

CRUISE REPORT

Cruise Number: MF09-04

FOCI Number: 1MF09

Ship:

NOAA Ship Miller Freeman

Area of Operations:

Gulf of Alaska

Itinerary:

Date depart / port: September 5, 2009 / Kodiak, AK

Date arrive / port: September 19, 2009 / Dutch Harbor, AK

Participating organizations:

NOAA - Alaska Fisheries Science Center (AFSC)

U.S. Fish and Wildlife Service

University of Washington, School of Aquatic & Fishery Sciences

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Stacy Remple

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Ingrid Spies

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Cruise Objectives:

We conducted fieldwork to continue a study designed to compare age-0 pollock and their prey field among three separate pollock nursery regions in the western Gulf of Alaska (GOA). Data resulting from the work will also be used to extend a 5-yr time series (2000, 2001, 2003, 2005, 2007) of age-0 walleye pollock abundance in one of the nurseries. This work is needed to more rigorously evaluate suitability of three important pollock nurseries, and to evaluate age-0 abundance in the western GOA during late summer (September) as a recruitment predictor.

Summary of Operations:

Operation	Tows
Anchovy trawl (Ancho)	80
Seabird SeaCAT CTD (CAT)	87
CTD without bottle samples (CTD)	4
10" inner diameter modified Clarke-Bumpus (Lg-CB)	87
Shrimp Trawl (Shrimp)	2
1m ² Tucker trawl (Tuck1)	88

Samples Collected	Tows	Number
Adult pollock length measurements (A-Length)	20	728
SeaBird SeaCat CTD (CAT)	87	
SeaBird CTD (CTD)	4	
Zooplankton and/or juvenile walleye pollock samples for pathobiology lab (FMorado)	37	
Juvenile pollock length measurements (J-Length)	46	2514
Juvenile pollock collected for otolith analysis (J-Oto)	45	1698
Quantitative tow preserved in formalin (QTowF)	218	221

Summary of Cruise:

Narrative:

All stations in the Kodiak and Semidi grids were occupied, but sampling took longer than expected due to a delayed departure, bad weather, and gear problems. The ship departed Kodiak at September 5, 2009 at 2000 ADT. Sampling commenced at station 261, and the grid was occupied from northeast to southwest. About 12 hours were lost to bad weather. An additional 12 hours were lost to gear problems: SeaCat/wire termination failure, Tucker trawl hit bottom and filled with sediment twice, and midwater trawls had to be swapped on the net reel due to torn webbing. Quasi-Z transects were run between stations on Albatross Banks per a request from the MACE group. We began sampling the Semidi grid on 11 September 2009. Stations were occupied southwestward, and no time was lost to logistic problems. Late in the day on 17 September 2009, all Semidi grid sampling was complete. Time remaining was only sufficient to sample 7 stations in the Sanak grid. We chose to sample the southwestern-most stations to see if the geographic distribution of age-0 walleye pollock in the Gulf extended that far west and, if so, to collect individuals for hatchdate determination, which is relevant to identifying individuals originating from the Shumagin spawning aggregation. Sampling concluded at approximately 0:00 on 19 September 2009.

Days Lost to Weather:

0.5

Days Lost to Equipment Failure:

0.5

Recommendations:

None

Acknowledgments:

The scientific party would like to acknowledge the hard work and support of the captain (John Herring), officers and crew of the NOAA Ship *Miller Freeman*. In particular, Chief Survey Tech Phil White worked diligently to troubleshoot and swap out non-functional SeaCats. We appreciate the several wire terminations and SeaCat troubleshooting at odd hours by Electronics Tech Brian Lewis. In addition, Jose Coito almost single-handedly mended our two midwater trawls. As usual, the Steward, Deck, and Engineering Departments kept us well fed, sampling, and moving along.

Attachments:

Table 1. Cruise Summary

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	Samples Collected	Haul Comments
06-Sep-09	7:42	1	1	I26		223	58 02.19 N	152 22.08 W	CAT	CAT	Hit bottom.
06-Sep-09	7:42	1	1	I26		223	58 02.19 N	152 22.08 W	Lg-CB	Discard	Hit bottom.
06-Sep-09	7:42	1	1	I26		223	58 02.19 N	152 22.08 W	Tuck1	Discard	Hit bottom.
06-Sep-09	9:31	1	2	I26		204	58 02.55 N	152 21.75 W	CAT	CAT	
06-Sep-09	9:31	1	2	I26		204	58 02.55 N	152 21.75 W	Lg-CB	QTowF	
06-Sep-09	9:31	1	2	I26		204	58 02.55 N	152 21.75 W	Tuck1	QTowF	
06-Sep-09	10:21	1	3	26I		221	58 02.40 N	152 22.18 W	Ancho	Discard	Furuno not working
06-Sep-09	11:34	1	4	26I		181	58 01.89 N	152 23.01 W	Ancho	A-Length, J-Length, J-Oto	Trawled up a big rock.
06-Sep-09	14:12	2	1	27I		67	58 06.79 N	152 04.76 W	CAT	CAT	
06-Sep-09	14:12	2	1	27I		67	58 06.79 N	152 04.76 W	Lg-CB	QTowF	
06-Sep-09	14:12	2	1	27I		67	58 06.79 N	152 04.76 W	Tuck1	QTowF	
06-Sep-09	14:55	2	2	27I		60	58 07.43 N	152 03.54 W	Ancho	Discard	
06-Sep-09	17:23	3	1	28I		43	58 21.18 N	151 48.61 W	CAT	CAT	
06-Sep-09	17:23	3	1	28I		43	58 21.18 N	151 48.61 W	Lg-CB	QTowF	
06-Sep-09	17:23	3	1	28I		43	58 21.18 N	151 48.61 W	Tuck1	QTowF	
06-Sep-09	17:56	3	2	28I		34	58 20.84 N	151 49.92 W	Ancho	Discard	Belly of net ripped.
06-Sep-09	20:55	4	1	29I		167	58 33.08 N	151 26.17 W	CAT	CAT	
06-Sep-09	20:55	4	1	29I		167	58 33.08 N	151 26.17 W	Lg-CB	QTowF	
06-Sep-09	20:55	4	1	29I		167	58 33.08 N	151 26.17 W	Tuck1	QTowF	
06-Sep-09	20:55	4	1	29I		167	58 33.08 N	151 26.17 W	Tuck1	QTowF	Net 1 flowmeter low revs
06-Sep-09	22:05	4	2	29I		169	58 32.89 N	151 26.09 W	Ancho	J-Length, J-Oto	
07-Sep-09	0:43	5	1	29H		100	58 18.64 N	151 00.16 W	CAT	CAT	
07-Sep-09	0:43	5	1	29H		100	58 18.64 N	151 00.16 W	LG-CB	QTowF	Flowmeter revs low.
07-Sep-09	0:43	5	1	29H		100	58 18.64 N	151 00.16 W	Tuck1	QTowF	
07-Sep-09	0:43	5	1	29H		100	58 18.64 N	151 00.16 W	Tuck1	QTowF	Flowmeter revs low.
07-Sep-09	1:30	5	2	29H		75	58 18.93 N	150 58.80 W	Ancho	Discard	
07-Sep-09	3:33	6	1	29G		150	58 03.78 N	150 33.64 W	CAT	CAT	Net 1 hung up.
07-Sep-09	3:33	6	1	29G		150	58 03.78 N	150 33.64 W	Lg-CB	Discard	Net 1 hung up.
07-Sep-09	3:33	6	1	29G		150	58 03.78 N	150 33.64 W	Tuck1	Discard	Net 1 hung up.
07-Sep-09	4:20	6	2	29G		154	58 03.67 N	150 33.28 W	CAT	CAT	LG-CB flowmeter revs low.
07-Sep-09	4:20	6	2	29G		154	58 03.67 N	150 33.28 W	LG-CB	QTowF	LG-CB flowmeter revs low.
07-Sep-09	4:20	6	2	29G		154	58 03.67 N	150 33.28 W	Tuck1	QTowF	LG-CB flowmeter revs low.
07-Sep-09	5:19	6	3	29G		141	58 03.72 N	150 34.51 W	Ancho	Discard	
07-Sep-09	7:59	7	1	29F	CTD001	205	57 46.47 N	150 04.24 W	CTD	CTD	
07-Sep-09	8:49	7	2	29F		207	57 47.19 N	150 03.98 W	Ancho	A-Length	
07-Sep-09	10:39	7	3	29F		207	57 47.12 N	150 04.48 W	CAT	CAT	
07-Sep-09	10:39	7	3	29F		207	57 47.12 N	150 04.48 W	Lg-CB	QTowF	Never felt first messenger trip the net so tow time for net 1 is probably too low because we waited too long.

