

**Watershed Summary Information**

<b>Accounting Unit Name:</b>	Puget Sound
<b>State(s):</b>	WA
<b>Political Boundaries:</b>	Mason, Pierce, Kitsap, Island, Thurston, Jefferson, Snohomish, King, Skagit
<b>Major Waterways:</b>	Sherwood Cr Chimacum Cr Mintner Cr Deer Cr Burley Cr
<b>Number of Stations in Watershed:</b>	Tier1 - 418 Tier2 - 851 Tier3 - 114

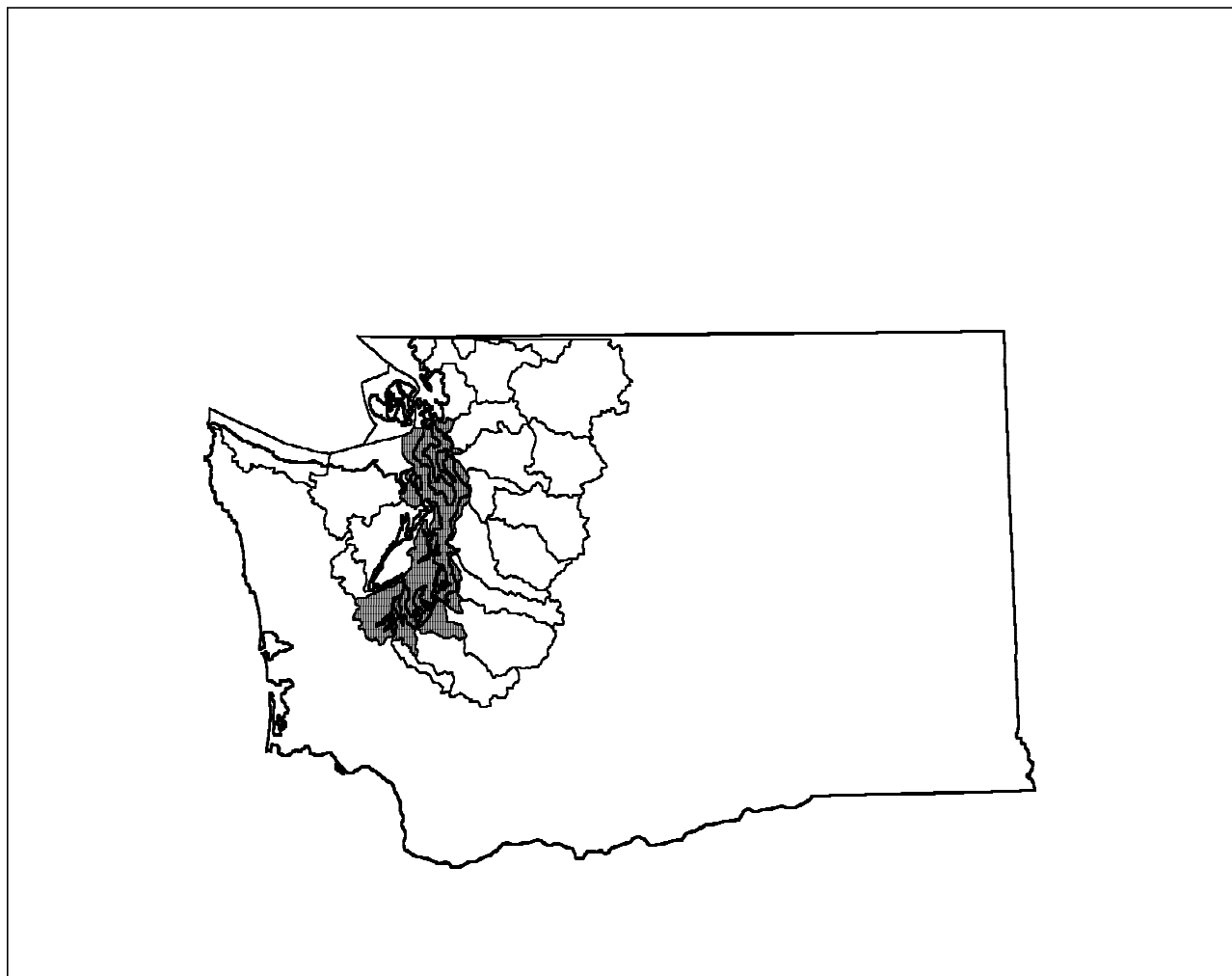


Figure 171. Watershed Location Map

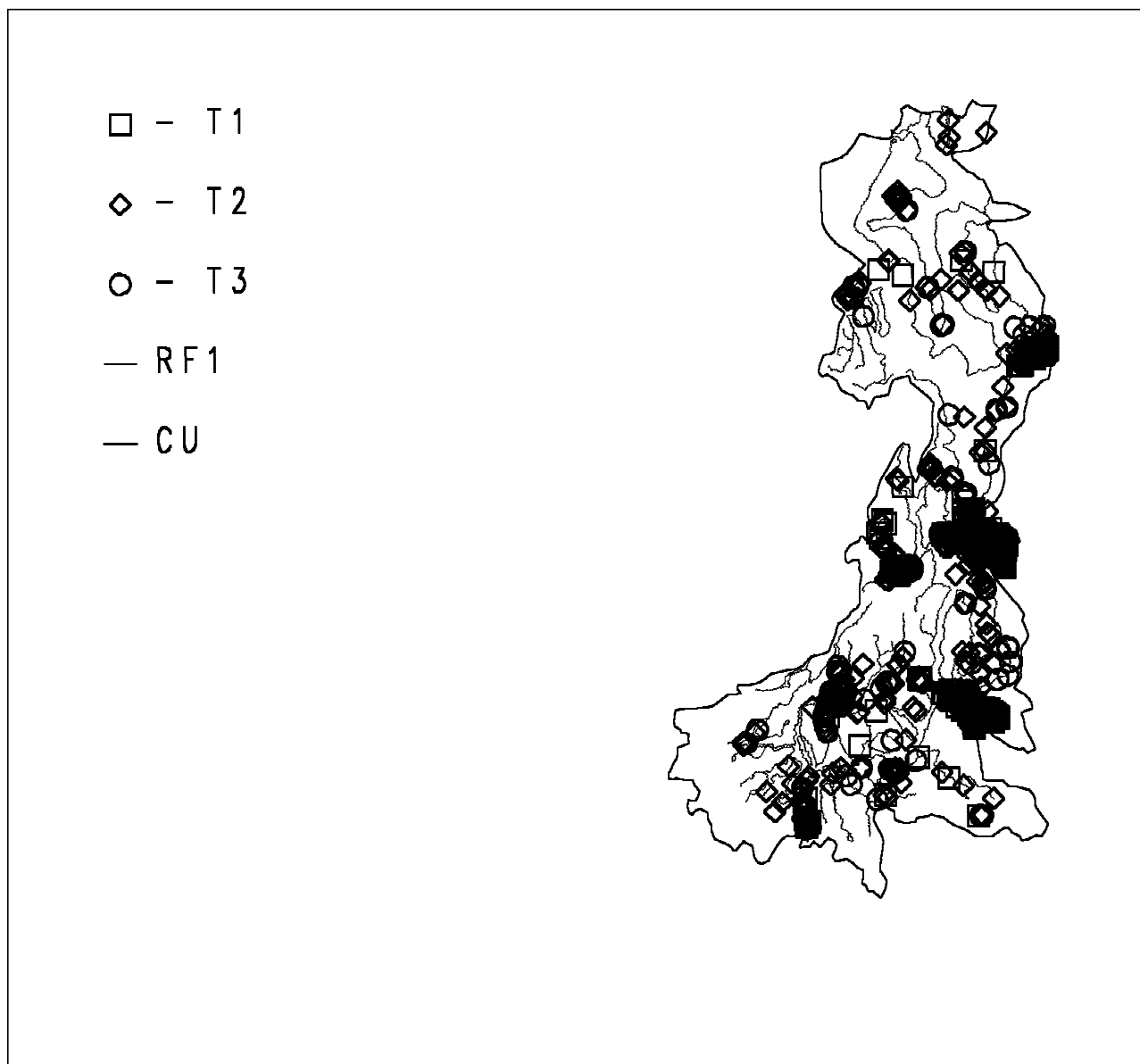


Figure 172. Major Waterways and Location of Sampling Stations

## Data Source(s) Used in Evaluation

Source: **COSED** Agency: **NS&T**  
 Monitoring Program: **NOAA/National Status and Trends**  
 Num. of Stations: 33 Date Range: 1984-90

Source: **ODES** Agency: **PS**  
 Monitoring Program: **Puget Sound**  
 Num. of Stations: 50 Date Range: 1988-89

Source: **SEACOE** Agency: **ALKI**  
 Monitoring Program: **1982 ALKI Survey**  
 Num. of Stations: 11 Date Range: 1984

Source: **SEACOE** Agency: **BLAIR037**  
Monitoring Program: **Tacoma, Port of, Blair Waterway, DY92**  
Num. of Stations: 15 Date Range: 1991

Source: **SEACOE** Agency: **BLAKEISL**  
Monitoring Program: **WA state park maintenance dredging.**  
Num. of Stations: 1 Date Range: 1988

Source: **SEACOE** Agency: **CASCADRI**  
Monitoring Program: **Cascade Pole Remedial Investigation.**  
Num. of Stations: 55 Date Range: 1990-91

Source: **SEACOE** Agency: **CBBLAIR**  
Monitoring Program: **Commencement Bay RI Blair Waterway Dredge**  
Num. of Stations: 12 Date Range: 1984

Source: **SEACOE** Agency: **CBMSQS**  
Monitoring Program: **Commencement Bay RI Main Sed. Qual. Sur.**  
Num. of Stations: 115 Date Range: 1984

Source: **SEACOE** Agency: **CGPIER35**  
Monitoring Program: **US Coast Guard dredging and construction**  
Num. of Stations: 3 Date Range: 1989

Source: **SEACOE** Agency: **CHEVMD90**  
Monitoring Program: **Chevron USA Edmonds Dock Maint. Dredging**  
Num. of Stations: 3 Date Range: 1990

Source: **SEACOE** Agency: **COE\_KEYS**  
Monitoring Program: **Keystone Harbor Study/Maint. Dredging.**  
Num. of Stations: 7 Date Range: 1990

Source: **SEACOE** Agency: **DNRREC91**  
