

Appendix E

Land Use Loading Analyses

Used in the Chollas Creek Metals Total Maximum Daily Load

California Regional Water Quality Control Board, San Diego Region

Table E-1 presents descriptions of the land uses present in the Chollas Creek watershed. The original land uses categories were developed by the San Diego Association of Governments (SANDAG, 2000) and were reclassified for use in the water quality models.

Table E-1. Description of land uses in the Chollas Creek Watershed

Model Land Use Code	SANDAG Land Use Code	Land Use Description
1100	1000	Spaced Rural Residential - Homes in rural areas with lot sizes of approximately 1 to 10 acres
	1100	Single Family Residential - Single family detached housing units with lot sizes less than 1 acre
1200	1200	Multi-Family Residential - Attached housing units, two or more units per structure
	1300	Mobile Home Parks- 10 or more spaces that are primarily for residential use
	1403	Military Barracks
	1409	Other Group Quarters - Convalescent or retirement homes
	1501	Hotels, motels, and other transient accommodations with three or less floors
1400	5001	Wholesale Trade - Examples are clothing and supply, includes Swap meet areas
	5002	Regional Shopping Centers - Typically larger than 40 acres
	5003	Community Commercial - Smaller in size (8 to 20 acres) than the regional shopping centers
	5004	Neighborhood Shopping Centers- Usually less than 10 acres in size with on-site parking
	5007	Store-front Commercial - Commercial activities along major streets, with limited on-site parking
	5009	Other Retail - Other retail land uses not classified above
	6002	Office (Low Rise) - Buildings with less than 5 stories
	6003	Government/Civic Centers - Large government office buildings or centers; and civic centers
	6102	Churches
	6103	Libraries
	6104	Post Offices
	6105	Fire/Police/Ranger Stations
	6109	Other Public Services - Museums, art galleries, social service agencies, historic sites
	6502	Hospitals-General
	6509	Other Health Care - Medical centers, health care services, and other health care facilities
	6802	Universities and Colleges
	6803-6805	High Schools - Senior High Schools, Junior High Schools, Middle Schools
	6806	Elementary Schools
	6807	School District Offices
	6809	Other Schools - Includes adult schools, non-residential day care and nursery schools
	7205	Golf Course Clubhouses - Clubhouses, swimming and tennis facilities, and parking lots
1401	5006	Auto dealerships
1501	4113	Communications and Utilities - Broadcasting stations, relay towers, electrical generating plants, water and sewage treatment facilities
1502	4112	Freeway - Divided roadways with 4 or more lanes, and right-of-way widths greater than 200 ft.
1503	2001	Heavy Industry - Shipbuilding, airframe, and aircraft manufacturing
1505	2101	Industrial Parks - Office/Industrial Uses Clustered Into A Center
	2103	Light Industry, General - Includes manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services, and recycling centers
	2104	Warehousing/Public storage
1506	4120	Marine Terminals
1507	4119	Other Transportation - Maintenance yards, transit yards and walking bridges
1508	4114	Parking, Surface - All surface parking lots not associated with another land use
	4116	Park and Ride Lots- Stand-alone parking areas that are not associated with any land use
1509	4111	Rail Stations/Transit Centers/Seaports- Parking areas are included

Table E-1. *Continued*

Model Land Use Code	SANDAG Land Use Code	Land Use Description
1600	6701	Military Use
1700	7210	Other Recreation - RV parks, campgrounds, swim clubs, and Stand-alone movie theaters
	7601	Parks, Active- Tennis or basketball courts, baseball diamonds, soccer fields, or swings
	7606	Landscape, Open Space - Actively landscaped areas within residential neighborhoods
1800	6101	Cemetery
	7204	Golf Courses
2301	2301	Junkyard/Dumps/Landfills - Include auto wrecking/dismantling and recycling centers
4000	7603	Open Space Parks & Preserves
	9101	Vacant
5000	9201	Bays, Lagoons
	9202	Inland Water
7000	9501	Residential Under Construction
	9502	Commercial Under Construction
	9507	Freeway Under Construction

A land use distribution map is provided in Figure E-1.

