

TABLE 2
State Mussel Watch Program
Summary of 1997-98 Data: Trace Elements in Mussels, Clams, and Sediment
(ppm, dry weight)

Station Number Selenium	Station Name Zinc	Sample Type*	Sample Date	Aluminum	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese Mercury	Nickel
508.1 NA	Mugu Drainage 1 0.451 54.0	SED	03/25/98	65632.0	NA	0.99	38.27	20.9	14.98	400.2	0.018 19.1
601.0 0.6	LA Harbor/National Steel 0.055 303.0	TCM	03/24/98	424.0	11.6	9.57	5.19	13.0	6.40	30.1	0.609 2.5
616.0 2.1	LA Harbor/Consolidated Slip 0.106 354.0	TCM	03/24/98	688.0	5.8	9.48	9.09	21.3	10.47	47.3	0.382 4.8
617.9 NA	Cabrillo Beach/Ocean Side 3.548 186.0	RCM	03/24/98	840.0	NA	1.90	5.31	9.8	2.48	22.2	0.169 3.6
618.0 NA	LA Harbor/Angels Gate 0.018 98.0	RBM	11/04/97	572.0	9.4	0.61	2.77	6.9	0.88	15.4	0.062 1.4
648.0 NA	Malibu 0.097 101.0	RCM	11/03/97	438.0	9.7	2.03	2.69	5.1	0.63	14.1	0.076 1.8
650.0 NA	Santa Monica 2.704 135.0	RCM	11/03/97	460.0	NA	0.85	4.67	12.1	3.05	18.7	0.160 2.7
662.0 NA	Royal Palms 4.307 177.0	RCM	03/24/98	434.0	NA	2.56	44.89	9.1	2.46	23.2	0.266 27.6
708.0 1.8	Anaheim Bay/Navy Marsh 3.107 193.0	TCM	03/24/98	816.0	9.6	1.72	11.35	11.1	2.49	21.2	0.154 5.4
713.0 1.9	Huntington Harbour/Edinger Street 0.067 390.0	TCM	03/24/98	892.0	9.4	6.86	4.49	21.8	6.19	35.2	0.200 2.1
715.0 2.0	Huntington Harbour/Warner Ave Brdg 0.065 315.0	TCM	03/24/98	305.0	9.3	4.98	4.73	11.1	6.36	35.4	0.174 2.8
722.0 1.9	Newport Bay/Police Docks 0.046 396.0	RBM	03/24/98	1491.0	7.8	8.06	4.68	14.4	4.29	45.1	0.238 2.4
723.4 1.9	Newport Bay/Turning Basin 0.048 321.0	RBM	03/24/98	832.0	7.0	5.31	19.33	40.3	3.43	113.0	0.234 12.1
724.0 2.1	Newport Bay/Highway 1 Bridge 0.033 278.0	TCM	03/24/98	1042.0	9.6	6.05	9.72	15.0	3.51	46.9	0.214 5.4
725.0 2.0	Newport Bay/Crows Nest 0.007 58.0	TCM	03/24/98	102.0	10.5	0.79	0.56	12.1	0.55	6.5	0.059 0.2
726.4 8.0	Newport Bay/Rhine Channel/End 0.047 432.0	TCM	03/24/98	414.0	9.8	5.70	3.87	81.3	3.25	47.4	0.315 1.4
726.6 1.6	Newport Bay/Mariners Drive 0.032 210.0	TCM	03/24/98	434.0	10.6	5.28	2.87	9.3	2.88	34.1	0.170 2.0
750.0 2.1	Oceanside 0.034 98.0	RCM	11/03/97	678.0	5.4	0.95	5.81	6.0	0.57	19.8	0.082 2.6
883.3 1.7	San Diego Bay/Chollas Creek/End 0.098 388.0	TCM	03/25/98	300.0	9.1	4.40	4.38	16.9	7.96	35.1	0.205 1.9
885.3 8.0	San Diego Bay/7th Street Ch/Mid 0.181 407.0	TCM	03/25/98	433.0	8.2	4.30	3.11	24.5	11.47	40.8	0.179 1.1
887.0 1.8	San Diego Bay/Evans Street 0.166 361.0	TCM	03/25/98	499.0	9.1	5.89	3.27	20.8	7.99	39.0	0.291 1.2
893.0 2.0	San Diego Bay/Laurel Street 0.092 304.0	TCM	03/25/98	372.0	9.2	5.34	5.55	12.9	7.86	18.4	0.299 2.2
894.1 3.7	SD Bay/Harbor Is/E Basin/Storm Dr2 0.215 509.0	TCM	03/25/98	725.0	9.1	4.86	4.71	46.6	8.51	36.8	0.390 1.2
898.5 8.0	SD Bay/N Island/Aircraft Platform 0.121 317.0	TCM	03/25/98	510.0	10.2	4.10	3.54	14.9	6.29	27.8	0.232 1.4
899.2 2.2	San Diego Bay/Shelter Island 0.071 289.0	TCM	03/25/98	868.0	8.5	4.42	6.94	15.2	4.85	17.7	0.199 3.5

