

CRUISE REPORT

Cruise Number: MF0308

FOCI Number: 5MF03

Ship:

NOAA Ship Miller Freeman

Area of Operations:

Shelikof Strait, Gulf of Alaska

Itinerary:

Date of departure / port: May 25, 2003 / Dutch Harbor, AK

Date of arrival / port: June 2, 2003 / Kodiak, AK

Participating organizations:

NOAA - Alaska Fisheries Science Center (AFSC)

Chief Scientist:

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Personnel:

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 Tiffany Vance F / AFSC
 Matt Wilson M / AFSC

Cruise Objectives:

The objectives of this cruise were to conduct an ichthyoplankton survey and process oriented studies in the region between Unimak Pass, the Shumagin Islands, and through Shelikof Strait to Kodiak Island, Alaska, to estimate the abundance, transport, and factors influencing the survival of young walleye pollock larvae. We also occupied stations on Line 8 to continue our 18-year time series of environmental and biological conditions in Shelikof Strait.

Summary of Operations:

Operation	Tows
20cm bongo (20Bon)	6
60cm bongo (60Bon)	109
Seabird SeaCAT CTD (CAT)	109
CTD without bottle samples (CTD)	1
CTD with bottle samples (CTDB)	6
Neuston (Neu)	4

Samples Collected	Tows	Number
SeaBird SeaCat CTD (CAT)	109	
Extracted chlorophyll (Chlor)	6	36

Samples Collected	Tows	Number