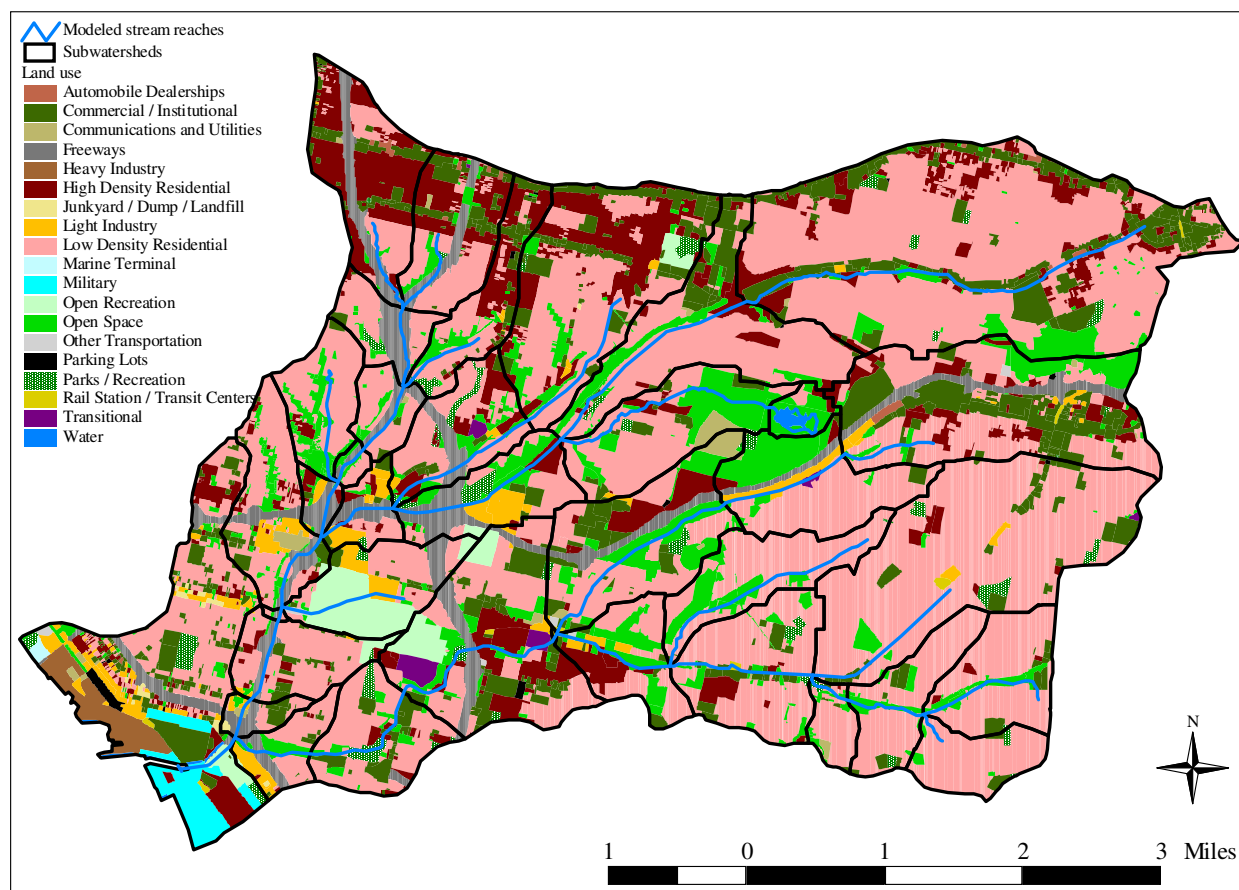


Figure E-1. Land uses in the Chollas Creek Watershed

To supplement Figure E-1, the land use areas (in square miles) associated with each subwatershed are presented in Table E-2. This table also presents the total area for each subwatershed, the total area for each land use, and the percent of total area associated with each land use.

Tables E-3 through E-5 present the average annual wet weather loadings of copper, lead, and zinc for each land use by subwatershed (average of 1990-2003 simulation results). Similarly, Tables E-6 through E-8 present the average relative copper, lead, and zinc load by land use for each subwatershed. These six tables will provide useful information for development of a TMDL implementation strategy by identifying areas and land uses that contribute the greatest copper, lead, and/or zinc loads.

Table E-2. Land use area (square miles) of each subwatershed

Sub-watershed Number	Low Density Residential (1100)	High Density Residential (1200)	Commercial / Institutional (1400)	Automobile Dealerships (1401)	Communications and Utilities (1501)	Freeways (1502)	Heavy Industry (1503)	Junkyard / Dump / Landfill (1504)	Light Industry (1505)	Marine Terminal (1506)	Other Transportation (1507)	Parking Lots (1508)	Rail Station / Transit Centers (1509)	Military (1600)	Parks / Recreation (1700)	Open Recreation (1800)	Open Space (4000)	Water (5000)	Transitional (7000)	Total Area
19001	0.56	0.20	0.29	0.00	0.01	0.11	0.21	0.03	0.14	0.02	0.01	0.03	0.01	0.24	0.05	0.05	0.06	0.02	0.00	2.01
19002	0.04	0.00	0.03	0.00	0.01	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.13
19003	0.33	0.03	0.05	0.00	0.00	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.49
19004	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
19005	0.36	0.04	0.05	0.00	0.03	0.09	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.70
19006	0.01	0.02	0.00	0.00	0.00	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.11
19007	0.31	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.46
19008	0.03	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.06
19009	0.16	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.25
19010	0.18	0.01	0.01	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.32
19011	0.17	0.42	0.11	0.01	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.86
19012	0.23	0.20	0.11	0.01	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.68
19013	0.19	0.17	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.05	0.00	0.00	0.52
19014	0.19	0.00	0.03	0.00	0.00	0.05	0.00	0.00	0.06	0.00	0.01	0.00	0.00	0.00	0.01	0.28	0.01	0.00	0.00	0.63
19015	0.06	0.02	0.02	0.00	0.00	0.06	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.23
19016	0.28	0.10	0.03	0.00	0.00	0.07	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.06	0.00	0.01	0.61
19017	0.70	0.45	0.29	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.11	0.00	0.00	1.62
19018	0.16	0.05	0.03	0.00	0.00	0.13	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.10	0.00	0.00	0.58
19019	0.77	0.12	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.14	0.00	0.00	1.22
19020	2.63	0.44	0.74	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.20	0.00	0.00	4.07
19021	0.43	0.03	0.06	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.24	0.00	0.00	0.82
19022	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.02	0.00	0.14
19023	0.15	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.29
19024	0.36	0.04	0.10	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00	0.61
19025	0.47	0.25	0.23	0.00	0.01	0.13	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.02	0.13	0.11	0.00	0.07	1.43
19026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19027	0.41	0.13	0.15	0.00	0.05	0.09	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.25	0.00	0.00	1.11
19028	0.46	0.02	0.02	0.00	0.00	0.04	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.21	0.00	0.01	0.82
19029	0.69	0.21	0.48	0.01	0.00	0.15	0.00	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	1.78
19030	0.23	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.51
19031	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.66
19032	0.64	0.05	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.06	0.00	0.00	0.86
19033	1.90	0.04	0.15	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.05	0.00	0.04	0.00	0.00	2.21
19034	0.14	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.18
19035	0.42	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.05	0.00	0.00	0.51
19036	0.51	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.63
19037	0.35	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.39
Total Area	15.06	3.15	3.45	0.04	0.17	1.52	0.21	0.03	0.65	0.02	0.03	0.04	0.03	0.24	0.43	0.53	2.78	0.04	0.09	28.52
Relative Area	52.81%	11.04%	12.08%	0.15%	0.60%	5.34%	0.73%	0.11%	2.28%	0.05%	0.10%	0.15%	0.12%	0.84%	1.52%	1.87%	9.73%	0.14%	0.33%	

