## Attachment E: San Diego Creek and Newport Bay Toxics TMDLs

<table>
<tr><td>Resolution</td><td>N/A</td></tr>
<tr><td>Effective Date:</td><td>June 14, 2002</td></tr>
<tr><td>Impaired Water Body:</td><td>San Diego Creek, Upper Newport Bay, Lower Newport Bay and the Rhine Channel</td></tr>
<tr><td>Applicable Pollutants:</td><td>Copper, Cadmium, Lead, Zinc, Mercury, Chromium<br>Cadmium applies only to San Diego Creek and other freshwater tributaries and Upper Newport Bay<br>Chromium and Mercury apply only to the Rhine Channel</td></tr>
<tr><td>Non-applicable Pollutants:</td><td>Diazinon, Chlorpyrifos, Selenium, Chlordane, Dieldrin, DDT, PCBs, and Toxaphene</td></tr>
<tr><td>Responsible Parties:</td><td>Dischargers within the San Diego Creek and Newport Bay watersheds defined approximately by Hydrologic Unit Code (HUC) 10 (1807020402 and 1807020401) as determined by the Santa Ana Regional Water Quality Control Board. (See Figure 1-1.)</td></tr>
<tr><td>Required Actions:</td><td>Industrial dischargers are required to meet the NALs for metals and other constituents specified in the Industrial General Permit (IGP; Table 2, Order 2014-0057-DWQ) for discharges to San Diego Creek, other freshwater tributaries in the Newport Bay watershed, and Upper Newport Bay, Lower Newport Bay and the Rhine Channel (located in Lower Newport Bay). Industrial dischargers are also required to meet the TMDL-based NALs established herein for discharges of copper, lead and zinc to San Diego Creek, other freshwater tributaries in the Newport Bay watershed, and Upper Newport Bay, Lower Newport Bay and the Rhine Channel; and the TMDL-based NAL for discharges of chromium to the Rhine Channel (see Table E-1, below). NALs for cadmium and mercury found in Table 2 of the IGP are applicable to these waters. TMDL-based NALs are applicable if sampling of these constituents is required pursuant to Section XI of the Permit.<br><br>Table E-1. TMDL-Based NALs* for Total Chromium, Copper, Lead, and Zinc that apply to industrial discharges to impaired waters in the Newport Bay Watershed<br><table><tr><th>Pollutant</th><th>San Diego Creek & Freshwater Tributaries</th><th>Upper Newport Bay</th><th>Lower Newport Bay</th><th>Rhine Channel</th></tr><tr><td></td><td colspan="4">mg/L (as total recoverable metals)</td></tr><tr><td>Cu</td><td>0.0266</td><td>0.0058</td><td>0.0058</td><td>0.0058</td></tr><tr><td>Cr</td><td></td><td></td><td></td><td>1.100</td></tr><tr><td>Pb</td><td>0.194</td><td>0.221</td><td>0.221</td><td>0.221</td></tr><tr><td>Zn</td><td>0.213</td><td>0.095</td><td>0.095</td><td>0.095</td></tr></table>* NALs for mercury and cadmium are found in Table 2 of the IGP and apply to these waters as specified in the text above. Storm water runoff samples must be collected according to specified protocol for metals sampling. Samples must be analyzed by a certified laboratory, and detection limits must be lower than required NALs.</td></tr>
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| | Dischargers must update their monitoring programs and SWPPPs to include the applicable TMDL-based NALs.<br>Dischargers in compliance with the IGP requirements (2014-0057-DWQ), the NALs in Table 2, and the TMDL-based NALs in Table E-1, will be considered to meet the requirements of the San Diego Creek and Newport Bay Toxics TMDLs. The Regional Water Board may also require Dischargers to implement additional actions to reduce toxic discharges based on a site-specific analysis.<br>Industrial dischargers will be required to report TMDL monitoring results using the Stormwater Multiple Application and Report Tracking System (SMARTS). |
| TMDL documents are available at:<br>http://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/tmdl_toxics.shtml | |

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**Fact Sheet for San Diego Creek and Newport Bay Toxics TMDLs**

**TMDL Summary**

The San Diego Creek and Newport Bay Toxics Total Maximum Daily Loads (Toxics TMDLs) were promulgated by USEPA in 2002. The toxic pollutants identified were diazinon, chlorpyrifos, selenium, cadmium, copper, lead, zinc, PCBs, DDT chlordane, dieldrin, toxaphene, mercury and chromium. Exposure to toxic substances may result in adverse impacts to humans or other living organisms. Adverse impacts may include cellular injury, mutagenic impairment, reduced reproductive success, and carcinogenic responses. The impacts of greatest concern in these water bodies are bioaccumulation in aquatic organisms to levels which could harm human health when fish or shellfish are consumed; and concentrations in water, sediment or biota that cause adverse effects in aquatic life or aquatic-dependent species.

