CRUISE REPORT

Cruise Number: MF-01-07
FOCI Number: 3MF01

Ship:
NOAA Ship Miller Freeman

Area of Operations:
Gulf of Alaska

Itinerary:
Date depart / port: May 24, 2001 / Dutch Harbor, AK
Date arrive / port: June 2, 2001 / Kodiak, AK

Participating organizations:
NOAA - Alaska Fisheries Science Center (AFSC)

Chief Scientist:

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Personnel:

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Annette Brown	F / AFSC
Rachael Cartwright	F / AFSC
Steve Porter	M / AFSC
Melinda Smith	F / Teacher-at-sea
Matt Wilson	M / AFSC

Cruise Objectives:
The objective of this cruise was to conduct an ichthyoplankton survey and process-oriented studies in the region between Kennedy Entrance and Shelikof Strait to Unimak Pass to estimate the abundance of young walleye pollock larvae, their transport, and factors influencing their survival.

Summary of Operations:

Operation	Tows
60cm bongo (60Bon)	149
CalCOFI vertical egg tow net (CalVET)	5
Seabird SeaCAT CTD (CAT)	158
Vertical 60cm bongo tow with taped codends (Live)	4

Samples Collected	Tows	Number
SeaBird SeaCat CTD (CAT)	158	

Flathead Sole Eggs for otolith validation (FHS-Egg)	34	344
Flathead sole larvae for otolith validation (FHS-Larv)	103	512
Larval pollock collected for gut analysis (L-Gut)	2	28
Larval pollock collected for otolith analysis (L-Oto)	132	1399
Collection of live organisms for experiments (Live)	1	
Quantitative tow preserved in formalin (QTowF)	152	164
Rough count of pollock juveniles (RCountJ)	2	39
Rouch count of pollock larvae (RCountL)	141	2112
Larval shrinkage (Shrink)	8	26

Summary of Cruise:

Narrative:

The vessel left Dutch Harbor on May 24 and arrived at the first set of stations in the Unimak Bight area at 17:30, where10 stations were sampled with bongo nets. The next set of 14 stations was occupied to the southwest of the Shumagin Islands. On May 26 we began sampling the standard grid of approximately 80 stations between the Shumagin Islands and Kodiak Island. The ship proceeded towards the northeast while sampling stations through Shelikof Strait to Kennedy Entrance, around the Barren Islands and to the entrance of Chiniak Bay.

Weather on the cruise was brisk and windy, but relatively mild and no large storms were encountered. Operations were routine. Several CALVET tows were done in the sea valley to sample microzooplankton levels. Larval guts were collected at several stations to characterize larval feeding and condition. Flathead sole and other flatfishes were removed from Net 2, as well as pollock and cod, and preserved in ethanol for later analysis of growth from otoliths.

Larval pollock were widely distributed. Counts of larval pollock in the historic main area of aggregation in the Shelikof sea valley and adjacent shelf were "average" to somewhat lower than average. Few pollock were caught outside of the sea valley/shelf region.

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:

