This page intentionally left blank

Tijuana River Watershed Management Area TJR-TWAS-2 Dry Long Term Effectiveness Assessment Table

Category Group	Analyte	Units	Water Quality Benchmarks	Benchmark References	Tijuana River		2009-2010 Exceedances	Historical Mean Ratio to Benchmark
					TJR-TWAS-2	TJR-TWAS-2		
					3/17/10	5/11/10		
General/Physical/Organic								
NA	Electrical Conductivity	µmhos/cm	NA	2. CCR, 5. Goldbook	2,480	2,990	-	-
CHEM-Conventional	Oil & Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	5.3	<5	0%	NA[1]
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	8.02	8.1	0%	NA[1]
NA	Water Temperature	Celsius	NA		22.6	26.8	-	-
Bacteriological								
BACT-Enterococci	Enterococci	MPN/100 mL	151 (a)	1. Basin Plan	**500,000**	**1,300,000**	100%	NA[1]
BACT-Fecal Coliform	Fecal Coliform	MPN/100 mL	4,000	1. Basin Plan REC-1/REC-2	**9,000,000**	**5,000,000**	100%	NA[1]
BACT-Total Coliform	Total Coliform	MPN/100 mL	NA	1. Basin Plan	9,000,000	16,000,000	-	-
Wet Chemistry								
CHEM-Conventional	Ammonia as N	mg/L	(b)	6. U.S. EPA Water Quality Criteria (Freshwater)	**16.4**	**20**	100%	NA[1]
CHEM-Conventional	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	**44.3**	**41**	100%	NA[1]
CHEM-Conventional	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	**393**	**220**	100%	NA[1]
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.15	0%	NA[1]
CHEM-Conventional	Surfacants (MBAS)	mg/L	0.5	1. Basin Plan	**5.8**	**3.2**	100%	NA[1]
CHEM-Conventional	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	**2,150**	**710**	100%	NA[1]
CHEM-Conventional	Turbidity	NTU	20	1. Basin Plan	**1,137**	**140**	100%	NA[1]
NA	Dissolved Organic Carbon	mg/L	NA		24.4	18	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		21.1	25	-	-
NA	Total Organic Carbon	mg/L	NA		36.7	20	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	<0.05	0.064J	0%	NA[1]
NUTR-Total Nitrogen	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**21.1**	**25.064**	100%	NA[1]
NUTR-Total/Dissolved Phosphorus	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	**4.001**	**1.7**	100%	NA[1]
NUTR-Total/Dissolved Phosphorus	Total Phosphorus	mg/L	0.1	1. Basin Plan	**14.619**	**9**	100%	NA[1]
TDS-Total Dissolved Solids	Total Dissolved Solids	mg/L	2,100 (c)	1. Basin Plan	720	1,200	0%	NA[1]
Pesticides								
CHEM-Pesticides	Chlorpyrifos	µg/L	0.02 (acute) / 0.014 (chronic)	12. CA Dept. of Fish & Game, 2000	<0.002	<0.01	0%	NA[1]
CHEM-Pesticides	Diazinon	µg/L	0.08 (acute) / 0.05 (chronic)	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. U.S. EPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.01	0%	NA[1]
CHEM-Pesticides	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.01	0%	NA[1]
Hardness								
NA	Total Hardness	mg $CaCO_3$/L	NA		419.7	720	-	-
Total Metals								
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.0015	0.00093	0%	NA[1]
CHEM-Metals	Arsenic	mg/L	0.05	1. Basin Plan	0.0266	0.018	0%	NA[1]
CHEM-Metals	Cadmium	mg/L	0.005	1. Basin Plan	0.0016	0.0005	0%	NA[1]
CHEM-Metals	Chromium	mg/L	0.05	1. Basin Plan	0.0348	0.023	0%	NA[1]
CHEM-Metals	Copper	mg/L	1	1. Basin Plan	0.1292	0.061	0%	NA[1]
NA	Lead	mg/L	NA		0.1495	0.052	-	-
CHEM-Metals	Nickel	mg/L	0.1	1. Basin Plan	0.0632	0.029	0%	NA[1]
CHEM-Metals	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.001	0.00065	0%	NA[1]
CHEM-Metals	Zinc	mg/L	5	1. Basin Plan	0.4531	0.16	0%	NA[1]
Dissolved Metals								
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.0015	0.00097	0%	NA[1]
CHEM-Metals	Arsenic	mg/L	0.34 (acute) / 0.15 (chronic)	16. 40 CFR 131.38	0.0138	0.0096	0%	NA[1]
CHEM-Metals	Cadmium	mg/L	(d)	16. 40 CFR 131.38	<0.0004	<0.0001	0%	NA[1]
CHEM-Metals	Chromium	mg/L	(d)	16. 40 CFR 131.38	0.0004J	0.00028	0%	NA[1]
CHEM-Metals	Copper	mg/L	(d)	16. 40 CFR 131.38	<0.0008	0.003	0%	NA[1]
CHEM-Metals	Lead	mg/L	(d)	16. 40 CFR 131.38	0.00013	0.00007J	0%	NA[1]
CHEM-Metals	Nickel	mg/L	(d)	16. 40 CFR 131.38	0.0144	0.011	0%	NA[1]
NA	Selenium	mg/L	NA		0.0009	0.00036J	-	-
CHEM-Metals	Zinc	mg/L	(d)	16. 40 CFR 131.38	<0.0005	0.0051	0%	NA[1]

(a) Water Quality Benchmark for Enterococci are 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 prior to April 25, 2007).
(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 for total dissolved solids is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(d) 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.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(-) Unable to calculate because there is no criteria or published value available for the analyte.
NA[1]- Three or more years of data required to calculate the Historical Mean Ratio To Benchmark.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.

Shaded text – exceeds water quality benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River Watershed Management Area TJR-TWAS-2 Wet Long Term Effectiveness Assessment Table

Category Group	Analyte	Units	Water Quality Benchmarks	Benchmark References	Tijuana River		2009-2010 Exceedances	Historical Mean Ratio to Benchmark
					TJR-TWAS-2	TJR-TWAS-2		
					11/28/09	2/6/10		
General/Physical/Organic								
NA	Electrical Conductivity	µmhos/cm	NA	2. CCR, 5. Goldbook	1,129	663	-	-
CHEM-Conventional	Oil & Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2000	18.8	9.9	50%	NA[1]
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	7.91	7.41	0%	NA[1]
NA	Water Temperature	Celcius	NA		13.8	16.6	-	-
Bacteriological								
BACT-Enterococcus	Enterococcus	MPN/100 mL	NA	1. Basin Plan	≥16,000,000	2,400,000	-	-
BACT-Fecal Coliform	Fecal Coliform	MPN/100 mL	4,000	1. Basin Plan REC-1/REC-2	5,000,000	5,000,000	100%	NA[1]
BACT-Total Coliform	Total Coliform	MPN/100 mL	NA	1. Basin Plan	9,000,000	≥16,000,000	-	-
Wet Chemistry								
CHEM-Conventional	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	8.4	14.83	0%	NA[1]
CHEM-Conventional	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2000, 8. McNeeley (1979)	76.2	66.6	100%	NA[1]
CHEM-Conventional	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	111	259	50%	NA[1]
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	0.56	<0.75	0%	NA[1]
CHEM-Conventional	Surfacants (MBAS)	mg/L	0.5	1. Basin Plan	4.05H	0.026	50%	NA[1]
CHEM-Conventional	Total Suspended Solids	mg/L	100	4. MSGP 2000, 1. Basin Plan	5,717.5	2,638	100%	NA[1]
CHEM-Conventional	Turbidity	NTU	20	1. Basin Plan	2,910	1,446	100%	NA[1]
NA	Dissolved Organic Carbon	mg/L	NA		41.6	69.4	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		35.76	21.1	-	-
NA	Total Organic Carbon	mg/L	NA		48.2	66.6	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	3.52	<0.11	0%	NA[1]
NUTR-Total/Dissolved Phosphorus	Dissolved Phosphorus	mg/L	2	4. MSGP 2000	1.637	5.882	50%	NA[1]
NUTR-Total/Dissolved Phosphorus	Total Phosphorus	mg/L	2	4. MSGP 2000	15.893	13.745	100%	NA[1]
TDS-Total Dissolved Solids	Total Dissolved Solids	mg/L	2,100 (b)	1. Basin Plan	560	1,770B	0%	NA[1]
Pesticides								
CHEM-Pesticides	Chlorpyrifos	µg/L	0.2 (acute) / 0.014 (chronic)	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002	0%	NA[1]
CHEM-Pesticides	Diazinon	µg/L	0.08 (acute) / 0.05 (chronic)	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. U.S. EPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004	0%	NA[1]
CHEM-Pesticides	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006	0%	NA[1]
Hardness								
NA	Total Hardness	mg $CaCO_3$/L	NA		174.9	658.1	-	-
Total Metals								
NA	Antimony	mg/L	NA		0.0044	0.0016	-	-
NA	Arsenic	mg/L	NA		0.0394	0.0217	-	-
NA	Cadmium	mg/L	NA		0.0025	0.0013	-	-
NA	Chromium	mg/L	NA		0.0194	0.0291	-	-
NA	Copper	mg/L	NA		0.2277	0.1351	-	-
NA	Lead	mg/L	NA		0.15854	0.1512	-	-
NA	Nickel	mg/L	NA		0.0643	0.0681	-	-
CHEM-Metals	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0004J	0.0009	0%	NA[1]
NA	Zinc	mg/L	NA		1.038	0.4787	-	-
Dissolved Metals								
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.006	0.0016	0%	NA[1]
CHEM-Metals	Arsenic	mg/L	0.34 (c)	16. 40 CFR 131.38	0.0124	0.0132	0%	NA[1]
CHEM-Metals	Cadmium	mg/L	(d)	16. 40 CFR 131.38	<0.0004	<0.0004	0%	NA[1]
CHEM-Metals	Chromium	mg/L	(d)	16. 40 CFR 131.38	0.0006	0.0004J	0%	NA[1]
CHEM-Metals	Copper	mg/L	(d)	16. 40 CFR 131.38	0.0029	0.0007J	0%	NA[1]
CHEM-Metals	Lead	mg/L	(d)	16. 40 CFR 131.38	0.00057	0.0001	0%	NA[1]
CHEM-Metals	Nickel	mg/L	(d)	16. 40 CFR 131.38	0.012	0.0232	0%	NA[1]
NA	Selenium	mg/L	NA		0.0025	0.0009	-	-
CHEM-Metals	Zinc	mg/L	(d)	16. 40 CFR 131.38	0.0083	0.0005	0%	NA[1]
Pyrethroid								
NA	Allethrin	µg/L	NA		<0.0005	<0.0005	-	-
CHEM-Pesticides	Bifenthrin	µg/L	0.0093/0.0130*	Anderson et al., 2006	0.0178	0.0327B	100%	NA[1]
CHEM-Pesticides	Cyfluthrin	µg/L	0.344	Wheelock et al. 2004	0.0321	<0.0005	0%	NA[1]
CHEM-Pesticides	Cypermethrin	µg/L	0.683	Wheelock et al. 2004	0.5917	0.2542	0%	NA[1]
NA	Danitol	µg/L	NA		0.0048	0.0082B	-	-
NA	Deltamethrin	µg/L	NA		<0.0005	<0.0005	-	-
CHEM-Pesticides	Esfenvalerate	µg/L	0.25	Wheelock et al. 2004	0.0065	0.0137	0%	NA[1]
CHEM-Pesticides	L-Cyhalothrin	µg/L	0.2	Wheelock et al. 2004	<0.0005	0.029	0%	NA[1]
CHEM-Pesticides	Permethrin	µg/L	0.021/0.039/0.047*	Anderson et al., 2006/Wheelock et al., 2005	0.3612	<0.005	50%	NA[1]
NA	Prallethrin	µg/L	NA		<0.0005	<0.0005	-	-

