NA															
2013	Naled	µg/L	NA															
2013	Phorate	µg/L	NA															
2013	Ronnel	µg/L	NA															
2013	Stirophos	µg/L	NA															
2013	Tokuthion (Prothiofos)	µg/L	NA															
2013	Trichloronate	µg/L	NA															
PCB Congeners																		
2013	PCB-8	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-18	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-28	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-44	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-52	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-66	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-77	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-81	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-101	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-105	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-114	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-118	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-123	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-126	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-128	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-138	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-153	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-156	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-157	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-167	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-169	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-170	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-180	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-187	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-189	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-195	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-206	µg/L	0.014 (d)	16. 40 CFR 131.38														
2013	PCB-209	µg/L	0.014 (d)	16. 40 CFR 131.38														

Wet Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark Reference	Historical Monitoring Data													
					2005-2006			2006-2007			2007-2008	2008-2009	2009-2010		2010-2011	2011-2012		2012-2013
					10/18/05	01/02/06	02/19/06	10/14/06	01/30/07	02/19/07	-	10/05/08	11/28/09	02/06/10	-	10/05/11-10/06/11	02/07/12	-
Polynuclear Aromatic Hydrocarbons											No Sample Collected				No Sample Collected			No Sample Collected
2013	1-Methylnaphthalene	µg/L	NA															
2013	1-Methylphenanthrene	µg/L	NA															
2013	2,6-Dimethylnaphthalene	µg/L	NA															
2013	2-Methylnaphthalene	µg/L	NA															
2013	Acenaphthene	µg/L	NA															
2013	Acenaphthylene	µg/L	NA															
2013	Anthracene	µg/L	NA															
2013	Benzo (a) anthracene	µg/L	NA															
2013	Benzo (a) pyrene	µg/L	NA															
2013	Benzo (b) fluoranthene	µg/L	NA															
2013	Benzo (e) pyrene	µg/L	NA															
2013	Benzo (g,h,i) perylene	µg/L	NA															
2013	Benzo (k) fluoranthene	µg/L	NA															
2013	Biphenyl	µg/L	NA															
2013	Chrysene	µg/L	NA															
2013	Dibenzo (a,h) anthracene	µg/L	NA															
2013	Fluoranthene	µg/L	NA															
2013	Fluorene	µg/L	NA															
2013	Indeno (1,2,3-cd) pyrene	µg/L	NA															
2013	Naphthalene	µg/L	NA															
2013	Perylene	µg/L	NA															
2013	Phenanthrene	µg/L	NA															
2013	Pyrene	µg/L	NA															
Pyrethroids																		
2007, 2013	Allethrin	µg/L	NA									<0.002	<0.0005	<0.0005		<0.002	<0.002	
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006								<0.002	<0.0005	**0.0358B**		<0.002	0.009	
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004								<0.002	<0.0005	0.0179		<0.002	0.0142	
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004								<0.002	<0.0005	0.0264		<0.002	<0.002	
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004								<0.002	<0.0005	<0.0005		<0.002	<0.002	
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA									<0.002	<0.0005	0.0009J		<0.002	<0.002	
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA									<0.002	<0.0005	<0.0005		<0.002	<0.002	
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004								<0.002	<0.0005	0.0022		<0.002	<0.002	
2007, 2013	Fenvalerate	µg/L	NA									<0.002	<0.0005	<0.0005		<0.002	<0.002	
2007, 2013	Fluvalinate	µg/L	NA									<0.002	<0.0005	<0.0005		<0.002	<0.002	
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006								<0.025*	<0.005	<0.005		<0.025[††]	<0.025[††]	
2007, 2013	Prallethrin	µg/L	NA									<0.002	<0.0005	<0.0005		<0.002	<0.002	
2007, 2013	Resmethrin	µg/L	NA									<0.025	<0.005			<0.025	<0.025	
Toxicity																		
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100		>100	>100	>100		>100	>100	
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	100	100	100	100	100		100	100	100		100	100	
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		100	100	100	**6.25**	100	100		**50**	**50**	100		**50**	100	
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	>100	>100	>100	>100	>100		>100	>100	>100		>100	>100	
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		**50**	100	100	100	100	100		**50**	**50**	100		**50**	**50**	
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail															