Table 1. Cruise Summary

Figure 1. Station Map

Table 1. Cruise Summary for FOCI Cruise 3MF01 (MF-01-07)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
25-May-01	4:08	1	1	GD103		99	54 16.86N	164 43.63 W	60Bon	L-Oto, QTowF, RCountL	
25-May-01	4:08	1	1	GD103		99	54 16.86N	164 43.63 W	CAT	CAT	
25-May-01	5:26	2	1	GF103		82	54 10.16N	164 28.47 W	60Bon	L-Oto, QTowF, RCountL	
25-May-01	5:26	2	1	GF103		82	54 10.16N	164 28.47 W	CAT	CAT	
25-May-01	6:38	3	1	GH103		84	54 03.50N	164 13.38 W	60Bon	L-Oto, QTowF, RCountL	
25-May-01	6:38	3	1	GH103		84	54 03.50N	164 13.38 W	CAT	CAT	
25-May-01	7:43	4	1	GH105		75	54 10.48N	164 00.99 W	60Bon	QtowF, RCountL	
25-May-01	7:43	4	1	GH105		75	54 10.48N	164 00.99 W	CAT	CAT	
25-May-01	9:04	5	1	GF105		74	54 17.19N	164 16.05 W	60Bon	FHS-Egg, L-Oto, QTowF, RCountL	
25-May-01	9:04	5	1	GF105		74	54 17.19N	164 16.05 W	CAT	CAT	
25-May-01	10:12	6	1	GF107		108	54 24.51N	164 04.39 W	60Bon	FHS-Egg, L-Oto, QTowF, RCountL	
25-May-01	10:12	6	1	GF107		108	54 24.51N	164 04.39 W	CAT	CAT	
25-May-01	11:23	7	1	GF109		84	54 31.77N	163 52.43 W	60Bon	FHS-Egg, QTowF, RCountL	
25-May-01	11:23	7	1	GF109		84	54 31.77N	163 52.43 W	CAT	CAT	
25-May-01	12:33	8	1	GH109		81	54 24.88N	163 38.37 W	60Bon	L-Oto, QTowF, RCountL	
25-May-01	12:33	8	1	GH109		81	54 24.88N	163 38.37 W	CAT	CAT	
25-May-01	13:39	9	1	GH107		114	54 17.52N	163 49.90 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
25-May-01	13:39	9	1	GH107		114	54 17.52N	163 49.90 W	CAT	CAT	
25-May-01	14:52	10	1	GJ107		89	54 10.53N	163 35.14 W	60Bon	L-Oto, QTowF, RCountL	
25-May-01	14:52	10	1	GJ107		89	54 10.53N	163 35.14 W	CAT	CAT	
25-May-01	16:15	11	1	GJ109		75	54 18.05N	163 22.98 W	60Bon	L-Oto, QTowF, RCountL	
25-May-01	16:15	11	1	GJ109		75	54 18.05N	163 22.98 W	CAT	CAT	
25-May-01	21:51	12	1	GR117		143	54 19.28N	161 38.59 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
25-May-01	21:51	12	1	GR117		143	54 19.28N	161 38.59 W	CAT	CAT	
25-May-01	23:00	13	1	GP117		145	54 26.26N	161 53.14 W	60Bon	FHS-Egg, FHS-Larv, QTowF,	
25-May-01	23:00	13	1	GP117		145	54 26.26N	161 53.14 W	CAT	CAT	
26-May-01	0:09	14	1	GN117		118	54 33.13N	162 06.82 W	60Bon	L-Oto, QTowF, RCountL	
26-May-01	0:09	14	1	GN117		118	54 33.13N	162 06.82 W	CAT	CAT	
26-May-01	1:21	15	1	GN119		89	54 40.43N	161 55.50 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountJ	
26-May-01	1:21	15	1	GN119		89	54 40.43N	161 55.50 W	CAT	CAT	
26-May-01	2:34	16	1	GP119		122	54 33.56N	161 41.46 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
26-May-01	2:34	16	1	GP119		122	54 33.56N	161 41.46 W	CAT	CAT	
26-May-01	3:47	17	1	GR119		80	54 26.72N	161 22.73 W	60Bon	QTowF, RCountL	
26-May-01	3:47	17	1	GR119		80	54 26.72N	161 22.73 W	CAT	CAT	
26-May-01	6:56	18	1	GT125		97	54 41.36N	160 37.41 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
26-May-01	6:56	18	1	GT125		97	54 41.36N	160 37.41 W	CAT	CAT	
26-May-01	8:02	19	1	GR125		96	54 48.56N	160 51.00 W	60Bon	L-Oto, QTowF, RCountL	
26-May-01	8:02	19	1	GR125		96	54 48.56N	160 51.00 W	CAT	CAT	

Table 1 (continued). Cruise Summary for FOCI Cruise 3MF01 (MF-01-07)

Date (GMT)	Time (GMT)	FOCI Station	Alternat Haul	Grid	Depth Station	(m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
26-May-01	9:13	20	1	GP125		97	54 55.45N	161 04.93 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
26-May-01	9:13	20	1	GP125		97	54 55.45N	161 04.93 W	CAT	CAT	
26-May-01	10:25	21	1	GN125		75	55 02.29N	161 18.97 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
26-May-01	10:25	21	1	GN125		75	55 02.29N	161 18.97 W	CAT	CAT	
26-May-01	11:38	22	1	GN127		139	55 07.10N	161 02.05 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
26-May-01	11:38	22	1	GN127		139	55 07.10N	161 02.05 W	CAT	CAT	
26-May-01	12:32	23	1	GP127		89	55 02.72N	160 53.24 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
26-May-01	12:32	23	1	GP127		89	55 02.72N	160 53.24 W	CAT	CAT	
26-May-01	13:46	24	1	GR127		93	54 56.01N	160 39.51 W	60Bon	L-Oto, QTowF, RCountL	
26-May-01	13:46	24	1	GR127		93	54 56.01N	160 39.51 W	CAT	CAT	
26-May-01	14:58	25	1	GT127		93	54 49.04N	160 25.40 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
26-May-01	14:58	25	1	GT127		93	54 49.04N	160 25.40 W	CAT	CAT	
26-May-01	16:10	26	1	GV127		89	54 41.84N	160 11.65 W	60Bon	L-Oto, RCountL	Net held at 40 m for about 1 min due to a decrease in wire angle.
26-May-01	16:10	26	1	GV127		89	54 41.84N	160 11.65 W	CAT	CAT	Net held at 40 m for about 1 min due to a decrease in wire angle.
26-May-01	16:39	26	2	GV127		90	54 41.72N	160 12.80 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
26-May-01	16:39	26	2	GV127		90	54 41.72N	160 12.80 W	CAT	CAT	
26-May-01	21:35	27	1	GZ135		89	54 57.11N	158 55.95 W	60Bon	QTowF, RCountL	
26-May-01	21:35	27	1	GZ135		89	54 57.11N	158 55.95 W	CAT	CAT	
26-May-01	23:06	28	1	GX135		77	55 04.08N	159 10.09 W	60Bon	L-Oto, QTowF, RCountL	
26-May-01	23:06	28	1	GX135		77	55 04.08N	159 10.09 W	CAT	CAT	
27-May-01	2:10	29	1	GT139		100	55 32.29N	159 12.76 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
27-May-01	2:10	29	1	GT139		100	55 32.29N	159 12.76 W	CAT	CAT	
27-May-01	3:28	30	1	GV139		162	55 25.29N	158 59.05 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
27-May-01	3:28	30	1	GV139		162	55 25.29N	158 59.05 W	CAT	CAT	
27-May-01	4:40	31	1	GX139		185	55 18.69N	158 45.40 W	60Bon	L-Oto, QTowF, RCountL	
27-May-01	4:40	31	1	GX139		185	55 18.69N	158 45.40 W	CAT	CAT	
27-May-01	5:54	32	1	GZ139		203	55 11.78N	158 31.84 W	60Bon	L-Oto, QTowF, RCountL	
27-May-01	5:54	32	1	GZ139		203	55 11.78N	158 31.84 W	CAT	CAT	
27-May-01	7:08	33	1	HB139		177	55 04.91N	158 18.17 W	60Bon	L-Oto, QTowF, RCountL	
27-May-01	7:08	33	1	HB139		177	55 04.91N	158 18.17 W	CAT	CAT	
27-May-01	9:15	34	1	HB143		116	55 19.56N	157 53.96 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
27-May-01	9:15	34	1	HB143		116	55 19.56N	157 53.96 W	CAT	CAT	
27-May-01	10:26	35	1	GZ143		125	55 26.36N	158 07.45 W	60Bon	L-Oto, QTowF, RCountL	
27-May-01	10:26	35	1	GZ143		125	55 26.36N	158 07.45 W	CAT	CAT	
27-May-01	11:41	36	1	GX143		144	55 33.14N	158 21.22 W	60Bon	L-Oto, QTowF, RCountL	

