

APPENDIX D
San Diego Bay Watershed Management Area—
Assessment of Impacts of MS4 Discharges on Potential Receiving Water Conditions

HA	Waterbody	Condition	Receiving Water Data or Regulatory Drivers Support Consideration as a Receiving Water Condition		MS4 Monitoring Data Indicates Potential MS4 Impact		MS4 Listed as Source on the 303(d) List	Determining Factors
			Dry	Wet	Dry	Wet		
Pueblo Watershed								
908.1	Pacific Ocean Shoreline, Point Loma HA, at Bermuda Ave	Impairment of REC-1 and SHELL due to total coliform	✓	✓	--	--	✓	2010 303(d)
908.1	San Diego Bay Shelter Island Yacht Basin	Impairment of EST due to copper	✓	✓	✓	✓	--	TMDL ¹ , 2010 303(d), and current and historical monitoring data
908.1	San Diego Bay Shoreline, at Americas Cup Harbor	Impairment of EST due to copper	✓	✓	--	--	--	2010 303(d) and current monitoring data
908.1	San Diego Bay Shoreline, at Harbor Island (West Basin)	Impairment of EST due to copper	✓	✓	--	--	--	2010 303(d)
908.1	San Diego Bay Shoreline, near sub base	Impairment of MAR due to benthic community effects and sediment toxicity	✓	--	--	✓	--	TMDL ² , 2010 303(d)
908.1	San Diego Bay Shoreline, near sub base	Impairment of MAR due to toxicity	--	✓	--	--	✓	TMDL ² , 2010 303(d), and historical monitoring data
908.1	San Diego Bay Shoreline, Shelter Island Shoreline Park	Impairment of REC-1 due to enterococcus, fecal coliform, and total coliform	✓	✓	--	--	✓	TMDL ³ and 2010 303(d)
908.1	Pacific Ocean, Sunset Cliffs Natural Park between Hillside Park and Linear Park	Erosion	--	--	--	--	--	Public Input
908.2	Chollas Creek	Impairment of AGR (WARM) due to copper	✓	✓	✓	✓	--	2010 303(d), current and historical monitoring data, and TMDL ⁴
908.2	Chollas Creek	Impairment of WARM due to zinc	✓	✓	✓	✓	✓	2010 303(d), current and historical monitoring data, and TMDL ⁴
908.2	Chollas Creek	Impairment of WARM due to lead	✓	✓	--	--	✓	2010 303(d), current and historical monitoring data, and TMDL ⁴
908.2	Chollas Creek	Impairment of WARM due to diazinon	✓	✓	--	--	--	2010 303(d) and TMDL ⁵ , and historical monitoring data
908.2	Chollas Creek	Impairment of WARM due to phosphorus	✓	--	--	--	--	2010 303(d) and current and historical monitoring data
908.2	Chollas Creek	Impairment of WARM due to Total Nitrogen as N	✓	✓	✓	✓	--	2010 303(d) and current and historical monitoring data
908.2	Chollas Creek	Impairment of REC-1 due to indicator bacteria	✓	✓	✓	✓	✓	2010 303(d) and TMDL ⁶ and current and historical monitoring data
908.2	Chollas Creek	Impairment of REC-2 due to trash	✓	✓	✓	✓	✓	2010 303(d) and current monitoring data
908.2	Chollas Creek	Very poor IBI	✓	✓	--	--	--	Current monitoring data
908.2	Chollas Creek	Elevated enterococcus	✓	--	✓	--	--	Current and historical monitoring data
908.2	Chollas Creek	Elevated bifenthrin and TSS	--	✓	--	✓	--	Current and historical monitoring data

Notes: ✓ = Data supports consideration; -- = No data available (data gap) or inapplicable.

1. TMDL for Dissolved Copper in Shelter Island Yacht Basin, San Diego Bay. Approved 12/2005.

2. Naval Submarine Base San Diego TMDL. In development.

3. TMDL for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay. Approved 09/2009.

4. TMDL for Dissolved Copper, Lead, and Zinc in Chollas Creek, Tributary to San Diego Bay. Approved 10/2008.

5. Chollas Creek Diazinon TMDL. Approved 09/2003.

6. Revised TMDL for Indicator Bacteria, Project I--Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek). Approved 04/2011.