The Toxics TMDLs identify many sources of toxic pollutants to San Diego Creek and Newport Bay. In cases where it was feasible, individual allocations were established for each source. However, insufficient information was available to support delineation of individual Wasteload Allocations (WLAs) for each NPDES-permitted discharge; therefore, the Toxics TMDLs include an allocation for the category "Other NPDES permittees." This WLA category includes discharges covered under the Industrial General Permit (IGP).

Resolution No. R8 2007-0024 as amended by Resolution No. R8-2011-0037 replaces the WLAs for PCBs, dieldrin, DDT, chlordane, and toxaphene in the Toxics TMDLs. These resolutions did not assign WLAs to IGP dischargers; therefore, no additional requirements in the Permit are necessary to comply with the Toxics TMDLs for these pollutants. Diazinon, chlorpyrifos, and selenium are included in the Toxics TMDLs, but WLAs for these parameters were not assigned to the "Other NPDES permittees" so they do not apply to IGP dischargers. No additional requirements in the IGP are necessary to comply with the Toxics TMDLs for the pollutants described.

USEPA's Toxics TMDLs for San Diego Creek and Newport Bay (2002) include WLAs for "Other NPDES permittees" that would apply to IGP permittees if there is a potential for their facilities or operations to result in discharges of copper, cadmium, zinc and lead (Metals TMDLs) in storm water runoff to fresh and saltwater bodies in the Newport Bay Watershed and for discharges of mercury and chromium in stormwater runoff to the Rhine Channel:

- Concentration-based WLAs were assigned to sources that discharge directly to Newport Bay. WLAs for copper, lead and zinc apply to Upper and Lower Newport Bay, and the Rhine Channel, located in Lower Newport Bay. WLAs for cadmium only apply to Upper Newport Bay.

- Concentration-based WLAs were assigned to sources that discharge to San Diego Creek and other freshwater tributaries; the freshwater WLAs are hardness dependent. These allocations for copper, cadmium, zinc and lead apply to all freshwater discharges to San Diego Creek, Santa Ana-Delhi Channel, Big Canyon Channel, East Costa Mesa Channel and other freshwater tributaries in the Newport Bay Watershed.

- Concentration-based WLAs for mercury and chromium were assigned for sources that discharge to the Rhine Channel[1].

Additional TMDL details and TMDL documents are available on the Santa Ana Water Board's website at:
http://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/tmdl_toxics.shtml

**TMDL-based NALs and Industrial General Permit Requirements**

The monitoring requirements in Section XI of the IGP ensure that if there is the potential for facilities to discharge pollutants, such as those identified in the Toxics TMDLs, dischargers must analyze their storm water runoff samples for those constituents and compare the concentrations to Numeric Action Levels (NALs) shown in Table 2 (page 43 of Order 2014-0057-DWQ) and the TMDL-based NALS shown Table E-1 in this attachment. TMDL-based NALs are being established for the metals in the Toxics TMDLs that have WLAs that are more stringent than the NALs in Table 2, or for which a NAL has not been established (i.e., chromium). The TMDL-based NALs were developed from the WLAs in the Toxics TMDLs. The TMDL WLAs are given as dissolved metals concentrations. The dissolved metals concentrations were converted into total concentrations for use as NALs, using appropriate conversion factors, to be consistent with the NALs in Table 2 of the permit. The TMDL-NALs in Table E-1 are based on a hardness of 197 mg/L since this hardness value is associated with storm water.

[1] WLAs for chromium and mercury do not apply to discharges that occur outside of the Rhine Channel.

If the applicable NALs in Table 2 of the Permit or the TMDL-based NALs in Table E-1 in this attachment are exceeded, the discharger is subject to Exceedance Response Actions (ERAs) in Section XII. The ERA requirement is consistent with the recommended implementation actions in the Toxics TMDLs. Minimum BMPs (Section X.H.1) are also required in the Industrial General Permit that could reduce discharges of pollutants identified in the Toxics TMDLs by minimizing the contact of industrial materials and activities to storm water through source control BMPs.

**Required Actions**

Facilities covered by the Industrial General Permit within the San Diego Creek and Newport Bay watershed shall comply with the Industrial General Permit, including the NALs in Table 2, and with the TMDL-based NALs for copper, chromium, lead and zinc in Table E-1 of this attachment to comply with the Toxics TMDLs if sampling of these constituents is required pursuant to Section XI. Samples must be analyzed by a certified laboratory, and method detection limits must be lower than required NALs.

The Regional Water Boards retain the authority to require industrial dischargers to revise their SWPPPs, ERA Reports, or monitoring programs if warranted, as well as to direct a discharger to obtain an individual NPDES permit if additional controls or requirements are necessary.

