

APPENDIX A - MATERIALS AND METHODS

- A1. Trawl station locations and characteristics in the Southern California Bight 2003 Regional Survey
- A2. Subpopulation designation and area-weights of successful trawl stations sampled
- A3. Fish Response Index (FRI) pollution gradient position (p_i) values by shelf zone
- A4. Megabenthic Invertebrate Response Index (MIRI) pollution gradient position (p_i) values
- A5. Trawl Response Index (TRI) pollution gradient (p_i) values for fish (F) and invertebrate (I) species

**A1. Trawl station locations and characteristics in the southern California Bight
2003 Regional Survey, July-October 2003.**

Station	Date (2003)	Ag ^b	Ve. ^c	Station Coordinates ^a								Time	Depth (m)	Dist. (m)	Dur. (Min.)	Speed (m/s)	Trawl Type ^d	FC ^e
				Nominal Trawl				Trawl Start										
				Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)							
4000	7/22	SD	M	32	33.05	117	11.96	32	32.73	117	11.88	12:22	34	566	10	0.94	AT	-
4003	7/22	AB	H	34	7.50	119	11.56	34	7.57	119	11.67	16:10	16	717	10	1.19	AT	-
4004	7/25	SD	M	32	39.79	117	20.47	32	39.59	117	20.45	8:34	145	559	10	0.93	AT	-
4006	8/11	VR	V	33	51.62	118	26.88	33	51.59	118	26.85	7:43	59	689	10	1.15	AT	-
4007	8/4	AB	Y	34	21.76	120	0.62	34	21.73	120	0.92	16:59	452	604	4	2.52	A	-
4010	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ob
4011	-	-	MA	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4012	7/25	SD	M	32	41.69	117	18.14	32	41.48	117	18.07	9:57	73	575	10	0.96	AT	-
4015	-	-	H	-	-	-	-	-	-	-	-	-	-	-	-	-	N	NC
4016	-	-	JB	-	-	-	-	-	-	-	-	-	-	-	-	-	N	NP
4018	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ob
4019	8/18	AB	Y	34	13.86	119	30.73	34	13.84	119	30.99	15:04	84	711	10	1.18	AT	-
4020	-	-	M	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4021	8/11	VR	V	33	55.72	118	28.97	33	55.85	118	29.03	10:40	37	757	10	1.26	AT	-
4022	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4023	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4024	-	-	Z	-	-	-	-	-	-	-	-	-	-	-	-	-	N	IB
4026	8/27	LA	OS	33	37.26	118	11.70	33	37.21	118	11.53	8:38	43	513	10	0.86	AT	-
4027	8/7	CI	S	34	6.94	119	56.17	34	6.96	119	56.04	12:26	101	472	10	0.79	A	-
4028	7/17	SD	M	32	40.52	117	8.63	32	40.50	117	8.62	11:13	4	330	5	1.10	A	-
4029	8/8	CI	S	34	2.05	119	21.10	34	2.07	119	21.12	10:35	81	525	10	0.87	A	-
4030	8/25	OC	Y	33	30.71	117	46.28	33	30.86	117	46.40	8:41	42	773	10	1.29	AT	-
4031	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	H
4035	8/18	AB	Y	34	17.02	119	30.43	34	16.97	119	30.59	12:57	71	591	10	0.98	AT	-
4036	7/25	SD	M	32	47.79	117	18.30	32	47.62	117	18.23	11:44	47	463	11	0.70	AT	-
4037	8/13	HY	LM	33	59.89	118	42.57	33	59.89	118	42.91	9:09	60	551	10	0.92	AT	-
4038	8/27	LA	OS	33	46.01	118	27.63	33	45.74	118	27.45	13:38	133	538	10	0.90	AT	-
4039	8/3	AB	Y	34	17.23	120	27.33	34	17.36	120	27.48	17:49	426	674	10	1.12	A	-
4040	8/8	ME	Z	33	9.17	117	23.25	33	9.08	117	23.15	7:21	57	551	10	0.92	AT	-
4041	8/28	OC	Y	33	34.04	117	59.38	33	34.04	117	59.61	13:14	81	739	10	1.23	A	-
4042	8/27	LA	OS	33	41.72	118	17.77	33	41.70	118	17.57	10:01	25	530	10	0.88	AT	-
4043	7/23	AB	H	34	17.04	119	21.29	34	17.18	119	21.44	13:43	18	776	10	1.29	AT	-
4044	-	-	MT	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4045	8/13	HY	LM	33	56.09	118	32.39	33	55.88	118	32.18	13:12	58	457	10	0.76	AT	-
4047	7/24	AB	H	34	23.73	119	39.73	34	23.74	119	39.88	13:34	25	766	10	1.28	AT	-
4048	8/8	ME	Z	33	5.28	117	21.06	33	5.14	117	21.01	10:39	72	616	11	0.93	AT	-
4050	8/20	HY	MS	33	43.45	118	15.73	33	43.58	118	15.78	10:25	25	272	5	0.91	A	-
4051	8/6	CI	S	34	4.52	119	44.91	34	4.44	119	44.71	11:31	87	434	10	0.72	A	-
4052	-	-	MT	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4055	7/29	AB	H	34	24.24	119	48.73	34	24.23	119	48.90	9:34	18	694	12	0.96	AT	-
4056	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4057	8/13	HY	LM	33	58.66	118	37.63	33	58.67	118	37.68	11:46	139	589	9	1.09	AT	-
4058	8/26	OC	Y	33	38.58	118	4.70	33	38.59	118	4.98	12:40	28	808	10	1.35	AT	-
4059	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TN
4061	7/22	AB	H	34	6.07	119	9.05	34	6.10	119	9.08	11:17	14	726	10	1.21	AT	-
4062	8/13	ME	Z	33	25.84	117	40.60	33	25.77	117	40.49	10:24	23	451	10	0.75	AT	-
4063	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4064	8/8	ME	Z	33	0.37	117	17.80	33	0.04	117	17.74	14:32	27	631	10	1.05	AT	-
4065	8/19	OC	E	33	36.56	117	54.29	33	36.62	117	54.40	7:46	6	278	5	0.93	A	-
4067	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	N	TN
4068	7/22	SD	M	32	35.14	117	20.47	32	35.12	117	20.42	10:48	185	558	10	0.93	AT	-
4069	-	-	LM	-	-	-	-	-	-	-	-	-	-	-	-	-	N	OR
4070	8/27	LA	OS	33	45.51	118	26.78	33	45.40	118	26.69	11:55	72	541	10	0.90	AT	-
4071	8/4	AB	Y	34	20.65	120	22.12	34	20.73	120	22.38	11:57	287	808	10	1.35	A	-
4073	8/27	OC	Y	33	35.86	118	2.77	33	36.01	118	3.33	10:32	39	876	10	1.46	A	-

A1. (continued)

