

Table 1
Toxic Substances Monitoring Program
Preliminary Summary of 1998 Data: Trace Elements in Fish and Crayfish (ppm, wet weight)

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
35.20.16	Cold Stream Cr/u/s Donner Cr	BN	F	10/15/98	0.058	<0.0003	0.127	0.4894	<0.0003	0.071	0.0020	0.136	<0.0013	4.21
35.20.16	Cold Stream Cr/u/s Donner Cr	BN	L	10/15/98	0.023	0.0473	0.119	10.4200	<0.0003	NA	<0.0010	0.577	0.2390	14.90
37.20.31	Susan R/u/s Susanville	RBT	F	10/16/98	<0.017	<0.0003	0.114	0.3884	<0.0003	0.030	0.0040	0.101	<0.0013	4.90
37.20.31	Susan R/u/s Susanville	RBT	L	10/16/98	0.049	0.0303	0.111	73.5900	<0.0003	NA	0.0100	0.907	0.3805	19.40
15.40.08	Palo Verde Outfall Drain	LMB	F	11/12/98	0.068	<0.0003	0.058	0.2224	<0.0003	NA	0.0020	0.614	<0.0013	4.66
23.10.01	Alamo R/Calipatria	CCF	F	11/11/98	0.118	<0.0003	0.110	0.2526	<0.0003	NA	<0.0010	0.786	<0.0013	4.52
23.10.02	New R/Westmorland	CCF	F	11/11/98	0.058	<0.0003	0.067	0.3041	<0.0003	0.044	0.0050	0.826	<0.0013	5.55
23.10.02	New R/Westmorland	CCF	L	11/11/98	0.129	0.0091	0.090	1.5630	0.0514	NA	0.0020	2.200	0.0023	16.70
28.00.90	Salton Sea/South	TL	F	11/11/98	1.310	<0.0003	0.084	0.2784	<0.0003	<0.005	0.0070	2.200	<0.0013	4.72
28.00.90	Salton Sea/South	TL	L	11/11/98	0.700	0.0118	0.158	0.9736	0.0148	NA	0.1480	4.150	0.0046	17.30
28.00.92	Salton Sea/North	TL	F	11/10/98	1.900	<0.0003	0.060	0.1789	<0.0003	<0.005	0.0060	2.730	<0.0013	3.75
28.00.92	Salton Sea/North	TL	L	11/10/98	0.854	0.0333	0.106	1.5690	0.0197	NA	0.2370	6.270	0.0042	19.90
01.11.05	Delhi Channel	MUL	W	06/09/98	0.882	0.0224	0.284	1.5780	0.2108	0.006	0.0870	0.949	0.0109	14.50
01.11.07	San Diego Cr/Michelson Dr	PRS	W	06/09/98	0.344	0.0915	0.200	0.9073	0.0410	0.005	0.0400	1.050	0.0052	24.50
01.11.09	San Diego Cr/Barranca Pkwy	PRS	W	06/09/98	0.200	0.1514	0.094	0.6872	0.0138	0.030	0.0050	0.971	0.0034	41.10
01.11.96	Peters Canyon Channel	PRS	W	06/09/98	0.116	0.0891	0.105	0.8800	0.0218	0.042	0.0190	1.130	0.0018	36.70
01.11.99	Upper Newport Bay/Newport Dunes	BSS	F	06/10/98	8.620	0.0028	0.171	0.3616	<0.0003	0.541	0.0040	0.301	<0.0013	3.65
01.11.99	Upper Newport Bay/Newport Dunes	BSS	L	06/10/98	7.730	0.2400	0.640	0.9350	<0.0001	0.131	<0.0002	1.950	0.0080	4.13
02.21.01	DeLuz Creek	BLB	F	07/07/98	0.023	0.0006	0.081	0.3432	<0.0003	0.047	0.0030	0.279	<0.0013	6.74
02.21.01	DeLuz Creek	BLB	F	07/07/98	<0.017	0.0007	0.065	0.3849	<0.0003	0.040	0.0040	0.316	<0.0013	6.00
02.21.01	DeLuz Creek	BLB	L	07/07/98	0.076	0.0220	0.065	4.5530	0.0023	NA	0.0040	0.853	0.0062	15.00
02.21.01	DeLuz Creek	BLB	L	07/07/98	0.079	0.0200	0.054	4.7690	0.0027	NA	0.0030	0.778	0.0082	14.20
02.22.02	Sandia Canyon Cr	BLB	F	07/07/98	0.028	0.0059	0.061	0.4965	0.0322	0.043	0.0050	0.469	<0.0013	7.28
02.22.02	Sandia Canyon Cr	BLB	L	07/07/98	0.105	0.0157	0.060	3.6490	0.0004	NA	0.0020	1.450	0.0061	14.70
05.23.01	Felicita Cr/East Fork	GAM	W	07/08/98	0.037	0.0051	0.100	0.8854	0.0016	0.034	0.0350	0.325	0.0065	24.90
09.11.09	San Diego R/d/s Alvarado Cr	GSH	W	08/08/98	0.121	0.0131	0.087	1.0460	0.0400	0.014	<0.0010	0.528	0.0026	34.30
09.12.00	F-G St. Salt Marsh/Chula Vista	MOL	W	07/08/98	0.338	0.0302	0.894	4.3880	0.4719	<0.005	0.2320	0.429	0.0552	>0.003