Copper, Lead, and Zinc TMDLs for the Chollas Creek Watershed

Table E-3. Average annual wet weather loadings by land use for copper (grams per year)

Sub-watershed Number	Low Density Residential (1100)	High Density Residential (1200)	Commercial / Institutional (1400)	Automobile Dealerships (1401)	Communications and Utilities (1501)	Freeways (1502)	Heavy Industry (1503)	Junkyard / Dump / Landfill (1504)	Light Industry (1505)	Marine Terminal (1506)	Other Transportation (1507)	Parking Lots (1508)	Rail Station / Transit Centers (1509)	Military (1600)	Parks / Recreation (1700)	Open Recreation (1800)	Open Space (4000)	Transitional (7000)	Total Load
19001	116.91	413.23	9,125.79	98.74	158.55	5,559.78	1,258.60	1,493.39	1,231.38	116.06	183.73	8,733.47	1,242.39	0.00	0.35	0.00	0.00	0.00	29,732.37
19002	7.74	0.00	908.13	0.00	79.29	2,112.00	0.00	290.43	79.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,477.04
19003	69.12	59.44	1,517.27	0.00	0.00	2,328.64	0.00	0.00	51.95	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	4,026.43
19004	1.74	0.00	0.00	0.00	0.00	180.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	182.26
19005	85.57	83.51	1,673.39	0.00	345.10	4,729.43	0.00	0.00	453.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	7,370.01
19006	1.49	38.87	110.83	0.00	0.00	3,032.61	0.00	0.00	107.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,290.93
19007	75.12	32.40	199.48	0.00	0.00	36.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	343.12
19008	6.80	0.00	0.00	0.00	0.00	758.19	0.00	0.00	3.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	768.05
19009	38.14	0.00	232.71	0.00	32.65	2,689.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,993.18
19010	42.37	11.52	288.13	0.00	0.00	5,180.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	5,522.81
19011	40.55	876.08	3,435.48	646.64	23.32	7,491.26	0.00	0.00	3.06	0.00	0.00	94.60	0.00	0.00	0.01	0.00	0.00	0.00	12,610.99
19012	54.64	411.76	3,369.01	517.31	46.64	4,296.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	8,695.62
19013	45.93	354.18	2,559.99	77.57	0.00	180.52	0.00	0.00	30.61	0.00	0.00	663.45	0.00	0.00	0.11	0.00	0.00	0.00	3,912.37
19014	45.52	2.16	820.08	0.00	0.00	2,364.76	0.00	0.00	547.90	0.00	138.73	0.00	0.00	0.00	0.04	0.25	0.00	0.00	3,919.43
19015	14.34	43.91	609.54	0.00	0.00	3,140.97	0.00	0.00	483.61	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	4,292.41
19016	67.74	214.52	953.08	0.00	0.00	3,664.42	0.00	0.00	104.06	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.01	0.00	5,004.08
19017	167.16	925.03	9,353.37	0.00	0.00	0.00	0.00	41.50	82.65	0.00	0.00	0.00	0.00	0.00	0.18	0.03	0.01	0.00	10,569.93
19018	37.56	94.30	875.49	0.00	0.00	6,588.75	0.00	0.00	740.72	0.00	0.00	0.00	0.00	0.00	0.24	0.01	0.01	0.00	8,337.08
19019	184.32	246.20	5,385.94	0.00	41.98	0.00	0.00	0.00	0.00	0.00	0.00	94.60	0.00	0.00	0.07	0.00	0.01	0.00	5,953.11
19020	628.00	902.71	23,693.79	931.12	37.31	0.00	0.00	0.00	36.73	0.00	0.00	94.60	329.96	0.00	0.25	0.00	0.02	0.00	26,654.48
19021	103.73	69.11	1,917.22	0.00	545.63	0.00	0.00	0.00	33.66	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.02	0.00	2,669.42
19022	3.23	24.47	33.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	60.96
19023	30.69	8.59	387.63	0.00	0.00	2,256.40	0.00	83.01	375.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,142.15
19024	76.28	78.78	3,123.14	0.00	0.00	667.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	3,946.47
19025	112.60	515.43	7,181.27	0.00	107.26	6,805.39	0.00	0.00	140.80	0.00	33.03	2,084.95	329.96	0.00	0.13	0.11	0.01	0.01	17,310.94
19026	0.00	0.00	22.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188.61	0.00	0.00	0.00	0.00	0.00	210.78
19027	98.50	261.31	4,632.39	0.00	671.56	4,855.81	0.00	0.00	48.97	0.00	72.66	473.83	424.26	0.00	0.16	0.00	0.02	0.00	11,539.48
19028	109.12	39.59	609.54	0.00	37.31	2,310.54	0.00	0.00	474.43	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.02	0.00	3,580.61
19029	165.83	426.16	15,260.20	1,008.69	41.98	7,906.52	0.00	0.00	296.90	0.00	99.10	473.83	471.31	0.00	0.02	0.00	0.02	0.00	26,150.56
19030	53.73	179.25	941.97	0.00	0.00	0.00	0.00	0.00	226.50	0.00	66.07	0.00	141.35	0.00	0.00	0.00	0.01	0.00	1,608.87
19031	123.46	0.00	55.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	178.89
19032	152.31	105.82	2,615.41	0.00	18.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	565.61	0.00	0.15	0.00	0.01	0.00	3,457.97
19033	453.96	77.75	4,831.86	0.00	0.00	0.00	0.00	0.00	168.35	0.00	0.00	284.21	1,178.27	0.00	0.33	0.00	0.00	0.00	6,994.74
19034	32.50	2.16	221.65	0.00	97.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	354.29
19035	99.08	0.00	1,019.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	1,118.68
19036	122.55	21.60	1,418.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	1,562.66
19037	84.08	0.00	509.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	593.90