7. TMDL for Toxic Pollutants in Sediment at San Diego Bay Shorelines--Downtown Anchorage and B Street/Broadway Piers. In development.

8. Sediment Toxicity TMDL for the Mouths of Chollas, Paleta, and Switzer Creeks. In development.

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			Dry	Wet	Dry	Wet		
908.2	Chollas Creek	Toxicity	✓	✓	--	--	--	Current and historical monitoring data
908.2	Chollas Creek	Elevated turbidity, BOD, and COD	✓	✓	--	--	--	Current and historical monitoring data
908.2	Chollas Creek	Elevated turbidity	✓	--	✓	--	--	Current and historical monitoring data
908.2	Chollas Creek	Low O/E and California Rapid Assessment Method scores	✓	--	✓	--	--	Historical monitoring data
908.2	Chollas Creek	Poor IBI	✓	--	--	--	--	Historical monitoring data
908.2	Chollas Creek	pH level outside of water quality objective	✓	--	--	--	--	Historical monitoring data
908.2	Chollas Creek	Elevated Ammonia as N, benthic algae, and oil & grease	✓	--	--	--	--	Current and historical monitoring data
908.2	Chollas Creek	Elevated permethrin	--	✓	--	--	--	Historical monitoring data
908.2	Chollas Creek	Elevated fecal coliform and surfactants (MBAS)	✓	✓	--	--	--	Historical monitoring data
908.2	Chollas Creek	Elevated fecal coliform	✓	--	✓	--	--	Historical monitoring data
908.2	San Diego Bay Shoreline, 32nd St San Diego Naval Station	Impairment of MAR due to benthic community effects and sediment toxicity	✓	✓	--	--	--	2010 303(d)
908.2	San Diego Bay Shoreline, at Harbor Island (East Basin)	Impairment of EST due to copper	✓	✓	--	--	--	2010 303(d)
908.2	San Diego Bay Shoreline, at Marriott Marina	Impairment of EST due to copper	✓	✓	--	--	--	2010 303(d)
908.2	San Diego Bay Shoreline, at Spanish Landing	Impairment of REC-1 and SHELL due to total coliform	✓	✓	--	--	--	2010 303(d)
908.2	San Diego Bay Shoreline, between Sampson and 28th Streets	Impairment of MAR due to copper	✓	✓	✓	✓	--	2010 303(d)
908.2	San Diego Bay Shoreline, between Sampson and 28th Streets	Impairment of MAR due PAHs	✓	✓	✓	✓	--	2010 303(d) and historical data
908.2	San Diego Bay Shoreline, between Sampson and 28th Streets	Impairment of COMM due to mercury	✓	✓	✓	✓	--	2010 303(d) and historical data
908.2	San Diego Bay Shoreline, between Sampson and 28th Streets	Impairment of COMM due to PCBs	✓	✓	✓	✓	✓	2010 303(d) and historical data
908.2	San Diego Bay Shoreline, between Sampson and 28th Streets	Impairment of WARM due to zinc	✓	✓	✓	✓	--	2010 303(d) and historical data