SeaBird CTD (CTD)	7	
Stimulated fluorescence collected during CTD casts (Fluor)	6	
Larval pollock collected for histological analysis (L-Hist)	7	40
Larval pollock collected for otolith analysis (L-Oto)	85	1310
Microzooplankton samples preserved in formalin (MZ)	6	36
Nutrient samples collected from CTD casts (Nut)	6	59
Quantitative tow preserved in formalin (QTowF)	125	125
Rough count of pollock larvae (RCountL)	101	1329

Summary of Cruise:

Narrative:

We left Dutch Harbor, Alaska on May 25 and proceeded through Unimak Pass into the Gulf of Alaska. Within five hours we began our 60 cm bongo survey grid working in a northeasterly direction. While working up the grid toward Kodiak Island, we sampled Line 8. Line 8 sampling included 20 cm and 60 cm bongos and CTD profiles with Niskin bottle samples taken for chlorophyll, microzooplankton, and nutrients. After Line 8, we continued the grid survey of larval pollock up Shelikof Strait until operations were stopped to allow for arrival at Kodiak Island on the morning of June 2. A total of 109 bongos were conducted.

Days Lost to Weather:

None

Days Lost to Equipment Failure:

None

Recommendations:

None

Acknowledgments:

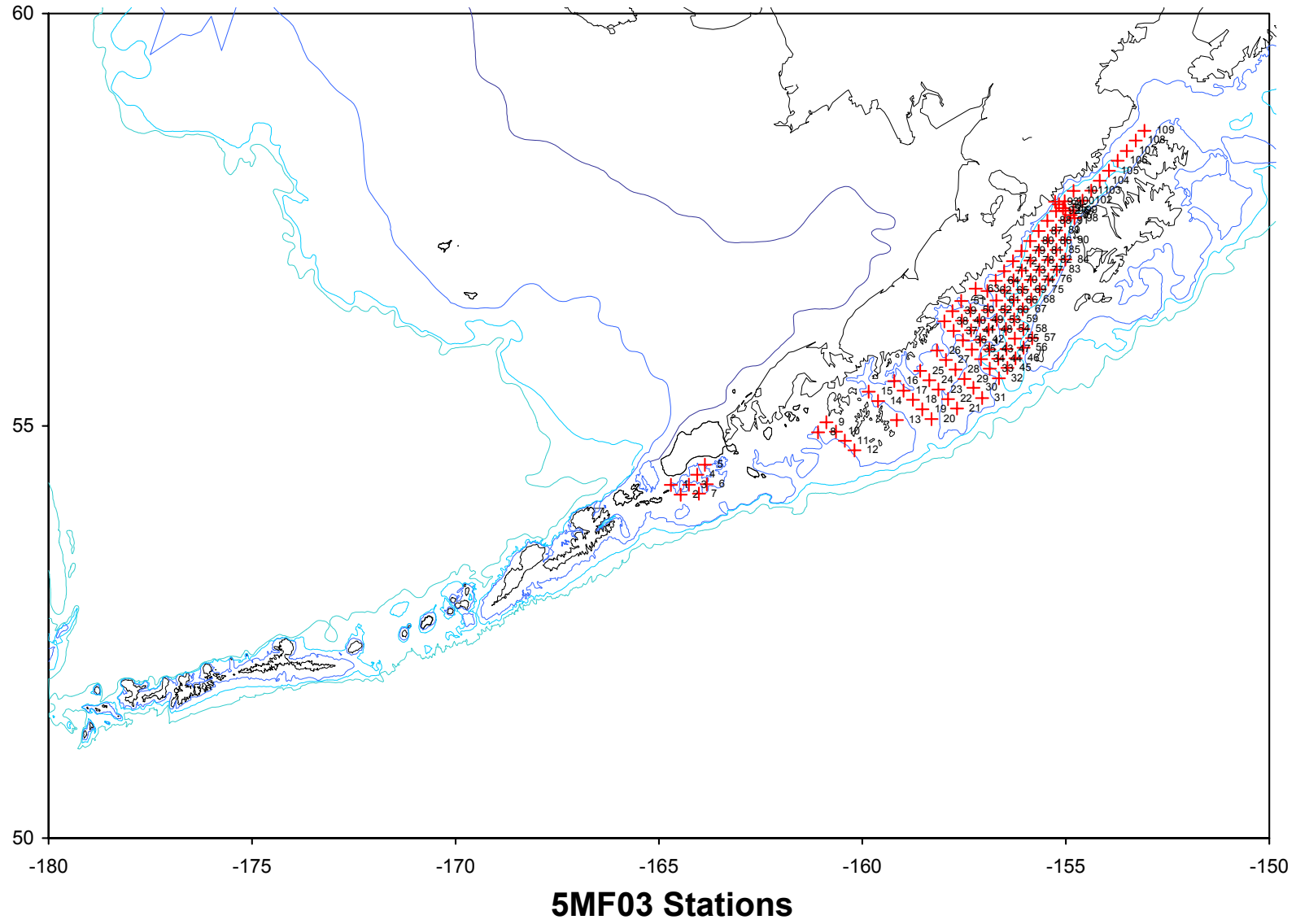
The scientific party would like to acknowledge the hard work and support of the officers and crew of the Miller Freeman.