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark Reference	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014			2014-2015		
					10/10/13	12/07/13-12/08/13	02/07/14	-		
Physical Chemistry								No Sample Collected		
2013	Dissolved Oxygen	mg/L	<5.0 (a)		5.58	8.89	5.47		0%	NA[1]
2007, 2013	pH	pH units	6.5-9.0	1. Basin Plan	7.64	7.63	7.48		0%	0.24
2007, 2013	Specific Conductivity	µmhos/cm	NA		4,854	2,450	5,107			
2007, 2013	Water Temperature	Celsius	NA		15.7	12.65	13.77			
2013	Color	Color units			**50**	**25**	**30**		100%	NA[1]
2007, 2013	Turbidity	NTU	20	1. Basin Plan	2.1	**52.5**	**26.8**		38%	1.18
Bacteriological										
2007, 2013	Enterococcus	MPN/100 mL	NA		330	28,000	490			
2007, 2013	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	330	**17,000**	<18		38%	3.57
2007, 2013	Total Coliform	MPN/100 mL	NA		7,900	110,000	13,000			
Nutrients										
2007, 2013	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.18	<0.10	<0.10		0%	0.01
2007, 2013	Nitrate as N	mg/L	10	1. Basin Plan	0.25	0.44	0.22		0%	0.07
2007, 2013	Nitrite as N	mg/L	1	1. Basin Plan	0.032J	<0.10	0.026J		0%	0.04
2007, 2013	Total Kjeldahl Nitrogen	mg/L	NA		0.7	0.54	0.67			
2007	Dissolved Phosphorus	mg/L	2	4. MSGP 2015	0.22	NR	0.11		0%	0.11
2013	Orthophosphate	mg/L	NA		0.18	0.13	0.11			
2007, 2013	Total Phosphorus	mg/L	2	4. MSGP 2015	0.23	0.16	0.13		0%	0.15
General Chemistry										
2007, 2013	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2015, 8. McNeeley (1979)	<2.0	NR	6.2		12%	0.47
2007	Chemical Oxygen Demand	mg/L	120	4. MSGP 2015	36	NR	29		4%	0.52
2007, 2013	Dissolved Organic Carbon	mg/L	NA		9.8	8.6	6.6			
2007, 2013	Total Organic Carbon	mg/L	NA		9.8	8.2	6.4			
2007, 2013	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2015	2.4J	NR	1.8J		4%	0.23
2013	Sulfate	mg/L	500 (a)	1. Basin Plan	430	210	420		0%	NA[1]
2007, 2013	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.096	0.1	0.084		0%	0.36
2007, 2013	Total Dissolved Solids	mg/L	1,500 (a)	1. Basin Plan	**3,000**	**2,800**	**2,900**		77%	1.40
2007, 2013	Total Suspended Solids	mg/L	100	4. MSGP 2015, 1. Basin Plan	28	13	4		8%	0.30
2007, 2013	Total Hardness	mg $CaCO_3$/L	NA		1,240	1,150	1,260			
Total Metals										
2013	Aluminum	mg/L	NA		0.88	0.39	0.033			
2007	Antimony	mg/L	NA		0.0006	NR	0.00021J			
2007, 2013	Arsenic	mg/L	NA		0.0016	0.0016	0.0014			
2007, 2013	Cadmium	mg/L	NA		0.000070J	0.000040J	0.000028J			
2007, 2013	Chromium	mg/L	NA		0.0016	0.0029	0.00015J			
2007, 2013	Copper	mg/L	NA		0.007	0.0052	0.0012			
2013	Iron	mg/L	0.3 (a)	1. Basin Plan	**1.3**	**0.63**	0.1		67%	NA[1]
2007, 2013	Lead	mg/L	NA		0.0022	0.0011	0.000089J			
2013	Manganese	mg/L	0.05 (a)	1. Basin Plan	**0.16**	**0.12**	**0.14**		100%	NA[1]
2013	Mercury	mg/L	NA		<0.000050	0.000032J	<0.000050			
2007, 2013	Nickel	mg/L	NA		0.002	0.0079	0.006			
2007, 2013	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.00022J	0.00082	0.0023		0%	0.35
2013	Thallium	mg/L	NA		<0.00020	<0.00020	<0.00020			
2007, 2013	Zinc	mg/L	NA		0.029	0.014	0.0033J			
Dissolved Metals										
2013	Aluminum	mg/L	NA		0.0025J	<0.0050	<0.0050			
2007	Antimony	mg/L	0.006	1. Basin Plan	0.00026J	NR	0.00022J		0%	0.29
2007, 2013	Arsenic	mg/L	0.34	16. 40 CFR 131.38	0.0013	0.0015	0.0013		0%	0.01
2007, 2013	Cadmium	mg/L	(c)	16. 40 CFR 131.38	0.000050J	0.000027J	0.000028J		0%	0.02
2007, 2013	Chromium	mg/L	(c)	16. 40 CFR 131.38	0.00063	0.0022	0.00014J		0%	0.00
2007, 2013	Copper	mg/L	(c)	16. 40 CFR 131.38	0.0038	0.0036	0.0017		0%	0.09
2013	Iron	mg/L	NA		<0.010	<0.010	0.01			
2007, 2013	Lead	mg/L	(c)	16. 40 CFR 131.38	<0.00020	<0.00020	<0.00020		0%	0.00
2013	Manganese	mg/L	NA		0.0018	0.001	0.11			
2013	Mercury	mg/L	NA		<0.000050	0.000030J	<0.000050			
2007, 2013	Nickel	mg/L	(c)	16. 40 CFR 131.38	0.0015	0.0071	0.0074		0%	0.00
2007, 2013	Selenium	mg/L	NA		0.00021J	0.00076	0.0018			
2013	Thallium	mg/L	NA		<0.00020	<0.00020	<0.00020			
2007, 2013	Zinc	mg/L	(c)	16. 40 CFR 131.38	0.013	0.005	0.0042J		0%	0.04

Wet Weather Historical Monitoring Table for SR-MLS

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					2013-2014			2014-2015		
					10/10/13	12/07/13-12/08/13	02/07/14	-		
Chlorinated Pesticides										
2013	Chlordane (tech)	ug/L	2.4	16. 40 CFR 131.38	<0.10	<0.10	<0.10	No Sample Collected	0%	NA[1]
Organophosphorus Pesticides										
2013	Azinphos methyl (Guthion)	µg/L	NA		<0.010	<0.010	<0.010			
2013	Bolstar	µg/L	NA		<0.010	<0.010	<0.010			
2007, 2013	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.010	<0.010	<0.010		13%	0.50
2013	Coumaphos	µg/L	NA		<0.010	<0.010	<0.010			
2013	Demeton-o	µg/L	NA		<0.010	<0.010BS-L	<0.010			
2013	Demeton-s	µg/L	NA		<0.010	<0.010BS-L	<0.010			
2007, 2013	Diazinon	µg/L	0.08 acute / 0.05 chronic	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. USEPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.010	<0.010	<0.010		23%	0.57
2013	Dichlorvos	µg/L	NA		<0.010	<0.010	<0.010			
2013	Dimethoate	µg/L	NA		<0.010	<0.010	<0.010			
2013	Disulfoton	µg/L	NA		<0.010	<0.010BS-L	<0.010			
2013	Ethoprop	µg/L	NA		<0.010	<0.010	<0.010			
2013	Ethyl parathion	µg/L	NA		<0.010	<0.010	<0.010			
2013	Fensulfothion	µg/L	NA		<0.010	<0.010	<0.010			
2013	Fenthion	µg/L	NA		<0.010	<0.010	<0.010			
2007, 2013	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.010	<0.010	<0.010		0%	0.11
2013	Merphos	µg/L	NA		<0.010	<0.010	<0.010			
2013	Methyl parathion	µg/L	NA		<0.010	<0.010	<0.010			
2013	Mevinphos	µg/L	NA		<0.010	<0.010	<0.010			
2013	Naled	µg/L	NA		<0.010BS-L	<0.010BS-L	<0.010			
2013	Phorate	µg/L	NA		<0.010	<0.010	<0.010			
2013	Ronnel	µg/L	NA		<0.010	<0.010	<0.010			
2013	Stirophos	µg/L	NA		<0.010	<0.010	<0.010			
2013	Tokuthion (Prothiofos)	µg/L	NA		<0.010	<0.010	<0.010			
2013	Trichloronate	µg/L	NA		<0.010	<0.010	<0.010			
PCB Congeners										
2013	PCB-8	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-18	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-28	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-44	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-52	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-66	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-77	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-81	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-101	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-105	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-114	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-118	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-123	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-126	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-128	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-138	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-153	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-156	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-157	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-167	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-169	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-170	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-180	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-187	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-189	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-195	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-206	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]
2013	PCB-209	µg/L	0.014 (d)	16. 40 CFR 131.38	<0.010	<0.010	<0.010		0%	NA[1]