TABLE 4
State Mussel Watch Program
Preliminary Summary of 1997-99 Data: Organic Chemicals in Mussels and Clams (ppb, dry weight)

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TABLE 8
 State Mussel Watch Program
Preliminary Summary of 1997-99 Data: PAHs in Mussels and Clams (ppb, lipid weight)

Station Chrysene Number	Station Fluoranthene Name	Sample Type*	Sample Date	Total PAH	Anthracene	Anthracene, benz (a)	Anthracene, dibenz (a,h)	Biphenyl
648.0	Malibu	RCM	03/30/99	10300.0	648.0	1010.0	ND	ND
816.0	1610.0							
650.0	Santa Monica	RCM	11/03/97	6810.5	261.0	1240.0	ND	ND
700.0	685.0							
650.0	Santa Monica	RCM	03/29/99	1700.0	ND	252.0	ND	ND
166.0	284.0							
662.0	Royal Palms	RCM	03/24/98	7962.6	256.0	878.0	ND	ND
695.0	569.0							
662.0	Royal Palms	RCM	03/29/99	1990.0	ND	ND	ND	ND
ND	506.0							
708.0	Anaheim Bay/Navy Marsh	TCM	03/24/98	3046.8	ND	342.0	ND	ND
324.0	786.0							
713.0	Huntington Harbour/Edinger Street	TCM	03/24/98	5102.7	382.0	803.0	ND	ND
926.0	1010.0							
713.0	Huntington Harbour/Edinger Street	TCM	03/30/99	7930.0	485.0	897.0	ND	ND
1140.0	1350.0							
715.0	Huntington Harbour/Warner Ave Brdg	TCM	03/24/98	1534.1	ND	238.0	ND	ND
400.0	404.0							
715.0	Huntington Harbour/Warner Ave Brdg	TCM	03/30/99	4560.0	138.0	345.0	ND	ND
504.0	749.0							

Station Naphthalene, Number 2,3,5-trimethyl	Fluoranthene, Naphthene, benzo(b) ace	Fluoranthene, benzo(k)	Fluorene	Naphthalene	Naphthalene, 1-methyl	Naphthalene, 2-methyl	Naphthalene, 2,6-dimethyl
648.0	557.0	156.0	310.0	ND	307.0	254.0	128.0
ND	318.0						
650.0	172.0	68.7	172.0	ND	ND	622.0	ND
ND	ND						
650.0	ND	ND	ND	ND	239.0	315.0	ND
ND	ND						
662.0	ND	ND	ND	ND	264.0	331.0	ND
ND	ND						
662.0	ND	ND	ND	ND	432.0	323.0	ND
ND	ND						
708.0	172.0	221.0	ND	ND	ND	ND	ND
138.0	109.0						
713.0	140.0	ND	ND	ND	189.0	160.0	ND
ND	ND						
713.0	424.0	ND	166.0	ND	384.0	407.0	ND
ND	ND						
715.0	ND	ND	ND	ND	ND	ND	ND
ND	ND						
715.0	385.0	170.0	ND	ND	300.0	225.0	ND
ND	ND						

Station Pyrene,	Naphthylene, Pyrene,	Perylene	Perylene,	Phenanthrene	Phenanthrene,	Pyrene	Pyrene,
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TABLE 7
State Mussel Watch Program
Preliminary Summary of 1997-99 Data: PAHs in Mussels and Clams (ppb, dry weight)