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			Dry	Wet	Dry	Wet		
908.2	San Diego Bay Shoreline, Downtown Anchorage	Impairment of MAR due to benthic community effects and sediment toxicity	✓	✓	--	--	✓	2010 303(d) and historical data
908.2	San Diego Bay Shoreline, Downtown Anchorage	Impairment of MAR due to sediment toxicity and benthic community effects	--	✓	--	--	✓	TMDL ⁷ and historical data
908.2	San Diego Bay Shoreline, G Street Pier	Impairment of REC-1 and SHELL due to total coliform	✓	✓	--	--	--	2010 303(d)
908.2	San Diego Bay Shoreline, near Chollas Creek	Impairment of MAR due to benthic community effects and sediment toxicity	✓	✓	--	--	--	2010 303(d) and TMDL ⁸
908.2	San Diego Bay Shoreline, near Coronado Bridge	Impairment of MAR due to benthic community effects and sediment toxicity	✓	✓	--	--	✓	2010 303(d)
908.2	San Diego Bay Shoreline, near Switzer Creek	Impairment of MAR due to benthic community effects and sediment toxicity	✓	✓	✓	✓	✓	2010 303(d) and TMDL ⁸
908.2	San Diego Bay Shoreline, near Switzer Creek	Impairment of COMM due to chlordane	✓	✓	--	--	✓	2010 303(d) and TMDL ⁸
908.2	San Diego Bay Shoreline, Vicinity of B St and Broadway Piers	Impairment of REC-1 and SHELL due to total coliform	✓	✓	--	--	✓	2010 303(d)
908.2	San Diego Bay Shoreline, Vicinity of B St and Broadway Piers	Impairment of MAR due to benthic community effects and sediment toxicity	✓	✓	--	--	--	2010 303(d) and TMDL ⁷
908.2	Switzer Creek	Impairment of WARM due to copper, lead, and zinc	✓	✓	✓	✓	✓	2010 303(d) and current monitoring data
908.3	Paleta Creek	Impairment of WARM due to copper and lead	✓	✓	✓	✓	✓	2010 303(d) and current monitoring data
908.3	Paradise Creek	Impairment of WARM due to selenium	✓	✓	--	--	--	2010 303(d)
908.3	San Diego Bay Shoreline, North of 24th Street Marine Terminal	Impairment of MAR due to benthic community effects and sediment toxicity	✓	✓	--	--	--	2010 303(d)
908.3	San Diego Bay Shoreline, Seventh Street Channel (Paleta Creek)	Impairment of MAR due to benthic community effects and sediment toxicity	✓	✓	--	--	✓	2010 303(d) and TMDL ⁸
Sweetwater Watershed								
909.1	Lower Sweetwater River, below Sweetwater Reservoir	Impairment of REC-1 due to <i>Enterococcus</i> and fecal coliform	✓	✓	✓	✓	✓	2010 303(d) and current monitoring data
909.1	Lower Sweetwater River, below Sweetwater Reservoir	Impairment of WARM due to selenium, nitrogen, phosphorus, TDS, and toxicity	✓	✓	--	--	✓	2010 303(d) and current monitoring data
909.1	Paradise Creek	Impairment of WARM due to selenium	✓	✓	--	--	--	2010 303(d)
909.1	San Diego Bay Shoreline, at Bayside Park (J Street)	Impairment of REC-1 due to <i>Enterococcus</i> and total coliform	✓	✓	--	--	✓	Current monitoring data