Wet Weather Historical Monitoring Table for SR-MLS

Permit Requirement	Analyte	Units	Water Quality Benchmarks	Benchmark Reference	Long Term and Transitional Monitoring	Long Term Monitoring	Long Term and Transitional Monitoring	Long Term and Transitional Monitoring	Frequency Above Benchmarks	Mean Ratio to Benchmarks
					2013-2014			2014-2015		
					10/10/13	12/07/13-12/08/13	02/07/14	-		
Polynuclear Aromatic Hydrocarbons								No Sample Collected		
2013	1-Methylnaphthalene	µg/L	NA		<0.10	<0.10	<0.10			
2013	1-Methylphenanthrene	µg/L	NA		<0.10	<0.10	<0.10			
2013	2,6-Dimethylnaphthalene	µg/L	NA		<0.10	<0.10	<0.10			
2013	2-Methylnaphthalene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Acenaphthene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Acenaphthylene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Anthracene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Benzo (a) anthracene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Benzo (a) pyrene	µg/L	NA		<0.10BS-L	<0.10	<0.10			
2013	Benzo (b) fluoranthene	µg/L	NA		<0.10BS-L	<0.10	<0.10			
2013	Benzo (e) pyrene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Benzo (g,h,i) perylene	µg/L	NA		<0.10BS-L	<0.10	<0.10			
2013	Benzo (k) fluoranthene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Biphenyl	µg/L	NA		<0.10	<0.10	<0.10			
2013	Chrysene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Dibenzo (a,h) anthracene	µg/L	NA		<0.10BS-L	<0.10	<0.10			
2013	Fluoranthene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Fluorene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Indeno (1,2,3-cd) pyrene	µg/L	NA		<0.10BS-L	<0.10BS-L	<0.10			
2013	Naphthalene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Perylene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Phenanthrene	µg/L	NA		<0.10	<0.10	<0.10			
2013	Pyrene	µg/L	NA		<0.10	<0.10	<0.10			
Pyrethroids										
2007, 2013	Allethrin	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	0.0021	0.0013J	<0.002		20%	1.01
2007, 2013	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.002	<0.002	<0.002		0%	0.02
2007, 2013	Cyhalothrin, Total Lambda	µg/L	0.20	17. Wheelock et al., 2004	0.001J	<0.002	<0.002		0%	0.06
2007, 2013	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002	<0.002		0%	0.00
2007, 2013	Danitol (Fenpropathrin)	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Deltamethrin/Tralomethrin[£]	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002	<0.002		0%	0.00
2007, 2013	Fenvalerate	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Fluvalinate	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.01	<0.01	<0.01		0%	0.21
2007, 2013	Prallethrin	µg/L	NA		<0.002	<0.002	<0.002			
2007, 2013	Resmethrin	µg/L	NA		<0.01	<0.01	<0.01			
Toxicity										
2007, 2013	*Ceriodaphnia* 96-hr	LC_{50} (%)	>100		>100	NR	>100		13%	1.05
2007, 2013	*Ceriodaphnia* 7-day survival	NOEC (%)	100		100	NR	100		13%	1.30
2007, 2013	*Ceriodaphnia* 7-day reproduction	NOEC (%)	100		**50**	NR	**50**		39%	2.26
2007	*Hyalella* 96-hr	LC_{50} (%)	>100		>100	NR	>100		0%	1.00
2007, 2013	*Selenastrum* 96-hr	NOEC (%)	100		**50**	NR	**25**		48%	1.83
2013	*Strongylocentrotus* 96-hr	TST	Pass/Fail		Pass	Pass	Pass		0%	

See last page for footnotes and source references.

Wet Weather Historical Monitoring Table for SR-MLS

Blank spaces have been verified and no data is available.

(a) Water Quality Benchmark are based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective on or before April 4, 2011).
(b) Prior to the 2014-2015 monitoring year, Water Quality Benchmark was calculated based on CMC (salmonids absent) using pH described in the U.S. EPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999. For 2014-2015 monitoring year, Water Quality Benchmark CMC was calculated based on pH and water temperature (when applicable) as described in the U.S. EPA, 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, EPA-822-R-13-001, April 2013.
(c) Water Quality Benchmark for dissolved metal fractions are based on total hardness and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000. The Criteria Maximum Concentration (CMC) was used.
(d) Water Quality Benchmark for PCBs is the Criteria Continuous Concentration (CCC) was used (USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000). There is no Criteria Maximum Concentration (CMC) for PCBS.
NA indicate no criteria or published value was available or applicable to the matrix or program.
* Indicates detection limit above water quality benchmark.
† Result was from composite sample. The grab sample was analyzed outside of the holding time.
£ Historical results for Deltamethrin/Tralomethrin contain results reported by lab as Deltamethrin.
†† Permethrin was non-detect at the method detection limit of 0.005 µg/L.
B-Analyte was detected in the associated method blank.
BS-L-Blank Spike recovery of this analyte was below the control limits. Results may be biased low.
H-Sample received and or/analyzed past the recommended holding time.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
NA[1] Three or more years of data required to calculate the Mean Ratio to Benchmark.
NR-Sampling of this analyte not required for transitional monitoring (RWQCB Order No. R9-2007-0001) and/or for long term monitoring (RWQCB Order No. R9-2013-0001).

Values with **red bold font and shading** do not meet Water Quality Benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources in Attachment B to Appendix A for benchmark source citations.

County of San Diego

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May 22, 2014

Mr. Jeremy Haas
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

SUBJECT: REASSESSMENT AND DELISTING OF SELENIUM IN KEYS CREEK

Dear Mr. Haas:

The County of San Diego appreciates the opportunity to provide the following information to support the reassessment and delisting of Keys Creek for selenium. Based on the memorandum dated November 12, 2013 related to the California Integrated Report Update, the next integrated report for the San Diego Region (9) will be forthcoming in 2014. The selenium listing discussed herein is a high priority for the San Luis Rey Watershed and should be included in the analysis for the 2014 Integrated Report. As specified in the memorandum, the data will be uploaded to the California Environmental Data Exchange Network (CEDEN).

In 2010, Keys Creek was placed on the California Clean Water Act Section 303(d) List of Impaired Waters (303(d) List) for exceeding the water quality objective for total selenium. The listing was supported by results reported in the 2007 California's Surface Water Ambient Monitoring Program Report. According to the lines of evidence presented for Decision ID 16498, two of three samples exceeded the California Toxic Rule's (CTR) Criterion Continuous Concentration (CCC) of 0.005 mg/L for total selenium and resulted in a listing of the waterbody. It should be noted that dissolved (not total) selenium concentrations were used in the listing while the CTR chronic CCC of 0.005 mg/L applies to total selenium concentrations only.