Table E-4. Average annual wet weather loadings by land use for lead (grams per year)

Sub-watershed Number	Low Density Residential (1100)	High Density Residential (1200)	Commercial / Institutional (1400)	Automobile Dealerships (1401)	Communications and Utilities (1501)	Freeways (1502)	Heavy Industry (1503)	Junkyard / Dump / Landfill (1504)	Light Industry (1505)	Marine Terminal (1506)	Other Transportation (1507)	Parking Lots (1508)	Rail Station / Transit Centers (1509)	Military (1600)	Parks / Recreation (1700)	Open Recreation (1800)	Open Space (4000)	Transitional (7000)	Total Load
19001	291.73	559.84	5,689.73	26.38	86.99	6,273.81	404.30	479.69	1,216.23	37.28	106.22	5,610.64	399.07	0.00	0.06	0.00	0.00	0.00	21,181.97
19002	19.33	0.00	566.20	0.00	43.50	2,383.24	0.00	93.29	78.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,184.02
19003	172.49	80.53	945.99	0.00	0.00	2,627.70	0.00	0.00	51.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,878.01
19004	4.05	0.00	0.00	0.00	0.00	203.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	207.75
19005	199.03	112.80	1,042.93	0.00	189.34	5,336.82	0.00	0.00	447.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,328.01
19006	3.47	52.51	69.07	0.00	0.00	3,422.08	0.00	0.00	105.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,652.86
19007	174.73	43.76	124.32	0.00	0.00	40.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	383.57
19008	15.81	0.00	0.00	0.00	0.00	855.57	0.00	0.00	3.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	874.39
19009	88.71	0.00	145.04	0.00	17.91	3,035.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,286.77
19010	98.55	15.56	179.57	0.00	0.00	5,846.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	6,139.77
19011	94.31	1,183.41	2,141.15	172.76	12.79	8,453.34	0.00	0.00	3.02	0.00	0.00	60.76	0.00	0.00	0.00	0.00	0.00	0.00	12,121.55
19012	127.09	556.21	2,099.72	138.21	25.59	4,847.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,794.81
19013	106.84	478.42	1,595.50	20.73	0.00	203.70	0.00	0.00	30.21	0.00	0.00	426.17	0.00	0.00	0.02	0.00	0.00	0.00	2,861.59
19014	105.88	2.92	511.11	0.00	0.00	2,668.46	0.00	0.00	540.74	0.00	80.09	0.00	0.00	0.00	0.01	0.04	0.00	0.00	3,909.23
19015	33.36	59.32	379.89	0.00	0.00	3,544.35	0.00	0.00	477.29	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	4,494.22
19016	157.56	289.77	594.00	0.00	0.00	4,135.03	0.00	0.00	102.70	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	5,279.12
19017	388.80	1,249.54	5,829.44	0.00	0.00	0.00	0.00	13.33	81.57	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	7,562.71
19018	87.36	127.39	545.64	0.00	0.00	7,434.93	0.00	0.00	731.04	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	8,926.41
19019	428.72	332.56	3,356.76	0.00	23.03	0.00	0.00	0.00	0.00	0.00	0.00	60.76	0.00	0.00	0.01	0.00	0.00	0.00	4,201.85
19020	1,460.70	1,219.39	14,767.02	248.76	20.47	0.00	0.00	0.00	36.25	0.00	0.00	60.76	105.99	0.00	0.04	0.00	0.00	0.00	17,919.40
19021	241.26	93.35	1,194.90	0.00	299.37	0.00	0.00	0.00	33.23	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	1,862.11
19022	7.52	33.06	20.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.30
19023	76.58	11.64	241.68	0.00	0.00	2,546.18	0.00	26.66	371.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,273.95
19024	190.35	106.73	1,947.21	0.00	0.00	753.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	2,998.06
19025	261.90	696.24	4,475.69	0.00	58.85	7,679.39	0.00	0.00	138.96	0.00	19.07	1,339.28	105.99	0.00	0.02	0.02	0.00	0.00	14,775.40
19026	0.00	0.00	13.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.58	0.00	0.00	0.00	0.00	0.00	74.40
19027	229.11	352.98	2,887.11	0.00	368.45	5,479.43	0.00	0.00	48.33	0.00	41.95	304.37	136.28	0.00	0.03	0.00	0.00	0.00	9,848.04
19028	253.80	53.48	379.89	0.00	20.47	2,607.27	0.00	0.00	468.23	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	3,783.16
19029	385.71	575.66	9,510.84	269.49	23.03	8,921.93	0.00	0.00	293.02	0.00	57.21	304.37	151.39	0.00	0.00	0.00	0.00	0.00	20,492.66
19030	124.97	242.13	587.07	0.00	0.00	0.00	0.00	0.00	223.54	0.00	38.14	0.00	45.40	0.00	0.00	0.00	0.00	0.00	1,261.26
19031	287.17	0.00	34.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	321.70
19032	354.28	142.94	1,630.04	0.00	10.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	181.68	0.00	0.02	0.00	0.00	0.00	2,319.21
19033	1,055.89	105.02	3,011.43	0.00	0.00	0.00	0.00	0.00	166.15	0.00	0.00	182.57	378.48	0.00	0.05	0.00	0.00	0.00	4,899.60
19034	75.60	2.92	138.14	0.00	53.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	270.40
19035	230.46	0.00	635.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	865.90
19036	285.04	29.17	884.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,198.29
19037	195.56	0.00	317.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	513.28