Attachments:

Figure 1- Station Map

Table 1- Cruise Summary

Figure 1- Station Map



Cruise Summary for FOCI Cruise 5MF03 (MF0308)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
26-May-03	05:58	1	1	GD103		105	54 16.94 N	164 42.50 W	Neu	QTowF	
26-May-03	06:31	1	2	GD103	CTD001	96	54 17.14 N	164 43.00 W	CTD	CTD	
26-May-03	06:49	1	3	GD103	BON001	100	54 16.90 N	164 43.33 W	60Bon	L-Oto, QTowF, RCountL	
26-May-03	06:49	1	3	GD103	BON001	100	54 16.90 N	164 43.33 W	CAT	CAT	
26-May-03	08:06	2	1	GF103		81	54 09.84 N	164 27.94 W	Neu	QTowF	
26-May-03	08:32	2	2	GF103	BON002	80	54 09.97 N	164 28.12 W	60Bon	L-Oto, QTowF, RCountL	
26-May-03	08:32	2	2	GF103	BON002	80	54 09.97 N	164 28.12 W	CAT	CAT	
26-May-03	09:41	3	1	GF105		72	54 17.03 N	164 15.83 W	Neu	QTowF	
26-May-03	10:07	3	2	GF105	BON003	73	54 17.26 N	164 15.79 W	60Bon	L-Oto, QTowF, RCountL	
26-May-03	10:07	3	2	GF105	BON003	73	54 17.26 N	164 15.79 W	CAT	CAT	
26-May-03	11:16	4	1	GF107	BON004	105	54 24.36 N	164 03.55 W	60Bon	L-Oto, QTowF, RCountL	
26-May-03	11:16	4	1	GF107	BON004	105	54 24.36 N	164 03.55 W	CAT	CAT	
26-May-03	12:26	5	1	GF109	BON005	82	54 31.67 N	163 52.25 W	60Bon	L-Oto, QTowF, RCountJ	
26-May-03	12:26	5	1	GF109	BON005	82	54 31.67 N	163 52.25 W	CAT	CAT	
26-May-03	13:54	6	1	GH107	BON006	112	54 17.46 N	163 49.41 W	60Bon	L-Oto, QTowF, RCountJ	
26-May-03	13:54	6	1	GH107	BON006	112	54 17.46 N	163 49.41 W	CAT	CAT	
26-May-03	15:00	7	1	GH105		73	54 10.61 N	164 00.97 W	Neu	QTowF	
26-May-03	15:23	7	2	GH105	BON007	73	54 10.32 N	164 01.24 W	60Bon	L-Oto, QTowF, RCountL	
26-May-03	15:23	7	2	GH105	BON007	73	54 10.32 N	164 01.24 W	CAT	CAT	
27-May-03	02:03	8	1	GP125	BON008	109	54 55.35 N	161 05.30 W	60Bon	QTowF, RCountL	
27-May-03	02:03	8	1	GP125	BON008	109	54 55.35 N	161 05.30 W	CAT	CAT	
27-May-03	03:15	9	1	GP127	BON009	87	55 02.57 N	160 53.24 W	60Bon	QTowF, RCountL	
27-May-03	03:15	9	1	GP127	BON009	87	55 02.57 N	160 53.24 W	CAT	CAT	
27-May-03	04:29	10	1	GR127	BON010	92	54 55.76 N	160 39.08 W	60Bon	L-Oto, QTowF, RCountL	
27-May-03	04:29	10	1	GR127	BON010	92	54 55.76 N	160 39.08 W	CAT	CAT	