Table 1 (continued). Cruise Summary for FOCI Cruise 3MF01 (MF-01-07)

Date (GMT)	Time (GMT)	FOCI Station	Alternat Haul	Grid	Depth Station	(m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
27-May-01	11:41	36	1	GX143		144	55 33.14N	158 21.22 W	CAT	CAT	
27-May-01	12:50	37	1	GV143		111	55 39.98N	158 35.21 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
27-May-01	12:50	37	1	GV143		111	55 39.98N	158 35.21 W	CAT	CAT	
27-May-01	14:55	38	1	GV147		196	55 54.46N	158 10.78 W	60Bon	FHS-Egg, L-Oto, QTowF, RCountL	
27-May-01	14:55	38	1	GV147		196	55 54.46N	158 10.78 W	CAT	CAT	
27-May-01	16:10	39	1	GX147		118	55 47.78N	157 56.65 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
27-May-01	16:10	39	1	GX147		118	55 47.78N	157 56.65 W	CAT	CAT	
27-May-01	17:24	40	1	GZ147		136	55 40.81N	157 43.07 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
27-May-01	17:24	40	1	GZ147		136	55 40.81N	157 43.07 W	CAT	CAT	
27-May-01	18:33	41	1	HB147		98	55 33.92N	157 29.73 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
27-May-01	18:33	41	1	HB147		98	55 33.92N	157 29.73 W	CAT	CAT	
27-May-01	19:43	42	1	HD147		89	55 26.93N	157 16.20 W	60Bon	QTowF, RCountL	
27-May-01	19:43	42	1	HD147		89	55 26.93N	157 16.20 W	CAT	CAT	
27-May-01	20:52	43	1	HF147		96	55 20.08N	157 03.24 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
27-May-01	20:52	43	1	HF147		96	55 20.08N	157 03.24 W	CAT	CAT	
28-May-01	23:23	44	1	HF151		222	55 34.59N	156 38.96 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	23:23	44	1	HF151		222	55 34.59N	156 38.96 W	CAT	CAT	
28-May-01	1:00	45	1	HD151		97	55 41.39N	156 51.73 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	1:00	45	1	HD151		97	55 41.39N	156 51.73 W	CAT	CAT	
28-May-01	2:33	46	1	HB151		95	55 48.36N	157 04.97 W	60Bon	L-Oto, QTowF, RCountL	
28-May-01	2:33	46	1	HB151		95	55 48.36N	157 04.97 W	CAT	CAT	
28-May-01	4:05	47	1	GZ151		105	55 55.24N	157 18.80 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	4:05	47	1	GZ151		105	55 55.24N	157 18.80 W	CAT	CAT	
28-May-01	5:23	48	1	GX151		106	56 02.27N	157 32.21 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	5:23	48	1	GX151		106	56 02.27N	157 32.21 W	CAT	CAT	
28-May-01	6:39	49	1	GV151		139	56 09.10N	157 45.29 W	60Bon	FHS-Egg, QTowF, RCountL	
28-May-01	6:39	49	1	GV151		139	56 09.10N	157 45.29 W	CAT	CAT	
28-May-01	7:56	50	1	GT151		141	56 15.96N	157 59.18 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	7:56	50	1	GT151		141	56 15.96N	157 59.18 W	CAT	CAT	
28-May-01	9:19	51	1	GT153		287	56 23.22N	157 46.81 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	9:19	51	1	GT153		287	56 23.22N	157 46.81 W	CAT	CAT	
28-May-01	10:34	52	1	GT155		151	56 30.52N	157 34.25 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	10:34	52	1	GT155		151	56 30.52N	157 34.25 W	CAT	CAT	
28-May-01	11:42	53	1	GV155		57	56 23.53N	157 21.02 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	11:42	53	1	GV155		57	56 23.53N	157 21.02 W	CAT	CAT	

Table 1 (continued). Cruise Summary for FOCI Cruise 3MF01 (MF-01-07)