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
07-Sep-09	10:39	7	3	29F		207	57 47.12 N	150 04.48 W	Tuck1	QTowF	
07-Sep-09	10:39	7	3	29F		207	57 47.12 N	150 04.48 W	Tuck1	QTowF	Never felt first messenger trip the net so tow time for net 1 is probably too low because we waited too long.
07-Sep-09	12:23	8	1	28F		109	57 38.48 N	150 24.72 W	CAT	CAT	Messenger got stuck.
07-Sep-09	12:23	8	1	28F		109	57 38.48 N	150 24.72 W	Lg-CB	Discard	Messenger got stuck.
07-Sep-09	12:23	8	1	28F		109	57 38.48 N	150 24.72 W	Tuck1	Discard	Messenger got stuck.
07-Sep-09	13:12	8	2	28F		108	57 38.58 N	150 25.66 W	CAT	CAT	
07-Sep-09	13:12	8	2	28F		108	57 38.58 N	150 25.66 W	Lg-CB	QTowF	
07-Sep-09	13:12	8	2	28F		108	57 38.58 N	150 25.66 W	Tuck1	QTowF	
07-Sep-09	14:07	8	3	28F		107	57 38.71 N	150 25.73 W	Ancho	Discard	
07-Sep-09	16:47	9	1	28G		78	57 52.58 N	150 53.34 W	CAT	CAT	
07-Sep-09	16:47	9	1	28G		78	57 52.58 N	150 53.34 W	Lg-CB	QTowF	
07-Sep-09	16:47	9	1	28G		78	57 52.58 N	150 53.34 W	Tuck1	QTowF	
07-Sep-09	17:43	9	2	28G		77	57 52.35 N	150 53.06 W	Ancho	Discard	
07-Sep-09	20:00	10	1	28H		136	58 06.99 N	151 22.02 W	CAT	CAT	
07-Sep-09	20:00	10	1	28H		136	58 06.99 N	151 22.02 W	Tuck1	FMorado, QTowF	
07-Sep-09	20:51	10	2	28H		127	58 07.33 N	151 22.51 W	Ancho	FMorado, J-Length, J-Oto	
07-Sep-09	22:45	11	1	27H		106	57 57.94 N	151 41.74 W	CAT	CAT	
07-Sep-09	22:45	11	1	27H		106	57 57.94 N	151 41.74 W	Lg-CB	QTowF	
07-Sep-09	22:45	11	1	27H		106	57 57.94 N	151 41.74 W	Tuck1	QTowF	
07-Sep-09	23:36	11	2	27H		103	57 57.58 N	151 42.03 W	Ancho	Discard	upper liner connections broken
08-Sep-09	1:15	11	3	27H		106	57 58.72 N	151 40.59 W	Shrimp	Discard	
08-Sep-09	3:41	12	1	27G		68	57 43.65 N	151 13.22 W	CAT	CAT	
08-Sep-09	3:41	12	1	27G		68	57 43.65 N	151 13.22 W	Lg-CB	QTowF	
08-Sep-09	3:41	12	1	27G		68	57 43.65 N	151 13.22 W	Tuck1	QTowF	
08-Sep-09	4:32	12	2	27G		69	57 43.63 N	151 12.90 W	Ancho	J-Length	Two holes at liner-intermediate connect.
08-Sep-09	7:29	13	1	27F		91	57 27.89 N	150 49.70 W	CAT	CAT	
08-Sep-09	7:29	13	1	27F		91	57 27.89 N	150 49.70 W	Lg-CB	QTowF	
08-Sep-09	7:29	13	1	27F		91	57 27.89 N	150 49.70 W	Tuck1	QTowF	
08-Sep-09	8:38	13	2	27F		90	57 27.94 N	150 50.06 W	Shrimp	Discard	Furuno not behaving so no gear depth and had to guess at equilibrium. EQ not recorded by bridge. Dennis calculated T-Profile and looks like max depth only 58. Used doors out for position.
08-Sep-09	11:08	14	1	26F		95	57 16.97 N	151 11.05 W	CAT	CAT	hit bottom
08-Sep-09	11:08	14	1	26F		95	57 16.97 N	151 11.05 W	Lg-CB	QTowF	hit bottom
08-Sep-09	11:08	14	1	26F		95	57 16.97 N	151 11.05 W	Tuck1	QTowF	hit bottom
08-Sep-09	11:08	14	1	26F		95	57 16.97 N	151 11.05 W	Tuck1	QTowF	Hit bottom.
08-Sep-09	12:10	14	2	26F		96	57 16.80 N	151 10.63 W	Ancho	Discard	