Monitoring Program: **Aq. Lands Sediment Qual. Reconnaissance.**  
Num. of Stations: 13 Date Range: 1991

Source: **SEACOE** Agency: **DNRREC92**  
Monitoring Program: **Aq. Lands Sediment Qual. Reconnaissance.**  
Num. of Stations: 20 Date Range: 1992

Source: **SEACOE** Agency: **DUWAM84**  
Monitoring Program: **1984 Duwamish Head Survey**  
Num. of Stations: 28 Date Range: 1984

Source: **SEACOE** Agency: **DUWAM85**  
Monitoring Program: **Duwamish Head Baseline Survey, '85-'86**  
Num. of Stations: 36 Date Range: 1985-86

Source: **SEACOE** Agency: **DUWO&M90**  
Monitoring Program: **Operations & Maint. Dredge Duwamish Riv.**  
Num. of Stations: 1 Date Range: 1989

Source: **SEACOE** Agency: **EBCHEM**  
Monitoring Program: **1985 Elliott Bay sediment survey**

Num. of Stations: 88      Date Range: 1985

Source: **SEACOE**    Agency: **EHCHEM**  
Monitoring Program:    **Eagle Harbor sediment chemistry survey**  
Num. of Stations: 34      Date Range: 1985

Source: **SEACOE**    Agency: **EIGHTBAY**  
Monitoring Program:    **1985 Puget Sound Eight-Bay survey.**  
Num. of Stations: 48      Date Range: 1983-84

Source: **SEACOE**    Agency: **EPA8283**  
Monitoring Program:    **1982-83 EPA survey of Duwamish River**  
Num. of Stations: 34      Date Range: 1982-83

Source: **SEACOE**    Agency: **EVCHEM**  
Monitoring Program:    **1985 Everett Hbr. chem. & biota data.**  
Num. of Stations: 46      Date Range: 1986

Source: **SEACOE**    Agency: **EVRT12TH**  
Monitoring Program:    **Everett 12th St. barge channel dredging.**  
Num. of Stations: 8      Date Range: 1992

Source: **SEACOE**    Agency: **GAMPONIA**  
Monitoring Program:    **Gamponia survey of Elliott Bay**  
Num. of Stations: 14      Date Range: 1985

Source: **SEACOE**    Agency: **HOME1008**  
Monitoring Program:    **US NAVY EVERETT HOMEPORT ELEMENT I PC DY90**  
Num. of Stations: 2      Date Range: 1988

Source: **SEACOE**    Agency: **HULB87PC**  
Monitoring Program:    **Hulbert Mill's proposed 12th St. Marina.**  
Num. of Stations: 2      Date Range: 1987

Source: **SEACOE**    Agency: **IND\_MOXL**  
Monitoring Program:    **Indian/Moxlie Cr. (Olympis) Basin Samp.**  
Num. of Stations: 2      Date Range: 1992