Data collected since the 2010 listing has indicated a decrease in concentrations of selenium. Available monitoring data has been reviewed to determine if the creek continues to exceed applicable water quality objectives or qualifies for delisting under the 2004 Water Quality Control Policy for Developing California Clean Water Act

Section 303(d) List (Listing Policy). This letter provides a summary of that review and Attachment 1 provides the data to support the conclusions presented.

Data Used in the Analysis

Water quality data from April 2011 to February 2013 were collected from Monitoring Stations SLR17 at Dublin Road and SLR29 at Lilac Road. Samples were analyzed for total selenium according to EPA 200.8 analytical method, as specified in the 2011 Quality Assurance Project Plan for the County of San Diego's Inland Surface Water Monitoring Program. Monitoring station SLR17 is located on Keys Creek just upstream of the confluence with the San Luis Rey River. Monitoring Station SLR 29 is located on Keys Creek approximately 5.5 miles upstream of the San Luis Rey River. Twenty eight samples were collected across all seasons under dry and wet conditions between the two monitoring stations and analyzed for total selenium.

Comparison of Data to Water Quality Criteria

Selenium results were compared to the CTR criteria as show in **Table 1**.

Table 1. Selenium Water Quality Criteria

Constituent	Units	Freshwater Criterion Continuous Concentration (CCC)
Total Selenium	mg/L	0.005[1]

[1] 40 CFR Part 131.38(b).1. *California Toxics Rule.*

The Water Quality Control Plan for the San Diego Basin (Basin Plan) also lists a maximum contaminant level for selenium; however the listing only applies to water bodies with domestic or municipal supply (MUN) beneficial use designations. Table 2-2 of the Basin Plan indicates that the MUN beneficial use does not apply to Keys Creek, therefore the Basin Plan water quality objective was not used in the analysis. It should be noted that the Basin Plan water quality objective is a less stringent objective, set at 0.05 mg/L.

The more stringent CTR CCC (chronic) objective is used for comparison in the analysis. A sample was determined to exceed the water quality objective if the total selenium concentration in the sample was greater than or equal to the CTR CCC value of 0.005 mg/L.

Comparison of Exceedances to Listing Policy

The number of exceedances shown in **Table 2** was then compared to the requirements for delisting presented in Section 4 of the Listing Policy. Table 4.1 of the Listing Policy indicates that for toxicants where the sample size is between twenty eight and thirty six samples, the number of exceedances must be less than or equal to two for the constituent to be considered for delisting.

As shown in **Table 2** and in the data included in Attachment 1, there were no exceedances of the CTR CCC criteria for the twenty eight samples analyzed. As a result, the available data collected since April 20 shows that Keys Creek should be delisted per the 2004 Listing Policy.

Table 2. Summary of Objective Exceedances

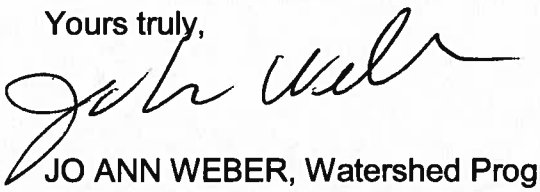
	Exceedances of CTR Freshwater CCC Criteria (0.005 mg/L)
Total Selenium (n = 28)	0
Allowable Exceedances for Delisting[1]	2

[1] Allowable Exceedances for delisting are outlined in Table 4.1 of the Listing Policy

Attachment 1 to this letter includes the data used to determine the number of exceedances of the applicable water quality objective.

Thank you for your consideration of these comments. If you have any questions, please contact me at (858) 495-5317.

Yours truly,



JO ANN WEBER, Watershed Program Manager
County of San Diego Department of Public Works

JW:js

Attachments: Attachment 1. Data to Support Delisting of San Marcos Creek for Selenium

Attachment 1. Data to Support Delisting of San Marcos Creek for Selenium

Site Name:	Keys Creek
Site ID	SLR17
Site Description:	Keys Creek at Dunlin Road
Latitude:	33.32384
Longitude:	-117.15723
CTR Freshwater CCC Criteria:	0.005 mg/L
Number of Samples (n):	8
Number of Exceedances:	0
Number of Allowable Exceedances:	2

Sample Date	Analyte	Method Name	Results	MDL	RL	Unit	Exceedance
4/19/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
5/6/2011	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
6/3/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
2/23/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
3/7/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
3/21/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
3/28/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
4/4/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No

Site Name:	Keys Creek
Site ID	SLR29
Site Description:	Keys Creek at Lilac Road
Latitude:	33.28808
Longitude:	-117.08333
CTR Freshwater CCC Criteria:	0.005 mg/L
Number of Samples (n):	20
Number of Exceedances:	0
Number of Allowable Exceedances:	2

Sample Date	Analyte	Method Name	Results	MDL	RL	Unit	Exceedance
4/19/2011	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
5/6/2011	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
6/3/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
6/15/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
7/5/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
7/13/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
2/23/2012	Selenium, Total	EPA 200.8	0.003	0.0005	0.001	mg/L	No
3/7/2012	Selenium, Total	EPA 200.8	0.003	0.0005	0.001	mg/L	No
3/21/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
3/28/2012	Selenium, Total	EPA 200.8	0.003	0.0005	0.001	mg/L	No
4/4/2012	Selenium, Total	EPA 200.8	0.003	0.0005	0.001	mg/L	No
5/23/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
6/1/2012	Selenium, Total	EPA 200.8	0.004	0.0005	0.001	mg/L	No
6/4/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
9/7/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
10/16/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
10/23/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
10/30/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
11/7/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
2/8/2013	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No

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May 22, 2014

Mr. Jeremy Haas
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

SUBJECT: REASSESSMENT AND DELISTING OF SELENIUM IN SAN MARCOS CREEK

Dear Mr. Haas:

The County of San Diego appreciates the opportunity to provide the following information to support the reassessment and delisting of San Marcos Creek for selenium. Based on the memorandum dated November 12, 2013 related to the California Integrated Report Update, the next integrated report for the San Diego Region (9) will be forthcoming in 2014. The selenium listing discussed herein is a high priority for the Carlsbad Watershed and should be included in the analysis for the 2014 Integrated Report. As specified in the memorandum, the data will be uploaded to the California Environmental Data Exchange Network (CEDEN).

In 2010, San Marcos Creek was placed on the California Clean Water Act Section 303(d) List of Impaired Waters for exceedances the water quality objective for total selenium. The listing was supported by results reported in the 2007 California's Surface Water Ambient Monitoring Program Report. According to the lines of evidence presented for Decision ID 17066, seven of eight samples exceeded the California Toxic Rule's (CTR) Criterion Continuous Concentration (CCC) of 0.005 mg/L for total selenium and resulted in the listing of the waterbody. It should be noted that dissolved (not total) selenium concentrations were used in the listing while the CTR chronic CCC of 0.005 mg/L applies to total selenium concentrations only.