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
08-Sep-09	14:25	15	1	26G		161	57 31.21 N	151 34.71 W	CAT	CAT	
08-Sep-09	14:25	15	1	26G		161	57 31.21 N	151 34.71 W	Lg-CB	QTowF	
08-Sep-09	14:25	15	1	26G		161	57 31.21 N	151 34.71 W	Tuck1	QTowF	
08-Sep-09	15:18	15	2	26G		161	57 31.35 N	151 34.73 W	Ancho	A-Length	
08-Sep-09	18:24	16	1	26H		87	57 47.09 N	152 03.68 W	CAT	CAT	Net 2 flowmeter had broken fin. Probably after it was brought on deck.
08-Sep-09	18:24	16	1	26H		87	57 47.09 N	152 03.68 W	Lg-CB	QTowF	Net 2 flowmeter had broken fin. Possibly after it was brought on deck.
08-Sep-09	18:24	16	1	26H		87	57 47.09 N	152 03.68 W	Tuck1	QTowF	Net 2 flowmeter had broken fin. Possibly after it was brought on deck.
08-Sep-09	19:36	16	2	26H		83	57 46.73 N	152 03.43 W	Ancho	Discard	
08-Sep-09	21:25	17	1	25H		69	57 38.29 N	152 24.08 W	CAT	CAT	
08-Sep-09	21:25	17	1	25H		69	57 38.29 N	152 24.08 W	Lg-CB	QTowF	
08-Sep-09	21:25	17	1	25H		69	57 38.29 N	152 24.08 W	Tuck1	QTowF	
08-Sep-09	21:59	17	2	25H		73	57 38.39 N	152 24.45 W	Ancho	FMorado	Trawl aborted. No signal from Furuno.
08-Sep-09	22:45	17	3	25H		82	57 38.66 N	152 23.51 W	Ancho	A-Length, FMorado, J-Length, J-Oto	Plankton samples and 32 age-0 pollock for Fmorado collected from trawl.
09-Sep-09	2:13	18	1	25G		70	57 20.84 N	151 54.33 W	CAT	CAT	Net 2 was only partially closed.
09-Sep-09	2:13	18	1	25G		70	57 20.84 N	151 54.33 W	Lg-CB	Discard	Net 2 was only partially closed.
09-Sep-09	2:13	18	1	25G		70	57 20.84 N	151 54.33 W	Tuck1	Discard	Net 2 was only partially closed.
09-Sep-09	2:42	18	2	25G		70	57 20.58 N	151 54.53 W	CAT	CAT	
09-Sep-09	2:42	18	2	25G		70	57 20.58 N	151 54.53 W	Lg-CB	QTowF	
09-Sep-09	2:42	18	2	25G		70	57 20.58 N	151 54.53 W	Tuck1	QTowF	
09-Sep-09	3:24	18	3	25G		70	57 20.91 N	151 54.49 W	Ancho	Discard	
09-Sep-09	6:06	19	1	25F		144	57 06.73 N	151 30.00 W	CAT	CAT	
09-Sep-09	6:06	19	1	25F		144	57 06.73 N	151 30.00 W	Lg-CB	QTowF	
09-Sep-09	6:06	19	1	25F		144	57 06.73 N	151 30.00 W	Tuck1	QTowF	
09-Sep-09	7:05	19	2	25F		144	57 06.77 N	151 30.05 W	Ancho	A-Length	
09-Sep-09	9:13	20	1	24F		67	56 58.25 N	151 48.68 W	CAT	CAT	
09-Sep-09	9:13	20	1	24F		67	56 58.25 N	151 48.68 W	Lg-CB	QTowF	
09-Sep-09	9:13	20	1	24F		67	56 58.25 N	151 48.68 W	Tuck1	QTowF	
09-Sep-09	9:55	20	2	24F		65	56 58.11 N	151 48.60 W	Ancho	Discard	
09-Sep-09	12:06	21	1	24G		84	57 11.69 N	152 12.82 W	CAT	CAT	
09-Sep-09	12:06	21	1	24G		84	57 11.69 N	152 12.82 W	Lg-CB	QTowF	
09-Sep-09	12:06	21	1	24G		84	57 11.69 N	152 12.82 W	Tuck1	QTowF	
09-Sep-09	12:49	21	2	24G		84	57 11.69 N	152 12.62 W	Ancho	J-Length, J-Oto	
09-Sep-09	14:45	22	1	24H		71	57 23.22 N	152 29.93 W	CAT	CAT	
09-Sep-09	14:45	22	1	24H		71	57 23.22 N	152 29.93 W	Lg-CB	QTowF	
09-Sep-09	14:45	22	1	24H		71	57 23.22 N	152 29.93 W	Tuck1	QTowF	
09-Sep-09	15:21	22	2	24H		70	57 23.11 N	152 29.49 W	Ancho	Discard	