Date (GMT)	Time (GMT)	FOCI Station	Alternat Haul	Grid	Depth Station	(m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
28-May-01	12:49	54	1	GV153		140	56 16.50N	157 33.38 W	60Bon	L-Oto, QTowF, RCountL	
28-May-01	12:49	54	1	GV153		140	56 16.50N	157 33.38 W	CAT	CAT	
28-May-01	14:00	55	1	GX153		155	56 09.43N	157 20.00 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	14:00	55	1	GX153		155	56 09.43N	157 20.00 W	CAT	CAT	
28-May-01	15:13	56	1	GX155		128	56 16.69N	157 07.73 W	60Bon	L-Oto, QTowF, RCountL	
28-May-01	15:13	56	1	GX155		128	56 16.69N	157 07.73 W	CAT	CAT	
28-May-01	16:25	57	1	GZ155		81	56 09.74N	156 53.75 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	16:25	57	1	GZ155		81	56 09.74N	156 53.75 W	CAT	CAT	
28-May-01	17:32	58	1	GZ153		112	56 02.46N	157 06.71 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountJ	
28-May-01	17:32	58	1	GZ153		112	56 02.46N	157 06.71 W	CAT	CAT	
28-May-01	18:42	59	1	HB153		154	55 55.67N	156 53.16 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	18:42	59	1	HB153		154	55 55.67N	156 53.16 W	CAT	CAT	
28-May-01	19:53	60	1	HD153		225	55 48.63N	156 39.69 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	19:53	60	1	HD153		225	55 48.63N	156 39.69 W	CAT	CAT	
28-May-01	21:08	61	1	HD155		208	55 56.09N	156 27.27 W	60Bon	FHS-Larv, L-Gut, L-Oto, QTowF, RCountL	
28-May-01	21:08	61	1	HD155		208	55 56.09N	156 27.27 W	CAT	CAT	
28-May-01	21:30	61	2	HD155		210	55 55.86N	156 27.58 W	CalVET	QTowF	
28-May-01	21:30	61	2	HD155		210	55 55.86N	156 27.58 W	CAT	CAT	
28-May-01	21:50	61	3	HD155		208	55 56.02N	156 27.53 W	CAT	CAT	60cm Bongo-taped codends for shrinkage experiment
28-May-01	21:50	61	3	HD155		208	55 56.02N	156 27.53 W	Live	Discard	60cm Bongo-taped codends for shrinkage experiment…no larvae saved
28-May-01	23:02	62	1	HF155		230	55 49.01N	156 14.65 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
28-May-01	23:02	62	1	HF155		230	55 49.01N	156 14.65 W	CAT	CAT	
29-May-01	0:02	63	1	HF153		240	55 42.00N	156 26.51 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	0:02	63	1	HF153		240	55 42.00N	156 26.51 W	CAT	CAT	
29-May-01	1:26	64	1	HH153		255	55 35.29N	156 13.29 W	60Bon	FHS-Larv, QTowF, RCountL	
29-May-01	1:26	64	1	HH153		255	55 35.29N	156 13.29 W	CAT	CAT	
29-May-01	2:32	65	1	HH155		214	55 42.40N	156 01.16 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	2:32	65	1	HH155		214	55 42.40N	156 01.16 W	CAT	CAT	
29-May-01	3:56	66	1	HF157		92	55 56.32N	156 01.57 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	3:56	66	1	HF157		92	55 56.32N	156 01.57 W	CAT	CAT	
29-May-01	5:13	67	1	HD157		215	56 03.33N	156 15.16 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	5:13	67	1	HD157		215	56 03.33N	156 15.16 W	CAT	CAT	
29-May-01	5:32	67	2	HD157		215	56 03.31N	156 15.67 W	CAT	CAT	60cm bongo-taped codends for shrinkage experiment

Table 1 (continued). Cruise Summary for FOCI Cruise 3MF01 (MF-01-07)