Data collected since the 2010 listing has indicated a decrease in concentrations of selenium. Available monitoring data has been reviewed to determine if the creek

continues to exceed applicable water quality objectives or qualifies for delisting under the 2004 Water Quality Control Policy for Developing California Clean Water Act Section 303(d) List (Listing Policy). This letter provides a summary of that review and Attachment 1 provides the data to support the conclusions presented.

Data Used in the Analysis

Water quality data from April 2011 to April 2013 were collected from Monitoring Station CAR04 at the Discovery Street Bridge and were analyzed for total selenium according to the EPA 200.8 analytical method, as specified in the 2011 Quality Assurance Project Plan for the County of San Diego's Inland Surface Water Monitoring Program. Monitoring station CAR04 is located approximately 0.25 miles upstream of Lake San Marcos. Thirty one samples were collected across all seasons under dry and wet conditions and analyzed for total selenium.

Comparison of Data to Water Quality Criteria

Selenium results were compared to the CTR criteria as shown in **Table 1.**

Table 1 Selenium Water Quality Criteria

Constituent	Units	Freshwater Criterion Continuous Concentration (CCC)[1]
Total Selenium	mg/L	0.005

[1] 40 CFR Part 131.38(b).1. *California Toxics Rule.*

The Water Quality Control Plan for the San Diego Basin (Basin Plan) also lists a maximum contaminant level for selenium; however the listing only applies to water bodies with domestic or municipal supply (MUN) beneficial use designations. Table 2-2 of the Basin Plan indicates that the MUN beneficial use does not apply to San Marcos Creek; therefore the Basin Plan water quality objective was not used in the analysis. It should be noted that the Basin Plan water quality objective is a less stringent objective, set at 0.05 mg/L.

The more stringent CTR CCC (chronic) objective is used for comparison in the analysis. A sample was determined to exceed the water quality objective if the total selenium concentration in the sample was greater than or equal to the CTR CCC value of 0.005 mg/L.

Comparison of Exceedances to Listing Policy

The number of exceedances shown in **Table 2** was then compared to the requirements for delisting presented in Section 4 of the Listing Policy. Table 4.1 of the Listing Policy indicates that for toxicants where the sample size is between twenty eight and thirty six samples, the number of exceedances must be less than or equal to two for the constituent to be considered for delisting.

As shown in **Table 2** and in the data included as Attachment 1, there were no exceedances of the CTR CCC criteria for the thirty one samples analyzed. As a result, the available data collected since April 2011 shows that San Marcos Creek should be delisted per the 2004 Listing Policy.

Table 2. Summary of Objective Exceedances

	Exceedances of CTR Freshwater CCC Criteria (0.005 mg/L)
Total Selenium (n=31)	0
Allowable Exceedances for Delisting[1]	2

[1] Allowable Exceedances for delisting are outlined in Table 4.1 of the Listing Policy

Attachment 1 to this letter includes the data used to determine the number of exceedances of the applicable water quality objective.

Thank you for your consideration of these comments. If you have any questions, please contact me at (858) 495-5317.

Yours truly,

JO ANN WEBER, Watershed Program Manager
County of San Diego Department of Public Works

JW:js

Attachments: Attachment 1. Data to Support Delisting of San Marcos Creek for Selenium

Attachment 1. Data to Support Delisting of San Marcos Creek for Selenium

Site Name:	San Marcos Creek
Site ID:	CAR04
Site Description:	San Marcos Creek at Discovery Street
Latitude:	33.13046
Longitude:	-117.20045
CTR Freshwater CCC Criteria:	0.005 mg/L
Number of Samples (n):	31
Number of Exceedances:	0
Number of Allowable Exceedances:	2

SampleDate	Analyte	MethodName	Result	MDL	RL	Unit	Exceedance
4/25/2011	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
5/10/2011	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
6/2/2011	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
6/7/2011	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	NO
7/11/2011	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	NO
2/16/2012	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	NO
2/29/2012	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	NO
3/8/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
3/23/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
3/29/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
4/6/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
5/3/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
5/22/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
5/29/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
10/16/2012	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	NO
10/23/2012	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	NO
10/30/2012	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	NO
11/7/2012	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	NO
11/19/2012	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	NO
11/27/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
11/29/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
12/3/2012	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	NO
1/10/2013	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	NO
1/29/2013	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	NO
2/11/2013	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	NO
2/22/2013	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	NO
2/28/2013	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
3/19/2013	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
3/26/2013	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
4/3/2013	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO
4/17/2013	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	NO

County of San Diego

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May 22, 2014

Mr. Jeremy Haas
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

SUBJECT: REASSESSMENT AND DELISTING OF SELENIUM IN ESCONDIDO CREEK

Dear Mr. Haas:

The County of San Diego appreciates the opportunity to provide the following information to support the reassessment and delisting of Escondido Creek for selenium. Based on the memorandum dated November 12, 2013 related to the California Integrated Report Update, the next integrated report for the San Diego Region (9) will be forthcoming in 2014. The selenium listing discussed herein is a high priority for the Carlsbad Watershed and should be included in the analysis for the 2014 Integrated Report. As specified in the memorandum, the data will be uploaded to the California Environmental Data Exchange Network (CEDEN).

In 2006, Escondido Creek was placed on the California Clean Water Act Section 303(d) List of Impaired Waters (303(d) List) for exceeding the water quality objective for total selenium. Data used in the listing determination included data from the 2004 California's Surface Water Ambient Monitoring Program Report and City of Escondido Baseline Water Quality Monitoring Program. According to the lines of evidence presented for Decision ID 5711, eight of thirty one samples exceeded the California Toxic Rule's (CTR) Criterion Continuous Concentration (CCC) of 0.005 mg/L for total selenium and resulted in a listing of the waterbody.

Data collected since the 2006 listing has indicated a decrease in concentrations of selenium. Available monitoring data has been reviewed to determine if the creek continues to exceed applicable water quality objectives or qualifies for delisting under

the 2004 Water Quality Control Policy for Developing California Clean Water Act Section 303(d) List (Listing Policy). This letter provides a summary of that review and Attachment 1 provides the data to support the conclusions presented.