Copper, Lead, and Zinc TMDLs for the Chollas Creek Watershed

Table E-5. Average annual wet weather loadings by land use for zinc (grams per year)

Sub-watershed Number	Low Density Residential (1100)	High Density Residential (1200)	Commercial / Institutional (1400)	Auto-mobile Dealerships (1401)	Communications and Utilities (1501)	Freeways (1502)	Heavy Industry (1503)	Junkyard / Dump / Landfill (1504)	Light Industry (1505)	Marine Terminal (1506)	Other Transportation (1507)	Parking Lots (1508)	Rail Station / Transit Centers (1509)	Military (1600)	Parks / Recreation (1700)	Open Recreation (1800)	Open Space (4000)	Transitional (7000)	Total Load
19001	488.77	2,475.28	53,126.96	903.19	2,454.80	25,697.50	7,975.51	9,463.58	13,728.43	735.44	838.21	55,343.97	7,873.01	0.01	2.59	0.00	0.04	0.00	181,107.29
19002	32.38	0.00	5,286.81	0.00	1,227.56	9,761.73	0.00	1,840.47	885.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19,034.62
19003	288.99	356.07	8,832.99	0.00	0.00	10,763.04	0.00	0.00	579.16	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	20,820.35
19004	7.65	0.00	0.00	0.00	0.00	834.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	842.01
19005	375.89	501.67	9,745.51	0.00	5,343.02	21,859.59	0.00	0.00	5,053.83	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.00	42,879.59
19006	6.56	233.53	645.42	0.00	0.00	14,016.82	0.00	0.00	1,195.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	16,097.55
19007	330.00	194.62	1,161.71	0.00	0.00	166.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	1,853.35
19008	29.87	0.00	0.00	0.00	0.00	3,504.39	0.00	0.00	34.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	3,568.36
19009	167.55	0.00	1,355.28	0.00	505.50	12,431.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	14,460.12
19010	186.12	69.19	1,677.99	0.00	0.00	23,945.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.01	0.00	25,879.37
19011	178.11	5,263.19	20,007.59	5,915.23	361.03	34,624.87	0.00	0.00	34.09	0.00	0.00	599.45	0.00	0.00	0.07	0.00	0.00	0.00	66,983.63
19012	240.03	2,473.74	19,620.45	4,732.18	722.06	19,857.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.03	0.00	47,645.99
19013	201.79	2,127.77	14,908.91	709.61	0.00	834.36	0.00	0.00	341.49	0.00	0.00	4,204.28	0.00	0.00	0.84	0.00	0.03	0.00	23,329.09
19014	199.96	12.97	4,775.97	0.00	0.00	10,929.98	0.00	0.00	6,112.53	0.00	633.76	0.00	0.00	0.00	0.30	1.81	0.01	0.00	22,667.29
19015	63.01	263.81	3,549.84	0.00	0.00	14,517.66	0.00	0.00	5,395.32	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.01	0.00	23,789.94
19016	297.58	1,288.76	5,550.54	0.00	0.00	16,937.09	0.00	0.00	1,160.97	0.00	0.00	0.00	0.00	0.00	1.84	0.00	0.04	0.01	25,236.82
19017	734.30	5,557.27	54,472.23	0.00	0.00	0.00	0.00	263.01	922.05	0.00	0.00	0.00	0.00	0.00	1.31	0.22	0.07	0.00	61,950.45
19018	165.00	566.55	5,098.68	0.00	0.00	30,453.44	0.00	0.00	8,263.72	0.00	0.00	0.00	0.00	0.00	1.82	0.07	0.06	0.00	44,549.34
19019	809.69	1,479.06	31,366.66	0.00	649.98	0.00	0.00	0.00	0.00	0.00	0.00	599.45	0.00	0.00	0.53	0.00	0.09	0.00	34,905.46
19020	2,758.71	5,423.21	137,987.99	8,517.50	577.58	0.00	0.00	0.00	409.82	0.00	0.00	599.45	2,090.95	0.00	1.89	0.00	0.13	0.00	158,367.23
19021	455.66	415.18	11,165.50	0.00	8,447.80	0.00	0.00	0.00	375.57	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.15	0.00	20,860.26
19022	14.20	147.03	193.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.06	0.00	354.90
19023	128.30	51.48	2,256.66	0.00	0.00	10,429.14	0.00	526.02	4,189.99	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	17,581.64
19024	318.92	471.89	18,181.74	0.00	0.00	3,087.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.52	0.00	0.03	0.00	22,062.30
19025	494.63	3,096.51	41,822.31	0.00	1,660.66	31,454.75	0.00	0.00	1,570.78	0.00	150.91	13,212.30	2,090.95	0.00	0.99	0.82	0.07	0.05	95,555.73
19026	0.00	0.00	129.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,195.21	0.00	0.00	0.00	0.00	0.00	1,324.35
19027	432.71	1,569.88	26,978.12	0.00	10,397.42	22,443.72	0.00	0.00	546.32	0.00	331.94	3,002.67	2,688.55	0.00	1.20	0.00	0.16	0.00	68,392.69
19028	479.33	237.87	3,549.84	0.00	577.58	10,679.38	0.00	0.00	5,292.90	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.13	0.01	20,817.57
19029	728.47	2,560.24	88,872.44	9,227.12	649.98	36,544.20	0.00	0.00	3,312.31	0.00	452.72	3,002.67	2,986.68	0.00	0.11	0.00	0.11	0.00	148,337.05
19030	236.02	1,076.86	5,485.82	0.00	0.00	0.00	0.00	0.00	2,526.91	0.00	301.82	0.00	895.74	0.00	0.00	0.00	0.09	0.00	10,523.25
19031	542.35	0.00	322.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.09	0.00	865.18
19032	669.10	635.74	15,231.62	0.00	288.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,584.29	0.00	1.09	0.00	0.04	0.00	20,410.82
19033	1,994.18	467.08	28,139.82	0.00	0.00	0.00	0.00	0.00	1,878.18	0.00	0.00	1,801.06	7,466.71	0.00	2.48	0.00	0.03	0.00	41,749.54
19034	142.78	12.97	1,290.85	0.00	1,516.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.01	0.00	2,963.12
19035	435.26	0.00	5,937.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.03	0.00	6,373.29
19036	538.34	129.75	8,261.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.04	0.00	8,929.28
19037	369.33	0.00	2,968.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.01	0.00	3,338.55