27-May-03	05:39	11	1	GT127	BON011	93	54 49.06 N	160 25.81 W	60Bon	L-Oto, QTowF, RCountL	
27-May-03	05:39	11	1	GT127	BON011	93	54 49.06 N	160 25.81 W	CAT	CAT	
27-May-03	06:51	12	1	GV127	BON012	88	54 42.22 N	160 11.71 W	60Bon	QTowF, RCountL	
27-May-03	06:51	12	1	GV127	BON012	88	54 42.22 N	160 11.71 W	CAT	CAT	
27-May-03	11:51	13	1	GX135	BON013	75	55 04.15 N	159 09.26 W	60Bon	QTowF, RCountL	
27-May-03	11:51	13	1	GX135	BON013	75	55 04.15 N	159 09.26 W	CAT	CAT	
27-May-03	14:19	14	1	GT135	BON014	130	55 18.00 N	159 36.81 W	60Bon	QTowF, RCountL	
27-May-03	14:19	14	1	GT135	BON014	130	55 18.00 N	159 36.81 W	CAT	CAT	
27-May-03	15:36	15	1	GR135	BON015	114	55 24.86 N	159 50.72 W	60Bon	QTowF, RCountL	
27-May-03	15:36	15	1	GR135	BON015	114	55 24.86 N	159 50.72 W	CAT	CAT	
27-May-03	17:54	16	1	GT139	BON016	91	55 32.61 N	159 12.96 W	60Bon	L-Oto, QTowF, RCountL	
27-May-03	17:54	16	1	GT139	BON016	91	55 32.61 N	159 12.96 W	CAT	CAT	
27-May-03	19:08	17	1	GV139	BON017	161	55 25.64 N	158 59.10 W	60Bon	QTowF, RCountL	
27-May-03	19:08	17	1	GV139	BON017	161	55 25.64 N	158 59.10 W	CAT	CAT	
27-May-03	20:30	18	1	GX139	BON018	184	55 18.96 N	158 45.41 W	60Bon	L-Oto, QTowF, RCountL	
27-May-03	20:30	18	1	GX139	BON018	184	55 18.96 N	158 45.41 W	CAT	CAT	
27-May-03	21:50	19	1	GZ139	BON019	200	55 12.00 N	158 31.71 W	60Bon	L-Oto, QTowF, RCountL	
27-May-03	21:50	19	1	GZ139	BON019	200	55 12.00 N	158 31.71 W	CAT	CAT	
27-May-03	23:18	20	1	HB139	BON020	176	55 04.89 N	158 18.17 W	60Bon	QTowF, RCountL	
27-May-03	23:18	20	1	HB139	BON020	176	55 04.89 N	158 18.17 W	CAT	CAT	
28-May-03	01:40	21	1	HD143	BON021	85	55 12.57 N	157 40.39 W	60Bon	L-Oto, QTowF, RCountL	
28-May-03	01:40	21	1	HD143	BON021	85	55 12.57 N	157 40.39 W	CAT	CAT	
28-May-03	02:52	22	1	HB143	BON022	83	55 19.45 N	157 53.78 W	60Bon	L-Oto, QTowF, RCountL	
28-May-03	02:52	22	1	HB143	BON022	83	55 19.45 N	157 53.78 W	CAT	CAT	
28-May-03	04:09	23	1	GZ143	BON023	125	55 26.34 N	158 07.77 W	60Bon	L-Oto, QTowF, RCountL	
28-May-03	04:09	23	1	GZ143	BON023	125	55 26.34 N	158 07.77 W	CAT	CAT	