Station	Date (2003)	Ag ^b	Ve. ^c	Station Coordinates ^a								Time	Depth (m)	Dist. (m)	Dur. (Min.)	Speed (m/s)	Trawl Type ^d	FC ^e
				Nominal Trawl				Trawl Start										
				Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)							
4076	-	-	MT	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4077	9/4	HY	LM	33	55.32	118	31.23	33	55.35	118	31.51	8:18	56	555	10	0.92	A	-
4079	7/25	AB	H	34	23.01	119	35.75	34	23.08	119	36.03	9:20	36	910	12	1.26	A	-
4080	8/13	ME	Z	33	15.93	117	32.04	33	15.86	117	31.96	8:02	63	566	10	0.94	A	-
4083	8/5	AB	Y	34	7.09	119	37.73	34	7.11	119	38.11	16:16	259	752	11	1.14	A	-
4084	-	-	MT	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4086	8/11	VR	V	33	50.13	118	28.19	33	50.11	118	28.25	14:52	93	786	10	1.31	AT	-
4088	8/12	ME	Z	33	5.63	117	25.03	33	5.67	117	24.90	15:37	469	466	10	0.78	A	-
4089	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4090	8/26	LA	OS	33	39.57	118	7.84	33	39.56	118	7.66	12:41	28	534	10	0.89	A	-
4091	8/3	AB	Y	34	8.63	120	10.69	34	8.65	120	10.62	7:54	428	746	11	1.13	A	-
4092	7/17	SD	M	32	43.46	117	10.97	32	43.41	117	10.92	9:11	4	253	4	1.05	A	-
4093	-	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	N	OD
4094	8/13	ME	Z	33	26.38	117	41.63	33	26.31	117	41.51	11:31	21	584	10	0.97	A	-
4096	8/14	ME	Z	33	16.19	117	33.89	33	16.12	117	33.80	9:39	80	604	10	1.01	A	-
4097	8/19	OC	E	33	36.91	117	54.17	33	36.92	117	54.15	10:37	3	243	5	0.81	A	-
4098	8/27	HY	LM	33	44.65	118	10.12	33	44.57	118	10.01	10:19	11	331	6	0.92	A	-
4099	8/18	AB	Y	34	18.38	119	33.51	34	18.38	119	33.60	10:44	72	547	10	0.91	A	-
4101	8/14	HY	LM	33	59.90	118	33.56	33	59.85	118	33.42	11:09	38	575	10	0.96	A	-
4102	8/28	LA	OS	33	43.25	118	21.88	33	43.24	118	21.87	12:46	42	515	10	0.86	A	-
4103	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4107	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4108	-	-	MT	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4109	8/14	HY	LM	33	57.52	118	31.19	33	57.41	118	31.08	13:53	44	482	10	0.80	A	-
4110	8/25	OC	Y	33	27.87	117	45.75	33	27.96	117	45.84	13:52	157	790	11	1.20	A	-
4111	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4113	8/27	OC	Y	33	35.42	117	58.27	33	35.41	117	58.33	7:40	40	769	10	1.28	A	-
4115	8/6	CI	S	34	4.74	119	42.07	34	4.74	119	41.70	12:07	86	537	11	0.81	A	-
4116	7/17	SD	M	32	39.50	117	8.66	32	39.47	117	8.64	13:37	4	295	5	0.98	A	-
4117	9/3	AB	H	33	58.94	118	26.64	33	58.93	118	26.68	8:46	4	231	5	0.77	A	-
4119	7/29	AB	H	34	24.00	119	50.60	34	23.96	119	50.96	13:46	20	568	12	0.79	A	-
4120	7/24	SD	M	32	39.47	117	18.57	32	39.14	117	18.45	12:23	86	645	10	1.08	A	-
4122	8/26	LA	OS	33	36.27	118	8.43	33	36.31	118	8.25	11:27	47	513	10	0.86	A	-
4123	7/30	AB	H	34	27.22	120	11.85	34	27.26	120	11.96	13:16	56	476	14	0.57	A	-
4125	8/20	AB	Y	34	2.47	119	11.83	34	2.22	119	11.88	12:24	394	527	10	0.88	A	-
4126	-	-	Z	-	-	-	-	-	-	-	-	-	-	-	-	-	N	IB
4127	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4128	7/29	SD	M	32	55.05	117	16.40	32	54.99	117	16.32	11:30	23	513	11	0.78	A	-
4129	8/19	OC	E	33	36.94	117	55.31	33	36.95	117	55.23	8:54	4	250	6	0.69	A	-
4131	7/22	AB	H	34	9.74	119	13.49	34	9.74	119	13.44	18:47	6	395	5	1.32	A	-
4132	8/11	ME	Z	32	41.63	117	23.75	32	41.52	117	23.94	14:08	377	531	10	0.88	A	-
4133	8/19	AB	Y	34	2.64	119	3.33	34	2.66	119	3.36	9:41	197	418	10	0.70	A	-
4134	8/29	LA	OS	33	49.19	118	25.63	33	49.11	118	25.72	9:29	77	545	10	0.91	A	-
4135	8/4	AB	Y	34	18.87	120	16.94	34	19.09	120	17.41	13:44	383	889	11	1.35	A	-
4137	8/26	OC	Y	33	34.61	118	0.70	33	34.71	118	0.94	9:09	56	865	10	1.44	A	-
4138	8/20	HY	MS	33	43.35	118	16.76	33	43.34	118	16.78	9:30	10	314	5	1.05	A	-
4139	-	-	H	-	-	-	-	-	-	-	-	-	-	-	-	-	N	UB
4140	-	-	MT	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4141	9/4	HY	LM	33	55.47	118	31.57	33	55.49	118	31.27	9:43	56	462	10	0.77	A	-
4143	7/25	AB	H	34	21.54	119	29.33	34	21.67	119	29.44	15:32	24	828	11	1.25	A	-
4144	8/14	ME	Z	33	13.24	117	30.72	33	13.23	117	30.76	13:51	210	667	10	1.11	A	-
4146	-	-	MS	-	-	-	-	-	-	-	-	-	-	-	-	-	N	IB
4147	-	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	N	TN
4148	7/17	SD	M	32	38.81	117	7.07	32	38.88	117	6.98	12:33	12	268	5	0.89	A	-
4149	10/2	VR	Y	33	57.81	118	27.32	33	57.78	118	27.46	15:08	6	341	5	1.14	A	-

A1. (continued)

Station	Date (2003)	Ag ^b	Ve. ^c	Station Coordinates ^a								Time	Depth (m)	Dist. (m)	Dur. (Min.)	Speed (m/s)	Trawl Type ^d	FC ^e
				Nominal Trawl				Trawl Start										
				Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)							
4150	8/11	VR	V	33	52.61	118	28.22	33	52.83	118	28.53	9:14	60	849	10	1.41	AT	-
4151	-	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4152	8/7	ME	Z	33	6.88	117	21.46	33	6.87	117	21.46	9:11	90	566	10	0.94	A	-
4154	8/26	OC	Y	33	37.49	118	4.51	33	37.52	118	4.79	15:08	34	732	10	1.22	A	-
4155	8/7	CI	S	34	6.10	120	8.54	34	6.10	120	8.48	8:52	100	451	11	0.68	A	-
4156	7/17	SD	M	32	43.37	117	12.76	32	43.39	117	12.62	7:58	8	261	5	0.87	A	-
4157	-	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	N	OD
4158	8/13	ME	Z	33	25.67	117	38.69	33	25.56	117	38.53	14:15	11	505	10	0.84	A	-
4159	8/21	CI	S	33	59.68	120	20.24	33	59.63	120	19.83	13:47	72	517	10	0.86	A	-
4162	8/27	HY	LM	33	43.87	118	11.52	33	43.82	118	11.35	9:41	15	279	5	0.93	A	-
4163	8/8	CI	S	34	4.73	119	30.60	34	4.71	119	30.57	12:58	131	468	10	0.78	A	-
4164	7/28	SD	M	32	43.76	117	20.67	32	43.59	117	20.62	8:48	101	646	11	0.98	A	-
4165	8/14	HY	LM	34	0.83	118	35.49	34	0.87	118	35.67	10:10	35	513	11	0.78	A	-
4166	8/28	LA	OS	33	42.47	118	21.43	33	42.39	118	21.27	13:50	68	523	10	0.87	A	-
4167	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ob
4169	-	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4170	8/28	LA	OS	33	41.91	118	18.23	33	41.90	118	18.21	8:10	25	535	10	0.89	A	-
4171	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4172	7/23	SD	M	32	35.69	117	14.71	32	35.56	117	14.65	11:15	46	456	10	0.76	A	-
4173	8/11	VR	V	33	54.47	118	34.02	33	54.45	118	34.27	11:46	105	495	8	1.03	AT	-
4175	-	-	H	-	-	-	-	-	-	-	-	-	-	-	-	-	N	KB
4177	8/19	OC	E	33	36.78	117	54.64	33	36.74	117	54.64	9:43	5	280	5	0.93	A	-
4178	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ob
4179	8/5	AB	Y	34	8.74	119	46.21	34	8.75	119	46.57	14:30	365	706	11	1.07	A	-
4180	9/29	ME	JB	32	36.79	117	7.05	32	36.79	117	7.05	9:29	2	541	10	0.90	A	-
4181	8/14	HY	LM	33	59.99	118	30.48	34	0.14	118	30.65	8:55	12	507	10	0.85	A	-
4183	7/29	AB	H	34	23.99	119	49.83	34	23.97	119	50.02	15:30	34	633	14	0.75	A	-
4184	7/28	SD	M	32	41.28	117	19.44	32	41.10	117	19.39	12:20	91	397	10	0.66	A	-
4185	-	-	LM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ob
4187	9/4	MBC	A	34	24.60	120	13.12	34	24.59	120	13.54	12:50	203	744	10	1.24	A	-
4189	7/23	AB	H	34	12.04	119	18.18	34	11.82	119	18.16	9:40	18	12	10	0.02	A	-
4191	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4192	-	-	Z	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4193	10/7	VR	V	33	36.04	117	53.54	33	36.08	117	53.54	7:31	5	347	5	1.16	A	-
4195	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4199	8/3	AB	Y	34	10.99	120	21.08	34	11.09	120	21.28	12:43	456	726	10	1.21	A	-
4200	8/7	ME	Z	33	9.55	117	23.86	33	9.44	117	23.67	16:45	58	563	11	0.85	A	-
4201	8/28	OC	Y	33	32.21	117	50.91	33	32.46	117	51.31	7:54	341	759	11	1.15	A	-
4202	8/28	LA	OS	33	41.65	118	20.79	33	41.49	118	20.56	9:35	265	495	10	0.83	A	-
4203	7/23	AB	H	34	15.83	119	22.26	34	15.87	119	22.40	12:19	24	762	10	1.27	A	-
4204	10/1	ME	JB	32	45.74	117	14.17	32	45.71	117	14.19	9:18	7	273	6	0.76	A	-
4205	9/2	HY	LM	33	55.67	118	32.63	33	55.68	118	32.85	11:57	67	584	10	0.97	A	-
4207	7/24	AB	H	34	23.95	119	39.60	34	23.96	119	39.75	12:22	24	756	10	1.26	A	-
4208	8/14	ME	Z	33	20.36	117	31.33	33	20.27	117	31.24	11:50	8	635	10	1.06	A	-
4210	10/13	VR	V	33	45.16	118	13.06	33	45.21	118	12.99	16:17	18	736	6	2.04	A	-
4211	8/5	AB	Y	34	9.50	119	49.66	34	9.38	119	49.95	12:15	388	822	11	1.25	A	-
4212	9/29	ME	JB	32	37.55	117	8.11	32	37.52	117	8.09	8:51	3	268	6	0.74	A	-
4215	7/29	AB	H	34	24.15	119	48.72	34	24.16	119	48.90	11:46	22	625	12	0.87	A	-
4222	8/13	ME	Z	33	25.69	117	41.42	33	25.60	117	41.24	12:17	41	544	10	0.91	A	-
4223	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4226	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ob
4227	8/6	AB	Y	34	12.41	119	34.05	34	12.35	119	34.37	8:41	136	729	10	1.21	A	-
4230	9/4	HY	LM	33	53.88	118	30.08	33	53.85	118	29.96	11:47	54	384	10	0.64	A	-
4232	8/8	ME	Z	33	6.44	117	21.44	33	6.34	117	21.42	9:41	76	587	10	0.98	A	-
4235	8/13	CI	S	33	53.19	120	0.60	33	53.27	120	0.43	12:16	55	616	10	1.03	A	-