Source: **SEACOE**    Agency: **LOTT\_91**  
Monitoring Program:    **1991 LOTT Budd Inlet Sample Study**  
Num. of Stations: 4      Date Range: 1991

Source: **SEACOE**    Agency: **LOTT\_92**  
Monitoring Program:    **1992 LOTT Budd Inlet Sample Study**  
Num. of Stations: 4      Date Range: 1992

Source: **SEACOE**    Agency: **LOTTO041**  
Monitoring Program:    **LOTT Olympia Treat. Plant Outfall, DY89**  
Num. of Stations: 1      Date Range: 1989

Source: **SEACOE**    Agency: **LOTTO043**  
Monitoring Program:    **LOTT Olympia Treat. Plant Outfall, DY91**  
Num. of Stations: 1      Date Range: 1991

Source: **SEACOE**    Agency: **MALINS**

Monitoring Program: **1980 NOAA OMPA-19 survey of Elliott Bay.**  
Num. of Stations: 15      Date Range: 1980

Source: **SEACOE**    Agency: **METROEBP**  
Monitoring Program: **WestPoint emergency bypass outfall.**  
Num. of Stations: 7      Date Range: 1989

Source: **SEACOE**    Agency: **NAVYHPFC**  
Monitoring Program: **Everett Homeport (full characterization)**  
Num. of Stations: 32      Date Range: 1989

Source: **SEACOE**    Agency: **NAVYHPHII**  
Monitoring Program: **U.S. Navy Homeport Element II Full Char.**  
Num. of Stations: 9      Date Range: 1990

Source: **SEACOE**    Agency: **NOAA84**  
Monitoring Program: **Benthic Surveillance 1984**  
Num. of Stations: 3      Date Range: 1984

Source: **SEACOE**    Agency: **NOAA86**  
Monitoring Program: **1986 Benthic Surveillance (NST)**  
Num. of Stations: 2      Date Range: 1986

Source: **SEACOE**    Agency: **OLYHARFC**  
Monitoring Program: **Olympia Harbor planning, full character.**  
Num. of Stations: 11      Date Range: 1988

Source: **SEACOE**    Agency: **OLYMP\_B2**  
Monitoring Program: **Olympia Har. Berth 2 sediment study.**  
Num. of Stations: 2      Date Range: 1985

Source: **SEACOE**    Agency: **OLYMP\_B3**  
Monitoring Program: **Olympia Har. Berth 3 reconstr. dredging.**  
Num. of Stations: 3      Date Range: 1986

Source: **SEACOE**    Agency: **POEST060**  
Monitoring Program: **Everett, Port of, South Terminal PC, DY93**  
Num. of Stations: 13      Date Range: 1992

Source: **SEACOE**    Agency: **POSAP053**  
Monitoring Program: **Seattle, Port of, American President's Line-T5, DY92**  
Num. of Stations: 2      Date Range: 1992

Source: **SEACOE**    Agency: **POST5036**  
Monitoring Program: **Seattle, Port of, Terminal 5, DY92**  
Num. of Stations: 3      Date Range: 1991

Source: **SEACOE**    Agency: **PSDDA1**  
Monitoring Program: **PSDDA Phase I baseline survey**  
Num. of Stations: 61      Date Range: 1988

Source: **SEACOE**    Agency: **PSDDA2**  
Monitoring Program: **PSDDA Phase 2 baseline survey**  
Num. of Stations: 7      Date Range: 1989

Source: **SEACOE** Agency: **PSREF90**  
Monitoring Program: **Puget Sound Reference Areas Survey**  
Num. of Stations: 14 Date Range: 1990

Source: **SEACOE** Agency: **SED18804**  
Monitoring Program: **Puget Sound Reconnaissance Survey - Spri**  
Num. of Stations: 18 Date Range: 1988

Source: **SEACOE** Agency: **SED18903**  
Monitoring Program: **March-April 1989 Sediment Survey**  
Num. of Stations: 34 Date Range: 1989

Source: **SEACOE** Agency: **SED19003**  
Monitoring Program: **Puget Sound Ambient Monitoring - 1990**  
Num. of Stations: 41 Date Range: 1990

Source: **SEACOE** Agency: **SILVERDA**  
Monitoring Program: **Port of Silverdale Dock/Pier/Ramp Dredge**  
Num. of Stations: 3 Date Range: 1991

Source: **SEACOE** Agency: **SSRECON**  
Monitoring Program: **South Puget Sound Reconnaissance Survey**  
Num. of Stations: 17 Date Range: 1990

Source: **SEACOE** Agency: **SWINOM88**  
Monitoring Program: **Swinomish Channel Maintenance Dredging.**  
Num. of Stations: 3 Date Range: 1988

Source: **SEACOE** Agency: **TPPS**  
Monitoring Program: **TPPS Preliminary survey**  
Num. of Stations: 31 Date Range: 1981-82

Source: **SEACOE** Agency: **TPPS3AB**  
Monitoring Program: **TPPS Phase III A & B**  
Num. of Stations: 37 Date Range: 1981-82

Source: **SEACOE** Agency: **TRIMA022**  
Monitoring Program: **TRISTAR MARINE**  
Num. of Stations: 2 Date Range: 1990

Source: **SEACOE** Agency: **USNPD034**  
Monitoring Program: **U.S. Navy Bremerton Pier D, DY92**  
Num. of Stations: 21 Date Range: 1991

Source: **SEACOE** Agency: **USOILVLF**  
Monitoring Program: **US Oil Refinery Blair WW Maint. Dredging**  
Num. of Stations: 6 Date Range: 1989-90

Source: **SEACOE** Agency: **WBMARINA**  
Monitoring Program: **Olympia/West Bay marina sampling.**  
Num. of Stations: 12 Date Range: 1991

Source: **SEACOE** Agency: **1TREEISL**  
Monitoring Program: **One Tree Island (Fiddlehead) Marina Proj**

Num. of Stations: 14      Date Range: 1985

Source: **SEACOE**    Agency: **2MARINAS**  
 Monitoring Program:    **Port Townsend & Cap Sante Marinas Study**  
 Num. of Stations: 4      Date Range: 1988

Source: **STORET**    Agency: **10EPACOP**  
 Monitoring Program:    **USEPA Region 10 Cooperative Water Data**  
 Num. of Stations: 12      Date Range: 1986-87

Source: **STORET**    Agency: **10EPAINT**  
 Monitoring Program:    **USEPA Region 10 Intensive Survey Data**  
 Num. of Stations: 242      Date Range: 1982-88