(a) Water Quality Benchmark is based on CMC (salmonids absent) using pH described in the USEPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999.
(b) Water Quality Benchmark for total dissolved solids is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(c) Water Quality Benchmark for dissolved metal fractions are based on a default water effects ratios (WER) value of 1 and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000.
(d) 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.
*The lowest value presented in the range was used for conservative purposes.
NA indicate no criteria or published value was available or applicable to the matrix or program.
-Unable to calculate because there is no criteria or published value available for the analyte.
NA[1] Three or more years of data required to calculate the Historical Mean Ratio To Benchmark and the Historical Frequency Above Benchmark.
B-Anayte 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.

Shaded text – exceeds water quality benchmark.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River Watershed Management Area TJR-TWAS-1 Dry Long Term Effectiveness Assessment Table

Category Group	Analyte	Units	Water Quality Benchmarks	Benchmark References	Tijuana River		2009-2010 Exceedances	Historical Mean Ratio to Benchmark
					TJR-TWAS-1	TJR-TWAS-1		
					3/17/10	5/11/10		
General/Physical/Organic								
NA	Electrical Conductivity	µmhos/cm	NA	2. CCR, 5. Goldbook	1,877	1,634	-	-
CHEM-Conventional	Oil & Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5	0%	NA[1]
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	7.97	7.77	0%	NA[1]
NA	Water Temperature	Celsius	NA		11.9	14.9	-	-
Bacteriological								
BACT-Enterococci	Enterococci	MPN/100 mL	151 (a)	1. Basin Plan	<20	170	50%	NA[1]
BACT-Fecal Coliform	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	20	<20	0%	NA[1]
BACT-Total Coliform	Total Coliform	MPN/100 mL	NA	1. Basin Plan	1,300	5,000	-	-
Wet Chemistry								
CHEM-Conventional	Ammonia as N	mg/L	(b)	6. U.S. EPA Water Quality Criteria (Freshwater)	<0.03	0.083J	0%	NA[1]
CHEM-Conventional	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	<2	1.6J	0%	NA[1]
CHEM-Conventional	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	13.4	20	0%	NA[1]
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	<0.05	<0.15	0%	NA[1]
CHEM-Conventional	Surfacants (MBAS)	mg/L	0.5	1. Basin Plan	0.037	0.03J	0%	NA[1]
CHEM-Conventional	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	1.7J	<5	0%	NA[1]
CHEM-Conventional	Turbidity	NTU	20	1. Basin Plan	2.8	2.4	0%	NA[1]
NA	Dissolved Organic Carbon	mg/L	NA		7.5	7.3	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		<1	0.46	-	-
NA	Total Organic Carbon	mg/L	NA		7.6	7.5	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	<0.05	0.11	0%	NA[1]
NUTR-Total Nitrogen	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	<1	0.57	0%	NA[1]
NUTR-Total/Dissolved Phosphorus	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	0.071	0.049	0%	NA[1]
NUTR-Total/Dissolved Phosphorus	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.074	0.1	0%	NA[1]
TDS-Total Dissolved Solids	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	1,090	1,100	100%	NA[1]
Pesticides								
CHEM-Pesticides	Chlorpyrifos	µg/L	0.02 (acute) / 0.014 (chronic)	12. CA Dept. of Fish & Game, 2000	<0.002H	<0.01	0%	NA[1]
CHEM-Pesticides	Diazinon	µg/L	0.08 (acute) / 0.05 (chronic)	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. U.S. EPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004H	<0.01	0%	NA[1]
CHEM-Pesticides	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006H	<0.01	0%	NA[1]
Hardness								
NA	Total Hardness	mg $CaCO_3$/L	NA		469	480	-	-
Total Metals								
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.0001J	0.00008J	0%	NA[1]
CHEM-Metals	Arsenic	mg/L	0.05	1. Basin Plan	0.0048	0.0027	0%	NA[1]
CHEM-Metals	Cadmium	mg/L	0.005	1. Basin Plan	<0.0004	0.0001	0%	NA[1]
CHEM-Metals	Chromium	mg/L	0.05	1. Basin Plan	0.0001J	0.00013J	0%	NA[1]
CHEM-Metals	Copper	mg/L	1	1. Basin Plan	0.0008	0.00048J	0%	NA[1]
NA	Lead	mg/L	NA		0.0003	0.00045	-	-
CHEM-Metals	Nickel	mg/L	0.1	1. Basin Plan	0.001	0.0004J	0%	NA[1]
CHEM-Metals	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0003J	0.00023J	0%	NA[1]
CHEM-Metals	Zinc	mg/L	5	1. Basin Plan	<0.0005	0.0012J	0%	NA[1]
Dissolved Metals								
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.0001J	0.00008J	0%	NA[1]
CHEM-Metals	Arsenic	mg/L	0.34 (acute) / 0.15 (chronic)	16. 40 CFR 131.38	0.004	0.0024	0%	NA[1]
CHEM-Metals	Cadmium	mg/L	(d)	16. 40 CFR 131.38	<0.0004	0.0001	0%	NA[1]
CHEM-Metals	Chromium	mg/L	(d)	16. 40 CFR 131.38	<0.0005	0.00006J	0%	NA[1]
CHEM-Metals	Copper	mg/L	(d)	16. 40 CFR 131.38	0.0004J	0.00043J	0%	NA[1]
CHEM-Metals	Lead	mg/L	(d)	16. 40 CFR 131.38	<0.0001	<0.0002	0%	NA[1]
CHEM-Metals	Nickel	mg/L	(d)	16. 40 CFR 131.38	0.001	0.00033J	0%	NA[1]
NA	Selenium	mg/L	NA		0.0012	0.00027J	-	-
CHEM-Metals	Zinc	mg/L	(d)	16. 40 CFR 131.38	<0.0005	0.0018J	0%	NA[1]

(a) Water Quality Benchmark for Enterococci are 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 prior to April 25, 2007).
(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 for total dissolved solids is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(d) 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.

NA indicate no criteria or published value was available or applicable to the matrix or program.
(-) Unable to calculate because there is no criteria or published value available for the analyte.
NA[1]- Three or more years of data required to calculate the Historical Mean Ratio To Benchmark.
J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported value is estimated.
H-Sample received and/or analyzed past the recommended holding time.