Cruise Summary for FOCI Cruise 5MF03 (MF0308)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
28-May-03	05:24	24	1	GX143	BON024	143	55 33.16 N	158 21.20 W	60Bon	QTowF, RCountL	
28-May-03	05:24	24	1	GX143	BON024	143	55 33.16 N	158 21.20 W	CAT	CAT	
28-May-03	06:39	25	1	GV143	BON025	112	55 40.03 N	158 34.74 W	60Bon	L-Oto, QTowF, RCountL	
28-May-03	06:39	25	1	GV143	BON025	112	55 40.03 N	158 34.74 W	CAT	CAT	
28-May-03	08:53	26	1	GV147	BON026	187	55 54.75 N	158 10.06 W	60Bon	L-Oto, QTowF, RCountL	
28-May-03	08:53	26	1	GV147	BON026	187	55 54.75 N	158 10.06 W	CAT	CAT	
28-May-03	10:34	27	1	GX147	BON027	119	55 47.84 N	157 56.94 W	60Bon	L-Oto, QTowF, RCountL	
28-May-03	10:34	27	1	GX147	BON027	119	55 47.84 N	157 56.94 W	CAT	CAT	
28-May-03	12:32	28	1	GZ147	BON028	138	55 40.95 N	157 42.84 W	60Bon	L-Oto, QTowF, RCountL	
28-May-03	12:32	28	1	GZ147	BON028	138	55 40.95 N	157 42.84 W	CAT	CAT	
28-May-03	14:22	29	1	HB147	BON029	98	55 34.10 N	157 29.42 W	60Bon	L-Oto, QTowF, RCountL	
28-May-03	14:22	29	1	HB147	BON029	98	55 34.10 N	157 29.42 W	CAT	CAT	
28-May-03	16:20	30	1	HD147	BON030	88	55 27.66 N	157 16.33 W	60Bon	QTowF, RCountL	1:51 spent with the net at the surface while the ship maneuvered. This was before the net was sent down. This time is included in the total tow time.
28-May-03	16:20	30	1	HD147	BON030	88	55 27.66 N	157 16.33 W	CAT	CAT	1:51 spent with the net at the surface while the ship maneuvered. This was before the net was sent down. This time is included in the total tow time.
28-May-03	18:32	31	1	HF147	BON031	95	55 20.25 N	157 03.50 W	60Bon	L-Oto, QTowF, RCountL	Net on surface for 2:00 while ship positioned. Time includes this.
28-May-03	18:32	31	1	HF147	BON031	95	55 20.25 N	157 03.50 W	CAT	CAT	Net on surface for 2:00 while ship positioned. Time includes this.
28-May-03	21:46	32	1	HF151	BON032	224	55 34.55 N	156 38.63 W	60Bon	L-Oto, QTowF, RCountL	
28-May-03	21:46	32	1	HF151	BON032	224	55 34.55 N	156 38.63 W	CAT	CAT	
28-May-03	23:06	33	1	HD151	BON033	95	55 41.53 N	156 52.05 W	60Bon	L-Oto, QTowF, RCountL	
28-May-03	23:06	33	1	HD151	BON033	95	55 41.53 N	156 52.05 W	CAT	CAT	
29-May-03	00:22	34	1	HB151	BON034	95	55 48.40 N	157 05.13 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	00:22	34	1	HB151	BON034	95	55 48.40 N	157 05.13 W	CAT	CAT	
29-May-03	01:39	35	1	GZ151	BON035	103	55 55.35 N	157 18.56 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	01:39	35	1	GZ151	BON035	103	55 55.35 N	157 18.56 W	CAT	CAT	
29-May-03	02:54	36	1	GX151	BON036	109	56 02.19 N	157 31.85 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	02:54	36	1	GX151	BON036	109	56 02.19 N	157 31.85 W	CAT	CAT	
29-May-03	04:08	37	1	GV151	BON037	151	56 09.10 N	157 45.60 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	04:08	37	1	GV151	BON037	151	56 09.10 N	157 45.60 W	CAT	CAT	
29-May-03	05:19	38	1	GT151	BON038	139	56 15.99 N	157 58.94 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	05:19	38	1	GT151	BON038	139	56 15.99 N	157 58.94 W	CAT	CAT	
29-May-03	06:45	39	1	GT153	BON039	276	56 23.46 N	157 46.99 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	06:45	39	1	GT153	BON039	276	56 23.46 N	157 46.99 W	CAT	CAT	
29-May-03	08:09	40	1	GV153	BON040	139	56 16.43 N	157 33.38 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	08:09	40	1	GV153	BON040	139	56 16.43 N	157 33.38 W	CAT	CAT	
29-May-03	09:28	41	1	GX153	BON041	159	56 09.56 N	157 19.83 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	09:28	41	1	GX153	BON041	159	56 09.56 N	157 19.83 W	CAT	CAT	
29-May-03	10:45	42	1	GZ153	BON042	111	56 02.59 N	157 06.35 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	10:45	42	1	GZ153	BON042	111	56 02.59 N	157 06.35 W	CAT	CAT	
29-May-03	12:02	43	1	HB153	BON043	155	55 55.65 N	156 52.87 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	12:02	43	1	HB153	BON043	155	55 55.65 N	156 52.87 W	CAT	CAT	
29-May-03	13:20	44	1	HD153	BON044	226	55 48.75 N	156 39.63 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	13:20	44	1	HD153	BON044	226	55 48.75 N	156 39.63 W	CAT	CAT	
29-May-03	14:36	45	1	HF153	BON045	240	55 42.06 N	156 26.26 W	60Bon	QTowF, RCountL	