Table E-6. Relative copper loadings for each land use by subwatershed (percent)

Sub-watershed Number	Low Density Residential (1100)	High Density Residential (1200)	Commercial / Institutional (1400)	Automobile Dealerships (1401)	Communications and Utilities (1501)	Freeways (1502)	Heavy Industry (1503)	Junkyard / Dump / Landfill (1504)	Light Industry (1505)	Marine Terminal (1506)	Other Transportation (1507)	Parking Lots (1508)	Rail Station / Transit Centers (1509)	Military (1600)	Parks / Recreation (1700)	Open Recreation (1800)	Open Space (4000)	Transitional (7000)	Total Relative Subwatershed Loading
19001	0.33	30.69	0.53	18.70	4.23	1.39	5.02	4.14	0.39	0.39	0.00	0.00	0.00	0.62	29.37	0.00	4.18	0.00	12.81
19002	0.00	26.12	2.28	60.74	0.00	0.00	8.35	2.28	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50
19003	0.00	37.68	0.00	57.83	0.00	1.48	0.00	1.29	1.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73
19004	0.00	0.00	0.00	99.04	0.00	0.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
19005	0.00	22.71	4.68	64.17	0.00	1.13	0.00	6.15	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.17
19006	0.00	3.37	0.00	92.15	0.00	1.18	0.00	3.26	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42
19007	0.00	58.14	0.00	10.53	0.00	9.44	0.00	0.00	21.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
19008	0.00	0.00	0.00	98.72	0.00	0.00	0.00	0.40	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
19009	0.00	7.77	1.09	89.86	0.00	0.00	0.00	0.00	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29
19010	0.00	5.22	0.00	93.81	0.00	0.21	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.38
19011	5.13	27.24	0.18	59.40	0.00	6.95	0.00	0.02	0.32	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	5.43
19012	5.95	38.74	0.54	49.41	0.00	4.74	0.00	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.75
19013	1.98	65.43	0.00	4.61	0.00	9.05	0.00	0.78	1.17	0.00	0.00	0.00	0.00	0.00	16.96	0.00	0.00	0.00	1.69
19014	0.00	20.92	0.00	60.33	0.00	0.06	0.00	13.98	1.16	0.00	0.00	0.00	0.01	3.54	0.00	0.00	0.00	0.00	1.69
19015	0.00	14.20	0.00	73.17	0.00	1.02	0.00	11.27	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85
19016	0.00	19.05	0.00	73.23	0.00	4.29	0.00	2.08	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.16
19017	0.00	88.49	0.00	0.00	0.00	8.75	0.39	0.78	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.55
19018	0.00	10.50	0.00	79.03	0.00	1.13	0.00	8.88	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.59
19019	0.00	90.47	0.71	0.00	0.00	4.14	0.00	0.00	3.10	0.00	0.00	0.00	0.00	0.00	1.59	0.00	0.00	0.00	2.56
19020	3.49	88.89	0.14	0.00	0.00	3.39	0.00	0.14	2.36	0.00	0.00	0.00	0.00	0.00	0.35	0.00	1.24	0.00	11.48
19021	0.00	71.82	20.44	0.00	0.00	2.59	0.00	1.26	3.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15
19022	0.00	54.53	0.00	0.00	0.00	40.15	0.00	0.00	5.30	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.03
19023	0.00	12.34	0.00	71.81	0.00	0.27	2.64	11.96	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35
19024	0.00	79.14	0.00	16.92	0.00	2.00	0.00	0.00	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	1.70
19025	0.00	41.48	0.62	39.31	0.00	2.98	0.00	0.81	0.65	0.00	0.00	0.00	0.00	0.19	12.04	0.00	1.91	0.00	7.46
19026	0.00	10.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	89.48	0.00	0.09
19027	0.00	40.14	5.82	42.08	0.00	2.26	0.00	0.42	0.85	0.00	0.00	0.00	0.00	0.63	4.11	0.00	3.68	0.00	4.97
19028	0.00	17.02	1.04	64.53	0.00	1.11	0.00	13.25	3.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54
19029	3.86	58.36	0.16	30.23	0.00	1.63	0.00	1.14	0.63	0.00	0.00	0.00	0.00	0.38	1.81	0.00	1.80	0.00	11.27
19030	0.00	58.55	0.00	0.00	0.00	11.14	0.00	14.08	3.34	0.00	0.00	0.00	0.00	4.11	0.00	0.00	8.79	0.00	0.69
19031	0.00	30.98	0.00	0.00	0.00	0.00	0.00	0.00	69.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08
19032	0.00	75.63	0.54	0.00	0.00	3.06	0.00	0.00	4.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.36	0.00	1.49
19033	0.00	69.08	0.00	0.00	0.00	1.11	0.00	2.41	6.49	0.00	0.00	0.00	0.00	0.00	4.06	0.00	16.85	0.00	3.01
19034	0.00	62.56	27.64	0.00	0.00	0.61	0.00	0.00	9.17	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.15
19035	0.00	91.14	0.00	0.00	0.00	0.00	0.00	0.00	8.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48
19036	0.00	90.77	0.00	0.00	0.00	1.38	0.00	0.00	7.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
19037	0.00	85.83	0.00	0.00	0.00	0.00	0.00	0.00	14.16	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.26