Source: **STORET**    Agency: **11BIOACC**  
 Monitoring Program:    **USEPA National Bioaccumulation Study**  
 Num. of Stations: 3      Date Range: 1987

Source: **STORET**    Agency: **112WRD**  
 Monitoring Program:    **US Geological Survey Data**  
 Num. of Stations: 4      Date Range: 1991

Source: **STORET**    Agency: **21540000**  
 Monitoring Program:    **Washington Dept Ecology Southwest Regional Office Estuary & Freshwatr Data**  
 Num. of Stations: 4      Date Range: 1980-82

## Chemicals Responsible for Sampling Station Classification as Tier 1 or Tier 2

Classifying Parameter	Number of Stations							
	All Parameters				Aquatic Life		Human Health	
	Total	T.1&2	Tier1	Tier2	Tier1	Tier2	Tier1	Tier2
Copper	1174	922	.	922	.	922	.	.
Nickel	1125	904	.	904	.	904	.	.
Arsenic	1111	737	37	700	37	686	.	14
Lead	1240	644	.	644	.	641	.	3
Benzo(a)pyrene	929	591	93	498	93	356	.	590
Pyrene	964	570	134	436	134	436	.	1
Mercury	1039	547	98	449	98	449	.	.
Chrysene	908	535	72	463	72	463	.	10
Dibenzo(a,h)anthracene	995	533	206	327	206	322	.	480
Benzo(a)anthracene	885	507	91	416	91	409	.	316
Cadmium	1147	498	.	498	.	498	.	.
Polychlorinated biphenyls	964	463	146	317	140	199	6	457
Naphthalene	943	400	90	310	90	310	.	.
Fluorene	944	387	66	321	66	321	.	.
Acenaphthylene	908	378	27	351	27	351	.	.
Zinc	1041	292	.	292	.	292	.	.
HMW_PAHs	688	283	71	212	71	212	.	.
LMW_PAHs	699	271	80	191	80	191	.	.

Classifying Parameter	Number of Stations							
	All Parameters				Aquatic Life		Human Health	
	Total	T.1&2	Tier1	Tier2	Tier1	Tier2	Tier1	Tier2
Chromium	850	265	2	263	2	263	.	.
Methylnaphthalene, 2-	618	237	28	209	28	209	.	.
Fluoranthene	968	230	50	180	50	180	.	1
Phenanthrene	893	206	100	106	100	106	.	.
Silver	1094	185	13	172	13	172	.	.
Bis(2-ethylhexyl)phthalate	737	154	13	141	13	141	.	9
Indeno(1,2,3-cd)pyrene	912	148	.	148	.	67	.	140
DDT	987	117	29	88	29	88	.	43
Acenaphthene	899	100	33	67	33	67	.	.
Benzo(b)fluoranthene	238	98	.	98	.	23	.	98
Benzo(ghi)perylene	909	74	.	74	.	74	.	.
Phenol	921	60	.	60	.	60	.	.
Anthracene	133	49	9	40	9	40	.	.
Benzo(k)fluoranthene	241	45	.	45	.	21	.	44
Hexachlorobutadiene	936	39	.	39	.	39	.	1
Anthracene&Phenanthrene	47	36	1	35	1	35	.	.
Cresol, m-	641	36	.	36	.	36	.	.
Dimethylphenol, 2,4-	919	34	.	34	.	34	.	.
Hexachlorobenzene	968	33	.	33	.	33	.	3
Dibenzofuran	591	30	10	20	10	20	.	2
BHC	730	27	8	19	8	19	.	2
Di-n-butyl phthalate	755	24	2	22	2	22	.	.
Nitrosodiphenylamine, N-	704	24	.	24	.	24	.	.
Cresol, o	689	19	.	19	.	19	.	.
Dimethyl phthalate	846	17	.	17	.	17	.	.
Antimony	832	16	.	16	.	16	.	.
Dichlorobenzene, 1,4-	917	15	2	13	2	13	.	1
Di-n-octyl phthalate	815	15	.	15	.	15	.	2
Diethyl phthalate	775	14	3	11	3	11	.	.
Benzyl alcohol	634	13	.	13	.	13	.	.
Xylenes	254	12	3	9	3	9	.	.
Aldrin	806	11	.	11	.	.	.	11
Benzo(a)anthracene/Chrysene	46	11	.	11	.	11	.	4
Dieldrin	816	11	.	11	.	1	.	10
Ethylbenzene	423	10	.	10	.	10	.	.
Tetrachloroethene	403	10	.	10	.	10	.	.
Trichlorobenzene, 1,2,4-	915	10	.	10	.	10	.	.
Dichlorobenzene, 1,2-	922	9	1	8	1	8	.	.
Benzoic acid	573	8	.	8	.	8	.	.
Toxaphene	167	7	.	7	.	7	.	7
Butyl benzyl phthalate	789	6	.	6	.	6	.	.
Heptachlor epoxide	419	6	.	6	.	.	.	6
Pentachlorophenol	993	6	.	6	.	6	.	.



Classifying Parameter	Number of Stations							
	All Parameters				Aquatic Life		Human Health	
	Total	T.1&2	Tier1	Tier2	Tier1	Tier2	Tier1	Tier2
Chlordane	817	3	.	3	.	3	.	1
Heptachlor	733	2	.	2	.	.	.	2
Cresol, p-	78	1	.	1	.	1	.	.