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			Dry	Wet	Dry	Wet		
909.1	San Diego Bay Shoreline, Chula Vista Marina	Impairment of EST due to copper	✓	✓	--	--	--	Current monitoring data
909.1	San Diego County Wildlife Refuge-Sweetwater Marsh Unit	Preservation of special habitat	✓	✓	--	--	--	Special Habitat
909.1	Sweetwater River MLS	Elevated salinity	✓	--	--	--	--	Current and historical monitoring data
909.1	Sweetwater River MLS	Toxicity to <i>C. dubia</i> reproduction	✓	--	--	--	--	Current and historical monitoring data
909.1	Sweetwater River MLS	Very poor IBI	✓	✓	--	--	--	Historical monitoring data
909.1	Sweetwater River MLS	Toxicity to <i>C. dubia</i> acute reproduction	✓	✓	--	--	--	Historical monitoring data
909.1	Sweetwater River MLS	Toxicity to <i>C. dubia</i> acute and chronic survival	✓	--	--	--	--	Historical monitoring data
909.1	Sweetwater River MLS	Elevated <i>Enterococcus</i>	✓	--	✓	--	--	Current and historical monitoring data
909.1	Sweetwater River MLS	Elevated dissolved and total phosphorus	✓	--	✓	--	--	Current and historical monitoring data
909.1	Sweetwater River MLS	Elevated total nitrogen	✓	--	✓	--	--	Current and historical monitoring data
909.1	Sweetwater River MLS	Elevated chloride	✓	--	✓	--	--	Historical monitoring data
909.1	Sweetwater River MLS	Low DO	✓	--	✓	--	--	Historical monitoring data
909.1	Sweetwater River MLS	Poor IBI	✓	--	✓	--	--	2010 303(d)
909.1	Sweetwater River MLS	Elevated fecal coliform	--	✓	--	✓	--	Current and historical monitoring data
909.1	Sweetwater River MLS	Toxicity to <i>S. capricornutum</i>	✓	✓	--	--	--	2010 303(d)
909.1	Sweetwater River MLS	Elevated salinity	✓	✓	--	--	--	2010 303(d)
909.1	Sweetwater River MLS	Low O/E and California Rapid Assessment Method scores	✓	--	--	--	--	2010 303(d)
909.1	Sweetwater River MLS	Elevated bifenthrin and turbidity	--	✓	--	--	--	Current monitoring data
909.1	Sweetwater River MLS	Toxicity to <i>C. dubia</i> reproduction	✓	✓	--	--	--	Current monitoring data
909.1	Telegraph Canyon Creek	Impairment of WARM due to selenium	✓	✓	--	--	--	2010 303(d)
909.2	Sweetwater Reservoir	Impairment of MUN due to low DO	✓	✓	--	--	✓	Current and historical monitoring data
909.2	Sweetwater River TWAS	Elevated total phosphorus	✓	--	✓	--	--	Current monitoring data
909.2	Sweetwater River TWAS	Toxicity to <i>S. capricornutum</i> growth	✓	--	--	--	--	Current monitoring data
909.2	Sweetwater River TWAS	Elevated suspended solids	--	✓	--	--	--	Current monitoring data
909.2	Sweetwater River TWAS	Very poor IBI	✓	✓	--	--	--	Current and historical monitoring data
909.2	Sweetwater River TWAS	Elevated <i>Enterococcus</i>	✓	--	✓	--	--	Current and historical monitoring data
909.2	Sweetwater River TWAS	Elevated fecal coliform	--	✓	--	✓	--	Current and historical monitoring data
909.2	Sweetwater River TWAS	Elevated turbidity	--	✓	--	--	--	Current and historical monitoring data
909.2	Sweetwater River TWAS	Elevated salinity	✓	✓	--	--	--	Current and historical monitoring data
909.2	Sweetwater River TWAS	Low O/E	✓	--	--	--	--	Historical monitoring data
909.2	Sweetwater River TWAS	Elevated benthic algae	✓	--	--	--	--	Historical monitoring data
909.2	Sweetwater River TWAS	Poor IBI	✓	--	--	--	--	Historical monitoring data

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909.2	Sweetwater River TWAS	Elevated bifenthrin	--	✓	--	--	--	Historical monitoring data
909.2	Sweetwater River TWAS	Toxicity to <i>S. capricornutum</i> acute	✓	✓	--	--	--	2010 303(d)
909.3	Loveland Reservoir	Impairment of MUN due to pH, aluminum, manganese, and low DO	✓	✓	--	--	--	2010 303(d)
909.1, 909.2, 909.3	Not specified	Impairment of unknown condition due to trash	✓	✓	--	--	--	Public input data (from public workshop)
Otay Watershed								
910.1	Pacific Ocean Shoreline, Coronado HA, at Silver Strand (north end, Oceanside)	Impairment of REC-1 due to <i>Enterococcus</i>	✓	✓	--	--	✓	2010 303(d)
910.1	Pacific Ocean Shoreline, Imperial Beach Pier	Impairment of REC-1 due to fecal coliform and total coliform	✓	✓	--	--	✓	2010 303(d)
910.1	Pacific Ocean Shoreline, Imperial Beach Pier	Impairment of COMM due to PCBs	✓	✓	--	--	--	2010 303(d)
910.1	Pacific Ocean Shoreline, Otay Valley HA, at Carnation Ave and Camp Surf Jetty	Impairment of REC-1 due to total coliform	✓	✓	✓	✓	✓	2010 303(d) and current monitoring data
910.1	San Diego Bay Shoreline, at Coronado Cays	Impairment of EST due to copper	✓	✓	--	--	--	2010 303(d)
910.1	San Diego Bay Shoreline, at Glorietta Bay	Impairment of EST due to copper	✓	✓	--	--	--	2010 303(d)
910.1	San Diego Bay Shoreline, Tidelands Park	Impairment of REC-1 due to <i>Enterococcus</i>	✓	✓	✓	✓	✓	2010 303(d) and current monitoring data
910.1	San Diego Bay Shoreline, Tidelands Park	Impairment of SHELL due to total coliform	✓	✓	✓	✓	✓	2010 303(d) and current monitoring data
910.1	San Diego County Wildlife Refuge-South San Diego Bay Unit	Preservation of special habitat	✓	✓	--	--	--	Special Habitat
910.2	Otay River	Elevated <i>Enterococcus</i>	✓	--	✓	--	--	Historical monitoring data
910.2	Otay River	Elevated <i>E. coli</i> , fecal coliform, malathion and permethrin	--	✓	--	✓	--	Historical monitoring data
910.2	Otay River	Toxicity to <i>C. dubia</i> acute and chronic survival, <i>H. azteca</i> acute, and <i>S. capricornutum</i> growth	--	✓	--	✓	--	Historical monitoring data
910.2	Otay River	Very poor IBI	✓	✓	--	--	--	Historical monitoring data
910.2	Otay River	Toxicity to <i>C. dubia</i> acute reproduction	✓	✓	--	--	--	Historical monitoring data
910.2	Otay River	Elevated dissolved and total phosphorus	✓	--	--	--	--	Historical monitoring data