= Liver. F = Filet. W = Whole Body. < = Below Indicated Detection Limit.
 Species codes are listed in Table 3.

↓
 < EDL85
 ↓
 > EDL95
 ↓
 1.0 =
 MIS
 ↓
 > EDL85
 < EDL95
 Med. Int'l Stds =
 0.5 - 10 ppm
 ↓
 > EDL85

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Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury (++)	Nickel	Selenium	Silver	Zinc
02.21.01	DeLuz Creek	BLB	F	07/07/98	0.023	0.0006	0.081	0.3432	<0.0003		0.0030	0.279	<0.0013	6.74
02.21.01	DeLuz Creek	BLB	F	07/07/98	<0.017	0.0007	0.065	0.3849	<0.0003		0.0040	0.316	<0.0013	6.00
02.21.01	DeLuz Creek	BLB	L	07/07/98	0.076	0.0220	0.065	4.5530	0.0023		0.0040	0.853	0.0062	15.00
02.21.01	DeLuz Creek	BLB	L	07/07/98	0.079	0.0200	0.054	4.7690	0.0027		0.0030	0.778	0.0082	14.20
02.22.02	Sandía Canyon Cr	BLB	F	07/07/98	0.028	0.0059	0.061	0.4965	0.0322		0.0050	0.469	<0.0013	7.28
02.22.02	Sandía Canyon Cr	BLB	L	07/07/98	0.105	0.0157	0.060	3.6490	0.0004		0.0020	1.450	0.0061	14.70
05.23.01	Felicita Cr/East Fork	GAM	W	07/08/98	0.037	0.0051	0.100	0.8854	0.0016		0.0350	0.325	0.0065	24.90
09.11.09	San Diego R/d/s Alvarado Cr	GSH	W	08/08/98	0.121	0.0131	0.087	1.0460	0.0400		<0.0010	0.528	0.0026	34.30
09.12.00	F-G St Salt Marsh/Chula Vista	MOL	W	07/08/98	0.338	0.0302	0.894	4.3880	0.4719		0.2320	0.429	0.0552	-0.003

= Liver. F = Filet. W = Whole Body. < = Below Indicated Detection Limit.

Species codes are listed in Table 3.

+ = Mercury data will be available by the end of June.

Use EDL 85 and EDL 95 for trace elements in Whole fish calculated using 1978-87 data (ppm, wet weight)

0.40	0.79	Arsenic
0.10	0.17	Cadmium
0.17	0.25	Chromium
3.39	3.96	Copper
0.39	0.53	Lead
0.06	0.07	Mercury
0.17	0.42	Nickel
1.60	3.27	Selenium
<0.02	0.04	Silver
38.90	40.60	Zinc

TABLE 2
Toxic Substances Monitoring Program
Preliminary Summary of 1998 Data: Organic Chemicals in Fish and Crayfish (ppb, wet weight)

Station Number	Station Name			Species Code	Tissue 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	Total Chlor-dane	Chlor-pyrifos	Dacthal	
12.21.01	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	ND
12.21.01	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	ND
12.22.02	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	ND
15.23.01	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	18.6
19.11.09	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	0.3	<5.0	16.9	<2.0	<4.0	<25.0	41.2	<10.0	41.2	<20.0	63.2
19.12.00	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	0.3	<5.0	<3.0	4.7	<4.0	195.0	204.0	53.7	452.7	<20.0	5.0

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

< Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3.

Total PCBs?