Shaded text – exceeds water quality benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River Watershed Management Area TJR-TWAS-1 Wet Long Term Effectiveness Assessment Table

Category Group	Analyte	Units	Water Quality Benchmarks	Benchmark References	Tijuana River		2009-2010 Exceedances	Historical Mean Ratio to Benchmark
					TJR-TWAS-1	TJR-TWAS-1		
					12/7/09	2/6/10		
General/Physical/Organic								
NA	Electrical Conductivity	µmhos/cm	NA	2. CCR, 5. Goldbook	289	672	-	-
CHEM-Conventional	Oil & Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2000	2.6J	1.5J	0%	NA[1]
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	7.61	6.54	0%	NA[1]
NA	Water Temperature	Celcius	NA		9.3	11.5	-	-
Bacteriological								
BACT-Enterococcus	Enterococcus	MPN/100 mL	NA	1. Basin Plan	17,000	5,000	-	-
BACT-Fecal Coliform	Fecal Coliform	MPN/100 mL	4,000	1. Basin Plan REC-1/REC-2	8,000	6,000	100%	NA[1]
BACT-Total Coliform	Total Coliform	MPN/100 mL	NA	1. Basin Plan	23,000	220,000	-	-
Wet Chemistry								
CHEM-Conventional	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.18	0.08	0%	NA[1]
CHEM-Conventional	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2000, 8. McNeeley (1979)	<2H	3	0%	NA[1]
CHEM-Conventional	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	52.3	68.7	0%	NA[1]
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	0.07	<0.15	0%	NA[1]
CHEM-Conventional	Surfacants (MBAS)	mg/L	0.5	1. Basin Plan	0.76	0.039	50%	NA[1]
CHEM-Conventional	Total Suspended Solids	mg/L	100	4. MSGP 2000, 1. Basin Plan	413	241.3	100%	NA[1]
CHEM-Conventional	Turbidity	NTU	20	1. Basin Plan	306.5	275	100%	NA[1]
NA	Dissolved Organic Carbon	mg/L	NA		15.2	9.5	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		1.78	1.148	-	-
NA	Total Organic Carbon	mg/L	NA		14.8	9.3	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	0.86	0.31	0%	NA[1]
NUTR-Total/Dissolved Phosphorus	Dissolved Phosphorus	mg/L	2	4. MSGP 2000	0.333	0.261	0%	NA[1]
NUTR-Total/Dissolved Phosphorus	Total Phosphorus	mg/L	2	4. MSGP 2000	0.825	1.046	0%	NA[1]
TDS-Total Dissolved Solids	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	286	668B	50%	NA[1]
Pesticides								
CHEM-Pesticides	Chlorpyrifos	µg/L	0.2 (acute) / 0.014 (chronic)	12. CA Dept. of Fish & Game, 2000	<0.002	<0.002	0%	NA[1]
CHEM-Pesticides	Diazinon	µg/L	0.08 (acute) / 0.05 (chronic)	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. U.S. EPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.004	0%	NA[1]
CHEM-Pesticides	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.006	0%	NA[1]
Hardness								
NA	Total Hardness	mg $CaCO_3$/L	NA		56.9	270.6	-	-
Total Metals								
NA	Antimony	mg/L	NA		0.0002J	0.0003J	-	-
NA	Arsenic	mg/L	NA		0.0018	0.0033	-	-
NA	Cadmium	mg/L	NA		0.0003J	0.0003J	-	-
NA	Chromium	mg/L	NA		0.0018	0.0017	-	-
NA	Copper	mg/L	NA		0.0111	0.0055	-	-
NA	Lead	mg/L	NA		0.02199	0.0092	-	-
NA	Nickel	mg/L	NA		0.0027	0.0016	-	-
CHEM-Metals	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0002J	0.0006	0%	NA[1]
NA	Zinc	mg/L	NA		0.1257	0.0479	-	-
Dissolved Metals								
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.0002J	0.0003J	0%	NA[1]
CHEM-Metals	Arsenic	mg/L	0.34 (c)	16. 40 CFR 131.38	0.0015	0.0025	0%	NA[1]
CHEM-Metals	Cadmium	mg/L	(d)	16. 40 CFR 131.38	<0.0004	<0.0004	0%	NA[1]
CHEM-Metals	Chromium	mg/L	(d)	16. 40 CFR 131.38	0.0004J	0.0002J	0%	NA[1]
CHEM-Metals	Copper	mg/L	(d)	16. 40 CFR 131.38	0.0043	0.0018	0%	NA[1]
CHEM-Metals	Lead	mg/L	(d)	16. 40 CFR 131.38	0.00168	0.00006J	0%	NA[1]
CHEM-Metals	Nickel	mg/L	(d)	16. 40 CFR 131.38	0.0007	0.0008	0%	NA[1]
NA	Selenium	mg/L	NA		0.0005	0.0006	-	-
CHEM-Metals	Zinc	mg/L	(d)	16. 40 CFR 131.38	0.0178	0.0036	0%	NA[1]
Pyrethroid								
NA	Allethrin	µg/L	NA		<0.0005	<0.0005	-	-
CHEM-Pesticides	Bifenthrin	µg/L	0.0093/0.0130*	Anderson et al., 2006	0.0058	0.0277B	50%	NA[1]
CHEM-Pesticides	Cyfluthrin	µg/L	0.344	Wheelock et al. 2004	<0.0005	<0.0005	0%	NA[1]
CHEM-Pesticides	Cypermethrin	µg/L	0.683	Wheelock et al. 2004	<0.0005	<0.0005	0%	NA[1]
NA	Danitol	µg/L	NA		<0.0005	0.0042B	-	-
NA	Deltamethrin	µg/L	NA		<0.0005	<0.0005	-	-
CHEM-Pesticides	Esfenvalerate	µg/L	0.25	Wheelock et al. 2004	<0.0005	0.0026	0%	NA[1]
NA	Fenvalerate	µg/L	NA		<0.0005	0.0081	-	-
NA	Fluvalinate	µg/L	NA		<0.0005	<0.0005	-	-
CHEM-Pesticides	L-Cyhalothrin	µg/L	0.2	Wheelock et al. 2004	<0.0005	0.027	0%	NA[1]
CHEM-Pesticides	Permethrin	µg/L	0.021/0.039/0.047*	Anderson et al., 2006/Wheelock et al., 2005	<0.005	<0.005	0%	NA[1]
NA	Prallethrin	µg/L	NA		<0.0005	<0.0005	-	-

(a) Water Quality Benchmark is based on CMC (salmonids absent) using pH described in the USEPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999.
(b) Water Quality Benchmark for total dissolved solids is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(c) Water Quality Benchmark for dissolved metal fractions are based on a default water effects ratios (WER) value of 1 and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000.
(d) 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.
*The lowest value presented in the range was used for conservative purposes.
NA indicate no criteria or published value was available or applicable to the matrix or program.
-Unable to calculate because there is no criteria or published value available for the analyte.
NA[1] Three or more years of data required to calculate the Historical Mean Ratio To Benchmark and the Historical Frequency Above Benchmark.
B-Anayte 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.

Shaded text – exceeds water quality benchmark.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River Watershed Management Area TJR-MLS Wet Long Term Effectiveness Assessment Table