A1. (continued)

Station	Date (2003)	Ag ^b	Ve. ^c	Station Coordinates ^a								Time	Depth (m)	Dist. (m)	Dur. (Min.)	Speed (m/s)	Trawl Type ^d	FC ^e
				Nominal Trawl				Trawl Start										
				Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)							
4237	8/6	AB	Y	34	7.63	119	24.11	34	7.62	119	24.52	11:52	225	660	10	1.10	A	-
4238	8/25	OC	Y	33	29.98	117	45.13	33	30.14	117	45.32	12:23	23	698	10	1.16	A	-
4239	8/4	AB	Y	34	20.38	120	26.53	34	20.53	120	26.81	7:20	233	664	11	1.01	A	-
4240	8/12	ME	Z	33	7.70	117	24.72	33	10.04	117	27.38	17:50	249	574	11	0.87	A	-
4241	8/27	OC	Y	33	36.18	118	2.16	33	36.24	118	2.46	11:19	33	889	10	1.48	A	-
4243	8/14	CI	S	33	57.94	119	36.29	33	57.96	119	35.90	9:51	86	539	10	0.90	A	-
4244	7/30	SD	M	32	40.95	117	16.92	32	40.77	117	16.85	11:27	58	413	10	0.69	A	-
4247	-	-	H	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4248	7/30	SD	M	32	40.76	117	16.93	32	40.70	117	16.92	9:53	59	399	10	0.67	A	-
4251	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	N	TN
4253	7/22	AB	H	34	7.22	119	11.38	34	7.23	119	11.36	14:32	16	701	10	1.17	A	-
4254	8/25	LA	OS	33	30.81	118	10.72	33	30.57	118	10.52	13:27	454	691	14	0.82	A	-
4255	8/20	CI	S	34	3.11	120	33.48	34	2.88	120	33.39	13:20	203	596	10	0.99	A	-
4256	7/23	SD	M	32	35.37	117	13.69	32	35.14	117	13.57	12:44	38	491	10	0.82	A	-
4259	7/22	AB	H	34	8.10	119	11.63	34	8.09	119	11.77	9:08	12	754	10	1.26	A	-
4260	7/24	SD	M	32	39.53	117	20.16	32	39.39	117	20.14	10:48	124	492	10	0.82	A	-
4261	8/21	HY	LM	34	0.99	119	3.50	34	0.93	119	3.55	11:50	319	524	10	0.87	A	-
4263	8/3	AB	Y	34	12.50	120	17.99	34	12.55	120	18.22	14:50	476	716	10	1.19	A	-
4265	8/27	OC	Y	33	35.49	118	1.60	33	35.52	118	1.60	8:48	38	867	10	1.45	A	-
4266	-	-	MS	-	-	-	-	-	-	-	-	-	-	-	-	-	N	OR
4267	7/25	AB	H	34	18.78	119	26.01	34	18.86	119	26.15	13:51	31	821	11	1.24	A	-
4269	9/2	HY	LM	33	57.43	118	35.58	33	57.52	118	35.68	9:10	155	538	10	0.90	A	-
4277	9/4	HY	LM	33	54.58	118	29.98	33	54.60	118	29.99	13:08	52	657	10	1.09	A	-
4278	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4279	9/3	MBC	A	34	16.67	119	43.10	34	16.65	119	43.07	13:16	204	570	10	0.95	A	-
4280	8/8	ME	Z	33	6.89	117	20.89	33	6.78	117	20.86	11:51	41	630	10	1.05	A	-
4285	8/6	AB	Y	34	6.43	119	19.14	34	6.50	119	19.47	14:17	198	720	10	1.20	A	-
4286	8/25	OC	Y	33	30.20	117	45.90	33	30.50	117	46.04	10:02	40	750	10	1.25	A	-
4287	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	KB
4290	8/26	LA	OS	33	42.70	118	11.08	33	42.74	118	11.07	13:42	24	529	10	0.88	A	-
4291	7/25	AB	H	34	18.27	119	24.82	34	18.37	119	25.03	12:04	29	882	12	1.22	A	-
4292	-	-	MT	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4294	8/28	LA	OS	33	44.14	118	24.58	33	44.07	118	24.38	12:02	28	498	10	0.83	A	-
4295	8/5	AB	Y	34	18.83	119	53.05	34	18.85	119	53.39	9:28	403	693	10	1.15	A	-
4296	8/14	ME	Z	33	9.12	117	23.00	33	9.02	117	22.90	7:15	49	565	10	0.94	A	-
4297	-	-	Y	-	-	-	-	-	-	-	-	11:18	-	-	-	-	N	Ab
4299	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4300	7/24	SD	M	32	38.52	117	13.28	32	38.56	117	13.27	7:51	15	573	10	0.95	A	-
4301	-	-	LM	-	-	-	-	-	-	-	-	-	-	-	-	-	N	CT
4307	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	TC
4309	8/14	HY	LM	33	58.71	118	29.26	33	58.85	118	29.42	7:56	14	443	10	0.74	A	-
4312	7/28	SD	M	32	41.46	117	20.16	32	41.25	117	20.13	11:09	120	594	10	0.99	A	-
4315	7/30	AB	H	34	27.92	120	7.78	34	27.93	120	7.97	11:40	20	467	12	0.65	A	-
4317	7/23	AB	H	34	10.97	119	21.22	34	10.98	119	21.23	10:49	28	749	10	1.25	A	-
4319	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4320	8/8	ME	Z	32	59.63	117	17.40	32	59.41	117	17.39	13:22	21	547	10	0.91	A	-
4323	8/6	AB	Y	34	11.87	119	37.75	34	11.80	119	35.00	7:32	153	694	10	1.16	A	-
4326	8/28	LA	OS	33	44.58	118	25.43	33	44.84	118	25.53	10:56	41	551	10	0.92	A	-
4327	8/4	AB	Y	34	16.13	120	18.39	34	16.24	120	18.67	9:36	433	701	10	1.17	A	-
4328	8/7	ME	Z	33	9.72	117	23.16	33	9.56	117	23.05	17:45	30	567	10	0.95	A	-
4329	8/27	OC	Y	33	33.37	118	1.35	33	33.46	118	1.61	12:38	229	748	10	1.25	A	-
4331	7/23	AB	H	34	15.30	119	19.50	34	15.37	119	19.56	15:01	21	827	10	1.38	A	-
4332	-	-	M	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4336	8/13	ME	Z	33	21.27	117	35.93	33	21.17	117	35.84	9:18	25	571	10	0.95	A	-
4339	8/14	CI	S	33	57.19	119	41.21	33	57.29	119	41.06	11:27	64	477	10	0.79	A	-

A1. (continued)