Data Used in the Analysis

Water quality data from May 2009 to March 2013 were collected from Monitoring Stations CAR02 at East County Club Dr. and CAR03 at El Camino Del Norte. Samples were analyzed for total selenium according to EPA analytical methods (200.7 and 200.8), as specified in the 2011 Quality Assurance Project Plan for the County of San Diego's Inland Surface Water Monitoring Program. Monitoring station CAR02 is located on Escondido Creek approximately two miles downstream of Interstate 15. Monitoring Station CAR03 is located on Escondido Creek approximately four and one half miles upstream of where the creek reaches the Pacific Ocean. Thirty two samples were collected between the two monitoring stations and analyzed for total selenium.

Comparison of Data to Water Quality Criteria

Selenium results were compared to the CTR and Basin Plan criteria as show in

Table 1.

Table 1. Selenium Water Quality Criteria

Constituent	Units	Water Quality Objective	Source
Total Selenium	mg/L	0.005[1]	CTR CCC
Total Selenium	mg/L	0.05	Basin Plan

[1] 40 CFR Part 131.38(b).1. *California Toxics Rule*.

Table 2-2 of the Water Quality Control Plan for the San Diego Basin (Basin Plan) lists Escondido Creek as having an existing domestic or municipal supply (MUN) beneficial use designation. It should be noted that the Basin Plan water quality objective is a less stringent objective, set at 0.05 mg/L.

The more stringent CTR CCC (chronic) objective is used for comparison in the analysis. A sample was determined to exceed the water quality objective if the total selenium concentration in the sample was greater than or equal to the CTR CCC value of 0.005 mg/L.

Comparison of Exceedances to Listing Policy

The number of exceedances shown in **Table 2** was then compared to the requirements for delisting presented in Section 4 of the Listing Policy. Table 4.1 of the Listing Policy indicates that for toxicants where the sample size is between twenty eight and thirty six

samples, the number of exceedances must be less than or equal to two for the constituent to be considered for delisting.

As shown in **Table 2** and in the data included in Attachment 1, there were no exceedances of the CTR CCC criteria for the thirty two samples analyzed. As a result, the available data collected since May 20, 2009 shows that Escondido Creek should be delisted per the 2004 Listing Policy.

Table 2. Summary of Objective Exceedances

	Exceedances of CTR Freshwater CCC Criteria (0.005 mg/L)
Total Selenium (n = 32)	0
Allowable Exceedances for Delisting[1]	2

[1] Allowable Exceedances for delisting are outlined in Table 4.1 of the Listing Policy

Attachment 1 to this letter includes the data used to determine the number of exceedances of the applicable water quality objective.

Thank you for your consideration of these comments. If you have any questions, please contact me at (858) 495-5317.

Yours truly,

JO ANN WEBER, Watershed Program Manager
County of San Diego Department of Public Works

JW:js

Attachments: Attachment 1. Data to Support Delisting of Escondido Creek for Selenium

Attachment 1. Data to Support Delisting of Escondido Creek for Selenium

Site Name:	Escondido Creek
Site ID	CAR02
Site Description:	Escondido Creek @ East County Club Drive
Latitude:	33.09901
Longitude:	-117.13047
Site ID	CAR03
Site Description:	Escondido Creek @ El Camino Del Norte
Latitude:	33.04839
Longitude:	-117.22716
CTR Freshwater CCC Criteria:	0.005 mg/L
Number of Samples (n):	32
Number of Exceedances:	0
Number of Allowable Exceedances:	2

Site ID	Sample Date	Analyte	Method Name	Result	MDL	RL	Unit	Exceedance
CAR02	5/20/2009	Selenium, Total	EPA 200.8	0.00168	1.61E-05	0.00222	mg/L	No
CAR02	6/14/2010	Selenium, Total	EPA 200.7	ND	0.005	0.01	mg/L	No
CAR02	4/25/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	5/12/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	6/2/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	6/22/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	7/11/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	2/16/2012	Selenium, Total	EPA 200.8	0.0007	0.0005	0.001	mg/L	No
CAR02	2/29/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
CAR02	3/8/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	3/23/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	3/29/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
CAR02	4/6/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	5/3/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	5/22/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	5/29/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	10/16/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR02	10/23/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
CAR02	10/30/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR03	2/16/2012	Selenium, Total	EPA 200.8	0.0005	0.0005	0.001	mg/L	No
CAR03	2/29/2012	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	No
CAR03	3/8/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR03	3/23/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR03	3/29/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR03	4/6/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR03	5/3/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR03	5/22/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
CAR03	5/29/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR03	10/16/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR03	10/23/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
CAR03	10/30/2012	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
CAR03	3/19/2013	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No

County of San Diego

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May 22, 2014

Mr. Jeremy Haas
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

SUBJECT: REASSESSMENT AND DELISTING OF SELENIUM IN LOS COCHES CREEK

Dear Mr. Haas:

The County of San Diego appreciates the opportunity to provide the following information to support the reassessment and delisting of Los Coches Creek for selenium. Based on the memorandum dated November 12, 2013 related to the California Integrated Report Update, the next integrated report for the San Diego Region (9) will be forthcoming in 2014. The selenium listing discussed herein is a high priority for the San Diego River Watershed and should be included in the analysis for the 2014 Integrated Report. As specified in the memorandum, the data will be uploaded to the California Environmental Data Exchange Network (CEDEN).

In 2010, Los Coches Creek was placed on the California Clean Water Act Section 303(d) List of Impaired Waters (303(d) List) for exceeding the water quality objective for total selenium. The listing was supported by results reported in the 2007 California's Surface Water Ambient Monitoring Program Report. According to the lines of evidence presented for Decision ID 16566, three of four samples exceeded the California Toxic Rule's (CTR) Criterion Continuous Concentration (CCC) of 0.005 mg/L for total selenium and resulted in a listing of the waterbody. It should be noted that dissolved (not total) selenium concentrations were used in the listing while the CTR chronic CCC of 0.005 mg/L applies to total selenium concentrations only.

Data collected since the 2010 listing has indicated a decrease in concentrations of selenium. Available monitoring data has been reviewed to determine if the creek continues to exceed applicable water quality objectives or qualifies for delisting under the 2004 Water Quality Control Policy for Developing California Clean Water Act Section 303(d) List (Listing Policy).

This letter provides a summary of that review and Attachment 1 provides the data to support the conclusions presented.

Data Used in the Analysis

Water quality data from April 2011 to March 2013 were collected from Monitoring Station SDR08 at I-8 Business Route. Samples were analyzed for total selenium according to EPA 200.8 analytical method, as specified in the 2011 Quality Assurance Project Plan for the County of San Diego's Inland Surface Water Monitoring Program. Monitoring station SDR08 is located on Los Coches Creek approximately three miles upstream of the confluence with the San Diego River. Thirty one samples were collected at the monitoring station and analyzed for total selenium.