## Sediment Chemistry Data: Chemical Summary

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Acenaphthene	1065	540.18	0.00	465	100000.0	0.30
Acenaphthylene	1074	101.89	0.00	450	14000.00	0.60
Acetone	17	0.00	0.00	0	.	.
Acrylonitrile	110	0.00	0.00	0	.	.
Aldrin	862	0.16	0.00	29	75.00	0.30
Anthracene	154	422.01	22.50	98	21000.00	7.00
Anthracene&Phenanthrene	47	199.02	142.00	44	1117.00	6.00
Antimony	999	10181.68	280.00	619	1370000	6.00
Arsenic	1262	44365.24	9290.00	1214	12200000	0.74
Benzene	175	0.00	0.00	7	0.17	0.07
Benzo(a)anthracene	1051	1118.42	106.00	811	300000.0	1.00
Benzo(a)anthracene/Chrysene	46	57.02	14.90	27	816.00	5.00
Benzo(a)pyrene	1102	664.58	81.50	807	39000.00	0.40
Benzo(b)fluoranthene	248	1957.51	105.00	186	150000.0	7.00
Benzo(ghi)perylene	1064	259.38	6.65	558	16000.00	0.80
Benzo(k)fluoranthene	251	1984.95	94.00	185	150000.0	1.00
Benzoic acid	633	60.51	0.00	94	8000.00	2.00
Benzyl alcohol	702	7.06	0.00	86	810.00	10.00
Biphenyl	30	12.54	10.84	30	42.00	1.90
Bis(2-ethylhexyl)phthalate	829	252.87	0.00	354	34850.00	5.00
Bromophenyl phenyl ether, 4-	151	0.00	0.00	0	.	.
Butyl benzyl phthalate	882	28.30	0.00	112	1800.00	0.30
BHC	2240	0.02	0.00	30	5.00	0.20
Cadmium	1326	1460.37	470.00	1171	250000.0	0.47
Chlordane	871	0.29	0.00	19	230.00	0.50
Chlorobenzene	171	0.00	0.00	0	.	.
Chromium	1018	45683.62	37000.00	1013	350000.0	10.80
Chrysene	1083	1555.80	160.00	875	350000.0	0.60
Copper	1359	107241.7	47000.00	1348	14300000	2.70
Cresol, m-	708	276.51	20.00	567	96000.00	1.00
Cresol, o	761	59.85	6.20	540	3300.00	0.60
Cresol, p-	84	24.77	0.00	6	2000.00	4.00
Di-n-butyl phthalate	851	154.56	0.00	266	9800.00	0.20
Di-n-octyl phthalate	912	436.43	0.00	130	69000.00	0.20
Dibenzo(a,h)anthracene	1955	491.42	0.00	945	240000.0	0.50

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Dibenzofuran	715	565.32	0.00	282	100000.0	5.00
Dibromochloromethane	176	0.00	0.00	0	.	.
Dichlorobenzene, 1,2-	1026	1.69	0.00	46	350.00	2.00
Dichlorobenzene, 1,3-	1006	2.64	0.00	62	210.00	2.00
Dichlorobenzene, 1,4-	1024	35.92	0.00	110	31000.00	1.00
Dichloroethane 1,1-	161	0.01	0.00	2	0.52	0.52
Dichloroethane 1,2-	166	0.00	0.00	0	.	.
Dichloroethene, trans-1,2-	119	0.28	0.00	7	12.70	2.70
Dichloromethane	147	4.74	0.00	2	692.00	5.00
Dichloropropane, 1,2-	172	0.61	0.00	1	105.00	105.00
Dieldrin	864	0.14	0.00	17	44.00	0.18
Diethyl phthalate	870	14.21	0.00	118	2400.00	0.80
Dimethyl phthalate	947	29.45	0.00	77	11000.00	0.20
Dimethylphenol, 2,4-	1031	7.92	0.00	59	920.00	2.00
Dioxins	47	0.00	0.00	0	.	.
DDT	3510	2.22	0.00	508	830.00	0.10
Endosulfan, alpha-	347	0.00	0.00	0	.	.
Endosulfan, beta-	369	0.00	0.00	0	.	.
Endrin	494	0.04	0.00	2	10.00	10.00
Ethylbenzene	473	0.55	0.00	24	50.00	0.03
Fluoranthene	1151	3103.85	210.00	1002	1300000	1.00
Fluorene	1111	488.64	0.60	557	120000.0	0.40
Heptachlor	773	0.02	0.00	7	10.00	0.30
Heptachlor epoxide	448	0.12	0.00	17	13.00	0.35
Hexachlorobenzene	1068	4.60	0.00	82	730.00	0.02
Hexachlorobutadiene	1032	6.84	0.00	78	940.00	0.20
Hexachloroethane	753	3.90	0.00	2	2800.00	140.00
HMW_PAHs	849	5005.09	150.00	471	810000.0	6.00
Indeno(1,2,3-cd)pyrene	1068	246.82	8.00	559	18000.00	0.70
Isophorone	560	55.84	0.00	12	29630.00	37.00
Lead	1430	146076.4	31000.00	1380	71100000	3.20
LMW_PAHs	873	4502.70	34.00	491	880000.0	1.30
Mercury	1200	357.41	149.50	1053	52000.00	0.02
Methoxychlor	9	0.00	0.00	0	.	.
Methyl ethyl ketone	20	0.00	0.00	0	.	.
Methylnaphthalene, 2-	739	302.12	0.00	340	85000.00	0.40
Mirex/Dechlorane	4	0.68	0.25	4	2.00	0.20
Naphthalene	1112	701.35	15.00	613	180000.0	0.70
Nickel	1324	31997.17	30000.00	1290	366000.0	7.90
Nitrosodiphenylamine, N-	793	55.35	0.00	37	25640.00	5.00
Pentachlorophenol	1166	5.65	0.00	66	860.00	2.00
Phenanthrene	1071	1728.71	160.00	884	330000.0	1.00
Phenol	1018	691.04	0.00	309	608300.0	1.70
Polychlorinated biphenyls	3512	73.92	0.00	791	17000.00	0.20

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Pyrene	1136	2459.15	260.00	994	740000.0	0.90
Silver	1303	454.41	235.00	1053	6000.00	0.04
Tetrachloroethane, 1,1,2,2-	176	0.00	0.00	0	.	.
Tetrachloroethene	446	2.87	0.00	27	210.00	0.01
Tetrachloromethane	175	0.00	0.00	0	.	.
Toluene	199	0.01	0.00	8	0.24	0.10
Toxaphene	168	8.33	0.00	7	200.00	200.00
Tribromomethane/Bromoform	175	0.00	0.00	1	0.04	0.04
Trichlorobenzene, 1,2,4-	1016	1.43	0.00	25	260.00	4.00
Trichloroethane, 1,1,1-	122	0.01	0.00	3	0.82	0.06
Trichloroethane, 1,1,2-	176	0.00	0.00	0	.	.
Trichloroethene	458	0.01	0.00	1	3.30	3.30
Trichlorofluoromethane	119	0.00	0.00	0	.	.
Trichloromethane/Chloroform	234	0.01	0.00	9	0.89	0.05
Xylenes	298	4.70	0.00	24	460.00	0.17
Zinc	1216	151680.6	88000.00	1215	5910000	14.70