Date (GMT)	Time (GMT)	FOCI Station	Alternat Haul	Grid	Depth Station	(m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
29-May-01	5:32	67	2	HD157		215	56 03.31N	156 15.67 W	Live	Shrink	60cm bongo-taped codends for shrinkage experiment
29-May-01	6:42	68	1	HB157		235	56 10.12N	156 28.08 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	6:42	68	1	HB157		235	56 10.12N	156 28.08 W	CAT	CAT	
29-May-01	6:58	68	2	HB157		233	56 10.01N	156 28.30 W	CalVET	QTowF	
29-May-01	6:58	68	2	HB157		233	56 10.01N	156 28.30 W	CAT	CAT	
29-May-01	8:10	69	1	GZ157		106	56 16.97N	156 41.69 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	8:10	69	1	GZ157		106	56 16.97N	156 41.69 W	CAT	CAT	
29-May-01	9:25	70	1	GX157		127	56 24.00N	156 55.35 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	9:25	70	1	GX157		127	56 24.00N	156 55.35 W	CAT	CAT	
29-May-01	10:38	71	1	GX159		153	56 31.41N	156 42.73 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	10:38	71	1	GX159		153	56 31.41N	156 42.73 W	CAT	CAT	
29-May-01	11:48	72	1	GV159		94	56 37.89N	156 56.06 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	11:48	72	1	GV159		94	56 37.89N	156 56.06 W	CAT	CAT	
29-May-01	12:52	73	1	GU158		46	56 39.94N	157 13.12 W	60Bon	L-Oto, QTowF, RCountL	
29-May-01	12:52	73	1	GU158		46	56 39.94N	157 13.12 W	CAT	CAT	
29-May-01	14:37	74	1	GV161		140	56 44.99N	156 43.66 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	14:37	74	1	GV161		140	56 44.99N	156 43.66 W	CAT	CAT	
29-May-01	15:49	75	1	GX161		177	56 38.54N	156 30.48 W	60Bon	FHS-Egg, FHS-Larv, QTowF,	
29-May-01	15:49	75	1	GX161		177	56 38.54N	156 30.48 W	CAT	CAT	
29-May-01	17:02	76	1	GZ161		233	56 31.63N	156 16.62 W	CalVET	QTowF	
29-May-01	17:02	76	1	GZ161		233	56 31.63N	156 16.62 W	CAT	CAT	
29-May-01	17:15	76	2	GZ161		233	56 31.66N	156 16.64 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	17:15	76	2	GZ161		233	56 31.66N	156 16.64 W	CAT	CAT	
29-May-01	18:21	77	1	GZ159		218	56 24.59N	156 29.33 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	18:21	77	1	GZ159		218	56 24.59N	156 29.33 W	CAT	CAT	
29-May-01	19:33	78	1	HB159		272	56 17.52N	156 15.87 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	19:33	78	1	HB159		272	56 17.52N	156 15.87 W	CAT	CAT	
29-May-01	20:44	79	1	HD159		228	56 10.48N	156 02.13 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	20:44	79	1	HD159		228	56 10.48N	156 02.13 W	CAT	CAT	
29-May-01	21:47	80	1	HF159		66	56 03.73N	155 49.88 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
29-May-01	21:47	80	1	HF159		66	56 03.73N	155 49.88 W	CAT	CAT	
29-May-01	23:14	81	1	HD161		93	56 17.92N	155 49.86 W	60Bon	FHS-Larv, L-Oto, QTowF, RCount	

Table 1 (continued). Cruise Summary for FOCI Cruise 3MF01 (MF-01-07)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
29-May-01	23:14	81	1	HD161		93	56 17.92N	155 49.86 W	CAT	CAT	
30-May-01	0:23	82	1	HB161		245	56 24.86N	156 03.28 W	60Bon	L-Oto, QTowF, RCountL	
30-May-01	0:23	82	1	HB161		245	56 24.86N	156 03.28 W	CAT	CAT	
30-May-01	1:51	83	1	HD163		75	56 25.23N	155 37.60 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	1:51	83	1	HD163		75	56 25.23N	155 37.60 W	CAT	CAT	
30-May-01	2:58	84	1	HB163		235	56 32.15N	155 51.13 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	2:58	84	1	HB163		235	56 32.15N	155 51.13 W	CAT	CAT	
30-May-01	4:08	85	1	GZ163		297	56 38.83N	156 03.98 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL, Shrink	
30-May-01	4:08	85	1	GZ163		297	56 38.83N	156 03.98 W	CAT	CAT	
30-May-01	4:33	85	2	GZ163		297	56 39.08N	156 03.88 W	CalVET	QTowF	
30-May-01	4:33	85	2	GZ163		297	56 39.08N	156 03.88 W	CAT	CAT	
30-May-01	5:37	86	1	GX163		189	56 45.58N	156 16.98 W	60Bon	L-Oto, QTowF, RCountL, Shrink	
30-May-01	5:37	86	1	GX163		189	56 45.58N	156 16.98 W	CAT	CAT	
30-May-01	6:00	86	2	GX163		188	56 45.67N	156 16.91 W	CAT	CAT	60 CM Bongo taped codends for shrinkage
30-May-01	6:00	86	2	GX163		188	56 45.67N	156 16.91 W	Live	Shrink	60 CM Bongo taped codends for shrinkage
30-May-01	7:09	87	1	GV163		73	56 52.53N	156 30.57 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL, Shrink	
30-May-01	7:09	87	1	GV163		73	56 52.53N	156 30.57 W	CAT	CAT	
30-May-01	8:16	88	1	GV165		79	56 59.92N	156 18.45 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	8:16	88	1	GV165		79	56 59.92N	156 18.45 W	CAT	CAT	
30-May-01	9:25	89	1	GX165		209	56 53.18N	156 04.63 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	9:25	89	1	GX165		209	56 53.18N	156 04.63 W	CAT	CAT	
30-May-01	10:34	90	1	GZ165		295	56 46.32N	155 51.51 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	10:34	90	1	GZ165		295	56 46.32N	155 51.51 W	CAT	CAT	
30-May-01	11:43	91	1	HB165		234	56 39.29N	155 38.12 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	11:43	91	1	HB165		234	56 39.29N	155 38.12 W	CAT	CAT	
30-May-01	12:50	92	1	HB167		236	56 46.40N	155 25.80 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	12:50	92	1	HB167		236	56 46.40N	155 25.80 W	CAT	CAT	
30-May-01	13:59	93	1	GZ167		282	56 53.25N	155 39.31 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	13:59	93	1	GZ167		282	56 53.25N	155 39.31 W	CAT	CAT	
30-May-01	14:38	94	1			289	56 55.24N	155 42.96 W	CAT	CAT	
30-May-01	14:38	94	1			289	56 55.24N	155 42.96 W	Live	Live	60-cm bongo taped codends for live cod, net twisted but no cod so not redone.
30-May-01	15:31	95	1	GX167		308	57 00.22N	155 52.49 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	15:31	95	1	GX167		308	57 00.22N	155 52.49 W	CAT	CAT	

