

DRAFT CRUISE REPORT

Cruise Number: DY0807

FOCI Number: 3DY08

Ship:

FRV *Oscar Dyson*

Area of Operations:

Eastern Bering Sea

Itinerary:

Date depart / port: May 12, 2008 / Dutch Harbor, AK

Date arrive / port: May 21, 2008 / Dutch Harbor, AK

Participating organizations:

NOAA - Alaska Fisheries Science Center (AFSC)

Chief Scientist:

Jeffrey Napp M / AFSC
(206) 526-4148
Jeff.Napp@noaa.gov

Personnel:

Debbie Blood	F / AFSC
Rachael Cartwright	F / AFSC
Dan Cooper	M / AFSC
Colleen Harpold	F / AFSC
Kathy Mier	F / AFSC
Ingrid Spies	F / AFSC
Matt Wilson	M / AFSC

Cruise Objectives:

Examine the interactions among climate, weather, and the recruitment of fishes in the eastern Bering Sea. We conducted ichthyoplankton and zooplankton survey in the waters along the eastern Aleutian Island chain and the Alaska Peninsula. This work was needed to describe larval fish assemblages and to determine how physical and biological factors affected the transport and survival of fish larvae. The cruise was collaboration between the North Pacific Research Board's Bering Sea Integrated Ecosystem Research Program (BSIERP) and NOAA's North Pacific Climate Regimes and Ecosystem Productivity (NPCREP). Fish species of particular interest during this cruise were: arrowtooth flounder (*Atheresthes stomias*), Pacific cod (*Gadus macrocephalus*) and walleye pollock (*Theragra chalcogramma*). We determined the horizontal and vertical distribution of these species as well as the abundance and distribution of their plankton prey. Near real time discrimination of *Atheresthes* spp. larvae was performed at sea using molecular techniques.

Summary of Operations:

Operation	Tows
20cm bongo (20Bon)	70
60cm bongo (60Bon)	74
Seabird SeaCAT CTD (CAT)	72
CTD with bottle samples (CTDB)	20
1m ² MOCNESS (MOC1)	8
Neuston (Neu)	68
Deployment of satellite buoy (SatBuoy)	3

Samples Collected

	Tows	Number
Number of larvae preserved in EtOH for A. Matarese (AMGEN)	31	179
SeaBird SeaCat CTD (CAT)	72	
Extracted chlorophyll (Chlor)	17	102
SeaBird CTD (CTD)	19	
Number of <i>Bathymaster</i> spp. larvae preserved in Zfix (CW)	8	30
Deployment of buoy or mooring (Deploy)	3	3
Stimulated fluorescence collected during CTD casts (Fluor)	18	
Number of fish larvae for Ingrid Spies (genetics) (ISGEN)	10	20
Collection of live organisms for experiments (Live)	1	
Microzooplankton samples preserved in formalin (MZ)	5	30
Photosynthetically Active Radiation data collected during CTD casts (PAR)	18	
Quantitative tow preserved in formalin (QTowF)	239	248
Rough count of pollock larvae (RCountL)	67	3017
Number of samples for Ron Heintz, AFSC / TSMRI (RHBIO)	10	21
Steve Porter pollock or flathead sole eggs for rearing (SPEGGS)	10	
Steve Porter larval pollock for flow cytometry (SPFCM)	3	60
Pacific cod genetic samples for Tom Hurst - RACE Newport laboratory (THCOD)	15	77

Summary of Cruise:

Narrative:

Our cruise began with sampling over the Bering Canyon for *Atheresthes* spp. and *Rheinhardtius hippoglossoides*. The *Atheresthes* spp. larvae were used to successfully optimize a molecular identification technique so we can visually distinguish arrowtooth and Kamchatka flounder in the future using pigment patterns and morphometrics. After completing 8 stations over Bering Canyon and 4 Unimak Pass stations, we steamed eastward up on to the shelf to begin our survey for walleye pollock (*Theragra chalcogramma*) and Pacific cod (*Gadus macrocephalus*). Walleye pollock, Pacific cod, and arrowtooth flounder are all target species of our NPRB-funded project in the Bering Sea Integrated Ecosystem Research Program (BSIERP). The pollock and cod patch was located and the eastern portion of it was mapped for the next several days before we began a diel study to determine their vertical distribution. While in the patch we obtained samples of larvae for a BSIERP project led by R. Heintz, AFSC / TSMRI to assess the physiological condition of the target fish species during their first year of life. After completing the diel study, we mapped the distribution of fish larvae in the western portion of our grid and then finished the cruise over Bering Canyon to obtain more *Atheresthes* larvae. Three satellite drifters were deployed during the cruise, 2 in the pollock / cod patch and one just north of Unimak Pass. A cruise this summer led by our colleague, Dr. Nicola Hilgruber (UAF), will use the drifter data to locate the fish contained in the patch and conduct additional sampling for the NPRB project. We also obtained samples for many other ancillary projects including: molecular identification of larval fish species, larval feeding condition assessed by flow cytometry and cell cycle indices, visual physiology of Bathylagid fish larvae, larval fish net extrusion experiments, age and growth in Greenland halibut larvae. All work was completed through the combined support of NPRB and NOAA's Climate Regimes and Ecosystem Productivity programs.