Table E-7. Relative lead loadings for each land use by subwatershed (percent)

Sub-watershed Number	Low Density Residential (1100)	High Density Residential (1200)	Commercial / Institutional (1400)	Automobile Dealerships (1401)	Communications and Utilities (1501)	Freeways (1502)	Heavy Industry (1503)	Junkyard / Dump / Landfill (1504)	Light Industry (1505)	Marine Terminal (1506)	Other Transportation (1507)	Parking Lots (1508)	Rail Station / Transit Centers (1509)	Military (1600)	Parks / Recreation (1700)	Open Recreation (1800)	Open Space (4000)	Transitional (7000)	Total Relative Subwatershed Loading
19001	0.12	26.86	0.41	29.62	1.91	2.64	2.26	5.74	1.38	0.18	0.00	0.00	0.00	0.50	26.49	0.00	1.88	0.00	10.92
19002	0.00	17.78	1.37	74.85	0.00	0.00	2.93	2.46	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64
19003	0.00	24.39	0.00	67.76	0.00	2.08	0.00	1.32	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
19004	0.00	0.00	0.00	98.05	0.00	0.00	0.00	0.00	1.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
19005	0.00	14.23	2.58	72.83	0.00	1.54	0.00	6.10	2.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.78
19006	0.00	1.89	0.00	93.68	0.00	1.44	0.00	2.89	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.88
19007	0.00	32.41	0.00	10.63	0.00	11.41	0.00	0.00	45.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
19008	0.00	0.00	0.00	97.85	0.00	0.00	0.00	0.34	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45
19009	0.00	4.41	0.55	92.34	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.69
19010	0.00	2.92	0.00	95.22	0.00	0.25	0.00	0.00	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.16
19011	1.43	17.66	0.11	69.74	0.00	9.76	0.00	0.02	0.78	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	6.25
19012	1.77	26.94	0.33	62.20	0.00	7.14	0.00	0.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.02
19013	0.72	55.76	0.00	7.12	0.00	16.72	0.00	1.06	3.73	0.00	0.00	0.00	0.00	0.00	14.89	0.00	0.00	0.00	1.47
19014	0.00	13.07	0.00	68.26	0.00	0.07	0.00	13.83	2.71	0.00	0.00	0.00	0.00	2.05	0.00	0.00	0.00	0.00	2.01
19015	0.00	8.45	0.00	78.86	0.00	1.32	0.00	10.62	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.32
19016	0.00	11.25	0.00	78.33	0.00	5.49	0.00	1.95	2.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.72
19017	0.00	77.08	0.00	0.00	0.00	16.52	0.18	1.08	5.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.90
19018	0.00	6.11	0.00	83.29	0.00	1.43	0.00	8.19	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.60
19019	0.00	79.89	0.55	0.00	0.00	7.91	0.00	0.00	10.20	0.00	0.00	0.00	0.00	0.00	1.45	0.00	0.00	0.00	2.17
19020	1.39	82.41	0.11	0.00	0.00	6.80	0.00	0.20	8.15	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.59	0.00	9.24
19021	0.00	64.17	16.08	0.00	0.00	5.01	0.00	1.78	12.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96
19022	0.00	33.79	0.00	0.00	0.00	53.93	0.00	0.00	12.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
19023	0.00	7.38	0.00	77.77	0.00	0.36	0.81	11.34	2.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.69
19024	0.00	64.95	0.00	25.14	0.00	3.56	0.00	0.00	6.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.55
19025	0.00	30.29	0.40	51.97	0.00	4.71	0.00	0.94	1.77	0.00	0.00	0.00	0.00	0.13	9.06	0.00	0.72	0.00	7.62
19026	0.00	18.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	81.43	0.00	0.04
19027	0.00	29.32	3.74	55.64	0.00	3.58	0.00	0.49	2.33	0.00	0.00	0.00	0.00	0.43	3.09	0.00	1.38	0.00	5.08
19028	0.00	10.04	0.54	68.92	0.00	1.41	0.00	12.38	6.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95
19029	1.32	46.41	0.11	43.54	0.00	2.81	0.00	1.43	1.88	0.00	0.00	0.00	0.00	0.28	1.49	0.00	0.74	0.00	10.56
19030	0.00	46.55	0.00	0.00	0.00	19.20	0.00	17.72	9.91	0.00	0.00	0.00	0.00	3.02	0.00	0.00	3.60	0.00	0.65
19031	0.00	10.74	0.00	0.00	0.00	0.00	0.00	0.00	89.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
19032	0.00	70.28	0.44	0.00	0.00	6.16	0.00	0.00	15.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.83	0.00	1.20
19033	0.00	61.46	0.00	0.00	0.00	2.14	0.00	3.39	21.55	0.00	0.00	0.00	0.00	0.00	3.73	0.00	7.72	0.00	2.53
19034	0.00	51.09	19.87	0.00	0.00	1.08	0.00	0.00	27.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
19035	0.00	73.38	0.00	0.00	0.00	0.00	0.00	0.00	26.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45
19036	0.00	73.78	0.00	0.00	0.00	2.43	0.00	0.00	23.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
19037	0.00	61.90	0.00	0.00	0.00	0.00	0.00	0.00	38.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26