Station	Date (2003)	Ag ^b	Ve. ^c	Station Coordinates ^a								Time	Depth (m)	Dist. (m)	Dur. (Min.)	Speed (m/s)	Trawl Type ^d	FC ^e
				Nominal Trawl				Trawl Start										
				Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)							
4343	9/3	MBC	A	34	21.02	119	51.78	34	21.15	119	52.26	8:17	192	579	10	0.97	A	-
4347	8/7	CI	S	34	6.78	120	1.56	34	6.82	120	1.50	10:22	110	540	11	0.82	A	-
4349	7/22	AB	H	34	6.30	119	11.73	34	6.29	119	11.69	13:09	28	731	10	1.22	A	-
4350	8/13	ME	Z	33	25.68	117	41.16	33	25.62	117	41.03	13:26	36	583	11	0.88	A	-
4351	8/21	CI	S	34	4.27	120	19.74	34	4.28	120	19.77	17:39	52	443	10	0.74	A	-
4356	8/11	ME	Z	32	44.49	117	25.62	32	44.35	117	25.59	12:14	463	551	11	0.84	A	-
4358	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4363	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4365	8/14	HY	LM	33	57.62	118	31.76	33	57.76	118	31.91	12:47	48	624	11	0.95	A	-
4366	8/25	OC	Y	33	30.44	117	45.61	33	30.61	117	45.88	11:33	28	695	10	1.16	A	-
4367	7/30	AB	H	34	27.72	120	17.47	34	27.69	120	17.67	9:57	16	472	12	0.66	A	-
4369	8/27	OC	Y	33	34.51	117	59.09	33	34.48	117	59.21	14:27	56	833	10	1.39	A	-
4371	8/8	CI	S	34	3.21	119	31.76	34	3.24	119	31.63	14:32	80	455	10	0.76	A	-
4374	8/26	OC	Y	33	40.97	118	3.75	33	40.96	118	3.97	13:49	12	720	10	1.20	A	-
4375	-	-	H	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ob
4376	7/30	SD	M	32	40.80	117	19.44	32	40.73	117	19.40	8:19	93	509	10	0.85	A	-
4378	-	-	OS	-	-	-	-	-	-	-	-	-	-	-	-	-	N	TN
4379	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4381	7/22	AB	H	34	7.79	119	11.25	34	7.77	119	11.21	17:23	12	767	10	1.28	A	-
4382	-	-	OS	-	-	-	-	-	-	-	-	-	-	-	-	-	N	OS
4383	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	IB
4384	8/7	ME	Z	32	59.93	117	18.07	32	59.79	117	18.02	10:48	41	547	10	0.91	A	-
4386	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ob
4388	-	-	MT	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4400	7/25	VR	V	33	43.33	118	12.70	33	43.30	118	12.91	10:16	17	728	10	1.21	A	-
4401	-	-	MA	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4402	9/29	ME	JB	32	37.45	117	8.90	32	37.39	117	8.87	12:14	14	600	10	1.00	AT	-
4404	9/11	VR	L	33	43.31	118	3.92	33	43.31	118	3.94	12:08	5	151	5	0.50	A	-
4408	7/25	VR	V	33	45.30	118	9.83	33	45.19	118	10.97	11:02	11	2271	10	3.79	A	-
4417	8/18	CI	S	33	53.38	120	4.92	33	53.35	120	4.84	17:21	45	410	10	0.68	A	-
4418	7/17	SD	M	32	40.80	117	10.40	32	40.80	117	10.38	10:22	5	346	5	1.15	A	-
4419	8/6	AB	Y	34	7.37	119	19.88	34	7.41	119	19.99	15:22	128	767	10	1.28	A	-
4421	8/21	CI	S	33	59.28	120	22.80	33	59.25	120	22.73	10:52	95	535	13	0.69	A	-
4423	8/19	OC	E	33	36.51	117	53.76	33	36.53	117	53.81	12:27	4	252	5	0.84	A	-
4424	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ob
4425	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4426	7/29	SD	M	32	49.53	117	21.96	32	49.41	117	21.97	9:47	183	551	10	0.92	A	-
4442	-	-	MT	-	-	-	-	-	-	-	-	-	-	-	-	-	N	Ab
4446	8/19	CI	S	33	27.03	119	4.16	33	26.91	119	4.08	14:01	100	568	10	0.95	A	-
4453	8/13	CI	S	33	56.99	120	14.23	33	56.61	120	14.00	10:26	54	618	10	1.03	A	-
4458	7/23	SD	M	32	35.86	117	21.07	32	35.71	117	20.99	9:45	183	709	12	0.99	A	-
4459	10/3	VR	Y	33	59.40	119	0.34	33	59.37	119	0.64	13:08	179	648	10	1.08	AT	-
4479	10/2	VR	Y	33	53.35	118	38.35	33	53.49	118	38.33	13:14	192	528	10	0.88	AT	-
4481	8/15	CI	S	34	5.79	120	7.43	34	5.77	120	7.07	12:06	99	592	10	0.99	A	-
4483	10/4	VR	Y	34	5.56	119	16.32	34	5.75	119	16.68	11:27	158	684	10	1.14	AT	-
4485	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	TN
4490	10/1	ME	JB	32	42.95	117	20.65	32	42.85	117	20.56	11:02	140	474	10	0.79	AT	-
4497	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	SC
4505	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	CI
4510	-	-	JB	-	-	-	-	-	-	-	-	-	-	-	-	-	N	TN
4512	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4517	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4524	10/2	VR	Y	33	50.00	118	25.36	33	50.05	118	25.61	8:13	162	699	10	1.17	A	-
4529	8/22	CI	S	34	2.81	119	26.32	34	2.78	119	26.19	16:58	84	531	9	0.98	A	-
4545	8/22	CI	S	34	8.05	119	57.47	34	8.05	119	57.33	11:32	172	544	10	0.91	A	-

A1. (continued)

Station	Date (2003)	Ag ^b	Ve. ^c	Station Coordinates ^a								Time	Depth (m)	Dist. (m)	Dur. (Min.)	Speed (m/s)	Trawl Type ^d	FC ^e
				Nominal Trawl				Trawl Start										
				Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)	Lat N (dm)	Long W (dm)							
4547	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4549	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4559	10/7	VR	V	33	33.38	117	58.56	33	33.40	117	59.00	9:10	199	745	10	1.24	A	-
4561	8/19	CI	S	33	49.61	120	4.54	33	49.62	120	4.57	8:18	119	558	10	0.93	A	-
4563	10/2	VR	Y	33	55.82	118	35.05	33	55.89	118	35.29	11:28	197	887	10	1.48	A	-
4569	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	OD
4574	8/19	CI	S	33	27.44	119	6.33	33	27.33	119	6.14	16:47	166	500	10	0.83	A	-
4575	-	-	Y	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4581	8/20	CI	S	34	9.99	120	36.58	34	10.04	120	36.33	9:49	171	547	10	0.91	A	-
4613	8/22	CI	S	34	6.45	120	12.29	34	6.43	120	12.44	7:37	102	455	11	0.69	A	-
4625	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4633	8/23	CI	S	34	4.82	119	39.36	34	4.86	119	39.04	7:34	86	490	10	0.82	A	-
4645	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	TR
4657	8/27	CI	S	34	3.42	119	28.42	34	3.39	119	28.28	16:39	84	504	10	0.84	A	-
4673	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4677	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4697	8/27	CI	S	33	58.53	119	52.84	33	58.48	119	52.83	12:25	62	454	10	0.76	A	-
4709	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	OD
4741	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	N	RB
4913	8/28	CI	S	33	57.75	119	35.10	33	57.75	119	35.11	9:29	106	527	10	0.88	A	-

Dur. = Duration; Dist. = Distance

^aStation Coordinates

Lat N (dm) = Latitude North (degree and minutes)

Long W (dm) = Longitude West (degree and minutes)

^bAg = Agency (SCCWRP served as the QAQC agency)

AB = Aquatic Bioassay and Consulting Laboratories

CI = Channel Islands National Marine Sanctuary
and SCCWRP

HY = City of Los Angeles, Environmental Monitoring Division

LA = County Sanitation Districts of Los Angeles County

ME = MEC Analytical Systems Inc

NV = U.S. Navy, Space and Warfare Systems Center and SD

OC = Orange County Sanitation Districts

SCCWRP = Southern California Coastal Water Research

SD = City of San Diego, Metropolitan Wastewater Department

VR = Vantuna Research Group

^cVe = Vessels

A = *Alguita*; E = *Enchanter IV*; H = *Hey Jude*; JB = *The JB*;

L = *Larvae*; LM = *La Mer*; M = *Monitor III*; MA = *MacArthur II*;

MS = *Marine Surveyor*; MT = *Metro*; OS = *Ocean Sentinel*;

S = *Shearwater*; V = *Vantuna*; Y = *Yellowfin*; Z = *Zephyr*

^dType = Sample Type: A = Assemblage; N = None; T = Tissue

^eFC = Fail Code

Ab = Abandoned

CI = Close to Island

H = Hazardous

IB = Irregular Bottom

KB = Kelp Bed

NC = No contact with bottom

NP = No permission to trawl

Ob = Obstructions

OS = Outside stratum depth

RB = Rocky Bottom

SC = Strong current

TC = Too close to shore

TN = Torn net

TR = Too close to Richardson Rock

UB = Unsafe Boat Traffic

A2. Subpopulation designation and area-weights of successful trawls sampled in the southern California Bight 2003 Regional Survey, July-October 2003.

Station	Shelf Zone ^a	Supraregion	Region ^b	Subpopulation ^c	Area-Weights ^d
4000	Middle Shelf	Mainland	Southern	Mainland non-POTW	61.24
4003	Inner shelf	Mainland	Northern	SPOTW (I)	0.94
4004	Outer Shelf	Mainland	Southern	Mainland	15.60
4006	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4007	Upper slope	Mainland	Northern	Mainland	105.44
4012	Middle Shelf	Mainland	Southern	LPOTW (M)	5.01
4019	Middle Shelf	Mainland	Northern	Mainland non-POTW	61.24
4021	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4026	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4027	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4028	Bays and Harbors	Mainland	Southern	Bays and Harbors	2.51
4029	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75
4030	Middle Shelf	Mainland	Central	SPOTW (M)	0.94
4035	Middle Shelf	Mainland	Northern	Mainland non-POTW	61.24
4036	Middle Shelf	Mainland	Southern	Mainland non-POTW	61.24
4037	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4038	Outer Shelf	Mainland	Central	LPOTW (O)	5.01
4039	Upper slope	Mainland	Northern	Mainland	105.44
4040	Middle Shelf	Mainland	Southern	SPOTW (M)	0.94
4041	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4042	Inner shelf	Mainland	Central	LPOTW (I)	5.01
4043	Inner shelf	Mainland	Northern	Other Mainland	38.13
4045	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4047	Inner shelf	Mainland	Northern	SPOTW (I)	0.94
4048	Middle Shelf	Mainland	Southern	Mainland non-POTW	61.24
4050	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4051	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75
4055	Inner shelf	Mainland	Northern	SPOTW (I)	0.94
4057	Outer Shelf	Mainland	Central	Mainland	15.60
4058	Inner shelf	Mainland	Central	Other Mainland	38.13
4061	Inner shelf	Mainland	Northern	Other Mainland	38.13
4062	Inner shelf	Mainland	Southern	SPOTW (I)	0.94
4064	Inner shelf	Mainland	Southern	SPOTW (I)	0.94
4065	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4068	Outer Shelf	Mainland	Southern	Mainland	15.60
4070	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4071	Upper slope	Mainland	Northern	Mainland	105.44
4073	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4077	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4079	Middle Shelf	Mainland	Northern	Mainland non-POTW	61.24
4080	Middle Shelf	Mainland	Southern	Mainland non-POTW	61.24
4083	Upper slope	Mainland	Northern	Mainland	105.44
4086	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4088	Upper slope	Mainland	Southern	Mainland	105.44
4090	Inner shelf	Mainland	Central	Other Mainland	38.13
4091	Upper slope	Mainland	Northern	Mainland	105.44
4092	Bays and Harbors	Mainland	Southern	Bays and Harbors	2.51
4094	Inner shelf	Mainland	Southern	SPOTW (I)	0.94