## Tissue Residue Data: Chemical Summary

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Acenaphthene	20	0.00	0.00	0	.	.
Aldrin	15	0.00	0.00	0	.	.
Anthracene	5	1.80	0.40	3	8.00	0.40
Antimony	1	300.00	300.00	1	300.00	300.00
Arsenic	28	1813.21	1800.00	28	4900.00	120.00
Benzo(a)anthracene	19	0.47	0.00	2	5.00	4.00
Benzo(a)pyrene	21	0.76	0.00	2	13.00	3.00
Benzo(b)fluoranthene	15	1.00	0.00	5	6.00	2.00
Benzo(k)fluoranthene	14	0.29	0.00	3	2.00	1.00
Biphenyl	3	0.00	0.00	0	.	.
BHC	62	0.08	0.00	2	3.60	1.30
Cadmium	28	341.07	250.00	28	1800.00	30.00
Chlordane	55	0.00	0.00	1	0.10	0.10
Chlorpyrifos/Dursban	3	0.00	0.00	0	.	.
Chromium	8	187.62	120.00	8	420.00	80.00
Chrysene	5	1.60	1.00	3	6.00	1.00
Copper	28	2437.50	1900.00	28	5400.00	130.00
Dibenzo(a,h)anthracene	20	0.00	0.00	0	.	.
Dicofol/Kelthane	3	0.00	0.00	0	.	.
Dieldrin	31	0.01	0.00	1	0.20	0.20
Dioxins	5	0.00	0.00	2	0.00	0.00
DDT	103	0.53	0.00	29	8.50	0.10

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Endosulfan, alpha-	20	0.00	0.00	0	.	.
Endosulfan, beta-	20	0.00	0.00	0	.	.
Endrin	30	0.00	0.00	0	.	.
Fluoranthene	15	15.80	10.00	14	40.00	5.00
Fluorene	20	0.00	0.00	0	.	.
Heptachlor	24	0.00	0.00	0	.	.
Heptachlor epoxide	23	0.00	0.00	0	.	.
Hexachlorobenzene	31	0.02	0.00	1	0.60	0.60
Hexachlorobutadiene	23	0.00	0.00	0	.	.
Indeno(1,2,3-cd)pyrene	20	0.05	0.00	1	1.00	1.00
Isopropalin	3	0.00	0.00	0	.	.
Lead	28	456.43	180.00	20	3800.00	40.00
Mercury	27	15.61	10.00	25	80.00	1.00
Methoxychlor	7	0.00	0.00	0	.	.
Mirex/Dechlorane	3	0.00	0.00	0	.	.
Naphthalene	21	619.05	0.00	1	13000.00	13000.00
Nickel	1	80.00	80.00	1	80.00	80.00
Pentachlorobenzene	3	0.00	0.00	0	.	.
Pentachloronitrobenzene/Quin	3	0.00	0.00	0	.	.
Pentachlorophenol	4	3.03	3.50	3	5.10	2.00
Polychlorinated biphenyls	189	6.42	0.00	44	132.00	0.07
Pyrene	20	5.00	0.00	4	40.00	20.00
Silver	1	0.00	0.00	0	.	.
Tetrachlorobenzene, 1,2,4,5-	3	0.00	0.00	0	.	.
Toxaphene	20	0.00	0.00	0	.	.
Trichlorobenzene, 1,2,4-	3	0.00	0.00	0	.	.
Trifluralin/Treflan	3	0.00	0.00	0	.	.
Zinc	25	18072.00	15200.00	25	43000.00	4000.00

## Biotoxicity Data

Lat.	Long.	Date	Species Name	Phase	% Mortality		Sign.
					Test	Control	
Monitoring Program: Puget Sound Reference Areas Survey							
47.3203	122.6939	90-06-19	Neanthes Arenaceodentata	S	0.00	0.00	no
			Rhepoxynius Abronius	S	7.00	1.00	no
47.3311	122.6789	90-06-19	Neanthes Arenaceodentata	S	4.00	0.00	no
			Rhepoxynius Abronius	S	6.00	1.00	no
47.3317	122.6769	90-06-19	Neanthes Arenaceodentata	S	4.00	0.00	no
			Rhepoxynius Abronius	S	9.00	1.00	no
47.3319	122.6706	90-06-19	Neanthes Arenaceodentata	S	0.00	0.00	no
			Rhepoxynius Abronius	S	12.00	1.00	no
47.3319	122.6736	90-06-19	Neanthes Arenaceodentata	S	0.00	0.00	no
			Rhepoxynius Abronius	S	12.00	1.00	no

Lat.	Long.	Date	Species Name	Phase	% Mortality		Sign.
					Test	Control	
47.3319	122.6761	90-06-19	Neanthes Arenaceodentata	S	4.00	0.00	no
			Rhepoxynius Abronius	S	13.00	1.00	no
47.3347	122.6642	90-06-19	Neanthes Arenaceodentata	S	4.00	0.00	no
			Rhepoxynius Abronius	S	12.00	1.00	no
48.0314	122.5203	90-06-26	Neanthes Arenaceodentata	S	4.00	20.00	no
			Rhepoxynius Abronius	S	7.00	2.00	no
48.0331	122.5147	90-06-26	Neanthes Arenaceodentata	S	4.00	20.00	no
			Rhepoxynius Abronius	S	3.00	2.00	no
48.0331	122.5161	90-06-26	Neanthes Arenaceodentata	S	0.00	20.00	no
			Rhepoxynius Abronius	S	10.00	2.00	no
48.1019	122.5511	90-06-25	Neanthes Arenaceodentata	S	52.00	20.00	Yes
			Rhepoxynius Abronius	S	11.00	2.00	no
48.1056	122.5586	90-06-25	Neanthes Arenaceodentata	S	0.00	20.00	no
			Rhepoxynius Abronius	S	2.00	2.00	no
48.1067	122.5636	90-06-25	Neanthes Arenaceodentata	S	40.00	20.00	no
			Rhepoxynius Abronius	S	11.00	2.00	no
48.1214	122.5208	90-06-26	Neanthes Arenaceodentata	S	0.00	20.00	no
			Rhepoxynius Abronius	S	1.00	2.00	no
Monitoring Program: PSDDA Phase I baseline survey							
47.2198	122.6242	88-05-17	Rhepoxynius Abronius	S	16.00	6.00	no
47.2871	122.4556	88-05-17	Rhepoxynius Abronius	S	32.00	6.00	Yes
47.3000	122.4667	88-05-16	Rhepoxynius Abronius	S	7.00	6.00	no
47.3016	122.4586	88-05-18	Rhepoxynius Abronius	S	17.00	6.00	no
47.3036	122.4639	88-05-16	Rhepoxynius Abronius	S	49.00	6.00	Yes
47.3129	122.4556	88-05-17	Rhepoxynius Abronius	S	48.00	6.00	Yes
47.3167	122.4444	88-05-17	Rhepoxynius Abronius	S	33.00	6.00	Yes
47.5891	122.3615	88-05-19	Rhepoxynius Abronius	S	12.00	6.00	no
47.5950	122.3558	88-05-20	Rhepoxynius Abronius	S	17.00	6.00	no
47.5995	122.3563	88-05-20	Rhepoxynius Abronius	S	22.00	6.00	no
47.6002	122.3417	88-05-19	Rhepoxynius Abronius	S	15.00	6.00	no
47.6028	122.3541	88-05-20	Rhepoxynius Abronius	S	16.00	6.00	no
47.9722	122.2716	88-05-24	Rhepoxynius Abronius	S	29.00	6.00	Yes
47.9750	122.3333	88-05-23	Rhepoxynius Abronius	S	51.00	6.00	Yes
47.9811	122.2778	88-05-23	Rhepoxynius Abronius	S	36.00	6.00	Yes
48.0888	122.3530	88-05-23	Rhepoxynius Abronius	S	37.00	6.00	Yes
Monitoring Program: PSDDA Phase 2 baseline survey							
47.1572	122.6567	89-05-06	Rhepoxynius Abronius	S	17.00	4.00	no
47.1635	122.6418	89-05-06	Rhepoxynius Abronius	S	13.00	4.00	no
47.2198	122.6242	89-05-06	Rhepoxynius Abronius	S	4.00	4.00	no
Monitoring Program: 1985 Elliott Bay sediment survey							
47.5580	122.3420	85-10-09	Rhepoxynius Abronius	S	37.00	5.00	Yes
47.5589	122.3444	85-09-25	Rhepoxynius Abronius	S	27.00	2.25	Yes
47.5632	122.3444	85-09-30	Rhepoxynius Abronius	S	32.00	2.25	Yes
47.5634	122.3441	85-10-09	Rhepoxynius Abronius	S	18.00	5.00	no