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
09-Sep-09	17:22	23	1	24I		81	57 29.39 N	152 51.26 W	CAT	CAT	
09-Sep-09	17:22	23	1	24I		81	57 29.39 N	152 51.26 W	Lg-CB	QTowF	
09-Sep-09	17:22	23	1	24I		81	57 29.39 N	152 51.26 W	Tuck1	QTowF	
09-Sep-09	18:04	23	2	24I		81	57 29.43 N	152 51.28 W	Ancho	J-Length, J-Oto	
09-Sep-09	21:47	24	1	23I		71	57 18.65 N	153 07.23 W	CAT	CAT	
09-Sep-09	21:47	24	1	23I		71	57 18.65 N	153 07.23 W	Lg-CB	QTowF	
09-Sep-09	21:47	24	1	23I		71	57 18.65 N	153 07.23 W	Tuck1	QTowF	
09-Sep-09	22:21	24	2	23I		99	57 18.40 N	153 04.74 W	Ancho	A-Length, J-Length, J-Oto	
09-Sep-09	23:56	25	1	23H		89	57 12.12 N	152 49.79 W	CAT	CAT	
09-Sep-09	23:56	25	1	23H		89	57 12.12 N	152 49.79 W	Lg-CB	QTowF	
09-Sep-09	23:56	25	1	23H		89	57 12.12 N	152 49.79 W	Tuck1	FMorado, QTowF	
10-Sep-09	0:41	25	2	23H		136	57 12.03 N	152 48.10 W	Ancho	FMorado, J-Length, J-Oto	Centerboard up. Adjusted depth. 40 age-0 pollock for F. morado.
10-Sep-09	2:38	26	1	23G		137	57 02.57 N	152 31.62 W	CAT	CAT	
10-Sep-09	2:38	26	1	23G		137	57 02.57 N	152 31.62 W	Lg-CB	QTowF	
10-Sep-09	2:38	26	1	23G		137	57 02.57 N	152 31.62 W	Tuck1	QTowF	
10-Sep-09	3:22	26	2	23G		140	57 02.62 N	152 31.02 W	Ancho	Discard	
10-Sep-09	6:02	27	1	23F		100	56 49.25 N	152 06.82 W	CAT	CAT	skipped net 2. wind kept wire outboard. Decided to redo. Net 2 flowmeter broke gears.
10-Sep-09	6:02	27	1	23F		100	56 49.25 N	152 06.82 W	Lg-CB	Discard	skipped net 2. wind kept wire outboard. Decided to redo. Net 2 flowmeter broke gears.
10-Sep-09	6:02	27	1	23F		100	56 49.25 N	152 06.82 W	Tuck1	Discard	skipped net 2. wind kept wire outboard. Decided to redo. Net 2 flowmeter broke gears.
10-Sep-09	6:37	27	2	23F		101	56 48.41 N	152 06.86 W	CAT	CAT	
10-Sep-09	6:37	27	2	23F		101	56 48.41 N	152 06.86 W	Lg-CB	QTowF	
10-Sep-09	6:37	27	2	23F		101	56 48.41 N	152 06.86 W	Tuck1	QTowF	
10-Sep-09	7:42	27	3	23F		102	56 48.46 N	152 07.10 W	Ancho	Discard	
10-Sep-09	9:47	28	1	22F		169	56 39.83 N	152 26.69 W	CAT	CAT	
10-Sep-09	9:47	28	1	22F		169	56 39.83 N	152 26.69 W	Lg-CB	QTowF	
10-Sep-09	9:47	28	1	22F		169	56 39.83 N	152 26.69 W	Tuck1	QTowF	
10-Sep-09	10:51	28	2	22F		165	56 39.72 N	152 26.55 W	Ancho	Discard	
11-Sep-09	6:16	29	1	21H		132	56 57.54 N	153 25.92 W	CAT	CAT	Hit bottom.
11-Sep-09	6:16	29	1	21H		132	56 57.54 N	153 25.92 W	Lg-CB	Discard	Replaced flowmeter 0376 with 0358. Hit bottom. Seacat stopped twice. Centerboard up.
11-Sep-09	6:16	29	1	21H		132	56 57.54 N	153 25.92 W	Tuck1	Discard	Hit bottom.
11-Sep-09	6:16	29	1	21H		132	56 57.54 N	153 25.92 W	Tuck1	Discard	Replaced flowmeter 0376 with 0358. Hit bottom. Seacat stopped twice. Centerboard up.
11-Sep-09	8:22	29	2	21H		124	56 57.40 N	153 25.49 W	Lg-CB	QTowF	No seacat. Used wire angles and wire out to predict gear depth. Measured gear depth with SBE39. SBE filename s029h02.xls.

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	Samples Collected	Haul Comments
11-Sep-09	8:22	29	2	21H		124	56 57.40 N	153 25.49 W	Tuck1	FMorado, QTowF	
11-Sep-09	9:06	29	3	21H		128	56 57.39 N	153 25.44 W	Ancho	A-Length, FMorado, J-Length, J-Oto	No seacat. Used wire angles and wire out to predict gear depth. Measured gear depth with SBE39. SBE filename s029h02.xls.
10-Sep-09	12:32	30	1	22H		42	57 02.27 N	153 05.21 W	Ancho	Discard	40 age-0 pollock for FMorado.
11-Sep-09	14:09	30	2	22H		43	57 02.26 N	153 06.11 W	CAT	CAT	
11-Sep-09	14:09	30	2	22H		43	57 02.26 N	153 06.11 W	Lg-CB	QTowF	Switched to SBE19plus#4275. Lg Jellyfish removed from LG-CB.
11-Sep-09	14:09	30	2	22H		43	57 02.26 N	153 06.11 W	Tuck1	QTowF	Switched to SBE19plus#4275. Lg Jellyfish removed from LG-CB.
11-Sep-09	15:33	31	1	22G		93	56 53.85 N	152 49.72 W	CAT	CAT	SEACAT stopped acquiring data on the way. Data at mark represents surface mark.
11-Sep-09	15:33	31	1	22G		93	56 53.85 N	152 49.72 W	Tuck1	Discard	SEACAT stopped acquiring data on the way. Data at mark represents surface mark.
11-Sep-09	16:13	31	2	22G		105	56 54.06 N	152 48.89 W	Ancho	J-Length, J-Oto	
11-Sep-09	17:54	31	3	22G		92	56 53.89 N	152 49.83 W	CAT	CAT	
11-Sep-09	17:54	31	3	22G		92	56 53.89 N	152 49.83 W	Lg-CB	QTowF	
11-Sep-09	17:54	31	3	22G		92	56 53.89 N	152 49.83 W	Tuck1	QTowF	
11-Sep-09	19:38	32	1	21G		151	56 44.63 N	153 11.28 W	CAT	CAT	
11-Sep-09	19:38	32	1	21G		151	56 44.63 N	153 11.28 W	Lg-CB	QTowF	
11-Sep-09	19:38	32	1	21G		151	56 44.63 N	153 11.28 W	Tuck1	FMorado, QTowF	
11-Sep-09	20:28	32	2	21G		157	56 44.47 N	153 11.35 W	Ancho	FMorado, J-Length, J-Oto	
11-Sep-09	23:10	33	1	21F		53	56 28.27 N	152 44.49 W	CAT	CAT	
11-Sep-09	23:10	33	1	21F		53	56 28.27 N	152 44.49 W	Lg-CB	QTowF	
11-Sep-09	23:10	33	1	21F		53	56 28.27 N	152 44.49 W	Tuck1	QTowF	
11-Sep-09	23:44	33	2	21F		56	56 28.36 N	152 44.49 W	Ancho	Discard	
12-Sep-09	1:48	34	1	20F		134	56 19.07 N	153 04.38 W	CAT	CAT	
12-Sep-09	1:48	34	1	20F		134	56 19.07 N	153 04.38 W	Lg-CB	QTowF	
12-Sep-09	1:48	34	1	20F		134	56 19.07 N	153 04.38 W	Tuck1	QTowF	
12-Sep-09	2:19	34	2	20F		170	56 18.89 N	153 05.72 W	Ancho	Discard	
12-Sep-09	5:26	35	1	20G		130	56 34.53 N	153 29.48 W	CAT	CAT	
12-Sep-09	5:26	35	1	20G		130	56 34.53 N	153 29.48 W	Lg-CB	QTowF	
12-Sep-09	5:26	35	1	20G		130	56 34.53 N	153 29.48 W	Tuck1	QTowF	
12-Sep-09	6:41	35	2	20G		132	56 34.38 N	153 30.74 W	Ancho	J-Length, J-Oto	
12-Sep-09	8:53	36	1	20H		42	56 43.83 N	153 47.39 W	CAT	CAT	
12-Sep-09	8:53	36	1	20H		42	56 43.83 N	153 47.39 W	Lg-CB	QTowF	
12-Sep-09	8:53	36	1	20H		42	56 43.83 N	153 47.39 W	Tuck1	QTowF	
12-Sep-09	8:53	36	1	20H		42	56 43.83 N	153 47.39 W	Tuck1	QTowF	Centerboard up. Variable bottom depth so stayed higher off bottom.
12-Sep-09	9:29	36	2	20H		42	56 43.54 N	153 48.42 W	Ancho	Discard	Variable bottom depth.