Station Chrysene Number	Station Fluoranthene Name	Sample Type*	Sample Date	Total PAH	Anthracene	Anthracene, benz (a)	Anthracene, dibenz (a,h)	Biphenyl
648.0	Malibu	RCM	11/03/97	1330.0	27.0	154.0	ND	ND
145.0	281.0							
648.0	Malibu	RCM	03/30/99	935.0	59.0	92.0	ND	ND
74.2	147.0							
650.0	Santa Monica	RCM	11/03/97	452.0	17.3	82.0	ND	ND
46.5	45.5							
650.0	Santa Monica	RCM	03/29/99	165.0	ND	24.4	ND	ND
16.1	27.5							
662.0	Royal Palms	RCM	03/24/98	324.0	10.4	35.7	ND	ND
28.2	23.1							
662.0	Royal Palms	RCM	03/29/99	107.0	ND	ND	ND	ND
ND	27.3							
708.0	Anaheim Bay/Navy Marsh	TCM	03/24/98	290.0	ND	32.5	ND	ND
30.8	74.6							
713.0	Huntington Harbour/Edinger Street	TCM	03/24/98	403.0	30.2	63.5	ND	ND
73.4	79.7							
713.0	Huntington Harbour/Edinger Street	TCM	03/30/99	518.0	31.7	58.6	ND	ND
73.9	88.7							
715.0	Huntington Harbour/Warner Ave Brdg	TCM	03/24/98	133.0	ND	20.6	ND	ND
34.6	35.0							

Station Naphthalene, Number 2,3,5-trimethyl	Fluoranthene, benzo(b) ace	Fluoranthene, benzo(k)	Fluorene	Naphthalene	Naphthalene, 1-methyl	Naphthalene, 2-methyl	Naphthalene, 2,6-dimethyl
648.0	101.0	40.5	18.9	ND	ND	ND	ND
ND	ND						
648.0	50.7	14.2	28.2	ND	27.9	23.1	11.6
ND	28.9						
650.0	11.4	4.6	11.4	ND	ND	41.3	ND
ND	ND						
650.0	ND	ND	ND	ND	23.1	30.5	ND
ND	ND						
662.0	ND	ND	ND	ND	10.7	13.4	ND
ND	ND						
662.0	ND	ND	ND	ND	23.3	17.4	ND
ND	ND						
708.0	16.3	21.0	ND	ND	ND	ND	ND
13.1	10.4						
713.0	11.1	ND	ND	ND	14.9	12.7	ND
ND	ND						
713.0	27.7	ND	10.8	ND	25.1	26.6	ND
ND	ND						
715.0	ND	ND	ND	ND	ND	ND	ND
ND	ND						

TABLE 6
State Mussel Watch Program
Preliminary Summary of 1997-99 Data: PAHs in Mussels and Clams (ppb, wet weight)

Station Chrysene Number	Station Fluoranthene Name	Sample Type*	Sample Date	Total PAH	Anthracene	Anthracene, benz (a)	Anthracene, dibenz (a, h)	Biphenyl	
648.0 43.0	Malibu	RCM	11/03/97	204.0	4.1	23.6	ND	ND	22.2
648.0 24.5	Malibu	RCM	03/30/99	156.0	9.9	15.4	ND	ND	12.4
650.0 8.5	Santa Monica	RCM	11/03/97	84.1	3.2	15.3	ND	ND	8.7
650.0 5.3	Santa Monica	RCM	03/29/99	31.8	ND	4.7	ND	ND	3.1
662.0 2.9	Royal Palms	RCM	03/24/98	40.5	1.3	4.5	ND	ND	3.5
662.0 3.9	Royal Palms	RCM	03/29/99	15.3	ND	ND	ND	ND	ND
708.0 13.6	Anaheim Bay/Navy Marsh	TCM	03/24/98	52.7	ND	5.9	ND	ND	5.6
713.0 11.0	Huntington Harbour/Edinger Street	TCM	03/24/98	55.7	4.2	8.8	ND	ND	10.1
713.0 13.0	Huntington Harbour/Edinger Street	TCM	03/30/99	76.1	4.7	8.6	ND	ND	10.9
715.0 5.5	Huntington Harbour/Warner Ave Brdg	TCM	03/24/98	20.7	ND	3.2	ND	ND	5.4

Station Naphthalene, Number trimethyl	Fluoranthene, benzo (b) ace	Fluoranthene, Naphthene, benzo (k)	Fluorene	Naphthalene	Naphthalene, 1-methyl	Naphthalene, 2-methyl	Naphthalene, 2,6-dimethyl	2,3,5-
648.0 ND	15.5	6.2	2.9	ND	ND	ND	ND	ND
648.0 4.8	8.5	2.4	4.7	ND	4.7	3.9	1.9	ND
650.0 ND	2.1	0.8	2.1	ND	ND	7.7	ND	ND
650.0 ND	ND	ND	ND	ND	4.5	5.9	ND	ND
662.0 ND	ND	ND	ND	ND	1.3	1.7	ND	ND
662.0 ND	ND	ND	ND	ND	3.3	2.5	ND	ND
708.0 1.9	3.0	3.8	ND	ND	ND	ND	ND	2.4
713.0 ND	1.5	ND	ND	ND	2.1	1.8	ND	ND
713.0 ND	4.1	ND	1.6	ND	3.7	3.9	ND	ND
715.0 ND	ND	ND	ND	ND	ND	ND	ND	ND