Lat.	Long.	Date	Species Name	Phase	% Mortality		Sign.
					Test	Control	
47.5635	122.3464	85-09-30	Rhepoxynius Abronius	S	9.00	2.25	no
47.5654	122.3476	85-09-30	Rhepoxynius Abronius	S	23.00	2.25	Yes
47.5669	122.3460	85-10-01	Rhepoxynius Abronius	S	16.00	1.00	no
47.5675	122.3486	85-10-01	Rhepoxynius Abronius	S	33.00	1.00	Yes
47.5694	122.3468	85-10-08	Rhepoxynius Abronius	S	31.00	5.00	Yes
47.5705	122.3508	85-10-01	Rhepoxynius Abronius	S	32.00	1.00	Yes
47.5720	122.3433	85-10-09	Rhepoxynius Abronius	S	3.00	5.00	no
47.5720	122.3541	85-10-09	Rhepoxynius Abronius	S	82.00	5.00	Yes
47.5722	122.3528	85-10-01	Rhepoxynius Abronius	S	15.00	1.00	no
47.5730	122.3545	85-10-01	Rhepoxynius Abronius	S	9.00	1.00	no
47.5738	122.3565	85-10-01	Rhepoxynius Abronius	S	9.00	1.00	no
47.5740	122.3422	85-10-04	Rhepoxynius Abronius	S	39.00	5.00	Yes
47.5741	122.3592	85-10-01	Rhepoxynius Abronius	S	19.00	1.00	no
47.5742	122.3552	85-10-01	Rhepoxynius Abronius	S	11.00	1.00	no
47.5751	122.3580	85-10-01	Rhepoxynius Abronius	S	41.00	1.00	Yes
47.5760	122.3431	85-10-04	Rhepoxynius Abronius	S	29.00	5.00	Yes
47.5777	122.3445	85-10-14	Rhepoxynius Abronius	S	58.00	1.00	Yes
47.5779	122.3572	85-10-02	Rhepoxynius Abronius	S	41.00	1.00	Yes
47.5786	122.3397	85-10-04	Rhepoxynius Abronius	S	39.00	5.00	Yes
47.5788	122.3431	85-10-01	Rhepoxynius Abronius	S	100.00	1.00	Yes
47.5792	122.3583	85-10-02	Rhepoxynius Abronius	S	12.00	1.00	no
47.5794	122.3601	85-10-02	Rhepoxynius Abronius	S	15.00	1.00	no
47.5797	122.3572	85-10-02	Rhepoxynius Abronius	S	33.00	1.00	Yes
47.5803	122.3447	85-10-14	Rhepoxynius Abronius	S	63.00	1.00	Yes
47.5807	122.3433	85-10-14	Rhepoxynius Abronius	S	65.00	1.00	Yes
47.5818	122.3570	85-10-02	Rhepoxynius Abronius	S	18.00	1.00	no
47.5819	122.3418	85-10-14	Rhepoxynius Abronius	S	59.00	1.00	Yes
47.5820	122.3582	85-10-02	Rhepoxynius Abronius	S	17.00	1.00	no
47.5822	122.3608	85-10-08	Rhepoxynius Abronius	S	13.00	5.00	no
47.5830	122.3603	85-10-03	Rhepoxynius Abronius	S	16.00	1.00	no
47.5834	122.3572	85-10-03	Rhepoxynius Abronius	S	14.00	1.00	no
47.5839	122.3693	85-10-16	Rhepoxynius Abronius	S	100.00	10.00	Yes
47.5840	122.3680	85-10-09	Rhepoxynius Abronius	S	9.00	5.00	no
47.5841	122.3419	85-10-14	Rhepoxynius Abronius	S	62.00	1.00	Yes
47.5844	122.4025	85-09-26	Rhepoxynius Abronius	S	3.00	2.25	no
47.5849	122.3448	85-10-15	Rhepoxynius Abronius	S	16.00	10.00	no
47.5850	122.3567	85-10-03	Rhepoxynius Abronius	S	18.00	1.00	no
47.5851	122.3432	85-10-14	Rhepoxynius Abronius	S	58.00	1.00	Yes
47.5855	122.3671	85-10-16	Rhepoxynius Abronius	S	83.00	10.00	Yes
47.5856	122.3644	85-10-15	Rhepoxynius Abronius	S	80.00	10.00	Yes
47.5856	122.3614	85-10-15	Rhepoxynius Abronius	S	87.00	10.00	Yes
47.5858	122.3574	85-10-02	Rhepoxynius Abronius	S	60.00	1.00	Yes
47.5863	122.3740	85-10-16	Rhepoxynius Abronius	S	58.00	10.00	Yes
47.5871	122.3431	85-10-15	Rhepoxynius Abronius	S	24.00	10.00	no