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
12-Sep-09	15:41	37	1	10B		33	56 13.44 N	155 16.28 W	CAT	CAT	
12-Sep-09	15:41	37	1	10B		33	56 13.44 N	155 16.28 W	Lg-CB	QTowF	Low flowmeter revs for net 0.
12-Sep-09	15:41	37	1	10B		33	56 13.44 N	155 16.28 W	Tuck1	QTowF	
12-Sep-09	15:41	37	1	10B		33	56 13.44 N	155 16.28 W	Tuck1	QTowF	Low flowmeter revs for net 0.
12-Sep-09	16:29	37	2	10B		35	56 13.45 N	155 17.06 W	Ancho	J-Length, J-Oto	
12-Sep-09	19:32	38	1	10C		246	56 35.49 N	155 49.17 W	CAT	CAT	
12-Sep-09	19:32	38	1	10C		246	56 35.49 N	155 49.17 W	Lg-CB	QTowF	
12-Sep-09	19:32	38	1	10C		246	56 35.49 N	155 49.17 W	Tuck1	QTowF	
12-Sep-09	20:29	38	2	10C		250	56 36.38 N	155 48.70 W	Ancho	A-Length, J-Length, J-Oto	
12-Sep-09	23:11	39	1	10D		200	56 51.21 N	156 11.63 W	CAT	CAT	
12-Sep-09	23:11	39	1	10D		200	56 51.21 N	156 11.63 W	Lg-CB	QTowF	
12-Sep-09	23:11	39	1	10D		200	56 51.21 N	156 11.63 W	Tuck1	QTowF	
13-Sep-09	0:05	39	2	10D		200	56 51.32 N	156 11.85 W	Ancho	J-Length, J-Oto	
13-Sep-09	1:45	40	1	10E		135	56 59.00 N	156 21.84 W	CAT	CAT	BOTTOM DEPTH GETTING MORE SHALLOW SO STAYED WELL OFF BOTTOM WHILE WAITING FOR 1ST MESSENGER
13-Sep-09	1:45	40	1	10E		135	56 59.00 N	156 21.84 W	Lg-CB	QTowF	BOTTOM DEPTH GETTING MORE SHALLOW SO STAYED WELL OFF BOTTOM WHILE WAITING FOR 1ST MESSENGER
13-Sep-09	1:45	40	1	10E		135	56 59.00 N	156 21.84 W	Tuck1	FMorado, QTowF	BOTTOM DEPTH GETTING MORE SHALLOW SO STAYED WELL OFF BOTTOM WHILE WAITING FOR 1ST MESSENGER
13-Sep-09	1:45	40	1	10E		135	56 59.00 N	156 21.84 W	Tuck1	FMorado, QTowF	BOTTOM DEPTH GETTING MORE SHALLOW SO STAYED WELL OFF BOTTOM WHILE WAITING FOR 1ST MESSENGER.
13-Sep-09	2:42	40	2	10E		127	56 58.85 N	156 22.08 W	Ancho	FMorado, J-Length, J-Oto	28 pollock for F.Morado.
13-Sep-09	5:55	41	1	9E		150	56 52.14 N	156 52.09 W	CAT	CAT	
13-Sep-09	5:55	41	1	9E		150	56 52.14 N	156 52.09 W	Lg-CB	QTowF	
13-Sep-09	5:55	41	1	9E		150	56 52.14 N	156 52.09 W	Tuck1	FMorado, QTowF	
13-Sep-09	6:47	41	2	9E		144	56 51.41 N	156 51.24 W	Ancho	A-Length, FMorado, J-Length, J-Oto	40 pollock for F. Morado.
13-Sep-09	8:55	42	1	9D		175	56 41.50 N	156 35.52 W	CAT	CAT	
13-Sep-09	8:55	42	1	9D		175	56 41.50 N	156 35.52 W	Lg-CB	QTowF	
13-Sep-09	8:55	42	1	9D		175	56 41.50 N	156 35.52 W	Tuck1	FMorado, QTowF	
13-Sep-09	9:50	42	2	9D		178	56 41.55 N	156 34.85 W	Ancho	A-Length, J-Length, J-Oto	SBE didn't record. Got gear depth of video screen at EQ. Furuno depth of 32m goofy.
13-Sep-09	12:35	43	1	9C	CTD002	268	56 25.78 N	156 12.59 W	CTD	CTD	Gear Comparison. SBE unit numbers 0998 and 0999 attached to CTD frame.
13-Sep-09	13:19	43	2	9C		268	56 25.32 N	156 12.98 W	Ancho	J-Length, J-Oto	SBE 998 was used (label on case/tube, not on computer download).