Cruise Summary for FOCI Cruise 5MF03 (MF0308)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
29-May-03	14:36	45	1	HF153	BON045	240	55 42.06 N	156 26.26 W	CAT	CAT	
29-May-03	15:53	46	1	HF155	BON046	228	55 49.16 N	156 14.26 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	15:53	46	1	HF155	BON046	228	55 49.16 N	156 14.26 W	CAT	CAT	
29-May-03	17:03	47	1	HD155	BON047	209	55 55.94 N	156 27.27 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	17:03	47	1	HD155	BON047	209	55 55.94 N	156 27.27 W	CAT	CAT	
29-May-03	19:26	48	1	GZ155	BON048	76	56 09.94 N	156 53.92 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	19:26	48	1	GZ155	BON048	76	56 09.94 N	156 53.92 W	CAT	CAT	
29-May-03	20:32	49	1	GX155	BON049	128	56 16.84 N	157 07.51 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	20:32	49	1	GX155	BON049	128	56 16.84 N	157 07.51 W	CAT	CAT	
29-May-03	21:40	50	1	GV155	BON050	59	56 23.82 N	157 20.88 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	21:40	50	1	GV155	BON050	59	56 23.82 N	157 20.88 W	CAT	CAT	
29-May-03	22:58	51	1	GT155	BON051	144	56 30.75 N	157 34.39 W	60Bon	L-Oto, QTowF, RCountL	
29-May-03	22:58	51	1	GT155	BON051	144	56 30.75 N	157 34.39 W	CAT	CAT	
30-May-03	01:37	52	1	GX157	BON052	125	56 24.04 N	156 55.12 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	01:37	52	1	GX157	BON052	125	56 24.04 N	156 55.12 W	CAT	CAT	
30-May-03	02:56	53	1	GZ157	BON053	105	56 17.11 N	156 41.77 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	02:56	53	1	GZ157	BON053	105	56 17.11 N	156 41.77 W	CAT	CAT	
30-May-03	04:17	54	1	HB157	BON054	231	56 10.38 N	156 28.44 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	04:17	54	1	HB157	BON054	231	56 10.38 N	156 28.44 W	CAT	CAT	
30-May-03	05:38	55	1	HD157	BON055	214	56 03.41 N	156 15.28 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	05:38	55	1	HD157	BON055	214	56 03.41 N	156 15.28 W	CAT	CAT	
30-May-03	07:01	56	1	HF157	BON056	100	55 56.76 N	156 02.24 W	60Bon	QTowF, RCountL	
30-May-03	07:01	56	1	HF157	BON056	100	55 56.76 N	156 02.24 W	CAT	CAT	
30-May-03	08:09	57	1	HF159	BON057	67	56 03.71 N	155 49.65 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	08:09	57	1	HF159	BON057	67	56 03.71 N	155 49.65 W	CAT	CAT	
30-May-03	09:14	58	1	HD159	BON058	232	56 10.43 N	156 02.55 W	60Bon	L-Oto, QTowF, RCountL	MOA has this as BON060.
30-May-03	09:14	58	1	HD159	BON058	232	56 10.43 N	156 02.55 W	CAT	CAT	MOA has this as BON060.
30-May-03	10:28	59	1	HB159	BON059	274	56 17.40 N	156 16.04 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	10:28	59	1	HB159	BON059	274	56 17.40 N	156 16.04 W	CAT	CAT	
30-May-03	11:39	60	1	GZ159	BON060	217	56 24.39 N	156 29.47 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	11:39	60	1	GZ159	BON060	217	56 24.39 N	156 29.47 W	CAT	CAT	
30-May-03	12:51	61	1	GX159	BON061	163	56 31.18 N	156 42.33 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	12:51	61	1	GX159	BON061	163	56 31.18 N	156 42.33 W	CAT	CAT	
30-May-03	14:01	62	1	GV159	BON062	96	56 38.04 N	156 55.60 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	14:01	62	1	GV159	BON062	96	56 38.04 N	156 55.60 W	CAT	CAT	
30-May-03	15:03	63	1	GV158	BON063	50	56 39.82 N	157 12.76 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	15:03	63	1	GV158	BON063	50	56 39.82 N	157 12.76 W	CAT	CAT	
30-May-03	17:20	64	1	GV161	BON064	139	54 45.57 N	156 43.58 W	60Bon	L-Hist, L-Oto, QTowF, RCountL	
30-May-03	17:20	64	1	GV161	BON064	139	54 45.57 N	156 43.58 W	CAT	CAT	
30-May-03	18:42	65	1	GX161	BON065	180	56 38.36 N	156 30.27 W	60Bon	L-Hist, L-Oto, QTowF, RCountL	
30-May-03	18:42	65	1	GX161	BON065	180	56 38.36 N	156 30.27 W	CAT	CAT	
30-May-03	19:59	66	1	GZ161	BON066	233	56 31.45 N	156 16.67 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	19:59	66	1	GZ161	BON066	233	56 31.45 N	156 16.67 W	CAT	CAT	
30-May-03	21:15	67	1	HB161	BON067	247	56 24.81 N	156 03.47 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	21:15	67	1	HB161	BON067	247	56 24.81 N	156 03.47 W	CAT	CAT	
30-May-03	22:30	68	1	HB163	BON068	234	56 31.94 N	155 51.12 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	22:30	68	1	HB163	BON068	234	56 31.94 N	155 51.12 W	CAT	CAT	
30-May-03	23:44	69	1	GZ163	BON069	297	56 38.97 N	156 03.93 W	60Bon	L-Oto, QTowF, RCountL	
30-May-03	23:44	69	1	GZ163	BON069	297	56 38.97 N	156 03.93 W	CAT	CAT	
31-May-03	00:52	70	1	GX163	BON070	186	56 45.75 N	156 17.07 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	00:52	70	1	GX163	BON070	186	56 45.75 N	156 17.07 W	CAT	CAT	