Station Pyrene,	Naphthylene,	Perylene	Perylene,	Phenanthrene	Phenanthrene,	Pyrene	Pyrene,	Pyrene,
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TABLE 1
 State Mussel Watch Program
 Summary of 1997-98 Data: Trace Elements in Mussels and Clams
 (ppm, wet weight)

Station Silver Number Selenium	Station Name Zinc	Sample Type*	Sample Date	Aluminum	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel
601.0	LA Harbor/National Steel	TCM	03/24/98	58.5	1.6	1.32	0.72	1.79	0.88	4.15	0.084	0.34
0.08	0.008 41.8											
616.0	LA Harbor/Consolidated Slip	TCM	03/24/98	90.8	0.8	1.25	1.20	2.81	1.38	6.24	0.050	0.63
0.27	0.014 46.7											
617.9	Cabrillo Beach/Ocean Side	RCM	03/24/98	138.6	NA	0.31	0.88	1.62	0.41	3.66	0.028	0.59
NA	0.586 30.7											
618.0	LA Harbor/Angels Gate	RBM	11/04/97	90.9	1.5	0.10	0.44	1.09	0.14	2.45	0.010	0.23
NA	0.003 15.6											
648.0	Malibu	RCM	11/03/97	67.5	1.5	0.31	0.41	0.79	0.10	2.17	0.012	0.27
NA	0.015 15.6											
650.0	Santa Monica	RCM	11/03/97	77.3	NA	0.14	0.78	2.03	0.51	3.14	0.027	0.46
NA	0.454 22.7											
662.0	Royal Palms	RCM	03/24/98	55.1	NA	0.32	5.70	1.15	0.31	2.95	0.034	3.51
NA	0.547 22.5											
708.0	Anaheim Bay/Navy Marsh	TCM	03/24/98	131.4	1.5	0.28	1.83	1.79	0.40	3.41	0.025	0.88
0.29	0.500 31.1											
713.0	Huntington Harbour/Edinger Street	TCM	03/24/98	135.6	1.4	1.04	0.68	3.31	0.94	5.35	0.030	0.32
0.29	0.010 59.3											
715.0	Huntington Harbour/Warner Ave Brdg	TCM	03/24/98	46.1	1.4	0.75	0.71	1.68	0.96	5.35	0.026	0.43
0.30	0.010 47.6											
722.0	Newport Bay/Police Docks	RBM	03/24/98	211.7	1.1	1.14	0.66	2.04	0.61	6.40	0.034	0.34
0.27	0.007 56.2											
723.4	Newport Bay/Turning Basin	RBM	03/24/98	95.7	0.8	0.61	2.22	4.64	0.39	13.00	0.027	1.39
0.22	0.005 36.9											
724.0	Newport Bay/Highway 1 Bridge	TCM	03/24/98	150.0	1.4	0.87	1.40	2.16	0.50	6.75	0.031	0.79
0.31	0.005 40.0											
725.0	Newport Bay/Crows Nest	TCM	03/24/98	15.4	1.6	0.12	0.08	1.83	0.08	0.98	0.009	0.04
0.31	0.001 8.8											
726.4	Newport Bay/Rhine Channel/End	TCM	03/24/98	57.5	1.4	0.79	0.54	11.30	0.45	6.59	0.044	0.19
NA	0.007 60.0											
726.6	Newport Bay/Mariners Drive	TCM	03/24/98	69.0	1.7	0.84	0.46	1.47	0.46	5.42	0.027	0.31
0.25	0.005 33.4											
750.0	Oceanside	RCM	11/03/97	98.3	0.8	0.14	0.84	0.87	0.08	2.87	0.012	0.38
0.30	0.005 14.2											
883.3	San Diego Bay/Chollas Creek/End	TCM	03/25/98	46.2	1.4	0.68	0.67	2.60	1.23	5.41	0.032	0.30
0.26	0.015 59.8											
885.3	San Diego Bay/7th Street Ch/Mid	TCM	03/25/98	71.4	1.4	0.71	0.51	4.03	1.89	6.73	0.030	0.19
NA	0.030 67.2											
887.0	San Diego Bay/Evans Street	TCM	03/25/98	84.8	1.5	1.00	0.56	3.53	1.36	6.63	0.049	0.20
0.31	0.028 61.4											
893.0	San Diego Bay/Laurel Street	TCM	03/25/98	53.6	1.3	0.77	0.80	1.86	1.13	2.65	0.043	0.31
0.29	0.013 43.8											
894.1	SD Bay/Harbor Is/E Basin/Storm Dr2	TCM	03/25/98	107.3	1.4	0.72	0.70	6.89	1.26	5.45	0.058	0.18
0.55	0.032 75.3											
898.5	SD Bay/N Island/Aircraft Platform	TCM	03/25/98	85.2	1.7	0.69	0.59	2.49	1.05	4.64	0.039	0.23
NA	0.020 52.9											
899.2	San Diego Bay/Shelter Island	TCM	03/25/98	139.7	1.4	0.71	1.12	2.45	0.78	2.85	0.032	0.56
0.35	0.012 46.5											