A2. (continued)

Station	Shelf Zone ^a	Supraregion	Region ^b	Subpopulation ^c	Area-Weights ^d
4096	Middle Shelf	Mainland	Southern	Mainland non-POTW	61.24
4097	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4098	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4099	Middle Shelf	Mainland	Northern	Mainland non-POTW	61.24
4101	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4102	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4109	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4110	Outer Shelf	Mainland	Central	Mainland	15.60
4113	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4115	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75
4116	Bays and Harbors	Mainland	Southern	Bays and Harbors	2.51
4117	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4119	Inner shelf	Mainland	Northern	Other Mainland	38.13
4120	Middle Shelf	Mainland	Southern	LPOTW (M)	5.01
4122	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4123	Middle Shelf	Mainland	Northern	Mainland non-POTW	61.24
4125	Upper slope	Mainland	Northern	Mainland	105.44
4128	Inner shelf	Mainland	Southern	Other Mainland	38.13
4129	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4131	Bays and Harbors	Mainland	Northern	Bays and Harbors	2.51
4132	Upper slope	Mainland	Southern	Mainland	105.44
4133	Outer Shelf	Mainland	Northern	Mainland	15.60
4134	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4135	Upper slope	Mainland	Northern	Mainland	105.44
4137	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4138	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4141	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4143	Inner shelf	Mainland	Northern	Other Mainland	38.13
4144	Upper slope	Mainland	Southern	Mainland	15.60
4148	Bays and Harbors	Mainland	Southern	Bays and Harbors	2.51
4149	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4150	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4152	Middle Shelf	Mainland	Southern	SPOTW (M)	0.94
4154	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4155	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4156	Bays and Harbors	Mainland	Southern	Bays and Harbors	2.51
4158	Inner shelf	Mainland	Southern	Other Mainland	38.13
4159	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4162	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4163	Outer Shelf	Channel Islands	Warm (SE Channel Islands)	Island (O)	37.75
4164	Middle Shelf	Mainland	Southern	Mainland non-POTW	61.24
4165	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4166	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4170	Inner shelf	Mainland	Central	LPOTW (I)	5.01
4172	Middle Shelf	Mainland	Southern	Mainland non-POTW	61.24
4173	Middle Shelf	Mainland	Central	Mainland non-POTW	61.24
4177	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4179	Upper slope	Mainland	Northern	Mainland	105.44
4180	Bays and Harbors	Mainland	Southern	Bays and Harbors	2.51

A2. (continued)

Station	Shelf Zone ^a	Supraregion	Region ^b	Subpopulation ^c	Area-Weights ^d
4181	Inner shelf	Mainland	Central	Other Mainland	38.13
4183	Middle Shelf	Mainland	Northern	SPOTW (M)	0.94
4184	Middle Shelf	Mainland	Southern	LPOTW (M)	5.01
4187	Upper slope	Mainland	Northern	Mainland	15.60
4189	Inner shelf	Mainland	Northern	Other Mainland	38.13
4193	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4199	Upper slope	Mainland	Northern	Mainland	105.44
4200	Middle Shelf	Mainland	Southern	SPOTW (M)	0.94
4201	Upper slope	Mainland	Central	Mainland	105.44
4202	Upper slope	Mainland	Central	Mainland	105.44
4203	Inner shelf	Mainland	Northern	Other Mainland	38.13
4204	Bays and Harbors	Mainland	Southern	Bays and Harbors	2.51
4205	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4207	Inner shelf	Mainland	Northern	SPOTW (I)	0.94
4208	Inner shelf	Mainland	Southern	Other Mainland	38.13
4210	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4211	Upper slope	Mainland	Northern	Mainland	105.44
4212	Bays and Harbors	Mainland	Southern	Bays and Harbors	2.51
4215	Inner shelf	Mainland	Northern	SPOTW (I)	0.94
4222	Middle Shelf	Mainland	Southern	SPOTW (M)	0.94
4227	Outer Shelf	Mainland	Northern	Mainland	15.60
4230	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4232	Middle Shelf	Mainland	Southern	SPOTW (M)	0.94
4235	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4237	Upper slope	Mainland	Northern	Mainland	105.44
4238	Inner shelf	Mainland	Central	SPOTW (I)	0.94
4239	Upper slope	Mainland	Northern	Mainland	105.44
4240	Upper slope	Mainland	Southern	Mainland	105.44
4241	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4243	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75
4244	Middle Shelf	Mainland	Southern	LPOTW (M)	5.01
4248	Middle Shelf	Mainland	Southern	LPOTW (M)	5.01
4253	Inner shelf	Mainland	Northern	SPOTW (I)	0.94
4254	Upper slope	Mainland	Central	Mainland	105.44
4255	Upper slope	Channel Islands	Cool (NW Channel Islands)	Island (U)	37.75
4256	Middle Shelf	Mainland	Southern	Mainland non-POTW	61.24
4259	Inner shelf	Mainland	Northern	SPOTW (I)	0.94
4260	Outer Shelf	Mainland	Southern	Mainland	61.24
4261	Upper slope	Mainland	Northern	Mainland	105.44
4263	Upper slope	Mainland	Northern	Mainland	105.44
4265	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4267	Inner shelf	Mainland	Northern	Other Mainland	38.13
4269	Outer Shelf	Mainland	Central	Mainland	15.60
4277	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4279	Upper slope	Mainland	Northern	Mainland	105.44
4280	Middle Shelf	Mainland	Southern	SPOTW (M)	0.94
4285	Outer Shelf	Mainland	Northern	Mainland	15.60
4286	Middle Shelf	Mainland	Central	SPOTW (M)	0.94
4290	Inner shelf	Mainland	Central	Other Mainland	38.13

A2. (continued)

Station	Shelf Zone ^a	Supraregion	Region ^b	Subpopulation ^c	Area-Weights ^d
4291	Inner shelf	Mainland	Northern	Other Mainland	38.13
4294	Inner shelf	Mainland	Central	LPOTW (I)	5.01
4295	Upper slope	Mainland	Northern	Mainland	105.44
4296	Middle Shelf	Mainland	Southern	SPOTW (M)	0.94
4300	Inner shelf	Mainland	Southern	Other Mainland	38.13
4309	Inner shelf	Mainland	Central	Other Mainland	38.13
4312	Middle Shelf	Mainland	Southern	LPOTW (M)	5.01
4315	Inner shelf	Mainland	Northern	Other Mainland	38.13
4317	Inner shelf	Mainland	Northern	Other Mainland	38.13
4320	Inner shelf	Mainland	Southern	SPOTW (I)	0.94
4323	Outer Shelf	Mainland	Northern	Mainland	15.60
4326	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4327	Upper slope	Mainland	Northern	Mainland	105.44
4328	Inner shelf	Mainland	Southern	SPOTW (I)	0.94
4329	Upper slope	Mainland	Central	Mainland	105.44
4331	Inner shelf	Mainland	Northern	Other Mainland	38.13
4336	Inner shelf	Mainland	Southern	Other Mainland	38.13
4339	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75
4343	Outer Shelf	Mainland	Northern	Mainland	15.60
4347	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4349	Inner shelf	Mainland	Northern	Other Mainland	38.13
4350	Middle Shelf	Mainland	Southern	SPOTW (M)	0.94
4351	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4356	Upper slope	Mainland	Southern	Mainland	105.44
4365	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4366	Inner shelf	Mainland	Central	SPOTW (I)	0.94
4367	Inner shelf	Mainland	Northern	Other Mainland	38.13
4369	Middle Shelf	Mainland	Central	LPOTW (M)	5.01
4371	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75
4374	Inner shelf	Mainland	Central	Other Mainland	38.13
4376	Middle Shelf	Mainland	Southern	LPOTW (M)	5.01
4381	Inner shelf	Mainland	Northern	SPOTW (I)	0.94
4384	Middle Shelf	Mainland	Southern	SPOTW (M)	0.94
4400	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4402	Inner shelf	Mainland	Southern	Other Mainland	38.13
4404	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4408	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4417	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4418	Bays and Harbors	Mainland	Southern	Bays and Harbors	2.51
4419	Outer Shelf	Mainland	Northern	Mainland	15.60
4421	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4423	Bays and Harbors	Mainland	Central	Bays and Harbors	2.51
4426	Outer Shelf	Mainland	Southern	Mainland	15.60
4446	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75
4453	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4458	Outer Shelf	Mainland	Southern	Mainland	15.60
4459	Outer Shelf	Mainland	Northern	Mainland	15.60
4479	Outer Shelf	Mainland	Central	Mainland	15.60
4481	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75