Cruise Summary for FOCI Cruise 5MF03 (MF0308)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
31-May-03	02:02	71	1	GV163	BON070	70	56 52.47 N	156 30.90 W	60Bon	L-Hist, L-Oto, QTowF, RCountL	
31-May-03	02:02	71	1	GV163	BON070	70	56 52.47 N	156 30.90 W	CAT	CAT	
31-May-03	03:14	72	1	GV165	BON071	74	56 59.79 N	156 18.16 W	60Bon	L-Hist, L-Oto, QTowF, RCountL	
31-May-03	03:14	72	1	GV165	BON071	74	56 59.79 N	156 18.16 W	CAT	CAT	
31-May-03	04:26	73	1	GX165	BON073	209	56 53.00 N	156 04.87 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	04:26	73	1	GX165	BON073	209	56 53.00 N	156 04.87 W	CAT	CAT	
31-May-03	05:45	74	1	GZ165	BON074	295	56 46.07 N	155 51.53 W	60Bon	L-Hist, L-Oto, QTowF, RCountL	
31-May-03	05:45	74	1	GZ165	BON074	295	56 46.07 N	155 51.53 W	CAT	CAT	
31-May-03	06:56	75	1	HB165	BON075	234	56 39.11 N	155 38.42 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	06:56	75	1	HB165	BON075	234	56 39.11 N	155 38.42 W	CAT	CAT	
31-May-03	08:13	76	1	HB167	BON076	237	56 46.51 N	155 25.94 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	08:13	76	1	HB167	BON076	237	56 46.51 N	155 25.94 W	CAT	CAT	
31-May-03	09:19	77	1	GZ167	BON077	284	56 53.42 N	155 39.04 W	60Bon	L-Hist, L-Oto, QTowF, RCountL	
31-May-03	09:19	77	1	GZ167	BON077	284	56 53.42 N	155 39.04 W	CAT	CAT	
31-May-03	10:27	78	1	GX167	BON078	310	57 00.26 N	155 52.24 W	60Bon	L-Hist, L-Oto, QTowF, RCountL	
31-May-03	10:27	78	1	GX167	BON078	310	57 00.26 N	155 52.24 W	CAT	CAT	
31-May-03	11:33	79	1	GV167	BON079	85	57 07.09 N	156 05.42 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	11:33	79	1	GV167	BON079	85	57 07.09 N	156 05.42 W	CAT	CAT	
31-May-03	12:44	80	1	GV169	BON080	249	57 14.40 N	155 52.74 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	12:44	80	1	GV169	BON080	249	57 14.40 N	155 52.74 W	CAT	CAT	
31-May-03	13:51	81	1	GX169	BON081	276	57 07.67 N	155 39.70 W	60Bon	L-Oto, QTowF, RCountL	High wire angles for most of the cast.
31-May-03	13:51	81	1	GX169	BON081	276	57 07.67 N	155 39.70 W	CAT	CAT	High wire angles for most of the cast.
31-May-03	14:56	82	1	GZ169	BON082	265	57 00.71 N	155 26.19 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	14:56	82	1	GZ169	BON082	265	57 00.71 N	155 26.19 W	CAT	CAT	
31-May-03	16:01	83	1	HB169	BON083	214	56 53.58 N	155 13.23 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	16:01	83	1	HB169	BON083	214	56 53.58 N	155 13.23 W	CAT	CAT	
31-May-03	17:18	84	1	HB171	BON084	149	57 01.00 N	155 00.79 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	17:18	84	1	HB171	BON084	149	57 01.00 N	155 00.79 W	CAT	CAT	
31-May-03	18:30	85	1	GZ171	BON085	240	57 07.99 N	155 13.87 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	18:30	85	1	GZ171	BON085	240	57 07.99 N	155 13.87 W	CAT	CAT	
31-May-03	19:37	86	1	GX171	BON086	259	57 14.80 N	155 26.51 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	19:37	86	1	GX171	BON086	259	57 14.80 N	155 26.51 W	CAT	CAT	
31-May-03	20:44	87	1	GV171	BON087	280	57 21.68 N	155 39.96 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	20:44	87	1	GV171	BON087	280	57 21.68 N	155 39.96 W	CAT	CAT	
31-May-03	21:56	88	1	GV173	BON088	296	57 29.13 N	155 27.19 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	21:56	88	1	GV173	BON088	296	57 29.13 N	155 27.19 W	CAT	CAT	
31-May-03	23:10	89	1	GX173	BON089	245	57 22.09 N	155 14.19 W	60Bon	L-Oto, QTowF, RCountL	
31-May-03	23:10	89	1	GX173	BON089	245	57 22.09 N	155 14.19 W	CAT	CAT	
01-Jun-03	00:21	90	1	GZ173	BON090	221	57 15.25 N	155 01.21 W	60Bon	L-Oto, QTowF, RCountL	
01-Jun-03	00:21	90	1	GZ173	BON090	221	57 15.25 N	155 01.21 W	CAT	CAT	
01-Jun-03	01:59	91	1	GX175	BON091	233	57 29.43 N	155 01.57 W	60Bon	QTowF, RCountL	
01-Jun-03	01:59	91	1	GX175	BON091	233	57 29.43 N	155 01.57 W	60Bon	QTowF, RCountL	Gear fished at 90 m for about 1 min., could not get deeper due to high wire angle.
01-Jun-03	01:59	91	1	GX175	BON091	233	57 29.43 N	155 01.57 W	CAT	CAT	
01-Jun-03	03:13	92	1	GV175	BON092	280	57 36.21 N	155 14.17 W	60Bon	L-Oto, QTowF, RCountL	
01-Jun-03	03:13	92	1	GV175	BON092	280	57 36.21 N	155 14.17 W	CAT	CAT	
01-Jun-03	04:15	93	1	FOX061	BON093	181	57 43.09 N	155 15.75 W	20Bon	QTowF	
01-Jun-03	04:15	93	1	FOX061	BON093	181	57 43.09 N	155 15.75 W	60Bon	QTowF	
01-Jun-03	04:15	93	1	FOX061	BON093	181	57 43.09 N	155 15.75 W	CAT	CAT	
01-Jun-03	04:56	93	2	FOX061	CTD002	187	57 43.20 N	155 15.49 W	CTDB	Chlor, CTD, Fluor, MZ, Nut	
01-Jun-03	06:26	94	1	FOX060	BON094	289	57 41.15 N	155 10.24 W	20Bon	QTowF	