Table 1 (continued). Cruise Summary for FOCI Cruise 3MF01 (MF-01-07)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternat Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
30-May-01	16:37	96	1	GV167		86	57 06.99N	156 05.28 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	16:37	96	1	GV167		86	57 06.99N	156 05.28 W	CAT	CAT	
30-May-01	18:04	97	1	GT169		36	57 21.46N	156 04.64 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	18:04	97	1	GT169		36	57 21.46N	156 04.64 W	CAT	CAT	
30-May-01	19:05	98	1	GV169		253	57 14.43N	155 53.01 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	19:05	98	1	GV169		253	57 14.43N	155 53.01 W	CAT	CAT	
30-May-01	20:10	99	1	GX169		277	57 07.48N	155 39.62 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
30-May-01	20:10	99	1	GX169		277	57 07.48N	155 39.62 W	CAT	CAT	
30-May-01	21:12	100	1	GZ169		266	57 00.43N	155 26.39 W	60Bon	FHS-Larv, L-Gut, QTowF, RCountL	
30-May-01	21:12	100	1	GZ169		266	57 00.43N	155 26.39 W	CAT	CAT	
30-May-01	21:31	100	2	GZ169		267	57 00.31N	155 26.67 W	CalVET	QTowF	
30-May-01	21:31	100	2	GZ169		267	57 00.31N	155 26.67 W	CAT	CAT	
30-May-01	22:32	101	1	HB169		220	56 53.61N	155 13.93 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL, Shrink	
30-May-01	22:32	101	1	HB169		220	56 53.61N	155 13.93 W	CAT	CAT	
30-May-01	23:46	102	1	HB171		154	57 00.98N	155 01.22 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL, Shrink	
30-May-01	23:46	102	1	HB171		154	57 00.98N	155 01.22 W	CAT	CAT	
31-May-01	0:54	103	1	GZ171		241	57 07.85N	155 13.87 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	0:54	103	1	GZ171		241	57 07.85N	155 13.87 W	CAT	CAT	
31-May-01	2:07	104	1	GX171		261	57 14.74N	155 26.90 W	60Bon	L-Oto, QTowF, RCountL	
31-May-01	2:07	104	1	GX171		261	57 14.74N	155 26.90 W	CAT	CAT	
31-May-01	3:23	105	1	GV171		281	57 21.55N	155 40.15 W	60Bon	L-Oto, QTowF, RCountL	
31-May-01	3:23	105	1	GV171		281	57 21.55N	155 40.15 W	CAT	CAT	
31-May-01	4:13	106	1	GT171		117	57 27.10N	155 45.76 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL, Shrink	
31-May-01	4:13	106	1	GT171		117	57 27.10N	155 45.76 W	CAT	CAT	
31-May-01	5:35	107	1	GT173		54	57 36.82N	155 26.94 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	5:35	107	1	GT173		54	57 36.82N	155 26.94 W	CAT	CAT	
31-May-01	6:29	108	1	GV173		297	57 28.79N	155 27.57 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	6:29	108	1	GV173		297	57 28.79N	155 27.57 W	CAT	CAT	
31-May-01	7:39	109	1	GX173		246	57 22.09N	155 14.25 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	7:39	109	1	GX173		246	57 22.09N	155 14.25 W	CAT	CAT	
31-May-01	8:49	110	1	GZ173		212	57 15.35N	155 00.66 W	60Bon	FHS-Egg, FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	8:49	110	1	GZ173		212	57 15.35N	155 00.66 W	CAT	CAT	
31-May-01	10:26	111	1	GX175		233	57 29.07N	155 01.54 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	10:26	111	1	GX175		233	57 29.07N	155 01.54 W	CAT	CAT	
31-May-01	11:44	112	1	GV175		277	57 35.96N	155 14.17 W	60Bon	Discard	tow failed - erratic angles

Table 1 (continued). Cruise Summary for FOCI Cruise 3MF01 (MF-01-07)