A2. (continued)

Station	Shelf Zone ^a	Supraregion	Region ^b	Subpopulation ^c	Area-Weights ^d
4483	Outer Shelf	Mainland	Northern	Mainland	15.60
4490	Outer Shelf	Mainland	Southern	Mainland	15.60
4524	Outer Shelf	Mainland	Central	Mainland	15.60
4529	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75
4545	Outer Shelf	Channel Islands	Cool (NW Channel Islands)	Island (O)	37.75
4559	Outer Shelf	Mainland	Central	Mainland	15.60
4561	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4563	Outer Shelf	Mainland	Central	Mainland	15.60
4574	Outer Shelf	Channel Islands	Warm (SE Channel Islands)	Island (O)	37.75
4581	Outer Shelf	Channel Islands	Cool (NW Channel Islands)	Island (O)	37.75
4613	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4633	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75
4657	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75
4697	Middle Shelf	Channel Islands	Cool (NW Channel Islands)	Island (M)	37.75
4913	Middle Shelf	Channel Islands	Warm (SE Channel Islands)	Island (M)	37.75

Total Area=3,279 km².

^aBays & Harbors (2-30 m); Inner Shelf (Coast= 2-30 m); Middle Shelf= 31-120 m; Outer Shelf = 121-200 m; Upper Slope (201-500 m)

^bNorthern = Point Conception to Point Dume; Central = Point Dume to Dana Point; Southern = Dana Point to U.S.-Mexico International Border; Warm = eastern Santa Cruz Island to Santa Barbara Island; Cool = San Miguel Island to Western Santa Cruz Island; NW = Northwest Channel Islands; SE = Southeast Channel Islands.

^cIsland (I) = Island Inner Shelf; Island (M) = Island Middle Shelf; Island (O) = Island Outer Shelf; Island (U) = Island Upper Slope; LPOTW (I) = Large publicly owned treatment work monitoring area on Inner Shelf; LPOTW (M): Large publicly owned treatment work monitoring area on Middle shelf; LPOTW (O): Large publicly owned treatment work monitoring area on Outer Shelf; SPOTW (I) = Small POTW monitoring area on Inner Shelf; SPOTW (M) = Small POTW area on Middle Shelf; Other Mainland = Mainland Inner Shelf areas other than SPOTW;

^dArea-Weights = Area represented by trawl station.

A3. Fish Response Index (FRI) pollution gradient position (p_i) values by shelf zone for fish species collected at depths of 2-215 m on the southern California shelf and upper slope, July-October 2003 (from Allen *et al.* 2001a).

Species Name ^b	p_i by shelf zone ^a		
	9-40 m	30-120 m	100-215 m
<i>Anoplopoma fimbria</i>		56.97	93.25
<i>Argentina sialis</i>		-4.50	-22.52
<i>Cephaloscyllium ventriosum</i>		10.20	
<i>Chilara taylori</i>	181.26	-13.10	-2.46
<i>Chitonotus pugetensis</i>	25.10	12.38	
<i>Citharichthys fragilis</i>		6.06	11.83
<i>Citharichthys sordidus</i>	59.29	19.29	-21.71
<i>Citharichthys stigmaeus</i>	24.83	29.81	
<i>Citharichthys xanthostigma</i>	10.71	-13.87	17.41
<i>Cymatogaster aggregata</i>	169.84	160.68	
<i>Engraulis mordax</i>	15.87	63.14	-29.61
<i>Eopsetta jordani</i>		1.51	-4.18
<i>Genyonemus lineatus</i>	58.20	54.39	42.07
<i>Glyptocephalus zachirus</i>		17.88	71.27
<i>Hippoglossina stomata</i>	24.50	17.31	30.56
<i>Hydrolagus colliiei</i>		66.81	98.73
<i>Icelinus filamentosus</i>			-25.00
<i>Icelinus quadriseriatus</i>	17.59	1.66	34.29
<i>Icelinus tenuis</i>		-7.92	-66.58
<i>Kathetostoma aверruncus</i>		120.76	55.12
<i>Lepidogobius lepidus</i>	41.35	1.79	-10.43
<i>Lycodes cortezianus</i>			87.00
<i>Lycodes pacificus</i>		21.66	43.34
<i>Lyconema barbatum</i>			27.98
<i>Lyopsetta exilis</i>		16.83	32.28
<i>Merluccius productus</i>		-18.77	13.51
<i>Microstomus pacificus</i>	102.34	70.58	87.20
<i>Odontopyxis trispinosa</i>		18.96	
<i>Ophiodon elongatus</i>		2.53	29.16
<i>Paralabrax nebulifer</i>	10.60	9.08	
<i>Paralichthys californicus</i>	11.62	20.87	
<i>Parophrys vetulus</i>	49.63	48.13	-10.29
<i>Peprilus simillimus</i>		17.42	
<i>Phanerodon furcatus</i>	72.37		
<i>Physiculus rastrelliger</i>			105.45
<i>Plectobranchnus evides</i>			39.28
<i>Pleuronichthys coenosus</i>	121.93		
<i>Pleuronichthys decurrens</i>	92.94	71.21	
<i>Pleuronichthys ritteri</i>	13.12	78.46	
<i>Pleuronichthys verticalis</i>	21.12	16.29	-2.34
<i>Porichthys myriaster</i>	10.47	33.91	
<i>Porichthys notatus</i>	17.89	21.54	22.10
<i>Raja binoculata</i>	22.20	31.61	
<i>Raja inornata</i>	11.13	20.13	-13.32
<i>Rathbunella hypoplecta</i>		-8.02	

A3. (continued)

Species Name ^b	p_i by shelf zone ^a		
	9-40 m	30-120 m	100-215 m
<i>Rhacochilus vacca</i>	137.71		
<i>Rhinogobiops nicholsii</i> ^c		-18.40	
<i>Scorpaena guttata</i>	26.07	86.99	7.59
<i>Sebastes auriculatus</i>	18.99	29.71	
<i>Sebastes caurinus</i>	11.59	18.43	
<i>Sebastes chlorostictus</i>		-25.76	-0.12
<i>Sebastes dallii</i>	11.59	50.23	45.40
<i>Sebastes diploproa</i>		-11.77	68.00
<i>Sebastes elongatus</i>		-10.16	36.56
<i>Sebastes eos</i>		-21.71	4.83
<i>Sebastes goodei</i>	169.84	108.27	
<i>Sebastes hopkinsi</i>		86.25	87.58
<i>Sebastes jordani</i>		191.72	86.45
<i>Sebastes levis</i>		44.31	57.83
<i>Sebastes macdonaldi</i>			105.48
<i>Sebastes miniatus</i>	90.18	46.66	
<i>Sebastes paucispinis</i>		20.73	86.21
<i>Sebastes rosaceus</i>		13.66	
<i>Sebastes rosenblatti</i>		18.24	36.41
<i>Sebastes rubrivinctus</i>		9.89	
<i>Sebastes saxicola</i>	65.88	44.38	49.19
<i>Sebastes semicinctus</i>		9.86	-19.36
<i>Sebastolobus alascanus</i>		33.38	53.18
<i>Seriphus politus</i>	35.83		
<i>Symphurus atricaudus</i>	37.14	3.33	35.62
<i>Synodus lucioceps</i>	16.23	27.24	-5.21
<i>Torpedo californica</i>		118.08	
<i>Xeneretmus latifrons</i>		10.05	22.27
<i>Xeneretmus triacanthus</i>		6.38	-7.07
<i>Xystreurus liolepis</i>	13.55	32.12	
<i>Zalembeus rosaceus</i>	49.94	28.92	-19.96
<i>Zaniolepis frenata</i>		10.27	16.19
<i>Zaniolepis latipinnis</i>	21.71	30.19	-11.28

^aRange of depth categories are those of Allen et al. (2001a).

^bSee Glossary G2 for common names of fish species.

^cGenus changed from Coryphopterus to Rhinogobiops since Allen et al. (2001a). See Nelson et al. (2004)

A4. Megabenthic Invertebrate Response Index (MIRI) pollution-gradient position (p_i) values for invertebrate species collected at depths of 2-215 m on the southern California shelf and upper slope, July-October 2003 (from Allen et al. 2001a).