Cruise Summary for FOCI Cruise 5MF03 (MF0308)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
01-Jun-03	06:26	94	1	FOX060	BON094	289	57 41.15 N	155 10.24 W	60Bon	QTowF	
01-Jun-03	06:26	94	1	FOX060	BON094	289	57 41.15 N	155 10.24 W	CAT	CAT	
01-Jun-03	07:08	94	2	FOX060	CTD003	287	57 40.84 N	155 10.06 W	CTDB	Chlor, CTD, Fluor, MZ, Nut	
01-Jun-03	08:57	95	1	FOX059	BON095	252	57 38.37 N	155 04.24 W	20Bon	QTowF	
01-Jun-03	08:57	95	1	FOX059	BON095	252	57 38.37 N	155 04.24 W	60Bon	QTowF	
01-Jun-03	08:57	95	1	FOX059	BON095	252	57 38.37 N	155 04.24 W	CAT	CAT	
01-Jun-03	09:43	95	2	FOX059	CTD004	245	57 38.20 N	155 04.45 W	CTDB	Chlor, CTD, Fluor, MZ, Nut	
01-Jun-03	10:55	96	1	FOX058	BON096	238	57 36.31 N	155 00.62 W	20Bon	QTowF	
01-Jun-03	10:55	96	1	FOX058	BON096	238	57 36.31 N	155 00.62 W	60Bon	QTowF	
01-Jun-03	10:55	96	1	FOX058	BON096	238	57 36.31 N	155 00.62 W	CAT	CAT	
01-Jun-03	11:38	96	2	FOX058	CTD005	238	57 35.96 N	155 01.04 W	CTDB	Chlor, CTD, Fluor, MZ, Nut	
01-Jun-03	13:00	97	1	FOX057	BON097	228	57 33.21 N	154 52.93 W	20Bon	QTowF	
01-Jun-03	13:00	97	1	FOX057	BON097	228	57 33.21 N	154 52.93 W	60Bon	QTowF	
01-Jun-03	13:00	97	1	FOX057	BON097	228	57 33.21 N	154 52.93 W	CAT	CAT	
01-Jun-03	14:30	97	2	FOX057	CTD006	228	57 33.08 N	154 52.64 W	CTDB	Chlor, CTD, Fluor, MZ, Nut	First attempt failed due to software problems. This cast is file CDT006A.
01-Jun-03	15:40	98	1	FOX056	BON098	205	57 31.10 N	154 47.42 W	20Bon	QTowF	
01-Jun-03	15:40	98	1	FOX056	BON098	205	57 31.10 N	154 47.42 W	60Bon	QTowF	
01-Jun-03	15:40	98	1	FOX056	BON098	205	57 31.10 N	154 47.42 W	CAT	CAT	
01-Jun-03	16:31	98	2	FOX056	CTD007	208	57 30.70 N	154 46.87 W	CTDB	Chlor, CTD, Fluor, MZ, Nut	16m bottle for Steve for diatoms
01-Jun-03	18:03	99	1	GX177	BON099	218	57 36.62 N	154 48.48 W	60Bon	L-Oto, QTowF, RCountL	
01-Jun-03	18:03	99	1	GX177	BON099	218	57 36.62 N	154 48.48 W	CAT	CAT	
01-Jun-03	19:14	100	1	GV177	BON100	273	57 43.33 N	155 01.93 W	60Bon	L-Oto, QTowF, RCountL	
01-Jun-03	19:14	100	1	GV177	BON100	273	57 43.33 N	155 01.93 W	CAT	CAT	
01-Jun-03	20:35	101	1	GV179	BON101	278	57 50.87 N	154 48.51 W	60Bon	L-Oto, QTowF, RCountL	
01-Jun-03	20:35	101	1	GV179	BON101	278	57 50.87 N	154 48.51 W	CAT	CAT	
01-Jun-03	21:46	102	1	GX179	BON102	215	57 43.85 N	154 35.47 W	60Bon	QTowF, RCountL	
01-Jun-03	21:46	102	1	GX179	BON102	215	57 43.85 N	154 35.47 W	CAT	CAT	
01-Jun-03	22:55	103	1	GX181	BON103	215	57 51.06 N	154 22.71 W	60Bon	QTowF, RCountL	
01-Jun-03	22:55	103	1	GX181	BON103	215	57 51.06 N	154 22.71 W	CAT	CAT	
02-Jun-03	00:07	104	1	GX183	BON104	210	57 58.29 N	154 09.90 W	60Bon	L-Oto, QTowF, RCountL	
02-Jun-03	00:07	104	1	GX183	BON104	210	57 58.29 N	154 09.90 W	CAT	CAT	
02-Jun-03	01:22	105	1	GX185	BON105	202	58 05.52 N	153 56.61 W	60Bon	L-Oto, QTowF, RCountL	
02-Jun-03	01:22	105	1	GX185	BON105	202	58 05.52 N	153 56.61 W	CAT	CAT	
02-Jun-03	02:32	106	1	GX187	BON106	195	58 12.87 N	153 43.69 W	60Bon	QTowF, RCountL	
02-Jun-03	02:32	106	1	GX187	BON106	195	58 12.87 N	153 43.69 W	CAT	CAT	
02-Jun-03	03:46	107	1	GX189	BON107	173	58 20.05 N	153 30.32 W	60Bon	L-Oto, QTowF, RCountL	
02-Jun-03	03:46	107	1	GX189	BON107	173	58 20.05 N	153 30.32 W	CAT	CAT	
02-Jun-03	04:58	108	1	GX191	BON108	181	58 27.48 N	153 17.12 W	60Bon	QTowF, RCountL	
02-Jun-03	04:58	108	1	GX191	BON108	181	58 27.48 N	153 17.12 W	CAT	CAT	
02-Jun-03	06:05	109	1	GX193	BON109	166	58 34.69 N	153 04.24 W	60Bon	QTowF, RCountL	
02-Jun-03	06:05	109	1	GX193	BON109	166	58 34.69 N	153 04.24 W	CAT	CAT	