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
13-Sep-09	14:58	43	3	9C		270	56 25.24 N	156 12.73 W	CAT	CAT	
13-Sep-09	14:58	43	3	9C		270	56 25.24 N	156 12.73 W	Lg-CB	QTowF	
13-Sep-09	14:58	43	3	9C		270	56 25.24 N	156 12.73 W	Tuck1	QTowF	
13-Sep-09	17:57	44	1	9B		52	56 03.80 N	155 38.03 W	CAT	CAT	
13-Sep-09	17:57	44	1	9B		52	56 03.80 N	155 38.03 W	Lg-CB	QTowF	
13-Sep-09	17:57	44	1	9B		52	56 03.80 N	155 38.03 W	Tuck1	QTowF	
13-Sep-09	18:35	44	2	9B		49	56 03.52 N	155 36.95 W	Ancho	J-Length, J-Oto	
13-Sep-09	20:32	45	1	8B		96	55 55.31 N	156 01.50 W	CAT	CAT	
13-Sep-09	20:32	45	1	8B		96	55 55.31 N	156 01.50 W	Lg-CB	QTowF	
13-Sep-09	20:32	45	1	8B		96	55 55.31 N	156 01.50 W	Tuck1	FMorado, QTowF	
13-Sep-09	21:19	45	2	8B		91	55 55.34 N	156 01.17 W	Ancho	FMorado, J-Length, J-Oto	Fmorado 40 fish in 2 jars.
14-Sep-09	0:14	46	1	8C		201	56 15.86 N	156 32.39 W	CAT	CAT	
14-Sep-09	0:14	46	1	8C		201	56 15.86 N	156 32.39 W	Lg-CB	QTowF	
14-Sep-09	0:14	46	1	8C		201	56 15.86 N	156 32.39 W	Tuck1	FMorado, QTowF	
14-Sep-09	1:08	46	2	8C		201	56 15.97 N	156 32.58 W	Ancho	A-Length, FMorado, J-Length, J-Oto	36 Pollock saved for F. Morado.
14-Sep-09	3:36	47	1	8D		51	56 29.81 N	156 54.78 W	CAT	CAT	
14-Sep-09	3:36	47	1	8D		51	56 29.81 N	156 54.78 W	Lg-CB	QTowF	
14-Sep-09	3:36	47	1	8D		51	56 29.81 N	156 54.78 W	Tuck1	QTowF	
14-Sep-09	4:11	47	2	8D		50	56 29.77 N	156 54.84 W	Ancho	J-Length, J-Oto	
14-Sep-09	6:56	48	1	8E		146	56 40.91 N	157 11.51 W	CAT	CAT	
14-Sep-09	6:56	48	1	8E		146	56 40.91 N	157 11.51 W	Lg-CB	Discard	CENTERBOARD UP. NET CAME UP TOO MUCH BEFORE NET 1 OPENED.
14-Sep-09	6:56	48	1	8E		146	56 40.91 N	157 11.51 W	Tuck1	Discard	CENTERBOARD UP. NET CAME UP TOO MUCH BEFORE NET 1 OPENED.
14-Sep-09	7:30	48	2	8E		152	56 40.87 N	157 11.40 W	CAT	CAT	Centerboard up.
14-Sep-09	7:30	48	2	8E		152	56 40.87 N	157 11.40 W	Lg-CB	QTowF	Centerboard up.
14-Sep-09	7:30	48	2	8E		152	56 40.87 N	157 11.40 W	Tuck1	FMorado, QTowF	Centerboard up.
14-Sep-09	8:19	48	3	8E		141	56 41.06 N	157 12.06 W	Ancho	A-Length, FMorado, J-Length, J-Oto	~40 age-0 pollock for F. Morado.
14-Sep-09	11:21	49	1	6E		86	56 32.96 N	157 44.38 W	CAT	CAT	Centerboard up.
14-Sep-09	11:21	49	1	6E		86	56 32.96 N	157 44.38 W	Lg-CB	QTowF	Centerboard up.
14-Sep-09	11:21	49	1	6E		86	56 32.96 N	157 44.38 W	Tuck1	FMorado, QTowF	Centerboard up.
14-Sep-09	12:05	49	2	6E		87	56 33.20 N	157 42.48 W	Ancho	FMorado, J-Length, J-Oto	40 age-0 pollock for Fmorado in 2 jars.
14-Sep-09	14:16	50	1	6D		124	56 19.62 N	157 25.51 W	CAT	CAT	
14-Sep-09	14:16	50	1	6D		124	56 19.62 N	157 25.51 W	Lg-CB	QTowF	
14-Sep-09	14:16	50	1	6D		124	56 19.62 N	157 25.51 W	Tuck1	FMorado, QTowF	
14-Sep-09	15:03	50	2	6D		120	56 19.82 N	157 25.39 W	Ancho	Discard	
14-Sep-09	17:58	51	1	6C		87	56 01.91 N	157 01.54 W	CAT	CAT	
14-Sep-09	17:58	51	1	6C		87	56 01.91 N	157 01.54 W	Lg-CB	QTowF	
14-Sep-09	17:58	51	1	6C		87	56 01.91 N	157 01.54 W	Tuck1	FMorado, QTowF	

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	Samples Collected	Haul Comments
14-Sep-09	18:40	51	2	6C		86	56 01.59 N	157 01.72 W	Ancho	FMorado, J-Length, J-Oto	20 age-0 pollock for F.Morado.
14-Sep-09	21:38	52	1	6B		235	55 41.96 N	156 31.91 W	CAT	CAT	
14-Sep-09	21:38	52	1	6B		235	55 41.96 N	156 31.91 W	Lg-CB	QTowF	
14-Sep-09	21:38	52	1	6B		235	55 41.96 N	156 31.91 W	Tuck1	QTowF	
14-Sep-09	22:32	52	2	6B		234	55 41.91 N	156 31.88 W	Ancho	A-Length, J-Length, J-Oto	
15-Sep-09	1:04	53	1	5B		91	55 31.77 N	156 54.47 W	CAT	CAT	
15-Sep-09	1:04	53	1	5B		91	55 31.77 N	156 54.47 W	Lg-CB	QTowF	
15-Sep-09	1:04	53	1	5B		91	55 31.77 N	156 54.47 W	Tuck1	QTowF	
15-Sep-09	1:48	53	2	5B		90	55 31.54 N	156 54.49 W	Ancho	Discard	
15-Sep-09	4:31	54	1	5C		95	55 52.12 N	157 20.64 W	CAT	CAT	
15-Sep-09	4:31	54	1	5C		95	55 52.12 N	157 20.64 W	Lg-CB	QTowF	
15-Sep-09	4:31	54	1	5C		95	55 52.12 N	157 20.64 W	Tuck1	QTowF	
15-Sep-09	5:20	54	2	5C		95	55 52.15 N	157 20.67 W	Ancho	A-Length, J-Length, J-Oto	
15-Sep-09	8:12	55	1	5D		162	56 09.03 N	157 46.77 W	CAT	CAT	Clark-Bumpus flowmeter (net 0) is very low. Don't see any reason why.
15-Sep-09	8:12	55	1	5D		162	56 09.03 N	157 46.77 W	Lg-CB	QTowF	Clark-Bumpus flowmeter (net 0) is very low. Don't see any reason why.
15-Sep-09	8:12	55	1	5D		162	56 09.03 N	157 46.77 W	Tuck1	FMorado, QTowF	Clark-Bumpus flowmeter (net 0) is very low. Don't see any reason why.
15-Sep-09	9:01	55	2	5D		135	56 09.00 N	157 46.37 W	Ancho	A-Length, FMorado, J-Length, J-Oto	~20 Age 0 pollock for F. Morado.
15-Sep-09	12:28	56	1	5E		166	56 25.37 N	158 05.75 W	CAT	CAT	
15-Sep-09	12:28	56	1	5E		166	56 25.37 N	158 05.75 W	Lg-CB	QTowF	Had to move station because bottom very uneven.
15-Sep-09	12:28	56	1	5E		166	56 25.37 N	158 05.75 W	Tuck1	FMorado, QTowF	Had to move station because bottom very uneven.
15-Sep-09	13:14	56	2	5E		167	56 25.44 N	158 05.36 W	Ancho	A-Length, FMorado, J-Length, J-Oto	40 Age 0 pollock for F. Morado
15-Sep-09	16:22	57	1	4E		67	55 06.49 N	158 18.54 W	CAT	CAT	
15-Sep-09	16:22	57	1	4E		67	55 06.49 N	158 18.54 W	Lg-CB	QTowF	
15-Sep-09	16:22	57	1	4E		67	55 06.49 N	158 18.54 W	Tuck1	QTowF	
15-Sep-09	16:22	57	1	4E		67	55 06.49 N	158 18.54 W	Tuck1	QTowF	1 jellyfish removed from net 1.
15-Sep-09	17:33	57	2	4E		73	56 06.49 N	158 19.09 W	Ancho	Discard	
15-Sep-09	19:13	58	1	4D		118	55 58.43 N	158 07.12 W	CAT	CAT	
15-Sep-09	19:13	58	1	4D		118	55 58.43 N	158 07.12 W	Lg-CB	QTowF	
15-Sep-09	19:13	58	1	4D		118	55 58.43 N	158 07.12 W	Tuck1	QTowF	
15-Sep-09	20:08	58	2	4D		121	55 58.13 N	158 07.12 W	Ancho	A-Length, J-Length, J-Oto	
15-Sep-09	22:30	59	1	4C		136	55 43.24 N	157 42.88 W	CAT	CAT	
15-Sep-09	22:30	59	1	4C		136	55 43.24 N	157 42.88 W	Lg-CB	QTowF	
15-Sep-09	22:30	59	1	4C		136	55 43.24 N	157 42.88 W	Tuck1	QTowF	
15-Sep-09	22:30	59	1	4C		136	55 43.24 N	157 42.88 W	Tuck1	QTowF	1 large and 1 small jellyfish removed from net 2.
15-Sep-09	23:16	59	2	4C		136	55 43.17 N	157 43.15 W	Ancho	J-Length, J-Oto	