Species*	p_i	Species*	p_i
<i>Acanthodoris brunnea</i>	41.90	<i>Gorgonocephalus eucnemis</i>	-14.86
<i>Adelogorgia phyllosclera</i>	9.45	<i>Hamatoscalpellum californicum</i>	22.86
<i>Allocentrotus fragilis</i>	25.34	<i>Havelockia bentii</i>	21.80
<i>Amphichondrius granulatus</i>	20.21	<i>Hemisquilla californiensis</i>	7.45
<i>Amphiodia urtica</i>	25.38	<i>Henricia leviuscula</i>	12.24
<i>Amphiura arcystata</i>	-1.40	<i>Heptacarpus stimpsoni</i>	36.71
<i>Antiplanes catalinae</i>	39.91	<i>Heterocrypta occidentalis</i>	32.02
<i>Armina californica</i>	38.69	<i>Kelletia kelletii</i>	9.39
<i>Asterina miniata</i>	64.72	<i>Lamellaria diegoensis</i>	17.60
<i>Astropecten armatus</i>	65.56	<i>Laqueus californianus</i>	-23.45
<i>Astropecten ornatissimus</i>	9.89	<i>Leptasterias hexactis</i>	-2.61
<i>Astropecten verilli</i>	21.79	<i>Leptopecten latiauratus</i>	7.97
<i>Babelomurex oldroydi</i>	-10.50	<i>Leucilla nuttingi</i>	7.87
<i>Brisaster latifrons</i>	21.29	<i>Loligo opalescens</i>	34.04
<i>Brissopsis pacifica</i>	23.90	<i>Lophogorgia chilensis</i>	38.39
<i>Calinaticina oldroydii</i>	86.17	<i>Lopholithodes foraminatus</i>	56.22
<i>Calliostoma tricolor</i>	18.35	<i>Lophopanopeus bellus</i>	41.52
<i>Calliostoma turbinum</i>	21.91	<i>Lovenia cordiformis</i>	0.20
<i>Cancellaria cooperii</i>	12.91	<i>Loxorhynchus crispatus</i>	3.40
<i>Cancellaria crawfordiana</i>	52.40	<i>Loxorhynchus grandis</i>	35.83
<i>Cancer antennarius</i>	107.89	<i>Luidia armata</i>	18.78
<i>Cancer anthonyi</i>	112.19	<i>Luidia asthenosoma</i>	15.75
<i>Cancer gracilis</i>	56.13	<i>Luidia foliolata</i>	23.99
<i>Cancer jordani</i>	9.30	<i>Lytechinus pictus</i>	9.42
<i>Cancer productus</i>	99.75	<i>Mediaster aequalis</i>	7.11
<i>Chlamys hastata</i>	5.22	<i>Megasurcula carpenteriana</i>	20.81
<i>Cidarina cidaris</i>	-23.45	<i>Metacrangon spinosissima</i>	38.63
<i>Ciona intestinalis</i>	14.53	<i>Metridium farcimen</i>	28.46
<i>Conus californicus</i>	137.47	<i>Nassarius insculptus</i>	84.58
<i>Corynactis californica</i>	45.28	<i>Nassarius perpinguis</i>	55.11
<i>Crangon alaskensis</i>	55.51	<i>Neocrangon communis</i>	37.61
<i>Crangon nigromaculata</i>	98.80	<i>Neocrangon resima</i>	41.59
<i>Crepidula onyx</i>	130.41	<i>Neocrangon zaca</i>	39.87
<i>Crossata californica</i>	1.70	<i>Neosimnia loebbeckeana</i>	32.12
<i>Diaulula sandiegensis</i>	-20.44	<i>Nymphon pixellae</i>	19.39
<i>Doriopsilla albopunctata</i>	9.16	<i>Octopus californicus</i>	22.96
<i>Dromalia alexandri</i>	32.70	<i>Octopus rubescens</i>	25.05
<i>Erileptus spinosus</i>	23.14	<i>Ophionereis eurybrachioplax</i>	-19.71
<i>Eugorgia rubens</i>	20.98	<i>Ophiopholis bakeri</i>	6.07
<i>Euspira draconis</i>	72.51	<i>Ophiopteris papillosa</i>	12.39
<i>Euvola diegensis</i>	6.72	<i>Ophiothrix spiculata</i>	17.19
<i>Flabellina iodinea</i>	29.04	<i>Ophiura luetkenii</i>	24.27
<i>Florometra serratissima</i>	-3.02	<i>Paguristes bakeri</i>	1.89
<i>Fusinus barbarensis</i>	-4.43	<i>Paguristes turgidus</i>	16.07

A4. (continued)

Species*	p_i	Species*	p_i
<i>Paguristes ulreyi</i>	12.35	<i>Pteropurpura vokesae</i>	84.29
<i>Pagurus spilocarpus</i>	29.21	<i>Ptilosarcus gurneyi</i>	13.32
<i>Pandalus danae</i>	54.58	<i>Pycnopodia helianthoides</i>	26.45
<i>Pandalus jordani</i>	65.87	<i>Pyromaia tuberculata</i>	27.38
<i>Pandalus platyceros</i>	54.61	<i>Randallia ornata</i>	39.91
<i>Paraconchavus pacificus</i>	22.08	<i>Rathbunaster californicus</i>	31.25
<i>Paracyathus stearnsii</i>	9.29	<i>Renilla koellikeri</i>	36.56
<i>Paralithodes californiensis</i>	20.57	<i>Rossia pacifica</i>	42.97
<i>Paralithodes rathbuni</i>	27.47	<i>Schmittius politus</i>	44.05
<i>Parapagurodes laurentae</i>	2.42	<i>Sclerasterias heteropaes</i>	-7.86
<i>Parapagurodes makarovi</i>	4.48	<i>Sicyonia ingentis</i>	61.65
<i>Parastichopus californicus</i>	27.64	<i>Spatangus californicus</i>	13.49
<i>Philine alba</i>	-2.15	<i>Spirontocaris holmesi</i>	83.56
<i>Phimochirus californiensis</i>	5.88	<i>Spirontocaris sica</i>	54.51
<i>Pisaster brevispinus</i>	25.55	<i>Strongylocentrotus franciscanus</i>	9.79
<i>Platymera gaudichaudii</i>	87.05	<i>Strongylocentrotus purpuratus</i>	27.25
<i>Pleurobranchaea californica</i>	52.98	<i>Stylasterias forreri</i>	16.88
<i>Podochela hemphillii</i>	28.18	<i>Stylatula elongata</i>	39.07
<i>Podochela lobifrons</i>	14.92	<i>Triopha maculata</i>	3.54
<i>Pododesmus macrochisma</i>	24.77	<i>Tritonia diomedea</i>	33.84
<i>Portunus xantusii</i>	69.88	<i>Virgularia agassizi</i>	19.53
<i>Protula superba</i>	-6.29	<i>Virgularia californica</i>	24.87

*See Glossary G4 for common name of invertebrate species.

A5. Trawl Response Index (TRI) pollution-gradient position (p_i) values for fish (F) and invertebrate (I) species collected at depths of 2-215 m on the southern California shelf and upper slope, July-October 2003 (from Allen et al. 2001a).

Species*	Type	p_i	Species*	Type	p_i
<i>Acanthodoris brunnea</i>	I	60.65	<i>Doriopsilla albopunctata</i>	I	18.72
<i>Adelogorgia phyllosclera</i>	I	4.80	<i>Dromalia alexandri</i>	I	46.88
<i>Allocentrotus fragilis</i>	I	18.53	<i>Engraulis mordax</i>	F	36.59
<i>Amphichondrius granulatus</i>	I	5.63	<i>Eopsetta jordani</i>	F	2.93
<i>Amphiodia urtica</i>	I	13.86	<i>Erileptus spinosus</i>	I	36.88
<i>Amphiura arcystata</i>	I	-3.08	<i>Eugorgia rubens</i>	I	15.64
<i>Anoplopoma fimbria</i>	F	159.40	<i>Euspira draconis</i>	I	121.87
<i>Antiplanes catalinae</i>	I	34.54	<i>Euvola diegensis</i>	I	14.77
<i>Argentina sialis</i>	F	20.63	<i>Flabellina iodinea</i>	I	24.43
<i>Armina californica</i>	I	41.23	<i>Florometra serratissima</i>	I	-35.88
<i>Asterina miniata</i>	I	89.94	<i>Fusinus barbarensis</i>	I	-31.13
<i>Astropecten armatus</i>	I	62.34	<i>Genyonemus lineatus</i>	F	89.95
<i>Astropecten ornatissimus</i>	I	-4.74	<i>Glyptocephalus zachirus</i>	F	40.47
<i>Astropecten verrilli</i>	I	24.51	<i>Gorgonocephalus eucnemis</i>	I	-33.61
<i>Babelomurex oldroydi</i>	I	-2.25	<i>Hamatoscalpellum</i>	I	25.91
<i>Brisaster latifrons</i>	I	14.64	<i>Havelockia benti</i>	I	19.83
<i>Brissopsis pacifica</i>	I	18.26	<i>Hemisquilla californiensis</i>	I	-5.74
<i>Calinaticina oldroydii</i>	I	107.45	<i>Henricia leviuscula</i>	I	-28.38
<i>Calliostoma tricolor</i>	I	23.83	<i>Heptacarpus stimpsoni</i>	I	59.13
<i>Calliostoma turbinum</i>	I	17.57	<i>Heterocrypta occidentalis</i>	I	27.97
<i>Cancellaria cooperii</i>	I	8.55	<i>Hippoglossina stomata</i>	F	38.15
<i>Cancellaria crawfordiana</i>	I	41.57	<i>Hydrolagus colliei</i>	F	95.33
<i>Cancer antennarius</i>	I	129.86	<i>Icelinus filamentosus</i>	F	-9.07
<i>Cancer anthonyi</i>	I	139.62	<i>Icelinus quadriseriatus</i>	F	30.08
<i>Cancer gracilis</i>	I	74.77	<i>Icelinus tenuis</i>	F	-43.72
<i>Cancer jordani</i>	I	59.41	<i>Kathetostoma avertuncus</i>	F	109.63
<i>Cancer productus</i>	I	130.57	<i>Kelletia kelletii</i>	I	18.34
<i>Cephaloscyllium ventriosum</i>	F	45.54	<i>Lamellaria diegoensis</i>	I	32.41
<i>Chilara taylori</i>	F	41.26	<i>Laqueus californianus</i>	I	-54.84
<i>Chitonotus pugetensis</i>	F	28.50	<i>Lepidogobius lepidus</i>	F	30.45
<i>Chlamys hastata</i>	I	7.17	<i>Leptasterias hexactis</i>	I	-21.11
<i>Cidarina cidaris</i>	I	-54.84	<i>Leptopecten latiauratus</i>	I	28.10
<i>Ciona intestinalis</i>	I	28.75	<i>Leucilla nuttingi</i>	I	6.28
<i>Citharichthys fragilis</i>	F	25.02	<i>Loligo opalescens</i>	I	36.87
<i>Citharichthys sordidus</i>	F	15.57	<i>Lophogorgia chilensis</i>	I	52.36
<i>Citharichthys stigmaeus</i>	F	39.53	<i>Lopholithodes foraminatus</i>	I	57.62
<i>Citharichthys xanthostigma</i>	F	18.04	<i>Lophopanopeus bellus</i>	I	82.99
<i>Conus californicus</i>	I	158.70	<i>Lovenia cordiformis</i>	I	19.72
<i>Corynactis californica</i>	I	51.92	<i>Loxorhynchus crispatus</i>	I	3.57
<i>Crangon alaskensis</i>	I	63.46	<i>Loxorhynchus grandis</i>	I	29.15
<i>Crangon nigromaculata</i>	I	106.01	<i>Luidia armata</i>	I	18.12
<i>Crepidula onyx</i>	I	188.00	<i>Luidia asthenosoma</i>	I	9.87
<i>Crossata californica</i>	I	-0.67	<i>Luidia foliolata</i>	I	17.73
<i>Cymatogaster aggregata</i>	F	167.49	<i>Lycodes cortezianus</i>	F	84.65
<i>Diaulula sandiegensis</i>	I	21.96	<i>Lycodes pacificus</i>	F	63.66