Analyte	Units	Water Quality Benchmarks	Benchmark References	2005-2006			2006-2007			2007-2008	2008-2009	2009-2010		Frequency Above Benchmarks	Mean Ratio to Benchmarks
				10/18/05	2/19/06	2/28/06	10/14/06	1/30/07	4/20/07	-	12/16/08	11/28/09	2/6/10		
General / Physical / Organic															
Electrical Conductivity	µmhos/cm	NA	2. CCR, 5. Goldbook	1,715	1,806	752	702	1,460	991		1,386	1,376	644		
Oil and Grease	mg/L	10	1.Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2000	2.5	1.32	2.9	38	<5	<5		<5	6.3	16.1	22%	0.83
pH	pH units	6.5-9.0	1. Basin Plan	7.56	7.82	7.87	7.56	7.47	7.53		7.65	7.47	7.26	0%	0.00
Water Temperature	Celcius	NA		17.60	13.60	15.50	16.80	11.90	15.50		13.60	14.5	16.4		
Bacteriological															
Enterococci	MPN/100 mL	NA	1. Basin Plan	5,000,000	800,000	500,000	1,700,000	800,000	1,700,000		800,000	9,000,000	3,000,000		
Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	>16,000,000	9,000,000	500,000	16,000,000	2,200,000	1,700,000		9,000,000	2,800,000	9,000,000	100%	1838.89
Total Coliform	MPN/100 mL	NA	1. Basin Plan	>16,000,000	16,000,000	2,200,000	16,000,000	5,000,000	5,000,000		≥16,000,000	16,000,000	≥16,000,000		
Wet Chemistry															
Ammonia as N	mg/L	(a)	6. USEPA Water Quality Criteria (Freshwater)	16	4.38	7.21	6.81	7.83	10.4		0.41	7.35	7.11	0%	0.43
Biochemical Oxygen Demand	mg/L	30	4. MSGP 2000, 8. McNeeley (1979)	23.1	28	25	15.1	77.7	67.6		82.2	74.1	>777.8	56%	1.74
Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	170	140	141	522	480	379		81	123	74.6	78%	1.95
Dissolved Organic Carbon	mg/L	NA		30.2	37.9	82.4	65	47.6	42.5		13.6	45.6	13.7		
Dissolved Phosphorus	mg/L	2	4. MSGP 2000	1.23	1.76	1.72	1.91	1.88	2.36		1.135	2.096	1.279	22%	0.85
Nitrate as N	mg/L	10	1. Basin Plan	3.54	2.65	1.45	7.62	2.34	2.36		3.08	5.06	1.4	0%	0.33
Nitrite as N	mg/L	1	1. Basin Plan	0.81	0.66	0.29	0.43	0.66	0.33		0.26	1.25	0.39	11%	0.56
Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.5	0.6	<0.5	<0.5	<0.5	<0.5		0.60	4.65H	<0.025	33%	1.64
Total Dissolved Solids	mg/L	2,100 (b)	1. Basin Plan	1,290	532	720	460	796	424		460	460	710B	0%	0.31
Total Kjeldahl Nitrogen	mg/L	NA		16.3	14.7	7.5	9.7	21.6	11.4		10	20.2	18.5		
Total Organic Carbon	mg/L	NA		69.7	51.7	136	130	60.4	76.8		28.2	46.5	14		
Total Phosphorus	mg/L	2	4. MSGP 2000	2.45	1.98	1.83	3	1.94	3.12		3.40	5.867	6.452	67%	1.67
Total Suspended Solids	mg/L	100	4. MSGP 2000, 1. Basin Plan	764	8,140	7,780	1,560	692	1,080		2,512	2,175	4,090	100%	31.99
Turbidity	NTU	20	1. Basin Plan	129	192	147	646	197	526		1,482	1,152	2,400	100%	38.17
Pesticides															
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%	0.17
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	0.241	0.278	0.128	0.347	0.272	0.390	Not Samples Collected	0.2094	<0.004	<0.004	78%	2.60
Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.641	<0.02	<0.02	1.940	<0.006	0.736		0.113	<0.006	<0.006	33%	0.89
Hardness															
Total Hardness	mg $CaCO_3$/L	NA		544	706	496	379	348	263		87.8	201.5	177.1		
Total Metals															
Antimony	mg/L	NA		<0.005	0.005	<0.005	0.004	0.008	0.004		0.0009	0.0027	0.0023		
Arsenic	mg/L	NA		0.014	0.019	0.012	0.025	0.009	0.009		0.0095	0.0206	0.0138		
Cadmium	mg/L	NA		<0.001	0.006	0.001	0.006	<0.001	<0.001		0.0009	0.0009	0.0013		
Chromium	mg/L	NA		<0.005	0.006	0.006	0.05	0.031	0.024		0.0093	0.0084	0.0094		
Copper	mg/L	NA		0.013	0.082	0.011	0.07	0.104	0.045		0.0693	0.0804	0.0481		
Lead	mg/L	NA		0.009	0.089	0.008	0.102	0.078	0.047		0.0594	0.05491	0.0751		
Nickel	mg/L	NA		0.025	0.050	0.017	0.037	0.032	0.023		0.0265	0.0335	0.0288		
Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.004	<0.004	<0.004		0.0003J	0.0006	0.0011	0%	0.34
Zinc	mg/L	NA		0.109	1.100	0.176	0.558	0.456	0.296		0.3394	0.3608	0.3405		
Dissolved Metals															
Antimony	mg/L	0.006	1. Basin Plan	<0.005	<0.005	<0.005	0.003	0.005	0.003		0.0032	0.0054	0.0029	0%	0.56
Arsenic	mg/L	0.34 (c)	16. 40 CFR 131.38	0.007	0.003	<0.001	0.004	<0.001	<0.001		0.0073	0.014	0.008	0%	0.01
Cadmium	mg/L	(d)	16. 40 CFR 131.38	<0.001	0.002	<0.001	<0.001	<0.001	<0.001		<0.0004	<0.0004	<0.0004	0%	0.05
Chromium	mg/L	(d)	16. 40 CFR 131.38	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		0.0003J	0.0007	0.0003J	0%	0.00
Copper	mg/L	(d)	16. 40 CFR 131.38	0.008	0.012	0.009	0.01	0.01	0.008		0.0019	0.0041	0.0024	0%	0.21
Lead	mg/L	(d)	16. 40 CFR 131.38	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001		0.00015	0.0007	0.0005	0%	0.04
Nickel	mg/L	(d)	16. 40 CFR 131.38	0.014	0.013	0.008	0.007	0.011	0.007		0.0048	0.0153	0.0066	0%	0.04
Selenium	mg/L	NA		<0.005	<0.005	<0.005	<0.004	<0.004	<0.004		0.0004J	0.002	0.0008		
Zinc	mg/L	(d)	16. 40 CFR 131.38	0.033	0.031	<0.020	0.021	0.02	<0.02		0.0034	0.0129	0.0058	0%	0.05
Pyrethroid															
Allethrin	µg/L	NA		NS	NS	NS	NS	NS	NS		<0.002	<0.0005	<0.0005	0%	
Bifenthrin	µg/L	0.0093/0.013*	Anderson et al. in press/Weston	NS	NS	NS	NS	NS	NS		0.0216	<0.0005	0.0265B	66%	1.733
Cyfluthrin	µg/L	0.344	San Diego Regional Monitoring Program	NS	NS	NS	NS	NS	NS		<0.002	0.0403	<0.0005	0%	0.040
Cypermethrin	µg/L	0.683	San Diego Regional Monitoring Program	NS	NS	NS	NS	NS	NS		0.1878	0.2183	0.1015	0%	0.248
Danitol	µg/L	NA		NS	NS	NS	NS	NS	NS		<0.002	<0.0005	0.0029B	0%	
Deltamethrin	µg/L	NA		NS	NS	NS	NS	NS	NS		<0.002	<0.0005	<0.0005	0%	
Esfenvalerate	µg/L	0.25	San Diego Regional Monitoring Program	NS	NS	NS	NS	NS	NS		0.0039	0.0036	0.0058	0%	0.018
L-Cyhalothrin	µg/L	0.2	San Diego Regional Monitoring Program	NS	NS	NS	NS	NS	NS		<0.002	<0.0005	0.0295	0%	0.513
Permethrin	µg/L	0.021/0.039/0.047*	Anderson et al. in press/Wheelock et al. 2005	NS	NS	NS	NS	NS	NS		0.2728	<0.005	<0.005	33%	4.410
Prallethrin	µg/L	NA		NS	NS	NS	NS	NS	NS		<0.002	<0.0005	<0.0005	0%	

(a) Water Quality Benchmark is based on CMC (salmonids absent) using pH described in the USEPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999.
(b) Water Quality Benchmark for total dissolved solids is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(c) Water Quality Benchmark for dissolved metal fractions are based on a default water effects ratios (WER) value of 1 and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000.
(d) 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.
NA indicates no criteria or published value was available or applicable to the matrix or program.
* The lowest value presented in the range was used for conservative purposes.
B-Anayte was detected in the associated method blank.
H-Sample received and or/analyzed past the recommended holding time.
J flagged values indicate that the reported result is below the reporting limit, but above the method detection limit.

Shaded text – exceeds water quality benchmark and the **CMC** water quality benchmark for metals.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River Watershed Management Area TJR-MLS Dry Long Term Effectiveness Assessment Table

Category Group	Analyte	Units	Water Quality Benchmarks	Benchmark References	Tijuana River		2009-2010 Exceedances	Historical Mean Ratio to Benchmark
					TJR-MLS	TJR-MLS		
					3/17/10	5/11/10		
General/Physical/Organic								
NA	Electrical Conductivity	µmhos/cm	NA	2. CCR, 5. Goldbook	2,610	3,060	-	-
CHEM-Conventional	Oil & Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	2.3J	<5	0%	NA[1]
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	7.81	7.89	0%	NA[1]
NA	Water Temperature	Celsius	NA		16.3	19.4	-	-
Bacteriological								
BACT-Enterococci	Enterococci	MPN/100 mL	151 (a)	1. Basin Plan	**500,000**	**50,000**	100%	NA[1]
BACT-Fecal Coliform	Fecal Coliform	MPN/100 mL	4,000	1. Basin Plan REC-1/REC-2	**5,000,000**	**1,300,000**	100%	NA[1]
BACT-Total Coliform	Total Coliform	MPN/100 mL	NA	1. Basin Plan	16,000,000	5,000,000	-	-
Wet Chemistry								
CHEM-Conventional	Ammonia as N	mg/L	(b)	6. U.S. EPA Water Quality Criteria (Freshwater)	**11.4**	**13**	100%	NA[1]
CHEM-Conventional	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	**40.8**	**13**	100%	NA[1]
CHEM-Conventional	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	**132**	64	50%	NA[1]
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	0.45	0.21	0%	NA[1]
CHEM-Conventional	Surfacants (MBAS)	mg/L	0.5	1. Basin Plan	**4.8**	**4.5**	100%	NA[1]
CHEM-Conventional	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	42.5	23	0%	NA[1]
CHEM-Conventional	Turbidity	NTU	20	1. Basin Plan	**27.5**	13	50%	NA[1]
NA	Dissolved Organic Carbon	mg/L	NA		20.9	19	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		14.3	14	-	-
NA	Total Organic Carbon	mg/L	NA		23.8	19	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	0.58	4.7	0%	NA[1]
NUTR-Total Nitrogen	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**15.33**	**18.91**	100%	NA[1]
NUTR-Total/Dissolved Phosphorus	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	**3.135**	**4.7**	100%	NA[1]
NUTR-Total/Dissolved Phosphorus	Total Phosphorus	mg/L	0.1	1. Basin Plan	**3.902**	**4.3**	100%	NA[1]
TDS-Total Dissolved Solids	Total Dissolved Solids	mg/L	2,100 (c)	1. Basin Plan	1,344	1,600	0%	NA[1]
Pesticides								
CHEM-Pesticides	Chlorpyrifos	µg/L	0.2 (acute) / 0.014 (chronic)	12. CA Dept. of Fish & Game, 2000	<0.002	<0.01	0%	NA[1]
CHEM-Pesticides	Diazinon	µg/L	0.08 (acute) / 0.05 (chronic)	12. CA Dept. of Fish & Game, 2000, 11. Chollas Creek TMDL for Diazinon, 10. U.S. EPA, Aquatic Life Ambient Water Quality Criteria Diazinon	<0.004	<0.01	0%	NA[1]
CHEM-Pesticides	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.006	<0.01	0%	NA[1]
Hardness								
NA	Total Hardness	mg $CaCO_3$/L	NA		422.7	550	-	-
Total Metals								
NA	Antimony	mg/L	0.006	1. Basin Plan	0.0008	0.00092	0%	NA[1]
NA	Arsenic	mg/L	0.05	1. Basin Plan	0.0067	0.0068	0%	NA[1]
NA	Cadmium	mg/L	0.005	1. Basin Plan	<0.0004	0.00005J	0%	NA[1]
NA	Chromium	mg/L	0.05	1. Basin Plan	0.0006	0.00066	0%	NA[1]
NA	Copper	mg/L	1	1. Basin Plan	0.0114	0.0096	0%	NA[1]
NA	Lead	mg/L	NA		0.00315	0.0008	-	-
NA	Nickel	mg/L	0.1	1. Basin Plan	0.0086	0.02	0%	NA[1]
CHEM-Metals	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.0016	0.0011	0%	NA[1]
NA	Zinc	mg/L	5	1. Basin Plan	0.0205	0.021	0%	NA[1]
Dissolved Metals								
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.0008	0.00088	0%	NA[1]
CHEM-Metals	Arsenic	mg/L	0.34 (acute) / 0.15 (chronic)	16. 40 CFR 131.38	0.0074	0.0068	0%	NA[1]
CHEM-Metals	Cadmium	mg/L	(d)	16. 40 CFR 131.38	<0.0004	0.00003J	0%	NA[1]
CHEM-Metals	Chromium	mg/L	(d)	16. 40 CFR 131.38	0.0003J	0.0003	0%	NA[1]
CHEM-Metals	Copper	mg/L	(d)	16. 40 CFR 131.38	0.0041	0.0075	0%	NA[1]
CHEM-Metals	Lead	mg/L	(d)	16. 40 CFR 131.38	0.00047	0.0002	0%	NA[1]
CHEM-Metals	Nickel	mg/L	(d)	16. 40 CFR 131.38	0.0079	0.019	0%	NA[1]
NA	Selenium	mg/L	NA		0.001	0.001	-	-
CHEM-Metals	Zinc	mg/L	(d)	16. 40 CFR 131.38	0.007	0.018	0%	NA[1]

(a) Water Quality Benchmark for Enterococi are 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 prior to April 25, 2007).
(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 for total dissolved solids is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(d) 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.