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
16-Sep-09	2:11	60	1	4B		90	55 22.19 N	157 15.44 W	CAT	CAT	
16-Sep-09	2:11	60	1	4B		90	55 22.19 N	157 15.44 W	Lg-CB	QTowF	
16-Sep-09	2:11	60	1	4B		90	55 22.19 N	157 15.44 W	Tuck1	QTowF	
16-Sep-09	2:51	60	2	4B		90	55 22.25 N	157 15.38 W	Ancho	J-Length, J-Oto	
16-Sep-09	4:51	61	1	3B		86	55 14.23 N	157 37.43 W	CAT	CAT	
16-Sep-09	4:51	61	1	3B		86	55 14.23 N	157 37.43 W	Lg-CB	QTowF	
16-Sep-09	4:51	61	1	3B		86	55 14.23 N	157 37.43 W	Tuck1	QTowF	
16-Sep-09	5:37	61	2	3B		88	55 14.79 N	157 37.83 W	Ancho	J-Length, J-Oto	
16-Sep-09	8:11	62	1	3C		133	55 32.49 N	158 01.64 W	CAT	CAT	
16-Sep-09	8:11	62	1	3C		133	55 32.49 N	158 01.64 W	Lg-CB	QTowF	
16-Sep-09	8:11	62	1	3C		133	55 32.49 N	158 01.64 W	Tuck1	QTowF	
16-Sep-09	8:55	62	2	3C		133	55 32.39 N	158 01.71 W	Ancho	J-Length, J-Oto	
16-Sep-09	11:41	63	1	3D		109	55 48.86 N	158 26.12 W	CAT	CAT	NET STOPPED DESCENT. SO BROUGHT IT UP AND STARTED OVER.
16-Sep-09	11:41	63	1	3D		109	55 48.86 N	158 26.12 W	Tuck1	Discard	NET STOPPED DESCENT. SO BROUGHT IT UP AND STARTED OVER.
16-Sep-09	12:11	63	2	3D		109	55 48.99 N	158 26.98 W	CAT	CAT	
16-Sep-09	12:11	63	2	3D		109	55 48.99 N	158 26.98 W	Lg-CB	QTowF	
16-Sep-09	12:11	63	2	3D		109	55 48.99 N	158 26.98 W	Tuck1	QTowF	
16-Sep-09	13:01	63	3	3D		108	55 48.74 N	158 26.37 W	Ancho	J-Length, J-Oto	
16-Sep-09	14:38	64	1	3E		78	55 56.09 N	158 38.19 W	CAT	CAT	
16-Sep-09	14:38	64	1	3E		78	55 56.09 N	158 38.19 W	Lg-CB	QTowF	
16-Sep-09	14:38	64	1	3E		78	55 56.09 N	158 38.19 W	Tuck1	QTowF	Large cyanea removed from codend.
16-Sep-09	14:38	64	1	3E		78	55 56.09 N	158 38.19 W	Tuck1	QTowF	
16-Sep-09	15:28	64	2	3E		76	55 56.33 N	158 37.82 W	Ancho	A-Length, J-Length, J-Oto	
16-Sep-09	17:38	65	1	2E		88	55 53.68 N	159 05.10 W	CAT	CAT	
16-Sep-09	17:38	65	1	2E		88	55 53.68 N	159 05.10 W	Lg-CB	QTowF	
16-Sep-09	17:38	65	1	2E		88	55 53.68 N	159 05.10 W	Tuck1	QTowF	
16-Sep-09	18:19	65	2	2E		96	55 53.04 N	159 04.34 W	Ancho	J-Length, J-Oto	
16-Sep-09	20:27	66	1	2D		115	55 38.79 N	158 46.02 W	CAT	CAT	
16-Sep-09	20:27	66	1	2D		115	55 38.79 N	158 46.02 W	Lg-CB	QTowF	
16-Sep-09	20:27	66	1	2D		115	55 38.79 N	158 46.02 W	Tuck1	FMorado, QTowF	
16-Sep-09	21:09	66	2	2D		105	55 38.81 N	158 45.10 W	Ancho	FMorado, J-Length, J-Oto	40 Age 0 pollock for F.morado.
16-Sep-09	23:45	67	1	2C		142	55 22.21 N	158 21.89 W	CAT	CAT	
16-Sep-09	23:45	67	1	2C		142	55 22.21 N	158 21.89 W	Lg-CB	QTowF	
16-Sep-09	23:45	67	1	2C		142	55 22.21 N	158 21.89 W	Tuck1	QTowF	
17-Sep-09	0:27	67	2	2C		142	55 22.17 N	158 22.02 W	Ancho	J-Length, J-Oto	
17-Sep-09	3:08	68	1	2B		81	55 05.14 N	157 59.32 W	CAT	CAT	
17-Sep-09	3:08	68	1	2B		81	55 05.14 N	157 59.32 W	Lg-CB	QTowF	