* RCM = Resident California Mussel

TFC = Transplanted Freshwater Clam

NA = Not Analyzed

Preliminary Summary of 1997-99 Data: Organic Chemicals in Mussels and Clams (ppb, wet weight)

Total Station Chlor-Number	Chlor-pyrifos	Dacthal Station Name	Sample Type*	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane
618.0 2.0	LA Harbor/Angels Gate ND		RBM	03/29/99	ND	ND	0.8	ND	0.7	ND	0.5	ND
648.0 1.7	Malibu ND		RCM	11/03/97	ND	ND	0.5	ND	0.4	0.2	0.5	ND
648.0 5.0	Malibu ND		RCM	03/30/99	ND	ND	1.5	ND	1.6	0.4	1.5	ND
650.0 6.4	Santa Monica ND		RCM	11/03/97	ND	ND	2.0	ND	2.2	0.4	1.8	ND
650.0 7.5	Santa Monica ND		RCM	03/29/99	ND	ND	1.9	ND	2.7	0.8	2.2	ND
662.0 1.1	Royal Palms ND		RCM	03/24/98	ND	ND	0.5	ND	0.4	ND	0.2	ND
662.0 1.5	Royal Palms ND		RCM	03/29/99	ND	ND	0.6	ND	0.5	ND	0.3	ND
708.0 13.4	Anaheim Bay/Navy Marsh 0.5		TCM	03/24/98	ND	0.3	3.7	0.2	3.1	2.0	3.9	0.3
708.0 6.5	Anaheim Bay/Navy Marsh ND		TCM	03/30/99	ND	ND	2.0	ND	1.5	1.0	1.8	0.2
713.0 12.0	Huntington Harbour/Edinger Street ND		TCM	03/24/98	ND	0.3	3.5	0.2	2.8	1.4	3.6	0.2

Total Station Endo-Number sulfan	Diaz-Endrin inon	O,p' Ethion DDD	P,P' DDD	O,p' DDE	P,P' DDE	O,p' DDT	P,P' DDT	P,P' DDMU	Total DDT	Di-Chloro-Benzophenone	Dieldrin	Endo-sulfan I	Endo-sulfan II	Endo-sulfan sulfate
618.0	ND	1.0	3.5	9.3	111.0	ND	ND	12.3	138.0	NA	0.7	0.4	ND	ND
0.4	ND	ND												
648.0	ND	ND	1.0	0.9	12.3	ND	ND	1.7	15.9	NA	ND	ND	ND	NA
ND	ND	ND												
648.0	ND	ND	0.9	0.9	10.6	ND	ND	1.2	13.5	NA	0.4	0.2	NA	NA
0.2	ND	ND												
650.0	ND	ND	1.2	1.2	17.0	ND	ND	2.2	21.6	NA	1.1	ND	ND	NA
ND	ND	ND												
650.0	ND	ND	1.6	1.9	19.3	ND	ND	2.1	24.9	NA	1.2	ND	NA	NA
ND	ND	ND												
662.0	ND	ND	2.0	2.3	31.0	ND	ND	4.2	39.4	NA	0.4	ND	ND	NA
ND	ND	ND												
662.0	ND	1.2	6.2	7.3	77.9	ND	1.7	11.6	106.0	NA	0.6	ND	NA	NA
ND	ND	ND												
708.0	ND	1.9	6.1	2.4	76.1	0.6	ND	4.8	98.0	NA	1.8	ND	ND	ND
ND	ND	ND												
708.0	10.3	1.2	3.5	2.9	45.4	ND	0.9	4.3	58.3	NA	1.0	ND	ND	ND
ND	ND	ND												
713.0	7.9	1.4	4.2	1.4	44.2	1.6	7.9	2.1	62.8	NA	2.4	ND	ND	ND
ND	ND	ND												