Lat.	Long.	Date	Species Name	Phase	% Mortality		Sign.
					Test	Control	
47.5872	122.3585	85-10-03	Rhepoxynius Abronius	S	22.00	1.00	Yes
47.5875	122.3764	85-10-08	Rhepoxynius Abronius	S	24.00	5.00	no
47.5875	122.3563	85-10-16	Rhepoxynius Abronius	S	94.00	10.00	Yes
47.5877	122.3518	85-10-15	Rhepoxynius Abronius	S	45.00	10.00	Yes
47.5883	122.3766	85-09-26	Rhepoxynius Abronius	S	47.00	2.25	Yes
47.5891	122.3493	85-10-15	Rhepoxynius Abronius	S	20.00	10.00	no
47.5900	122.3419	85-10-15	Rhepoxynius Abronius	S	22.00	10.00	no
47.5904	122.3477	85-10-15	Rhepoxynius Abronius	S	55.00	10.00	Yes
47.5905	122.3386	85-10-15	Rhepoxynius Abronius	S	16.00	10.00	no
47.5908	122.3798	85-09-26	Rhepoxynius Abronius	S	6.00	2.25	no
47.5910	122.3432	85-10-15	Rhepoxynius Abronius	S	31.00	10.00	Yes
47.5935	122.3410	85-10-16	Rhepoxynius Abronius	S	9.00	10.00	no
47.5937	122.3932	85-09-26	Rhepoxynius Abronius	S	3.00	2.25	no
47.5995	122.3365	85-10-04	Rhepoxynius Abronius	S	57.00	5.00	Yes
47.6012	122.3365	85-10-04	Rhepoxynius Abronius	S	13.00	5.00	no
47.6038	122.3389	85-10-03	Rhepoxynius Abronius	S	18.00	1.00	no
47.6059	122.3399	85-10-03	Rhepoxynius Abronius	S	45.00	1.00	Yes
47.6068	122.3410	85-10-03	Rhepoxynius Abronius	S	30.00	1.00	Yes
47.6093	122.3445	85-09-27	Rhepoxynius Abronius	S	44.00	2.25	Yes
47.6103	122.3462	85-09-27	Rhepoxynius Abronius	S	29.00	2.25	Yes
47.6122	122.3501	85-09-27	Rhepoxynius Abronius	S	14.00	2.25	no
47.6133	122.3519	85-09-27	Rhepoxynius Abronius	S	10.00	2.25	no
47.6157	122.3564	85-09-27	Rhepoxynius Abronius	S	19.00	2.25	no
47.6186	122.3593	85-10-08	Rhepoxynius Abronius	S	58.00	5.00	Yes
47.6222	122.3656	85-09-27	Rhepoxynius Abronius	S	16.00	2.25	no
47.6238	122.3684	85-10-04	Rhepoxynius Abronius	S	13.00	5.00	no
47.6258	122.3730	85-10-04	Rhepoxynius Abronius	S	10.00	5.00	no
47.6265	122.3793	85-10-04	Rhepoxynius Abronius	S	36.00	5.00	Yes
47.6268	122.3751	85-10-08	Rhepoxynius Abronius	S	33.00	5.00	Yes
47.6303	122.3983	85-09-26	Rhepoxynius Abronius	S	7.00	2.25	no
47.6321	122.4049	85-09-26	Rhepoxynius Abronius	S	3.00	2.25	no
47.6324	122.3778	85-09-27	Rhepoxynius Abronius	S	15.00	2.25	no
47.6327	122.3825	85-09-26	Rhepoxynius Abronius	S	82.00	2.25	Yes
47.6343	122.4089	85-09-26	Rhepoxynius Abronius	S	7.00	2.25	no
47.6394	122.4195	85-09-26	Rhepoxynius Abronius	S	6.00	2.25	no
48.1033	122.3944	85-10-12	Rhepoxynius Abronius	S	17.00	10.00	no
48.1175	122.4141	85-10-12	Rhepoxynius Abronius	S	10.00	10.00	no
48.1367	122.4372	85-10-12	Rhepoxynius Abronius	S	24.00	10.00	no
48.1730	122.4670	85-10-12	Rhepoxynius Abronius	S	13.00	10.00	no
<b>Monitoring Program: 1985 Everett Hbr. chem. &amp; biota data.</b>							
47.9508	122.3016	86-10-03	Rhepoxynius Abronius	S	5.00	7.00	no
47.9513	122.2927	86-10-15	Rhepoxynius Abronius	S	1.00	4.00	no
47.9518	122.2934	86-10-08	Rhepoxynius Abronius	S	43.00	9.00	Yes
47.9547	122.2884	86-10-02	Rhepoxynius Abronius	S	100.00	7.00	Yes

Lat.	Long.	Date	Species Name	Phase	% Mortality		Sign.
					Test	Control	
47.9575	122.2730	86-10-15	Rhepoxynius Abronius	S	5.00	4.00	no
47.9603	122.2731	86-10-02	Rhepoxynius Abronius	S	13.00	5.00	no
47.9646	122.2392	86-10-15	Rhepoxynius Abronius	S	6.00	4.00	no
47.9656	122.2410	86-10-02	Rhepoxynius Abronius	S	6.00	5.00	no
47.9707	122.2307	86-10-15	Rhepoxynius Abronius	S	2.00	4.00	no
47.9709	122.2372	86-10-09	Rhepoxynius Abronius	S	58.00	9.00	Yes
47.9728	122.2316	86-10-02	Rhepoxynius Abronius	S	5.00	5.00	no
47.9756	122.2268	86-10-01	Rhepoxynius Abronius	S	37.00	5.00	Yes
47.9783	122.2224	86-10-01	Rhepoxynius Abronius	S	13.00	7.00	no
47.9794	122.2206	86-10-01	Rhepoxynius Abronius	S	55.00	5.00	Yes
47.9830	122.2172	86-09-30	Rhepoxynius Abronius	S	73.50	5.00	Yes
47.9841	122.2185	86-09-30	Rhepoxynius Abronius	S	99.00	7.00	Yes
47.9887	122.2269	86-10-03	Rhepoxynius Abronius	S	15.00	5.00	no
47.9888	122.2164	86-10-07	Rhepoxynius Abronius	S	100.00	7.00	Yes
47.9917	122.2512	86-10-07	Rhepoxynius Abronius	S	29.00	7.00	Yes
47.9979	122.2156	86-10-03	Rhepoxynius Abronius	S	33.00	5.00	Yes
48.0287	122.2303	86-10-09	Rhepoxynius Abronius	S	15.00	9.00	no
48.0999	122.3905	86-10-10	Rhepoxynius Abronius	S	20.00	9.00	no
48.1160	122.4129	86-10-13	Rhepoxynius Abronius	S	24.00	9.00	no
48.1358	122.4370	86-10-13	Rhepoxynius Abronius	S	29.00	9.00	no