Additional water quality samples were collected at Monitoring Station SDR10 on the San Diego River at the Riverford Bridge. The SDR10 site is located approximately three quarters of a mile downstream of the confluence of Los Coches Creek and San Diego River. Twenty nine samples were collected between February 2012 and August 2013 to provide better spatial representation of selenium concentrations in the watershed.

Comparison of Data to Water Quality Criteria

Selenium results were compared to the CTR criteria as show in **Table 1**.

Table 1. Selenium Water Quality Criteria

Constituent	Units	Water Quality Objective	Source
Total Selenium	mg/L	0.005[1]	CTR CCC
Total Selenium	mg/L	0.05	Basin Plan

[1] 40 CFR Part 131.38(b).1. *California Toxics Rule*.

Table 2-2 of the Water Quality Control Plan for the San Diego Basin (Basin Plan) lists Los Coches Creek as having a potential domestic or municipal supply (MUN) beneficial use designation. It should be noted that the Basin Plan water quality objective is a less stringent objective, set at 0.05 mg/L.

The more stringent CTR CCC (chronic) objective is used for comparison in the analysis. A sample was determined to exceed the water quality objective if the total selenium concentration in the sample was greater than or equal to the CTR CCC value of 0.005 mg/L.

Comparison of Exceedances to Listing Policy

The number of exceedances shown in **Table 2** was then compared to the requirements for delisting presented in Section 4 of the Listing Policy. Table 4.1 of the Listing Policy indicates that for toxicants where the sample size is between twenty eight and thirty six samples, the number of exceedances must be less than or equal to two for the constituent to be considered for delisting.

As shown in **Table 2** and in the data included in Attachment 1, there were no exceedances of the CTR CCC criteria for the thirty one samples analyzed for Los Coches Creek or the twenty nine samples analyzed downstream in the San Diego River. As a result, the available data collected since April 21, 2011 shows that Los Coches Creek should be delisted per the 2004 Listing Policy.

Table 2. Summary of Objective Exceedances

	Exceedances of CTR Freshwater CCC Criteria (0.005 mg/L)
SDR08 – Total Selenium (n = 31)	0
SDR10 – Total Selenium (n = 29)	0
Allowable Exceedances for Delisting[1]	2

[1] Allowable Exceedances for delisting are outlined in Table 4.1 of the Listing Policy

Attachment 1 to this letter includes the data used to determine the number of exceedances of the applicable water quality objective.

Thank you for your consideration of these comments. If you have any questions, please contact me at (858) 495-5317.

Yours truly,

JO ANN WEBER, Watershed Program Manager
County of San Diego Dept. of Public Works

JW:js

Attachment: Attachment 1. Data to Support Delisting of Los Coches for Selenium

Attachment 1. Data to Support Delisting of Los Coches Creek for Selenium

Site Name:	Los Coches Creek
Site ID	SDR08
Site Description:	Los Coches Creek @ I-8 Business Route
Latitude:	32.83599
Longitude:	-116.9004
CTR Freshwater CCC Criteria:	0.005 mg/L
Number of Samples (n):	31
Number of Exceedances:	0
Number of Allowable Exceedances:	2

Sample Date	Analyte	Method Name	Result	MDL	RL	Unit	Exceedance
4/21/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
5/13/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
5/25/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
7/6/2011	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
7/13/2011	Selenium, Total	EPA 200.8	0.002	0.0005	0.001	mg/L	No
7/14/2011	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
2/14/2012	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
2/24/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
3/20/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
3/22/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
3/26/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
4/2/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
4/12/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
4/23/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
5/24/2012	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	No
6/6/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
10/18/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
10/26/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
11/1/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
11/19/2012	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	No
11/27/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
11/29/2012	Selenium, Total	EPA 200.8	ND	0.002	0.005	mg/L	No
12/3/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
1/10/2013	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
1/29/2013	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	No
2/11/2013	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
2/22/2013	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	No
2/28/2013	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
3/19/2013	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
3/26/2013	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
4/3/2013	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No

Attachment 1. Data to Support Delisting of Los Coches Creek for Selenium

Site Name:	San Diego River
Site ID	SDR10
Site Description:	San Diego River @ Riverford Road
Latitude:	32.85653
Longitude:	-116.9473
CTR Freshwater CCC Criteria:	0.005 mg/L
Number of Samples (n):	29
Number of Exceedances:	0
Number of Allowable Exceedances:	2

Sample Date	Analyte	Method Name	Result	MDL	RL	Unit	Exceedance
2/14/2012	Selenium, Total	EPA 200.8	0.0005	0.0005	0.001	mg/L	No
2/24/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
3/20/2012	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
3/22/2012	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	No
3/26/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
4/2/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
4/12/2012	Selenium, Total	EPA 200.8	0.001	0.0005	0.001	mg/L	No
4/23/2012	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	No
5/24/2012	Selenium, Total	EPA 200.8	0.0007	0.0005	0.001	mg/L	No
6/6/2012	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
10/18/2012	Selenium, Total	EPA 200.8	0.0005	0.0005	0.001	mg/L	No
10/26/2012	Selenium, Total	EPA 200.8	0.0005	0.0005	0.001	mg/L	No
11/1/2012	Selenium, Total	EPA 200.8	ND	0.002	0.005	mg/L	No
11/19/2012	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
11/27/2012	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
11/29/2012	Selenium, Total	EPA 200.8	ND	0.002	0.005	mg/L	No
1/29/2013	Selenium, Total	EPA 200.8	0.0005	0.0005	0.001	mg/L	No
2/11/2013	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
2/22/2013	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
2/28/2013	Selenium, Total	EPA 200.8	0.0007	0.0005	0.001	mg/L	No
3/19/2013	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	No
3/26/2013	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	No
4/3/2013	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
4/17/2013	Selenium, Total	EPA 200.8	0.0007	0.0005	0.001	mg/L	No
5/9/2013	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
5/10/2013	Selenium, Total	EPA 200.8	0.0007	0.0005	0.001	mg/L	No
5/16/2013	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
7/30/2013	Selenium, Total	EPA 200.8	0.0007	0.0005	0.001	mg/L	No
8/8/2013	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No

County of San Diego

RICHARD E. CROMPTON
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May 22, 2014

Mr. Jeremy Haas
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

SUBJECT: REASSESSMENT AND DELISTING OF SELENIUM IN THE LOWER SWEETWATER RIVER

Dear Mr. Haas:

The County of San Diego appreciates the opportunity to provide the following information to support the reassessment and delisting of the Lower Sweetwater River for selenium. Based on the memorandum dated November 12, 2013 related to the California Integrated Report Update, the next integrated report for the San Diego Region (9) will be forthcoming in 2014. The selenium listing discussed herein is a high priority for the San Diego Bay Watershed Management Area and should be included in the analysis for the 2014 Integrated Report. As specified in the memorandum, the data will be uploaded to the California Environmental Data Exchange Network (CEDEN).