J-Analyte was detected at a concentration below the reporting limit and above the method detection limit. Reported Value is estimated.
NA indicate no criteria or published value was available or applicable to the matrix or program.
(-) Unable to calculate because there is no criteria or published value available for the analyte.
NA[1]- Three or more years of data required to calculate the Historical Mean Ratio To Benchmark.

Shaded text – exceeds water quality benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River WMA 2010-2011 Dry Weather Assessment
Analytical Data for SMC05402

Category Group	Analyte	Units	Water Quality Benchmarks	HSA Benchmark References	Barrett Lake (911.30) SMC05402 7/28/2011	2010-2011 Exceedances	Historical Mean Ratio to Benchmarks	Historical Frequency Above Benchmarks
Physical Chemistry								
NA	Alkalinity	mg/L	NA		160	-	-	-
NA	Conductivity	µmhos/cm	NA		671	-	-	-
CHEM-Conventional	Dissolved Oxygen	mg/L	<5	1. Basin Plan	8.12	0%	NA[1]	NA[1]
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	8.3	0%	NA[1]	NA[1]
NA	Salinity	PPT	NA		0.33	-	-	-
NA	Water Temperature	Celsius	NA		20.64	-	-	-
Periphyton								
NA	Ash-Free Dry Weight	g/m²	NA		68.01	-	-	-
NA	Chlorophyll-a	mg/m²	NA		59.9	-	-	-
Wet Chemistry								
CHEM-Conventional	Ammonia as N	mg/L	(a)	6. USEPA Water Quality Criteria (Freshwater)	<0.048	0%	NA[1]	NA[1]
CHEM-Conventional	Chloride	mg/L	250 (b)	1. Basin Plan	53	0%	NA[1]	NA[1]
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	<0.01	0%	NA[1]	NA[1]
CHEM-Conventional	Sulfate	mg/L	250 (c)	1. Basin Plan	70	0%	NA[1]	NA[1]
CHEM-Conventional	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	2	0%	NA[1]	NA[1]
NA	Orthophosphate as P	mg/L	NA		<0.00083	-	-	-
NA	Silica	mg/L	NA		36	-	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		0.12	-	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	1	0%	NA[1]	NA[1]
NUTR-Total Nitrogen	Total Nitrogen	mg/L	1	1. Basin Plan	1.2	100%	NA[1]	NA[1]
NUTR-Total Phosphorus	Total Phosphorus	mg/L	0.1	1. Basin Plan	0.02	0%	NA[1]	NA[1]
TDS-Total Dissolved Solids	Total Dissolved Solids (calculated)[1]	mg/L	500 (d)	1. Basin Plan	470	0%	NA[1]	NA[1]
Hardness								
NA	Total Hardness	mg $CaCO_3$/L	NA		200	-	-	-
Total Metals								
CHEM-Metals	Arsenic	mg/L	0.05	1. Basin Plan	0.0011	0%	NA[1]	NA[1]
CHEM-Metals	Cadmium	mg/L	0.005	1. Basin Plan	<0.00002	0%	NA[1]	NA[1]
CHEM-Metals	Chromium	mg/L	0.05	1. Basin Plan	<0.000074	0%	NA[1]	NA[1]
CHEM-Metals	Copper	mg/L	1.0	1. Basin Plan	0.00032J	0%	NA[1]	NA[1]
NA	Lead	mg/L	NA		0.00004J	-	-	-
CHEM-Metals	Nickel	mg/L	0.1	1. Basin Plan	0.0006J	0%	NA[1]	NA[1]
CHEM-Metals	Selenium	mg/L	0.005	40 CFR 131.38	0.0014	0%	NA[1]	NA[1]
CHEM-Metals	Zinc	mg/L	5.0	1. Basin Plan	0.0011J	0%	NA[1]	NA[1]
Dissolved Metals								
CHEM-Metals	Arsenic	mg/L	0.34 acute / 0.15 chronic	40 CFR 131.38	0.0011	0%	NA[1]	NA[1]
CHEM-Metals	Cadmium	mg/L	(e)	40 CFR 131.38	<0.00002	0%	NA[1]	NA[1]
CHEM-Metals	Chromium	mg/L	(e)	40 CFR 131.38	<0.000074	0%	NA[1]	NA[1]
CHEM-Metals	Copper	mg/L	(e)	40 CFR 131.38	0.00029J	0%	NA[1]	NA[1]
CHEM-Metals	Lead	mg/L	(e)	40 CFR 131.38	<0.000011	0%	NA[1]	NA[1]
CHEM-Metals	Nickel	mg/L	(e)	40 CFR 131.38	0.00058J	0%	NA[1]	NA[1]
NA	Selenium	mg/L	NA		0.0013	-	-	-
CHEM-Metals	Zinc	mg/L	(e)	40 CFR 131.38	0.0016J	0%	NA[1]	NA[1]
Pyrethroids								
NA	Allethrin	µg/L	NA		<0.00085	-	-	-
CHEM-Pesticides	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	<0.00079	0%	NA[1]	NA[1]
CHEM-Pesticides	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.00083	0%	NA[1]	NA[1]
CHEM-Pesticides	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.00066	0%	NA[1]	NA[1]
NA	Deltamethrin	µg/L	NA		<0.0019	-	-	-
CHEM-Pesticides	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.00098	0%	NA[1]	NA[1]
NA	Fenvalerate	µg/L	NA		<0.00098	0%	-	-
CHEM-Pesticides	L-Cyhalothrin	µg/L	0.2	17. Wheelock et al., 2004	<0.0012	0%	NA[1]	NA[1]
CHEM-Pesticides	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.005	0%	NA[1]	NA[1]
NA	Prallethrin	µg/L	NA		<0.00092	-	-	-

<-Results less than the method detection limit.
NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) 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.
(b) Water Quality Benchmark for chloride is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(c) Water Quality Benchmark for sulfate is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(d) Water Quality Benchmark for total dissolved solids is based on the San Diego Reginal Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with ammendments effective prior to April 25, 2007).
(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.
[1] Total dissolved solids was calculated by multiplying the conductivity by a factor of 0.7 (TDS=Conductivity x 0.7) per SM1030F.
NA[1] Three or more years of data required to calculate the Historical Mean Ratio To Benchmarks and Historical Frequency Above Benchmarks .
(-) Unable to calculate because there is no criteria or published value available for the analyte.

Shaded text – exceeds water quality benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River WMA 2010-2011 Dry Weather Assessment
Analytical Data for SMC03510