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910.2	Otay River	Elevated total nitrogen	✓	--	✓	--	--	Historical monitoring data
910.2	Otay River	Elevated surfactants (MBAs), bifenthrin, and turbidity	--	✓	--	--	--	Historical monitoring data
910.2	Otay River	Elevated salinity	✓	✓	--	--	--	Historical monitoring data
910.2	Otay River	Low O/E and California Rapid Assessment Method scores	✓	--	--	--	--	Historical monitoring data
910.2	Otay River	Poor IBI	✓	--	--	--	--	2010 303(d)
910.2	Otay River	Toxicity to <i>C. dubia</i> acute and chronic survival and reproduction	✓	--	--	--	--	2010 303(d)
910.2	Otay River	Elevated dissolved copper, cyfluthrin, and TSS	--	✓	--	--	--	2010 303(d)
910.2	Poggi Canyon Creek	Impairment of WARM due to toxicity	✓	✓	--	--	✓	2010 303(d)
910.3	Jamul Creek	Impairment of WARM due to toxicity	✓	✓	--	--	✓	2010 303(d)
910.3	Lower Otay Reservoir	Impairment of MUN due to high pH, ammonia, color, iron, and manganese	✓	✓	--	--	--	2010 303(d)
910.3	Lower Otay Reservoir	Impairment of WARM due to nitrogen	✓	✓	✓	✓	✓	Historical monitoring data
910.1, 910.2, 910.3	Not specified	Impairment of unknown condition due to trash	✓	✓	--	--	--	Public input data
San Diego Bay (All watersheds)								
908.1, 909.1, 910.1	San Diego Bay (all)	Moderate toxicity at some monitoring stations	✓	--	--	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Deep areas)	Elevated mercury in deep area sediments	✓	--	✓	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Deep areas)	Elevated anthracene in deep area sediments	✓	--	--	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Freshwater Influenced Areas)	Elevated pesticides in freshwater influenced areas	✓	--	✓	--	✓	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Freshwater Influenced Areas)	Elevated zinc in freshwater influenced areas	✓	--	✓	--	✓	Historical monitoring data

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			Dry	Wet	Dry	Wet		
908.1, 909.1, 910.1	San Diego Bay (Freshwater Influenced Areas)	Benthic community effects	✓	--	--	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Freshwater Influenced Areas)	Elevated arsenic in sediments in freshwater influenced areas	✓	--	--	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Freshwater Influenced Areas)	Elevated mercury in sediments in freshwater influenced areas	✓	--	✓	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Industrial areas)	Elevated PCBs in industrial area sediments	✓	--	✓	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Industrial areas)	Elevated copper in industrial area sediments	✓	--	✓	--	✓	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Industrial areas)	Elevated mercury in industrial area sediments	✓	--	✓	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Marinas)	Elevated copper in marina surface waters and sediments	✓	--	✓	--	✓	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Marinas)	Elevated mercury in marina surface waters and sediments	✓	--	✓	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Marinas)	Elevated zinc in marina sediments	✓	--	✓	--	✓	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Marinas)	Elevated organics in marina sediments	✓	--	✓	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Marinas)	Elevated arsenic in marina sediments	✓	--	--	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Marinas)	Elevated mercury in marina sediments	✓	--	✓	--	--	Historical monitoring data