TABLE 3
Toxic Substances Monitoring Program

1998 Freshwater Fish Code List*

Species Code	Common Name	Species Name	Family Name
AC	Arroyo Chub	<i>Gila orcutti</i>	Cyprinidae
BLB	Black Bullhead	<i>Ameiurus melas</i>	Ictaluridae
BN	Brown Trout	<i>Salmo trutta</i>	Salmonidae
CCF	Channel Catfish	<i>Ictalurus punctatus</i>	Ictaluridae
CP	Carp	<i>Cyprinus carpio</i>	Cyprinidae
GAM	Mosquitofish	<i>Gambusia affinis</i>	Poeciliidae
GSF	Green Sunfish	<i>Lepomis cyanellus</i>	Centrarchidae
GSH	Golden Shiner	<i>Notemigonus crysoleucas</i>	Cyprinidae
HCH	Hitch	<i>Lavinia exilicauda</i>	Cyprinidae
LMB	Largemouth Bass	<i>Micropterus salmoides</i>	Centrarchidae
MOL	Sailfin Molly	<i>Poecilia latipinna</i>	Poeciliidae
PRS	Red Shiner	<i>Cyprinella lutrensis</i>	Cyprinidae
RBT	Rainbow Trout	<i>Oncorhynchus mykiss</i>	Salmonidae
RSF	Redear Sunfish	<i>Lepomis microlophus</i>	Centrarchidae
SBF	Sacramento Blackfish	<i>Orthodon microlepidotus</i>	Cyprinidae
SKR	Sucker	<i>Catostomus sp.</i>	Catostomidae
STB	Threespine Stickleback	<i>Gasterosteus aculeatus</i>	Gasterosteidae
TL	Tilapia	<i>Tilapia sp.</i>	Cichlidae
WCF	White Catfish	<i>Ameiurus catus</i>	Ictaluridae

1998 Marine Fish Code List*

Species Code	Common Name	Species Name	Family Name
BSS	Brown Smoothhound Shark	<i>Mustelus henlei</i>	Carcharhinidae
MUL	Striped Mullet	<i>Mugil cephalus</i>	Mugilidae

1998 Non-Fish Code List

Species Code	Common Name	Species Name	Family Name
PACI	Crayfish	<i>Pacifastacus leniusculus</i>	Astacidae

* Common and scientific fish names were obtained from Robins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea, and W.B. Scott. 1991. Common and Scientific Names of Fishes from the United States and Canada. American Fisheries Society Special Publication 20, Bethesda, Maryland.

TABLE 1
Toxic Substances Monitoring Program
Regions 4, 8, and 9
Preliminary Summary of 2000 Data: Organic Chemicals in Fish an Crayfish (ppb, wet weight)