A5. (continued)

Species*	Type	p_i	Species*	Type	p_i
<i>Lyconema barbatum</i>	F	14.32	<i>Platymera gaudichaudii</i>	I	114.80
<i>Lyopsetta exilis</i>	F	43.36	<i>Plectobanchus evides</i>	F	33.57
<i>Lytechinus pictus</i>	I	1.90	<i>Pleurobranchaea californica</i>	I	61.12
<i>Mediaster aequalis</i>	I	8.01	<i>Pleuronichthys coenosus</i>	F	188.57
<i>Megasurcula carpenteriana</i>	I	17.41	<i>Pleuronichthys decurrens</i>	F	94.67
<i>Merluccius productus</i>	F	50.57	<i>Pleuronichthys ritteri</i>	F	27.47
<i>Metacrangon spinosissima</i>	I	21.25	<i>Pleuronichthys verticalis</i>	F	28.78
<i>Metridium farcimen</i>	I	18.31	<i>Podochela hemphillii</i>	I	39.86
<i>Microstomus pacificus</i>	F	64.82	<i>Podochela lobifrons</i>	I	4.22
<i>Nassarius insculptus</i>	I	136.72	<i>Pododesmus macrochisma</i>	I	30.30
<i>Nassarius perpinguis</i>	I	53.49	<i>Porichthys myriaster</i>	F	30.06
<i>Neocrangon communis</i>	I	40.03	<i>Porichthys notatus</i>	F	34.85
<i>Neocrangon resima</i>	I	31.53	<i>Portunus xantusii</i>	I	141.94
<i>Neocrangon zaca</i>	I	33.59	<i>Protula superba</i>	I	-12.96
<i>Neosimnia loebbeckeana</i>	I	47.35	<i>Pteropurpura vokesae</i>	I	119.07
<i>Nymphon pixellae</i>	I	26.83	<i>Ptilosarcus gurneyi</i>	I	8.20
<i>Octopus californicus</i>	I	18.61	<i>Pycnopodia helianthoides</i>	I	55.54
<i>Octopus rubescens</i>	I	19.11	<i>Pyromaia tuberculata</i>	I	34.23
<i>Odontopyxis trispinosa</i>	F	28.14	<i>Raja binoculata</i>	F	28.50
<i>Ophiodon elongatus</i>	F	37.60	<i>Raja inornata</i>	F	29.96
<i>Ophionereis eurybrachioplax</i>	I	-32.88	<i>Randallia ornata</i>	I	24.49
<i>Ophiopholis bakeri</i>	I	-15.68	<i>Rathbunaster californicus</i>	I	26.50
<i>Ophiopteris papillosa</i>	I	-3.62	<i>Rathbunella hypoplecta</i>	F	-10.92
<i>Ophiothrix spiculata</i>	I	17.37	<i>Renilla koellikeri</i>	I	15.09
<i>Ophiura luetkenii</i>	I	18.31	<i>Rhacochilus vacca</i>	F	141.97
<i>Paguristes bakeri</i>	I	-20.33	<i>Rhinogobiops nicholsii</i>	F	9.33
<i>Paguristes turgidus</i>	I	-0.14	<i>Rossia pacifica</i>	I	39.80
<i>Paguristes ulreyi</i>	I	28.97	<i>Schmittius politus</i>	I	19.10
<i>Pagurus spilocarpus</i>	I	23.52	<i>Sclerasterias heteropaes</i>	I	-34.33
<i>Pandalus danae</i>	I	85.48	<i>Scorpaena guttata</i>	F	57.51
<i>Pandalus jordani</i>	I	71.70	<i>Sebastes auriculatus</i>	F	44.41
<i>Pandalus platyceros</i>	I	58.24	<i>Sebastes caurinus</i>	F	38.22
<i>Paraconchavus pacificus</i>	I	-24.35	<i>Sebastes chlorostictus</i>	F	23.68
<i>Paracyathus stearnsii</i>	I	-9.29	<i>Sebastes constellatus</i>	F	-2.54
<i>Paralabrax nebulifer</i>	F	34.53	<i>Sebastes dallii</i>	F	36.47
<i>Paralichthys californicus</i>	F	28.52	<i>Sebastes diploproa</i>	F	79.98
<i>Paralithodes californiensis</i>	I	6.68	<i>Sebastes elongatus</i>	F	41.36
<i>Paralithodes rathbuni</i>	I	37.64	<i>Sebastes eos</i>	F	9.45
<i>Parapagurodes laurentae</i>	I	-13.45	<i>Sebastes goodei</i>	F	140.69
<i>Parapagurodes makarovi</i>	I	-11.47	<i>Sebastes hopkinsi</i>	F	92.95
<i>Parastichopus californicus</i>	I	27.05	<i>Sebastes jordani</i>	F	119.31
<i>Parophrys vetulus</i>	F	53.32	<i>Sebastes levis</i>	F	71.98
<i>Peprilus simillimus</i>	F	44.71	<i>Sebastes macdonaldi</i>	F	155.20
<i>Phanerodon furcatus</i>	F	73.80	<i>Sebastes miniatus</i>	F	68.81
<i>Philine alba</i>	I	-26.20	<i>Sebastes paucispinis</i>	F	95.45
<i>Phimochirus californiensis</i>	I	8.23	<i>Sebastes rosaceus</i>	F	12.28
<i>Physiculus rastrelliger</i>	F	120.65	<i>Sebastes rosenblatti</i>	F	46.58
<i>Pisaster brevispinus</i>	I	20.99	<i>Sebastes rubrivinctus</i>	F	2.19

A5. (continued)

Species*	Type	p_i	Species*	Type	p_i
<i>Sebastes saxicola</i>	F	66.08	<i>Syngnathus exilis</i>	F	-13.96
<i>Sebastes semicinctus</i>	F	28.19	<i>Synodus luciocephalus</i>	F	36.37
<i>Sebastolobus alascanus</i>	F	46.81	<i>Torpedo californica</i>	F	120.94
<i>Seriphus politus</i>	F	60.93	<i>Triopha maculata</i>	I	20.69
<i>Sicyonia ingentis</i>	I	73.77	<i>Tritonia diomedea</i>	I	42.84
<i>Spatangus californicus</i>	I	7.38	<i>Virgularia agassizi</i>	I	14.12
<i>Spirontocaris holmesi</i>	I	93.46	<i>Virgularia californica</i>	I	21.80
<i>Spirontocaris sica</i>	I	68.89	<i>Xeneretmus latifrons</i>	F	43.30
<i>Strongylocentrotus</i>	I	8.75	<i>Xeneretmus triacanthus</i>	F	6.70
<i>Strongylocentrotus purpuratus</i>	I	27.59	<i>Xystreureys liolepis</i>	F	39.52
<i>Stylasterias forreri</i>	I	1.75	<i>Zalembeus rosaceus</i>	F	36.95
<i>Stylatula elongata</i>	I	39.86	<i>Zaniolepis frenata</i>	F	28.27
<i>Symphurus atricaudus</i>	F	31.44	<i>Zaniolepis latipinnis</i>	F	33.40

*See Glossary G2 for common names of fish species; see Glossary G4 for common names of invertebrate species.