Notes: ✓ = Data supports consideration; -- = No data available (data gap) or inapplicable.

1. TMDL for Dissolved Copper in Shelter Island Yacht Basin, San Diego Bay. Approved 12/2005.

2. Naval Submarine Base San Diego TMDL. In development.

3. TMDL for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay. Approved 09/2009.

4. TMDL for Dissolved Copper, Lead, and Zinc in Chollas Creek, Tributary to San Diego Bay. Approved 10/2008.

5. Chollas Creek Diazinon TMDL. Approved 09/2003.

6. Revised TMDL for Indicator Bacteria, Project I--Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek). Approved 04/2011.

7. TMDL for Toxic Pollutants in Sediment at San Diego Bay Shorelines--Downtown Anchorage and B Street/Broadway Piers. In development.

8. Sediment Toxicity TMDL for the Mouths of Chollas, Paleta, and Switzer Creeks. In development.

APPENDIX D
San Diego Bay Watershed Management Area—
Assessment of Impacts of MS4 Discharges on Potential Receiving Water Conditions

HA	Waterbody	Condition	Receiving Water Data or Regulatory Drivers Support Consideration as a Receiving Water Condition		MS4 Monitoring Data Indicates Potential MS4 Impact		MS4 Listed as Source on the 303(d) List	Determining Factors
			Dry	Wet	Dry	Wet		
908.1, 909.1, 910.1	San Diego Bay (Marinas)	Mean ER-M quotients for sediment chemistry were elevated in marinas.	✓	--	--	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Marinas)	Benthic community effects	✓	--	--	--	--	Historical monitoring data
908.1, 909.1, 910.1	San Diego Bay (Shallow areas)	Elevated chlordane in shallow area sediments	✓	--	--	--	✓	Historical monitoring data

Notes: ✓ = Data supports consideration; -- = No data available (data gap) or inapplicable.

1. TMDL for Dissolved Copper in Shelter Island Yacht Basin, San Diego Bay. Approved 12/2005.
2. Naval Submarine Base San Diego TMDL. In development.
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APPENDIX D
San Diego Bay Watershed Management Area—
Assessment of Impacts of MS4 Discharges on Potential Receiving Water
Conditions

Receiving Water Conditions with Unknown Contribution from the MS4

Waterbody	Condition
Chollas Creek	Elevated Ammonia as N, benthic algae, and oil & grease
	Elevated bifenthrin and TSS
	Elevated fecal coliform and surfactants (MBAS)
	Elevated permethrin
	Elevated turbidity, BOD, and COD
	Impairment of WARM due to diazinon
	Low O/E and California Rapid Assessment Method scores
	pH level outside of water quality objective
	Poor IBI
	Toxicity
Very poor IBI	
Paradise Creek	Impairment of WARM due to selenium
San Diego Bay Shelter Island Yacht Basin	Impairment of EST due to copper
San Diego Bay Shoreline, 32nd St San Diego Naval Station	Impairment of MAR due to benthic community effects and sediment toxicity
San Diego Bay Shoreline, at Americas Cup Harbor	Impairment of EST due to copper
San Diego Bay Shoreline, at Harbor Island (East Basin)	Impairment of EST due to copper
San Diego Bay Shoreline, at Harbor Island (West Basin)	Impairment of EST due to copper
San Diego Bay Shoreline, at Marriott Marina	Impairment of EST due to copper
Pacific Ocean Shoreline at Sunset Cliffs Natural Park	Erosion
San Diego Bay Shoreline, at Spanish Landing	Impairment of REC-1 and SHELL due to total coliform
San Diego Bay Shoreline, G Street Pier	Impairment of REC-1 and SHELL due to total coliform
San Diego Bay Shoreline, near Chollas Creek	Impairment of MAR due to benthic community effects and sediment toxicity
San Diego Bay Shoreline, near submarine base	Impairment of MAR due to benthic community effects and sediment toxicity
San Diego Bay Shoreline, north of 24th Street Marine Terminal	Impairment of MAR due to benthic community effects and sediment toxicity
San Diego Bay Shoreline, vicinity of B St and Broadway Piers	Impairment of MAR due to benthic community effects and sediment toxicity