Category Group	Analyte	Units	Water Quality Benchmarks	HSA Benchmark References	Marron (911.21) SMC03510 7/21/2011	2010-2011 Exceedances	Historical Mean Ratio to Benchmarks	Historical Frequency Above Benchmarks
Physical Chemistry								
NA	Alkalinity	mg/L	NA		408	-	-	-
NA	Conductivity	µmhos/cm	NA		2,458	-	-	-
CHEM-Conventional	Dissolved Oxygen	mg/L	<5	1. Basin Plan	11.24	0%	NA[1]	NA[1]
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	8.2	0%	NA[1]	NA[1]
NA	Salinity	PPT	NA		1.27	-	-	-
NA	Water Temperature	Celsius	NA		23.12	-	-	-
Periphyton								
NA	Ash-Free Dry Weight	g/m²	NA		52.99	-	-	-
NA	Chlorophyll-a	mg/m²	NA		169.9	-	-	-
Wet Chemistry								
CHEM-Conventional	Ammonia as N	mg/L	(a)	6. USEPA Water Quality Criteria (Freshwater)	0.24	0%	NA[1]	NA[1]
CHEM-Conventional	Chloride	mg/L	250 (b)	1. Basin Plan	**280**	100%	NA[1]	NA[1]
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	0.15	0%	NA[1]	NA[1]
CHEM-Conventional	Sulfate	mg/L	250(c)	1. Basin Plan	**320**	100%	NA[1]	NA[1]
CHEM-Conventional	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	5	0%	NA[1]	NA[1]
NA	Orthophosphate as P	mg/L	NA		3.1	-	-	-
NA	Silica	mg/L	NA		34	-	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		1.5	-	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	5.45	0%	NA[1]	NA[1]
NUTR-Total Nitrogen	Total Nitrogen	mg/L	1	1. Basin Plan	**7**	100%	NA[1]	NA[1]
NUTR-Total Phosphorus	Total Phosphorus	mg/L	0.1	1. Basin Plan	**4.5**	100%	NA[1]	NA[1]
TDS-Total Dissolved Solids	Total Dissolved Solids (calculated)[1]	mg/L	500 (d)	1. Basin Plan	**1,721**	100%	NA[1]	NA[1]
Hardness								
NA	Total Hardness	mg $CaCO_3$/L	NA		440	-	-	-
Total Metals								
CHEM-Metals	Arsenic	mg/L	0.05	1. Basin Plan	0.0037	0%	NA[1]	NA[1]
CHEM-Metals	Cadmium	mg/L	0.005	1. Basin Plan	0.00003J	0%	NA[1]	NA[1]
CHEM-Metals	Chromium	mg/L	0.05	1. Basin Plan	0.0005	0%	NA[1]	NA[1]
CHEM-Metals	Copper	mg/L	1.0	1. Basin Plan	0.0012	0%	NA[1]	NA[1]
NA	Lead	mg/L	NA		0.0001J	-	-	-
CHEM-Metals	Nickel	mg/L	0.1	1. Basin Plan	0.012	0%	NA[1]	NA[1]
CHEM-Metals	Selenium	mg/L	0.005	40 CFR 131.38	0.00048	0%	NA[1]	NA[1]
CHEM-Metals	Zinc	mg/L	5.0	1. Basin Plan	0.0044J	0%	NA[1]	NA[1]
Dissolved Metals								
CHEM-Metals	Arsenic	mg/L	0.34 acute / 0.15 chronic	40 CFR 131.38	0.0035	0%	NA[1]	NA[1]
CHEM-Metals	Cadmium	mg/L	(e)	40 CFR 131.38	0.00003J	0%	NA[1]	NA[1]
CHEM-Metals	Chromium	mg/L	(e)	40 CFR 131.38	0.00029	0%	NA[1]	NA[1]
CHEM-Metals	Copper	mg/L	(e)	40 CFR 131.38	0.0012	0%	NA[1]	NA[1]
CHEM-Metals	Lead	mg/L	(e)	40 CFR 131.38	0.00003J	0%	NA[1]	NA[1]
CHEM-Metals	Nickel	mg/L	(e)	40 CFR 131.38	0.012	0%	NA[1]	NA[1]
NA	Selenium	mg/L	NA		0.00047	-	-	-
CHEM-Metals	Zinc	mg/L	(e)	40 CFR 131.38	0.005	0%	NA[1]	NA[1]
Pyrethroids								
NA	Allethrin	µg/L	NA		<0.00085	-	-	-
CHEM-Pesticides	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	<0.00079	0%	NA[1]	NA[1]
CHEM-Pesticides	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.00083	0%	NA[1]	NA[1]
CHEM-Pesticides	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.00066	0%	NA[1]	NA[1]
NA	Deltamethrin	µg/L	NA		<0.0019	-	-	-
CHEM-Pesticides	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.00098	0%	NA[1]	NA[1]
NA	Fenvalerate	µg/L	NA		<0.00098	0%	-	-
CHEM-Pesticides	L-Cyhalothrin	µg/L	0.2	17. Wheelock et al., 2004	<0.0012	0%	NA[1]	NA[1]
CHEM-Pesticides	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.005	0%	NA[1]	NA[1]
NA	Prallethrin	µg/L	NA		<0.00092	-	-	-

<-Results less than the method detection limit.
NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) 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.
(b) Water Quality Benchmark for chloride is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(c) Water Quality Benchmark for sulfate is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(d) Water Quality Benchmark for total dissolved solids is based on the San Diego Reginal Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with ammendments effective prior to April 25, 2007).
(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.
[1] Total dissolved solids was calculated by multiplying the conductivity by a factor of 0.7 (TDS=Conductivity x 0.7) per SM1030F.
NA[1] Three or more years of data required to calculate the Historical Mean Ratio To Benchmarks and Historical Frequency Above Benchmarks .
(-) Unable to calculate because there is no criteria or published value available for the analyte.

Shaded text – exceeds water quality benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River WMA 2011-2012 Wet Weather Assessment
Analytical Data for TJR-MLS

Category Group	Analyte	Units	Water Quality Benchmarks	Benchmark References	TJR-MLS		2011-2012 Exceedances	Historical Frequency Above Benchmarks	Historical Mean Ratio to Benchmarks
					10/06/11	02/07/12			
General/Physical/Organic									
NA	Electrical Conductivity	µmhos/cm	NA		1,199	1,084	-	-	-
CHEM-Conventional	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2000	2.2J	6.3	0%	10%	0.60
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	7.57	4.76[Ω]	0%	0%	0.00
NA	Water Temperature	Celcius	NA		18.1	16.7	-	-	-
Bacteriological									
BACT-Enterococcus	Enterococcus	MPN/100 mL	NA		9,000,000	1,300,000	-	-	-
BACT-Fecal Coliform	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	16,000,000	5,000,000	100%	100%	1214.29
BACT-Total Coliform	Total Coliform	MPN/100 mL	NA		>16,000,000	16,000,000	-	-	-
Wet Chemistry									
CHEM-Conventional	Ammonia as N	mg/L	(a)	6. USEPA Water Quality Criteria (Freshwater)	8.9	8.5[Ω]	0%	10%	0.53
CHEM-Conventional	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2000, 8. McNeeley (1979)	45	96[†]	100%	57%	1.67
CHEM-Conventional	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	210	410	100%	71%	1.93
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	1.2	0.64	50%	10%	0.51
CHEM-Conventional	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.54	0.44	50%	38%	1.68
CHEM-Conventional	Total Suspended Solids	mg/L	100	4. MSGP 2000, 1. Basin Plan	420	1,300	100%	90%	20.31
CHEM-Conventional	Turbidity	NTU	20	1. Basin Plan	220	580	100%	95%	40.69
NA	Dissolved Organic Carbon	mg/L	NA		23	16	-	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		14	23	-	-	-
NA	Total Organic Carbon	mg/L	NA		32	18	-	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	2.9	1.9	0%	0%	0.27
NUTR-Total/Dissolved Phosphorus	Dissolved Phosphorus	mg/L	2	4. MSGP 2000	2.3	3.9	100%	29%	0.93
NUTR-Total/Dissolved Phosphorus	Total Phosphorus	mg/L	2	4. MSGP 2000	4.1	7.2	100%	71%	1.47
TDS-Total Dissolved Solids	Total Dissolved Solids	mg/L	2,100 (b)	1. Basin Plan	790	650	0%	0%	0.34
Pesticides									
CHEM-Pesticides	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01	0%	26%	1.42
CHEM-Pesticides	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	0.15	0.09	100%	86%	4.32
CHEM-Pesticides	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	0.35H*	0.23	0%	44%	1.12
Hardness									
NA	Total Hardness	mg $CaCO_3$/L	NA		350	420	-	-	-
Total Metals									
NA	Antimony	mg/L	NA		0.002	0.0016	-	-	-
NA	Arsenic	mg/L	NA		0.012	0.01	-	-	-
NA	Cadmium	mg/L	NA		0.00062	0.00075	-	-	-
NA	Chromium	mg/L	NA		0.016	0.021	-	-	-
NA	Copper	mg/L	NA		0.074	0.088	-	-	-
NA	Lead	mg/L	NA		0.055	0.061	-	-	-
NA	Nickel	mg/L	NA		0.027	0.028	-	-	-
CHEM-Metals	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.001	0.0011	0%	5%	0.47
NA	Zinc	mg/L	NA		0.24	0.27	-	-	-
Dissolved Metals									
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.0039	0.0029	0%	0%	0.48
CHEM-Metals	Arsenic	mg/L	0.34 (c)	16. 40 CFR 131.38	0.0079	0.0058	0%	0%	0.01
CHEM-Metals	Cadmium	mg/L	(d)	16. 40 CFR 131.38	0.00003J	0.00003J	0%	0%	0.03
CHEM-Metals	Chromium	mg/L	(d)	16. 40 CFR 131.38	0.00061	0.00052	0%	0%	0.00
CHEM-Metals	Copper	mg/L	(d)	16. 40 CFR 131.38	0.0027	0.0024	0%	5%	0.22
CHEM-Metals	Lead	mg/L	(d)	16. 40 CFR 131.38	0.00041	0.00037	0%	0%	0.00
CHEM-Metals	Nickel	mg/L	(d)	16. 40 CFR 131.38	0.011	0.0071	0%	0%	0.01
NA	Selenium	mg/L	NA		0.00069	0.00076	-	-	-
CHEM-Metals	Zinc	mg/L	(d)	16. 40 CFR 131.38	0.011	0.0083	0%	0%	0.08
Pyrethroid									
NA	Allethrin	µg/L	NA		<0.002	<0.002	-	-	-
CHEM-Pesticides	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	0.0209	0.0253	100%	67%	NA[1]
CHEM-Pesticides	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.002	0.025	0%	0%	NA[1]
CHEM-Pesticides	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	0.1322	0.3644	0%	0%	NA[1]
NA	Danitol	µg/L	NA		<0.002	<0.002	-	-	-
NA	Deltamethrin	µg/L	NA		<0.002	<0.002	-	-	-
CHEM-Pesticides	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002	0%	0%	NA[1]
CHEM-Pesticides	L-Cyhalothrin	µg/L	0.2	17. Wheelock et al., 2004	<0.002	0.0123	0%	0%	NA[1]
CHEM-Pesticides	Permethrin	µg/L	0.021	15. Anderson et al., 2006	1.6028	1.2961	100%	33%	NA[1]
NA	Prallethrin	µg/L	NA		<0.002	<0.002	-	-	-

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark is based on CMC (salmonids absent) using pH described in the USEPA, 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999.
(b) Water Quality Benchmark for total dissolved solids is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(c) Water Quality Benchmark for dissolved metal fractions are based on a default water effects ratios (WER) value of 1 and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000.
(d) 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.
[Ω]Result was not compared to the water quality benchmark for pH due to equipment malfunction. Ammonia water quality benchmark could not be calculated for the assessement.
[†] Result was from composite sample. The grab sample was analyzed outside of the holding time.
H*-Original result was outside of calibration range. Analysis was re-run outside of 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 Historical Mean Ratio to Benchmarks.
(-) Unable to calculate because there is no criteria or published value available for analyte.