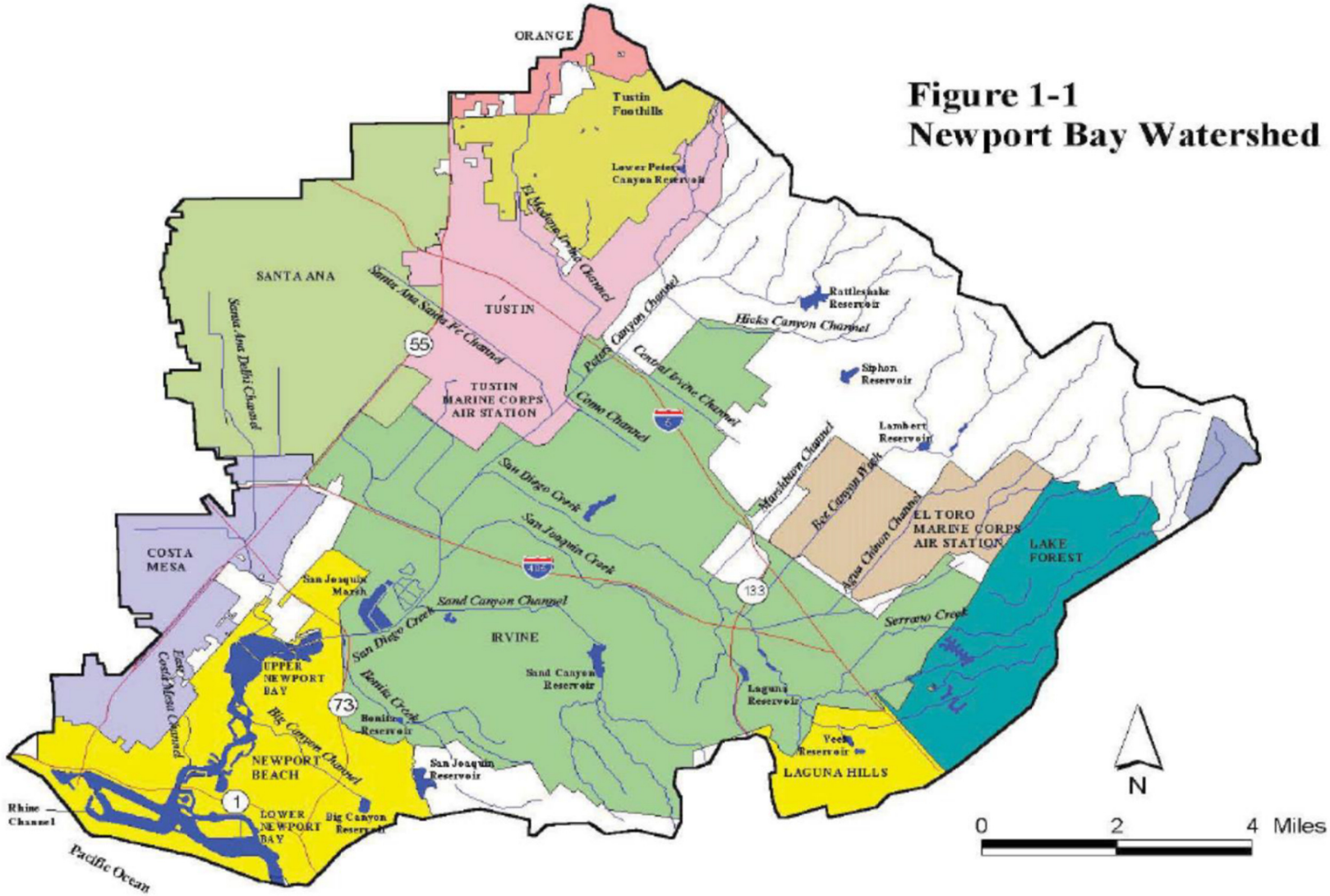
Figure 1-1
Newport Bay Watershed
ORANGE
Tustin Foothills
Lower Peters Canyon Reservoir
El Modena-Irvine Channel
SANTA ANA
Santa Ana Delhi Channel
Santa Ana Santa Fe Channel
TUSTIN
55
TUSTIN MARINE CORPS AIR STATION
Peters Canyon Channel
Central Irvine Channel
Rattlesnake Reservoir
Hicks Canyon Channel
Siphon Reservoir
Lambert Reservoir
Marshburn Channel
Bee Canyon Wash
Agua Chinon Channel
EL TORO MARINE CORPS AIR STATION
LAKE FOREST
Serrano Creek
Como Channel
5
San Diego Creek
San Joaquin Creek
133
COSTA MESA
San Joaquin Marsh
Sand Canyon Channel
IRVINE
East Costa Mesa Channel
UPPER NEWPORT BAY
73
Bonita Creek
Sand Canyon Reservoir
Laguna Reservoir
Big Canyon Channel
Bonita Reservoir
Yeck Reservoir
NEWPORT BEACH
San Joaquin Reservoir
LAGUNA HILLS
1
Rhine Channel
LOWER NEWPORT BAY
Big Canyon Reservoir
Pacific Ocean
N
0
2
4 Miles