Date (GMT)	Time (GMT)	FOCI Station	Alternat Haul	Grid	Depth Station	(m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
31-May-01	11:44	112	1	GV175		277	57 35.96N	155 14.17 W	CAT	CAT	
31-May-01	12:06	112	2	GV175		282	57 35.97N	155 14.69 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	12:06	112	2	GV175		282	57 35.97N	155 14.69 W	CAT	CAT	
31-May-01	13:29	113	1	GV177		272	57 43.35N	155 01.91 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	13:29	113	1	GV177		272	57 43.35N	155 01.91 W	CAT	CAT	
31-May-01	14:38	114	1	GX177		219	57 36.58N	154 49.17 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	14:38	114	1	GX177		219	57 36.58N	154 49.17 W	CAT	CAT	
31-May-01	15:50	115	1	GX179		212	57 43.76N	154 35.54 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	15:50	115	1	GX179		212	57 43.76N	154 35.54 W	CAT	CAT	
31-May-01	17:00	116	1	GV179		277	57 50.83N	154 48.80 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	17:00	116	1	GV179		277	57 50.83N	154 48.80 W	CAT	CAT	
31-May-01	18:07	117	1	GV181		249	57 56.74N	154 33.79 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	18:07	117	1	GV181		249	57 56.74N	154 33.79 W	CAT	CAT	
31-May-01	19:08	118	1	GX181		211	57 50.69N	154 22.50 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	19:08	118	1	GX181		211	57 50.69N	154 22.50 W	CAT	CAT	
31-May-01	20:10	119	1	GZ181		56	57 44.29N	154 10.09 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	20:10	119	1	GZ181		56	57 44.29N	154 10.09 W	CAT	CAT	
31-May-01	21:37	120	1	GX183		205	57 58.36N	154 09.49 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
31-May-01	21:37	120	1	GX183		205	57 58.36N	154 09.49 W	CAT	CAT	
31-May-01	22:49	121	1	GX185		196	58 05.38N	153 56.56 W	60Bon	L-Oto, QTowF, RCountL	
31-May-01	22:49	121	1	GX185		196	58 05.38N	153 56.56 W	CAT	CAT	
01-Jun-01	0:01	122	1	GX187		186	58 12.72N	153 43.93 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	0:01	122	1	GX187		186	58 12.72N	153 43.93 W	CAT	CAT	
01-Jun-01	1:40	123	1	GV189		146	58 26.89N	153 43.23 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	1:40	123	1	GV189		146	58 26.89N	153 43.23 W	CAT	CAT	
01-Jun-01	2:49	124	1	GX189		166	58 20.11N	153 30.57 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	2:49	124	1	GX189		166	58 20.11N	153 30.57 W	CAT	CAT	
01-Jun-01	3:55	125	1	GZ189		197	58 13.27N	153 17.49 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	3:55	125	1	GZ189		197	58 13.27N	153 17.49 W	CAT	CAT	
01-Jun-01	5:04	126	1	GZ191		124	58 20.46N	153 04.45 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	5:04	126	1	GZ191		124	58 20.46N	153 04.45 W	CAT	CAT	
01-Jun-01	6:12	127	1	GX191		177	58 27.38N	153 17.34 W	60Bon	L-Oto, QTowF, RCountL	
01-Jun-01	6:12	127	1	GX191		177	58 27.38N	153 17.34 W	CAT	CAT	
01-Jun-01	7:17	128	1	GV191		112	58 34.02N	153 30.12 W	60Bon	L-Oto, QTowF, RCountL	
01-Jun-01	7:17	128	1	GV191		112	58 34.02N	153 30.12 W	CAT	CAT	
01-Jun-01	8:33	129	1	GV193		89	58 41.53N	153 17.14 W	60Bon	L-Oto, QTowF, RCountL	
01-Jun-01	8:33	129	1	GV193		89	58 41.53N	153 17.14 W	CAT	CAT	
01-Jun-01	9:39	130	1	GX193		161	58 34.24N	153 03.80 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	9:39	130	1	GX193		161	58 34.24N	153 03.80 W	CAT	CAT	

Table 1 (continued). Cruise Summary for FOCI Cruise 3MF01 (MF-01-07)

Date (GMT)	Time (GMT)	FOCI Station	Alternat Haul	Grid	Depth Station	(m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
01-Jun-01	10:47	131	1	GX195		156	58 41.67N	152 50.62 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	10:47	131	1	GX195		156	58 41.67N	152 50.62 W	CAT	CAT	
01-Jun-01	11:58	132	1	GV195		154	58 48.42N	153 03.67 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	11:58	132	1	GV195		154	58 48.42N	153 03.67 W	CAT	CAT	
01-Jun-01	13:15	133	1	GV197		174	58 55.88N	152 50.76 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	13:15	133	1	GV197		174	58 55.88N	152 50.76 W	CAT	CAT	
01-Jun-01	14:21	134	1	GX197		196	58 49.01N	152 38.37 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	14:21	134	1	GX197		196	58 49.01N	152 38.37 W	CAT	CAT	
01-Jun-01	16:02	135	1	GV199		138	59 03.31N	152 36.86 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	16:02	135	1	GV199		138	59 03.31N	152 36.86 W	CAT	CAT	
01-Jun-01	17:12	136	1	GV201		96	59 10.60N	152 23.35 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	17:12	136	1	GV201		96	59 10.60N	152 23.35 W	CAT	CAT	
01-Jun-01	18:26	137	1	GX201		145	59 03.77N	152 11.22 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
01-Jun-01	18:26	137	1	GX201		145	59 03.77N	152 11.22 W	CAT	CAT	
01-Jun-01	19:36	138	1	GX199		99	58 56.58N	152 24.38 W	60Bon	L-Oto, QTowF, RCountL	
01-Jun-01	19:36	138	1	GX199		99	58 56.58N	152 24.38 W	CAT	CAT	
01-Jun-01	23:52	139	1	GZ199		122	58 49.46N	152 11.84 W	60Bon	L-Oto, QTowF, RCountL	
01-Jun-01	23:52	139	1	GZ199		122	58 49.46N	152 11.84 W	CAT	CAT	
02-Jun-01	0:56	140	1	HB199		140	58 42.50N	151 59.30 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
02-Jun-01	0:56	140	1	HB199		140	58 42.50N	151 59.30 W	CAT	CAT	
02-Jun-01	2:03	141	1	HD199		179	58 35.65N	151 47.09 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
02-Jun-01	2:03	141	1	HD199		179	58 35.65N	151 47.09 W	CAT	CAT	
02-Jun-01	3:14	142	1	HF199		167	58 28.77N	151 34.71 W	60Bon	QTowF, RCountL	
02-Jun-01	3:14	142	1	HF199		167	58 28.77N	151 34.71 W	CAT	CAT	
02-Jun-01	4:43	143	1	HH197		72	58 14.98N	151 35.38 W	60Bon	FHS-Larv, L-Oto, QTowF, RCountL	
02-Jun-01	4:43	143	1	HH197		72	58 14.98N	151 35.38 W	CAT	CAT	
02-Jun-01	5:57	144	1	HH195		73	58 07.46N	151 48.90 W	60Bon	QTowF	
02-Jun-01	5:57	144	1	HH195		73	58 07.46N	151 48.90 W	CAT	CAT	
02-Jun-01	8:31	145	1	HJ197		129	58 07.63N	151 23.35 W	60Bon	QTowF	
02-Jun-01	8:31	145	1	HJ197		129	58 07.63N	151 23.35 W	CAT	CAT	
02-Jun-01	9:40	146	1	HJ195		97	58 00.45N	151 36.32 W	60Bon	QTowF	
02-Jun-01	9:40	146	1	HJ195		97	58 00.45N	151 36.32 W	CAT	CAT	
02-Jun-01	10:42	147	1	HJ193		66	57 53.27N	151 48.76 W	60Bon	QTowF	
02-Jun-01	10:42	147	1	HJ193		66	57 53.27N	151 48.76 W	CAT	CAT	
02-Jun-01	11:46	148	1	HJ191		100	57 45.68N	152 02.05 W	60Bon	QTowF	
02-Jun-01	11:46	148	1	HJ191		100	57 45.68N	152 02.05 W	CAT	CAT	