Shaded text – exceeds water quality benchmark.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River WMA 2011-2012 Dry Weather Assessment
Analytical Data for TJR-MLS

Category Group	Analyte	Units	Water Quality Benchmarks	Benchmark References	TJR-MLS 12/06/11-12/07/11	TJR-MLS 05/08/12-05/09/12	2011-2012 Exceedances	Historical Frequency Above Benchmarks	Historical Mean Ratio to Benchmarks
General/Physical/Organic									
NA	Electrical Conductivity	µmhos/cm	NA		3,040	2,410	-	-	-
CHEM-Conventional	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	<5	0%	0%	NA[1]
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	7.48	7.66	0%	0%	NA[1]
NA	Water Temperature	Celcius	NA		12.3	19.6	-	-	-
Bacteriological									
BACT-Enterococcus	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**3,000**	**8,000**	100%	100%	NA[1]
BACT-Fecal Coliform	Fecal Coliform	MPN/100 mL	4,000	1.Basin Plan REC-1/REC-2	1,300	1,700	0%	100%	NA[1]
BACT-Total Coliform	Total Coliform	MPN/100 mL	NA		230,000	70,000	-	-	-
Wet Chemistry									
CHEM-Conventional	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	**7**	**6.6**	100%	100%	NA[1]
CHEM-Conventional	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	6	5.5	0%	100%	NA[1]
CHEM-Conventional	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	58	68	0%	50%	NA[1]
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	0.018J	0.084J	0%	0%	NA[1]
CHEM-Conventional	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	**1.6**	0.088	50%	100%	NA[1]
CHEM-Conventional	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	**64**	24	50%	0%	NA[1]
CHEM-Conventional	Turbidity	NTU	20	1. Basin Plan	**24**	**33**	100%	50%	NA[1]
NA	Dissolved Organic Carbon	mg/L	NA		18	17	-	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		8.6	7.9	-	-	-
NA	Total Organic Carbon	mg/L	NA		18	16	-	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	<0.1	0.077J	0%	0%	NA[1]
NUTR-Total Nitrogen	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	**8.618**	**8.061**	100%	100%	NA[1]
NUTR-Total/Dissolved Phosphorus	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	**1.8**	**4.1**	100%	100%	NA[1]
NUTR-Total/Dissolved Phosphorus	Total Phosphorus	mg/L	0.1	1. Basin Plan	**2.6**	**4.7**	100%	100%	NA[1]
TDS-Total Dissolved Solids	Total Dissolved Solids	mg/L	2,100 (c)	1. Basin Plan	1,500	2000	0%	0%	NA[1]
Pesticides									
CHEM-Pesticides	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01	0%	0%	NA[1]
CHEM-Pesticides	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 Diazinor	<0.01	0.0065J	0%	0%	NA[1]
CHEM-Pesticides	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.01	<0.01	0%	0%	NA[1]
Hardness									
NA	Total Hardness	mg $CaCO_3$/L	NA		760	680	-	-	-
Total Metals									
NA	Antimony	mg/L	0.006	1. Basin Plan	0.00028J	0.00042J	0%	0%	NA[1]
NA	Arsenic	mg/L	0.05	1. Basin Plan	0.0036	0.0043	0%	0%	NA[1]
NA	Cadmium	mg/L	0.005	1. Basin Plan	0.00002J	0.00003J	0%	0%	NA[1]
NA	Chromium	mg/L	0.05	1. Basin Plan	0.00064	0.00086	0%	0%	NA[1]
NA	Copper	mg/L	1	1. Basin Plan	0.0013	0.0014	0%	0%	NA[1]
NA	Lead	mg/L	NA		0.00078	0.0013	-	-	-
NA	Nickel	mg/L	0.1	1. Basin Plan	0.0081	0.0089	0%	0%	NA[1]
CHEM-Metals	Selenium	mg/L	0.005	16. 40 CFR 131.38	0.00034J	0.00039J	0%	0%	NA[1]
NA	Zinc	mg/L	5.0	1. Basin Plan	0.0042J	0.0069	0%	0%	NA[1]
Dissolved Metals									
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.00026J	0.0004J	0%	0%	NA[1]
CHEM-Metals	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0033	0.0041	0%	0%	NA[1]
CHEM-Metals	Cadmium	mg/L	(d)	16. 40 CFR 131.38	<0.0001	<0.0001	0%	0%	NA[1]
CHEM-Metals	Chromium	mg/L	(d)	16. 40 CFR 131.38	0.00017J	0.0002	0%	0%	NA[1]
CHEM-Metals	Copper	mg/L	(d)	16. 40 CFR 131.38	<0.0005	0.00059	0%	0%	NA[1]
CHEM-Metals	Lead	mg/L	(d)	16. 40 CFR 131.38	0.00003J	0.00002J	0%	0%	NA[1]
CHEM-Metals	Nickel	mg/L	(d)	16. 40 CFR 131.38	0.0079	0.0086	0%	0%	NA[1]
NA	Selenium	mg/L	NA		0.00032J	0.00037J	-	-	-
CHEM-Metals	Zinc	mg/L	(d)	16. 40 CFR 131.38	0.0016J	0.0027J	0%	0%	NA[1]

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 prior to April 25, 2007).
(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 for total dissolved solids is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(d) 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 Historical Mean Ratio to Benchmarks.
(-) Unable to calculate because there is no criteria or published value available for the analyte.

Shaded text-exceeds water quality benchmarks and the **CCC** water quality benchmark for Ammonia.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River WMA 2011-2012 Wet Weather Assessment
Analytical Data for TJR-TWAS-1

Category Group	Analyte	Units	Water Quality Benchmarks	Benchmark References	TJR-TWAS-1		2011-2012 Exceedances	Historical Frequency Above Benchmarks	Historical Mean Ratio to Benchmarks
					10/05/11-10/06/11	02/07/12			
General/Physical/Organic									
NA	Electrical Conductivity	µmhos/cm	NA		1,884	1,123	-	-	-
CHEM-Conventional	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL, 4. MSGP 2000	<5	1.4J	0%	0%	NA[1]
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	7.84	7.18	0%	0%	NA[1]
NA	Water Temperature	Celcius	NA		13.2	9.6	-	-	-
Bacteriological									
BACT-Enterococcus	Enterococcus	MPN/100 mL	NA		7,000	1,300	-	-	-
BACT-Fecal Coliform	Fecal Coliform	MPN/100 mL	400	1. Basin Plan REC-1/REC-2	1,100	<20	50%	100%	NA[1]
BACT-Total Coliform	Total Coliform	MPN/100 mL	NA		9,149E	11,000	-	-	-
Wet Chemistry									
CHEM-Conventional	Ammonia as N	mg/L	(a)	6. U.S. EPA Water Quality Criteria (Freshwater)	0.13	<0.1	0%	0%	NA[1]
CHEM-Conventional	Biochemical Oxygen Demand	mg/L	30	4. MSGP 2000, 8. McNeeley (1979)	3.6	2.8[†]	0%	0%	NA[1]
CHEM-Conventional	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	45	34	0%	0%	NA[1]
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	0.016J	0.011J	0%	0%	NA[1]
CHEM-Conventional	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.094	0.11	0%	50%	NA[1]
CHEM-Conventional	Total Suspended Solids	mg/L	100	4. MSGP 2000, 1. Basin Plan	24	15	0%	100%	NA[1]
CHEM-Conventional	Turbidity	NTU	20	1. Basin Plan	14	22	50%	100%	NA[1]
NA	Dissolved Organic Carbon	mg/L	NA		13	6.4	-	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		0.95	0.77	-	-	-
NA	Total Organic Carbon	mg/L	NA		14	7.4	-	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	0.53	0.2	0%	0%	NA[1]
NUTR-Total/Dissolved Phosphorus	Dissolved Phosphorus	mg/L	2	4. MSGP 2000	0.23	0.11	0%	0%	NA[1]
NUTR-Total/Dissolved Phosphorus	Total Phosphorus	mg/L	2	4. MSGP 2000	0.41	0.22	0%	0%	NA[1]
TDS-Total Dissolved Solids	Total Dissolved Solids	mg/L	500 (b)	1. Basin Plan	980	680	100%	50%	NA[1]
Pesticides									
CHEM-Pesticides	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01	0%	0%	NA[1]
CHEM-Pesticides	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%	0%	NA[1]
CHEM-Pesticides	Malathion	µg/L	0.43	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.01	<0.01	0%	0%	NA[1]
Hardness									
NA	Hardness	mg $CaCO_3$/L	NA		440	370	-	-	-
Total Metals									
NA	Antimony	mg/L	NA		0.00016J	0.00011J	-	-	-
NA	Arsenic	mg/L	NA		0.0037	0.0032	-	-	-
NA	Cadmium	mg/L	NA		0.000091J	0.000058J	-	-	-
NA	Chromium	mg/L	NA		0.00064	0.00043	-	-	-
NA	Copper	mg/L	NA		0.0026	0.0014	-	-	-
NA	Lead	mg/L	NA		0.0016	0.0012	-	-	-
NA	Nickel	mg/L	NA		0.0018	0.0012	-	-	-
CHEM-Metals	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.0004	0.00028J	0%	0%	NA[1]
NA	Zinc	mg/L	NA		0.013	0.0082	-	-	-
Dissolved Metals									
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.00015J	0.000096J	0%	0%	NA[1]
CHEM-Metals	Arsenic	mg/L	0.34 (c)	16. 40 CFR 131.38	0.0026	0.0021	0%	0%	NA[1]
CHEM-Metals	Cadmium	mg/L	(d)	16. 40 CFR 131.38	0.00006J	0.00004J	0%	0%	NA[1]
CHEM-Metals	Chromium	mg/L	(d)	16. 40 CFR 131.38	0.00013J	0.000084J	0%	0%	NA[1]
CHEM-Metals	Copper	mg/L	(d)	16. 40 CFR 131.38	0.0017	0.00089	0%	0%	NA[1]
CHEM-Metals	Lead	mg/L	(d)	16. 40 CFR 131.38	0.000091J	0.000059J	0%	0%	NA[1]
CHEM-Metals	Nickel	mg/L	(d)	16. 40 CFR 131.38	0.0015	0.0011	0%	0%	NA[1]
NA	Selenium	mg/L	NA		<0.0004	<0.0004	-	-	-
CHEM-Metals	Zinc	mg/L	(d)	16. 40 CFR 131.38	0.0051	0.0027J	0%	0%	NA[1]
Pyrethroid									
NA	Allethrin	µg/L	NA		<0.002	<0.002	-	-	-
CHEM-Pesticides	Bifenthrin	µg/L	0.0093	15. Anderson et al., 2006	<0.002	<0.002	0%	50%	NA[1]
CHEM-Pesticides	Cyfluthrin	µg/L	0.344	17. Wheelock et al., 2004	<0.002	<0.002	0%	0%	NA[1]
CHEM-Pesticides	Cypermethrin	µg/L	0.683	17. Wheelock et al., 2004	<0.002	<0.002	0%	0%	NA[1]
NA	Danitol	µg/L	NA		<0.002	<0.002	-	-	-
NA	Deltamethrin	µg/L	NA		<0.002	<0.002	-	-	-
CHEM-Pesticides	Esfenvalerate	µg/L	0.25	17. Wheelock et al., 2004	<0.002	<0.002	0%	0%	NA[1]
CHEM-Pesticides	L-Cyhalothrin	µg/L	0.20	17. Wheelock et al., 2004	<0.002	<0.002	0%	0%	NA[1]
CHEM-Pesticides	Permethrin	µg/L	0.021	15. Anderson et al., 2006	<0.025[††]	<0.025[††]	0%	0%	NA[1]
NA	Prallethrin	µg/L	NA		<0.002	<0.002	-	-	-