Station Number	Station Name	Species Code	Tissue 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	Total Chlor-dane	Chlor-pyrifos	Dacthal
802.31.00	Lake Elsinore	CP	F	07/11/00	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<1.0	<1.0	ND	<2.0	<2.0
901.20.#A	San Juan Cr/Camino Capistrano	AC	W	07/25/00	<1.0	<1.0	2.5	<1.0	<2.0	<2.0	3.6	1.5	7.6	<2.0	<2.0
901.20.#A	San Juan Cr/Camino Capistrano	PRS	W	07/25/00	<1.0	<1.0	3.1	<1.0	<2.0	<2.0	4.0	<1.0	7.1	<2.0	<2.0
905.11.00	San Dieguito Lagoon	CH	F	07/25/00	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<1.0	<1.0	ND	<2.0	<2.0
906.50.##	Tecolote Creek Estuary	CKF	W	07/24/00	<1.0	<1.0	5.2	<1.0	<2.0	5.4	10.9	2.4	23.9	<2.0	<2.0
907.11.00	Famosa Slough	MOL	W	07/25/00	<1.0	<1.0	8.3	<1.0	3.9	7.9	9.8	1.9	31.8	<2.0	<2.0
908.22.01	Chollas Creek/Main Street	CKF	W	07/24/00	<1.0	<1.0	4.3	<1.0	<2.0	4.3	9.2	1.8	19.6	<2.0	<2.0
908.31.##	7th Street Ch/Trolley Xing	CKF	W	07/24/00	<1.0	<1.0	2.4	<1.0	<2.0	2.3	5.3	1.2	11.1	<2.0	<2.0
908.32.##	Paradise Creek Marsh	CKF	W	07/24/00	<1.0	<1.0	4.1	<1.0	<2.0	3.9	6.8	1.2	15.9	<2.0	<2.0
909.12.00	F-G St Salt Marsh/Chula Vista	CKF	W	07/24/00	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<1.0	<1.0	ND	<2.0	<2.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DIMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
802.31.00	<2.0	<2.0	<2.0	<2.0	23.8	<3.0	<5.0	<3.0	NA	23.8	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
901.20.#A	2.0	<2.0	3.6	<2.0	28.1	<3.0	<5.0	<3.0	NA	31.7	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
901.20.#A	<2.0	<2.0	3.9	<2.0	29.7	<3.0	<5.0	<3.0	NA	33.6	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
905.11.00	<2.0	<2.0	<2.0	<2.0	21.7	<3.0	<5.0	<3.0	NA	21.7	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
906.50.##	2.5	<2.0	2.8	<2.0	12.6	<3.0	<5.0	<3.0	NA	15.4	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
907.11.00	2.5	<2.0	3.1	<2.0	9.1	<3.0	<5.0	<3.0	NA	12.2	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
908.22.01	2.6	<2.0	5.8	<2.0	18.9	<3.0	<5.0	<3.0	NA	24.7	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
908.31.##	<2.0	2.7	14.6	<2.0	18.7	<3.0	<5.0	3.3	NA	39.4	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
908.32.##	<2.0	<2.0	2.9	<2.0	21.6	<3.0	<5.0	<3.0	NA	24.5	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
909.12.00	<2.0	<2.0	<2.0	<2.0	6.8	<3.0	<5.0	<3.0	NA	6.8	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
802.31.00	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	43.0	10.0	<10.0	53.0	<20.0	ND
901.20.#A	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	88.8	<2.0	<4.0	<25.0	35.0	<10.0	35.0	<20.0	9.6
901.20.#A	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	120.0	<2.0	<4.0	<25.0	41.0	<10.0	41.0	<20.0	7.1
905.11.00	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	ND
906.50.##	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	6.8	<2.0	<4.0	<25.0	32.0	<10.0	32.0	<20.0	26.4
907.11.00	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	49.0	14.0	63.0	<20.0	34.3
908.22.01	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	15.0	<2.0	<4.0	<25.0	81.0	20.0	101.0	<20.0	22.1
908.31.##	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	31.4	<2.0	<4.0	<25.0	85.0	<10.0	85.0	<20.0	11.1
908.32.##	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	24.0	<10.0	24.0	<20.0	15.9
909.12.00	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	33.0	114.0	10.0	157.0	<20.0	ND

NA Means that the sample was not analyzed for the chemical.

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W = Whole Body.

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Species codes are listed in Table 2.

TABLE 1
Toxic Substances Monitoring Program
Regions 4, 8, and 9
Preliminary Summary of 2000 Data: Organic Chemicals in Fish an Crayfish (ppb, wet weight)

Station Number	Station Name	Species Code	Tissue 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	Total Chlor-dane	Chlor-pyrifos	Dacthal			
909.12.01	Sweetwater Marsh	CKF	W	07/24/00	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	1.6	<1.0	1.6	<2.0	<2.0			
Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
909.12.01	<2.0	<2.0	2.8	<2.0	25.6	<3.0	<5.0	<3.0	NA	28.4	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
909.12.01	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	75.0	14.0	89.0	<20.0	1.6

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TABLE 2
 Toxic Substances Monitoring Program
 Regions 4, 8, and 9
 2000 Species Code List

Freshwater Fish *

Species Code	Common Name	Species Name	Family Name
AC	Arroyo Chub	<i>Gila orcutti</i>	Cyprinidae
BLB	Black Bullhead	<i>Ameiurus melas</i>	Ictaluridae
CP	Carp	<i>Cyprinus carpio</i>	Cyprinidae
GAM	Mosquitofish	<i>Gambusia affinis</i>	Poeciliidae
LMB	Largemouth Bass	<i>Micropterus salmoides</i>	Centrarchidae
MOL	Sailfin Molly	<i>Poecilia latipinna</i>	Poeciliidae
PRS	Red Shiner	<i>Cyprinella lutrensis</i>	Cyprinidae
RBT	Rainbow Trout	<i>Oncorhynchus mykiss</i>	Salmonidae
TL	Tilapia	<i>Tilapia sp.</i>	Cichlidae

Marine Fish *

Species Code	Common Name	Species Name	Family Name
CH	California Halibut	<i>Paralichthys californicus</i>	Bothidae
CKF	California Killifish	<i>Fundulus parvipinnis</i>	Cyprinodontidae

Non-Fish

Species Code	Common Name	Species Name	Family Name
PROI	Red Swamp Crayfish	<i>Procambarus clarki</i>	Astacidae

* Common and scientific fish names were obtained from Robins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea, and W.B. Scott. 1991. Common and Scientific Names of Fishes from the United States and Canada. American Fisheries Society Special Publication 20, Bethesda, Maryland.