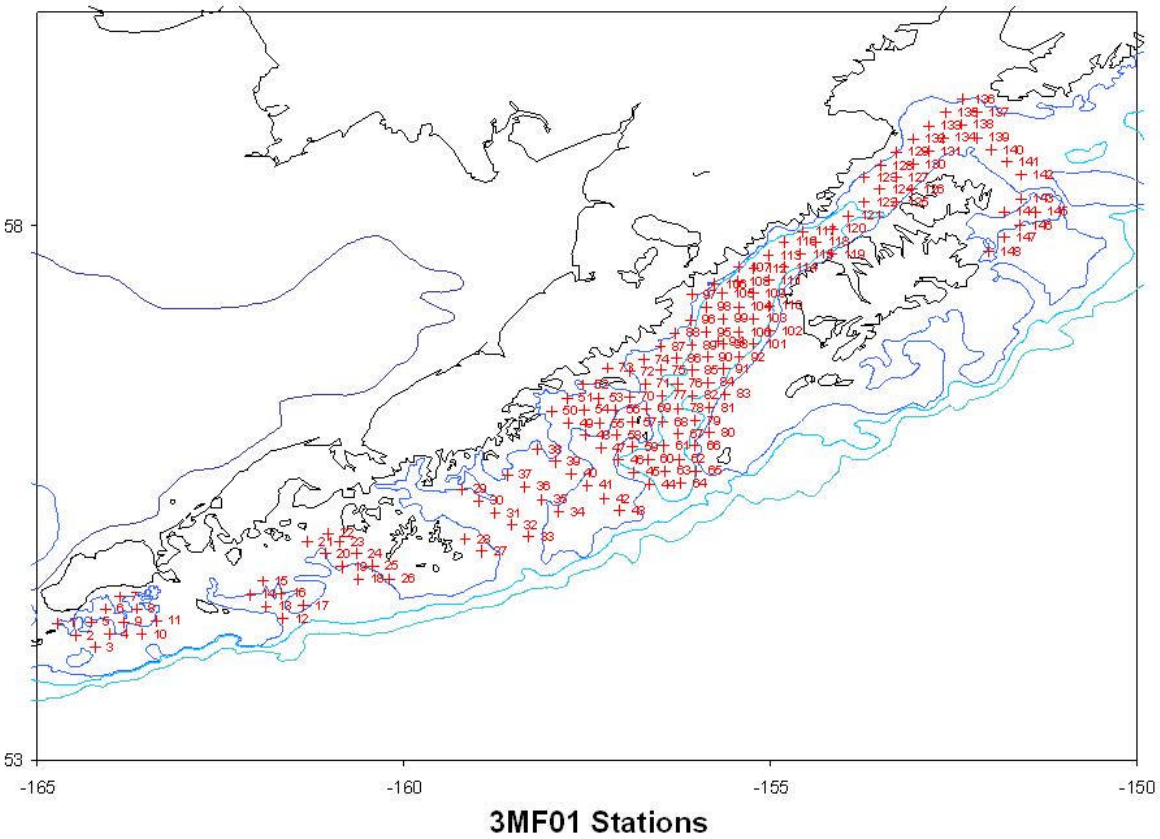

Figure 1. Station locations of 3MF01, May 24 to June 2, 2001.