NA indicate no criteria or published value was available or applicable to the matrix or program.
(a) Water Quality Benchmark is 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.
(b) Water Quality Benchmark for total dissolved solids is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(c) Water Quality Benchmark for dissolved metal fractions are based on a default water effects ratios (WER) value of 1 and are calculated as described by the USEPA Federal Register Doc. 40 CFR Part 131, May 18, 2000.
(d) 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.
[†] Result was from composite sample. The grab sample was analyzed outside of the holding time
[††] 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.
NA[1] Three or more years of data required to calculate the Historical Mean Ratio to Benchmarks.
(-) Unable to calculate because there is no criteria or published value available for analyte.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.

Tijuana River WMA 2011-2012 Dry Weather Assessment
Analytical Data for TJR-TWAS-1

Category Group	Analyte	Units	Water Quality Benchmarks	Benchmark References	TJR-TWAS-1		2011-2012 Exceedances	Historical Frequency Above Benchmarks	Historical Mean Ratio to Benchmarks
					09/12/11-09/13/11	05/08/12-05/09/12			
General/Physical/Organic									
NA	Electrical Conductivity	µmhos/cm	NA		1,545	1,579	-	-	-
CHEM-Conventional	Oil and Grease	mg/L	10	1. Basin Plan, 3. Anacostia River TMDL	<5	1.3J	0%	0%	NA[1]
CHEM-Conventional	pH	pH units	6.5-9.0	1. Basin Plan	7.87	7.82	0%	0%	NA[1]
NA	Water Temperature	Celcius	NA		16.50	12.50	-	-	-
Bacteriological									
BACT-Enterococcus	Enterococcus	MPN/100 mL	151 (a)	1. Basin Plan	**500**	**270**	100%	50%	NA[1]
BACT-Fecal Coliform	Fecal Coliform	MPN/100 mL	400	1.Basin Plan REC-1/REC-2	110	**500**	50%	0%	NA[1]
BACT-Total Coliform	Total Coliform	MPN/100 mL	NA		8,000	1,300	-	-	-
Wet Chemistry									
CHEM-Conventional	Ammonia as N	mg/L	(b)	6. USEPA Water Quality Criteria (Freshwater)	0.076J	0.054J	0%	0%	NA[1]
CHEM-Conventional	Biochemical Oxygen Demand	mg/L	10	8. McNeeley (1979)	1.3J	0.64J	0%	0%	NA[1]
CHEM-Conventional	Chemical Oxygen Demand	mg/L	120	4. MSGP 2000	21	11	0%	0%	NA[1]
CHEM-Conventional	Nitrite as N	mg/L	1	1. Basin Plan	<0.1	<0.1	0%	0%	NA[1]
CHEM-Conventional	Surfactants (MBAS)	mg/L	0.5	1. Basin Plan	0.049J	0.032J	0%	0%	NA[1]
CHEM-Conventional	Total Suspended Solids	mg/L	58	14. NSQD, 1. Basin Plan	4	5	0%	0%	NA[1]
CHEM-Conventional	Turbidity	NTU	20	1. Basin Plan	4.3	4.4	0%	0%	NA[1]
NA	Dissolved Organic Carbon	mg/L	NA		8.1	5.1	-	-	-
NA	Total Kjeldahl Nitrogen	mg/L	NA		0.43	0.28	-	-	-
NA	Total Organic Carbon	mg/L	NA		7.5	4.9	-	-	-
NUTR-Nitrate as N	Nitrate as N	mg/L	10	1. Basin Plan	0.067J	<0.1	0%	0%	NA[1]
NUTR-Total Nitrogen	Total Nitrogen (calculated)	mg/L	1	1. Basin Plan	0.497	0.28	0%	0%	NA[1]
NUTR-Total/Dissolved Phosphorus	Dissolved Phosphorus	mg/L	0.1	1. Basin Plan	**0.18**	**0.13**	100%	0%	NA[1]
NUTR-Total/Dissolved Phosphorus	Total Phosphorus	mg/L	0.1	1. Basin Plan	**0.25**	**0.15**	100%	0%	NA[1]
TDS-Total Dissolved Solids	Total Dissolved Solids	mg/L	500 (c)	1. Basin Plan	**1,000**	**940**	100%	100%	NA[1]
Pesticides									
CHEM-Pesticides	Chlorpyrifos	µg/L	0.02 acute / 0.014 chronic	12. CA Dept. of Fish & Game, 2000	<0.01	<0.01	0%	0%	NA[1]
CHEM-Pesticides	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 Diazinor	<0.01	<0.01	0%	0%	NA[1]
CHEM-Pesticides	Malathion	µg/L	0.43 acute / 0.1 chronic	13. CA Dept. of Fish & Game, 1998, 5. Goldbook	<0.01	<0.01	0%	0%	NA[1]
Hardness									
NA	Total Hardness	mg $CaCO_3$/L	NA		470	420	-	-	-
Total Metals									
NA	Antimony	mg/L	0.006	1. Basin Plan	0.00007J	0.00005J	0%	0%	NA[1]
NA	Arsenic	mg/L	0.05	1. Basin Plan	0.0027	0.0031	0%	0%	NA[1]
NA	Cadmium	mg/L	0.005	1. Basin Plan	0.00004J	0.00005J	0%	0%	NA[1]
NA	Chromium	mg/L	0.05	1. Basin Plan	0.00009J	0.00009J	0%	0%	NA[1]
NA	Copper	mg/L	1	1. Basin Plan	0.00045J	<0.0005	0%	0%	NA[1]
NA	Lead	mg/L	NA		0.00039	0.00017J	-	-	-
NA	Nickel	mg/L	0.1	1. Basin Plan	0.00033J	0.0003J	0%	0%	NA[1]
CHEM-Metals	Selenium	mg/L	0.005	16. 40 CFR 131.38	<0.0004	<0.0004	0%	0%	NA[1]
NA	Zinc	mg/L	5.0	1. Basin Plan	0.0013J	0.0014J	0%	0%	NA[1]
Dissolved Metals									
CHEM-Metals	Antimony	mg/L	0.006	1. Basin Plan	0.00008J	0.00006J	0%	0%	NA[1]
CHEM-Metals	Arsenic	mg/L	0.34 acute / 0.15 chronic	16. 40 CFR 131.38	0.0023	0.0026	0%	0%	NA[1]
CHEM-Metals	Cadmium	mg/L	(d)	16. 40 CFR 131.38	0.00004J	0.00005J	0%	0%	NA[1]
CHEM-Metals	Chromium	mg/L	(d)	16. 40 CFR 131.38	0.00015J	<0.0002	0%	0%	NA[1]
CHEM-Metals	Copper	mg/L	(d)	16. 40 CFR 131.38	0.00048J	<0.0005	0%	0%	NA[1]
CHEM-Metals	Lead	mg/L	(d)	16. 40 CFR 131.38	0.00003J	<0.0002	0%	0%	NA[1]
CHEM-Metals	Nickel	mg/L	(d)	16. 40 CFR 131.38	0.00031J	0.00023J	0%	0%	NA[1]
NA	Selenium	mg/L	NA		<0.0004	<0.0004	-	-	-
CHEM-Metals	Zinc	mg/L	(d)	16. 40 CFR 131.38	0.0021J	0.0014J	0%	0%	NA[1]

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 prior to April 25, 2007).
(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 for total dissolved solids is based on the San Diego Regional Water Quality Control Plan by watershed for the San Diego Region (Basin Plan), 1994 (with amendments effective prior to April 25, 2007).
(d) 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 Historical Mean Ratio to Benchmarks.
(-) Unable to calculate because there is no criteria or published value available for the analyte.

Shaded text – exceeds water quality benchmarks.

Sources
Please refer to the San Diego County Copermittee Regional Monitoring Program Benchmark Sources for benchmark source citations.