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	Samples Collected	Haul Comments
17-Sep-09	3:08	68	1	2B		81	55 05.14 N	157 59.32 W	Tuck1	QTowF	
17-Sep-09	3:41	68	2	2B		81	55 05.15 N	157 59.33 W	Ancho	Discard	
17-Sep-09	6:31	69	1	1B		174	54 54.50 N	158 20.91 W	CAT	CAT	Had to guess when net 1 opened. Never felt it trip. Net 0 revs low but LG-CB revs frequently read low.
17-Sep-09	6:31	69	1	1B		174	54 54.50 N	158 20.91 W	Lg-CB	QTowF	Had to guess when net 1 opened. Never felt it trip. Net 0 revs low but LG-CB revs frequently read low and tow time is probably higher than it should be because we waited for net 1 to trip.
17-Sep-09	6:31	69	1	1B		174	54 54.50 N	158 20.91 W	Tuck1	QTowF	Had to guess when net 1 opened. Never felt it trip. Net 0 revs low but LG-CB revs frequently read low and tow time is probably higher than it should be because we waited for net 1 to trip.
17-Sep-09	6:31	69	1	1B		174	54 54.50 N	158 20.91 W	Tuck1	QTowF	Had to guess when net 1 opened. Never felt it trip. Net 0 revs low but LG-CB revs frequently read low.
17-Sep-09	7:29	69	2	1B		179	54 54.29 N	158 20.75 W	Ancho	J-Length, J-Oto	Net kept dropping 5 more Meters after EQ called
17-Sep-09	8:57	69	3	1B	CTD003	176	54 54.53 N	158 20.77 W	CTD	CTD	
17-Sep-09	11:05	70	1	1C		201	55 11.37 N	158 44.11 W	CAT	CAT	
17-Sep-09	11:05	70	1	1C		201	55 11.37 N	158 44.11 W	Lg-CB	QTowF	
17-Sep-09	11:05	70	1	1C		201	55 11.37 N	158 44.11 W	Tuck1	FMorado, QTowF	
17-Sep-09	12:03	70	2	1C		199	55 11.39 N	158 44.86 W	Ancho	A-Length, FMorado, J-Length, J-Oto	40 age-0 pollock for F. Morado.
17-Sep-09	15:00	71	1	1D		143	55 27.94 N	159 07.24 W	CAT	CAT	
17-Sep-09	15:00	71	1	1D		143	55 27.94 N	159 07.24 W	Lg-CB	QTowF	
17-Sep-09	15:00	71	1	1D		143	55 27.94 N	159 07.24 W	Tuck1	FMorado, QTowF	
17-Sep-09	15:53	71	2	1D		142	55 27.95 N	159 09.46 W	Ancho	A-Length, FMorado, J-Length, J-Oto	40 age-0 pollock for F.Morado
17-Sep-09	18:27	72	1	1E		111	55 41.72 N	159 27.06 W	CAT	CAT	
17-Sep-09	18:27	72	1	1E		111	55 41.72 N	159 27.06 W	Lg-CB	QTowF	
17-Sep-09	18:27	72	1	1E		111	55 41.72 N	159 27.06 W	Tuck1	QTowF	
17-Sep-09	19:23	72	2	1E		112	55 41.75 N	159 26.75 W	Ancho	J-Length, J-Oto	
18-Sep-09	12:02	73	1	32P		86	54 04.20 N	162 59.29 W	CAT	CAT	Clark-Bumpus net came off frame & was loose in Tucker Net 0 codend. Decided to not redo tow to save time. Nets 1& 2 are OK.
18-Sep-09	12:02	73	1	32P		86	54 04.20 N	162 59.29 W	Lg-CB	Discard	Clark-Bumpus net came off frame & was loose in Tucker Net 0 codend. Decided to not redo tow to save time. Nets 1& 2 are OK.
18-Sep-09	12:02	73	1	32P		86	54 04.20 N	162 59.29 W	Tuck1	QTowF	Clark-Bumpus net came off frame & was loose in Tucker Net 0 codend. Decided to not redo tow to save time. Nets 1& 2 are OK.
18-Sep-09	12:41	73	2	32P		85	54 04.21 N	162 59.18 W	Ancho	J-Length, J-Oto	
18-Sep-09	15:11	74	1	31P		110	53 59.98 N	163 26.68 W	CAT	CAT	

Cruise Summary For FOCI Cruise 1MF09 (MF09-04)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
18-Sep-09	15:11	74	1	31P		110	53 59.98 N	163 26.68 W	Lg-CB	QTowF	
18-Sep-09	15:11	74	1	31P		110	53 59.98 N	163 26.68 W	Tuck1	QTowF	
18-Sep-09	15:53	74	2	31P		110	53 59.71 N	163 26.58 W	Ancho	Discard	
18-Sep-09	18:08	75	1	32Q		66	54 15.68 N	163 23.35 W	CAT	CAT	
18-Sep-09	18:08	75	1	32Q		66	54 15.68 N	163 23.35 W	Lg-CB	QTowF	
18-Sep-09	18:08	75	1	32Q		66	54 15.68 N	163 23.35 W	Tuck1	Discard	
18-Sep-09	18:44	75	2	32Q		66	54 15.48 N	163 23.02 W	Ancho	Discard	
18-Sep-09	20:50	76	1	31Q		105	54 11.56 N	163 52.59 W	CAT	CAT	
18-Sep-09	20:50	76	1	31Q		105	54 11.56 N	163 52.59 W	Lg-CB	QTowF	
18-Sep-09	20:50	76	1	31Q		105	54 11.56 N	163 52.59 W	Tuck1	QTowF	
18-Sep-09	21:32	76	2	31Q		105	54 11.40 N	163 52.33 W	Ancho	Discard	
18-Sep-09	23:44	77	1	32R		92	54 27.25 N	163 49.35 W	CAT	CAT	
18-Sep-09	23:44	77	1	32R		92	54 27.25 N	163 49.35 W	Lg-CB	QTowF	
18-Sep-09	23:44	77	1	32R		92	54 27.25 N	163 49.35 W	Tuck1	QTowF	
19-Sep-09	0:25	77	2	32R		93	54 27.21 N	163 49.08 W	Ancho	Discard	
19-Sep-09	2:18	78	1	31R		108	54 22.97 N	164 16.35 W	CAT	CAT	
19-Sep-09	2:18	78	1	31R		108	54 22.97 N	164 16.35 W	Lg-CB	QTowF	
19-Sep-09	2:18	78	1	31R		108	54 22.97 N	164 16.35 W	Tuck1	QTowF	
19-Sep-09	3:25	78	2	31R		106	54 23.41 N	164 15.73 W	Ancho	RCountJ	
19-Sep-09	5:38	79	1	30Q		85	54 06.41 N	164 22.16 W	CAT	CAT	
19-Sep-09	5:38	79	1	30Q		85	54 06.41 N	164 22.16 W	Lg-CB	QTowF	
19-Sep-09	5:38	79	1	30Q		85	54 06.41 N	164 22.16 W	Tuck1	QTowF	
19-Sep-09	6:24	79	2	30Q		85	54 06.54 N	164 22.17 W	Ancho	Discard	
19-Sep-09	7:25	79	3	30Q	CTD004	84	54 06.58 N	164 22.73 W	CTD	CTD	

Figure 1. Station Map