APPENDIX D
San Diego Bay Watershed Management Area—
Assessment of Impacts of MS4 Discharges on Potential Receiving Water
Conditions

Receiving Water Conditions with Unknown Contribution from the MS4 (continued)

Waterbody	Condition
Loveland Reservoir	Impairment of MUN due to pH, aluminum, manganese, and low DO
(Not specified)	Impairment of unknown condition due to trash
Paradise Creek	Impairment of WARM due to selenium
San Diego Bay Shoreline, Chula Vista Marina	Impairment of EST due to copper
San Diego County Wildlife Refuge—Sweetwater Marsh Unit	Preservation of special habitat
Sweetwater River MLS	Elevated bifenthrin and turbidity
	Elevated chloride
	Elevated salinity
	Elevated salinity
Sweetwater River MLS	Low DO
	Low O/E and California Rapid Assessment Method scores
	Poor IBI
	Toxicity to <i>C. dubia</i> acute and chronic survival
	Toxicity to <i>C. dubia</i> acute reproduction
	Toxicity to <i>C. dubia</i> reproduction
	Toxicity to <i>C. dubia</i> reproduction
	Toxicity to <i>S. capricornutum</i>
Very poor IBI	
Sweetwater River TWAS	Elevated benthic algae
	Elevated bifenthrin
	Elevated fecal coliform and turbidity
	Elevated salinity
	Elevated suspended solids
	Low O/E
	Poor IBI
	Toxicity to <i>S. capricornutum</i> acute
	Toxicity to <i>S. capricornutum</i> growth
Very poor IBI	
Telegraph Canyon Creek	Impairment of WARM due to selenium
Lower Otay Reservoir	Impairment of MUN due to high pH, ammonia, color, iron, and manganese
(Not specified)	Impairment of unknown condition due to trash

APPENDIX D
San Diego Bay Watershed Management Area—
Assessment of Impacts of MS4 Discharges on Potential Receiving Water
Conditions

Receiving Water Conditions with Unknown Contribution from the MS4 (continued)

Waterbody	Condition
Otay River	Elevated dissolved and total phosphorus
	Elevated dissolved copper, cyfluthrin, and TSS
	Elevated <i>E. coli</i> , fecal coliform, malathion and permethrin
	Elevated salinity
	Elevated surfactants (MBAs), bifenthrin, and turbidity
	Low O/E and California Rapid Assessment Method scores
	Poor IBI
	Toxicity to <i>C. dubia</i> acute and chronic survival and reproduction
	Toxicity to <i>C. dubia</i> acute and chronic survival, <i>H. azteca</i> acute, and <i>S. capricornutum</i> growth
	Toxicity to <i>C. dubia</i> acute reproduction
	Very poor IBI
Pacific Ocean Shoreline, Imperial Beach Pier	Impairment of COMM due to PCBs
San Diego Bay Shoreline, at Coronado Cays	Impairment of EST due to copper
San Diego Bay Shoreline, at Glorietta Bay	Impairment of EST due to copper
San Diego County Wildlife Refuge—South San Diego Bay Unit	Preservation of special habitat
San Diego Bay (deep areas)	Elevated anthracene in deep area sediments
San Diego Bay (freshwater-influenced areas)	Benthic community effects
	Elevated arsenic in sediments in freshwater-influenced areas
San Diego Bay (marinas)	Benthic community effects
	Elevated arsenic in marina sediments

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San Diego Bay Watershed Management Area—
Assessment of Impacts of MS4 Discharges on Potential Receiving Water
Conditions

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