Table E-8. Relative zinc loadings for each land use by subwatershed (percent)

Sub-watershed Number	Low Density Residential (1100)	High Density Residential (1200)	Commercial / Institutional (1400)	Automobile Dealerships (1401)	Communications and Utilities (1501)	Freeways (1502)	Heavy Industry (1503)	Junkyard / Dump / Landfill (1504)	Light Industry (1505)	Marine Terminal (1506)	Other Transportation (1507)	Parking Lots (1508)	Rail Station / Transit Centers (1509)	Military (1600)	Parks / Recreation (1700)	Open Recreation (1800)	Open Space (4000)	Transitional (7000)	Total Relative Subwatershed Loading
19001	0.50	29.33	1.36	14.19	4.40	1.37	5.23	7.58	0.27	0.41	0.00	0.00	0.00	0.46	30.56	0.00	4.35	0.00	13.65
19002	0.00	27.77	6.45	51.28	0.00	0.00	9.67	4.65	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44
19003	0.00	42.42	0.00	51.69	0.00	1.71	0.00	2.78	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57
19004	0.00	0.00	0.00	99.09	0.00	0.00	0.00	0.00	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
19005	0.00	22.73	12.46	50.98	0.00	1.17	0.00	11.79	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.23
19006	0.00	4.01	0.00	87.07	0.00	1.45	0.00	7.42	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21
19007	0.00	62.68	0.00	9.01	0.00	10.50	0.00	0.00	17.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
19008	0.00	0.00	0.00	98.21	0.00	0.00	0.00	0.96	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
19009	0.00	9.37	3.50	85.97	0.00	0.00	0.00	0.00	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09
19010	0.00	6.48	0.00	92.53	0.00	0.27	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95
19011	8.83	29.87	0.54	51.69	0.00	7.86	0.00	0.05	0.27	0.00	0.00	0.00	0.00	0.00	0.89	0.00	0.00	0.00	5.05
19012	9.93	41.18	1.52	41.68	0.00	5.19	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.59
19013	3.04	63.91	0.00	3.58	0.00	9.12	0.00	1.46	0.86	0.00	0.00	0.00	0.00	0.00	18.02	0.00	0.00	0.00	1.76
19014	0.00	21.07	0.00	48.22	0.00	0.06	0.00	26.97	0.88	0.00	0.00	0.00	0.01	2.80	0.00	0.00	0.00	0.00	1.71
19015	0.00	14.92	0.00	61.02	0.00	1.11	0.00	22.68	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79
19016	0.00	21.99	0.00	67.11	0.00	5.11	0.00	4.60	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	1.90
19017	0.00	87.93	0.00	0.00	0.00	8.97	0.42	1.49	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.67
19018	0.00	11.45	0.00	68.36	0.00	1.27	0.00	18.55	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.36
19019	0.00	89.86	1.86	0.00	0.00	4.24	0.00	0.00	2.32	0.00	0.00	0.00	0.00	0.00	1.72	0.00	0.00	0.00	2.63
19020	5.38	87.13	0.36	0.00	0.00	3.42	0.00	0.26	1.74	0.00	0.00	0.00	0.00	0.00	0.38	0.00	1.32	0.00	11.94
19021	0.00	53.53	40.50	0.00	0.00	1.99	0.00	1.80	2.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57
19022	0.00	54.54	0.00	0.00	0.00	41.43	0.00	0.00	4.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.03
19023	0.00	12.84	0.00	59.32	0.00	0.29	2.99	23.83	0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33
19024	0.00	82.41	0.00	13.99	0.00	2.14	0.00	0.00	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	1.66
19025	0.00	43.77	1.74	32.92	0.00	3.24	0.00	1.64	0.52	0.00	0.00	0.00	0.00	0.16	13.83	0.00	2.19	0.00	7.20
19026	0.00	9.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.25	0.00	0.10
19027	0.00	39.45	15.20	32.82	0.00	2.30	0.00	0.80	0.63	0.00	0.00	0.00	0.00	0.49	4.39	0.00	3.93	0.00	5.16
19028	0.00	17.05	2.77	51.30	0.00	1.14	0.00	25.43	2.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57
19029	6.22	59.91	0.44	24.64	0.00	1.73	0.00	2.23	0.49	0.00	0.00	0.00	0.00	0.31	2.02	0.00	2.01	0.00	11.18
19030	0.00	52.13	0.00	0.00	0.00	10.23	0.00	24.01	2.24	0.00	0.00	0.00	0.00	2.87	0.00	0.00	8.51	0.00	0.79
19031	0.00	37.30	0.00	0.00	0.00	0.00	0.00	0.00	62.69	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07
19032	0.00	74.63	1.42	0.00	0.00	3.11	0.00	0.00	3.28	0.00	0.00	0.00	0.00	0.00	0.00	0.01	17.56	0.00	1.54
19033	0.00	67.40	0.00	0.00	0.00	1.12	0.00	4.50	4.78	0.00	0.00	0.00	0.00	0.00	4.31	0.01	17.88	0.00	3.15
19034	0.00	43.56	51.17	0.00	0.00	0.44	0.00	0.00	4.82	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.22
19035	0.00	93.17	0.00	0.00	0.00	0.00	0.00	0.00	6.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48
19036	0.00	92.52	0.00	0.00	0.00	1.45	0.00	0.00	6.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
19037	0.00	88.93	0.00	0.00	0.00	0.00	0.00	0.00	11.06	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.25