In 2008, the Lower Sweetwater River was placed on the California Clean Water Act Section 303(d) List of Impaired Waters (303(d) List) for exceeding the water quality objective for total selenium. Data used in the listing determination included data from the 2007 California's Surface Water Ambient Monitoring Program Report and the Copermittee Regional Stormwater Monitoring Program. According to the lines of evidence presented for Decision ID 17871, four of nineteen samples exceeded the California Toxic Rule's (CTR) Criterion Continuous Concentration (CCC) of 0.005 mg/L for total selenium and resulted in a listing of the waterbody. It should be noted that dissolved (not total) selenium concentrations were used in the listing while the CTR chronic CCC of 0.005 mg/L applies to total selenium concentrations only.

Data collected since the 2008 listing has indicated a decrease in concentrations of selenium. Available monitoring data has been reviewed to determine if the creek

continues to exceed applicable water quality objectives or qualifies for delisting under the 2004 Water Quality Control Policy for Developing California Clean Water Act Section 303(d) List (Listing Policy). This letter provides a summary of that review and Attachment 1 provides the data to support the conclusions presented.

Data Used in the Analysis

Water quality data from February 2011 to April 2013 were collected from Monitoring Station SWT03 at Plaza Bonita Road. Samples were analyzed for total selenium according to EPA 200.8 analytical method, as specified in the 2011 Quality Assurance Project Plan for the County of San Diego's Inland Surface Water Monitoring Program. Monitoring station SWT03 is located on

Sweetwater River just upstream of the confluence with Rice Canyon and approximately three miles upstream of San Diego Bay. Thirty one samples were collected at the monitoring station and analyzed for total selenium.

Comparison of Data to Water Quality Criteria

Selenium results were compared to the CTR and Basin Plan criteria as show in **Table 1**.

Table 1. Selenium Water Quality Criteria

Constituent	Units	Water Quality Objective	Source
Total Selenium	mg/L	0.005[1]	CTR CCC
Total Selenium	mg/L	0.05	Basin Plan

[1] 40 CFR Part 131.38(b).1. *California Toxics Rule.*

Table 2-2 of the Water Quality Control Plan for the San Diego Basin (Basin Plan) lists the Sweetwater River as having an existing domestic or municipal supply (MUN) beneficial use designation. It should be noted that the Basin Plan water quality objective is a less stringent objective, set at 0.05 mg/L.

The more stringent CTR CCC (chronic) objective is used for comparison in the analysis. A sample was determined to exceed the water quality objective if the total selenium concentration in the sample was greater than or equal to the CTR CCC value of 0.005 mg/L.

Comparison of Exceedances to Listing Policy

The number of exceedances shown in **Table 2** was then compared to the requirements for delisting presented in Section 4 of the Listing Policy. Table 4.1 of the Listing Policy indicates that for toxicants where the sample size is between twenty eight and thirty six samples, the number of exceedances must be less than or equal to two for the constituent to be considered for delisting.

As shown in **Table 2** and in the data included in Attachment 1, there were no exceedances of the CTR CCC criteria for the thirty one samples analyzed. As a result,

the available data collected since February 15, 2011 shows that Sweetwater River should be delisted per the 2004 Listing Policy.

Table 2. Summary of Objective Exceedances

	Exceedances of CTR Freshwater CCC Criteria (0.005 mg/L)
Total Selenium (n = 31)	0
Allowable Exceedances for Delisting[1]	2

[1] Allowable Exceedances for delisting are outlined in Table 4.1 of the Listing Policy

Attachment 1 to this letter includes the data used to determine the number of exceedances of the applicable water quality objective.

Thank you for your consideration of these comments. If you have any questions, please contact me at (858) 495-5317.

Yours truly,

JO ANN WEBER, Watershed Program Manager
County of San Diego Department of Public Works

JW:js

Attachments: Attachment 1. Data to Support Delisting of Sweetwater River for Selenium

Attachment 1. Data to Support Delisting of Sweetwater River for Selenium

Site Name:	Sweetwater River
Site ID	SWT03
Site Description:	Sweetwater River @ Plaza Bonita Road
Latitude:	32.65069
Longitude:	-117.06374
CTR Freshwater CCC Criteria:	0.005 mg/L
Number of Samples (n):	31
Number of Exceedances:	0
Number of Allowable Exceedances:	2

Sample Date	Analyte	Method Name	Result	MDL	RL	Unit	Exceedance
2/15/2011	Selenium, Total	EPA 200.8	0.0007	0.0005	0.001	mg/L	No
4/14/2011	Selenium, Total	EPA 200.8	0.0008	0.0005	0.001	mg/L	No
5/13/2011	Selenium, Total	EPA 200.8	ND	0.004	0.005	mg/L	No
5/25/2011	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
7/14/2011	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
2/14/2012	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	No
2/24/2012	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
3/20/2012	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
3/22/2012	Selenium, Total	EPA 200.8	0.0005	0.0005	0.001	mg/L	No
3/26/2012	Selenium, Total	EPA 200.8	0.0009	0.0005	0.001	mg/L	No
4/2/2012	Selenium, Total	EPA 200.8	0.0007	0.0005	0.001	mg/L	No
4/12/2012	Selenium, Total	EPA 200.8	0.0005	0.0005	0.001	mg/L	No
4/23/2012	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
5/24/2012	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
6/6/2012	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
10/18/2012	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
10/26/2012	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
11/1/2012	Selenium, Total	EPA 200.8	ND	0.002	0.005	mg/L	No
11/19/2012	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
11/27/2012	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
11/29/2012	Selenium, Total	EPA 200.8	ND	0.002	0.005	mg/L	No
12/3/2012	Selenium, Total	EPA 200.8	ND	0.002	0.005	mg/L	No
1/10/2013	Selenium, Total	EPA 200.8	0.0005	0.0005	0.001	mg/L	No
1/29/2013	Selenium, Total	EPA 200.8	0.0005	0.0005	0.001	mg/L	No
2/11/2013	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
2/22/2013	Selenium, Total	EPA 200.8	0.0005	0.0005	0.001	mg/L	No
2/28/2013	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No
3/19/2013	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
3/26/2013	Selenium, Total	EPA 200.8	0.0006	0.0005	0.001	mg/L	No
4/3/2013	Selenium, Total	EPA 200.8	ND	0.001	0.002	mg/L	No
4/17/2013	Selenium, Total	EPA 200.8	ND	0.0005	0.001	mg/L	No