Days Lost to Weather:

None

Days Lost to Equipment Failure:

None

Recommendations:

To make MOCNESS operations safer and more efficient, MOC-P and the NOAA – Fisheries should work together to obtain a conducting cable on the aft pointing traction winch. At present it is not possible to use the CTD, bongo / SeaCat, and MOCNESS in rapid succession. There are only two conducting cables to share among the various electronic sample gears and switching the cables between instruments takes additional time and has the associated risk of damaging the termination during the transfer. In addition, there is not room enough on the quarterdeck to use a cart to hold the MOCNESS while using the other pieces of sampling equipment. If scientists need to use all three pieces of equipment then the best solution is to add conducting cable to the only remaining winch (the aft pointing traction winch).

Acknowledgments:

The scientific party would like to acknowledge the hard work and support of the officers and crew of the FRV *Oscar Dyson*. This was our first cruise aboard the *Dyson*, and we were very pleased and impressed with the cooperation of the ship's officers and crew. Their hard work on our behalf helped make this cruise a big success. We especially want to thank the two Senior Survey Techs, Ms. Colleen Peters and Ms. Kathy Hough for their hard work on our behalf. LT Michael Levine, the ship's Operations Officer helped prepare us for a successful cruise, and Mr. Wiley Sliney and his able crew of fisherman helped make our deck operations safe and successful. The EcoFOCI Program is looking forward to working with the ship and her crew for many years to come.

Attachments:

Table 1. Cruise Summary

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
12-May-08	23:06	1	1	BM1	NEU001	127	54 00.24 N	166 58.15 W	Neu	QTowF	
13-May-08	0:11	1	3	BM1	BON002	128	54 00.24 N	166 34.79 W	20Bon	QTowF	HAUL 2 FAILED SEACAT. HAUL 3 IS REPEAT
13-May-08	0:11	1	3	BM1	BON002	128	54 00.24 N	166 34.79 W	60Bon	AMGEN, QTowF, RCountL	HAUL 2 FAILED SEACAT. HAUL 3 IS REPEAT
13-May-08	0:11	1	3	BM1	BON002	128	54 00.24 N	166 34.79 W	60Bon	AMGEN, QTowF, RCountL	HAUL 2 FAILED SEACAT. HAUL 3 IS REPEAT.
13-May-08	0:11	1	3	BM1	BON002	128	54 00.24 N	166 34.79 W	CAT	CAT	AMGEN IS BATHYMASTER SPP. HAUL 2 FAILED SEACAT. HAUL 3 IS REPEAT.
13-May-08	2:18	2	1	BM4	NEU002	1267	54 13.81 N	166 47.87 W	Neu	QTowF	
13-May-08	2:54	2	2	BM4	BON003	1261	54 13.86 N	166 47.61 W	20Bon	QTowF	QUESTIONABLE QUANTITATIVE TOW BECAUSE SHIP SLOWED ON RETRIEVAL
AND											
13-May-08	2:54	2	2	BM4	BON003	1261	54 13.86 N	166 47.61 W	60Bon	CW, ISGEN, QTowF, RCountL	NET DROPPED/STALLED (4) ATHERESTES SPP FOR INGRID SPIES;
13-May-08	2:54	2	2	BM4	BON003	1261	54 13.86 N	166 47.61 W	60Bon	CW, ISGEN, QTowF, RCountL	BATHYMASTER SPP. FOR CHRIS W; (2) GREENLAND HALIBUT LARVAE FOR ILLUSTRATION
13-May-08	2:54	2	2	BM4	BON003	1261	54 13.86 N	166 47.61 W	60Bon	CW, ISGEN, QTowF, RCountL	QUESTIONABLE QUANTITATIVE TOW; STALLED ON RETRIEVAL
13-May-08	2:54	2	2	BM4	BON003	1261	54 13.86 N	166 47.61 W	CAT	CAT	
13-May-08	4:53	3	1	BM7	NEU003	501	54 27.03 N	166 59.70 W	Neu	QTowF	
13-May-08	5:29	3	2	BM7	BON004	508	54 26.59 N	166 59.87 W	20Bon	QTowF	
13-May-08	5:29	3	2	BM7	BON004	508	54 26.59 N	166 59.87 W	60Bon	CW, ISGEN, QTowF, RCountL	
13-May-08	5:29	3	2	BM7	BON004	508	54 26.59 N	166 59.87 W	CAT	CAT	
13-May-08	7:49	4	1	BM10	NEU004	455	54 40.26 N	167 12.31 W	Neu	QTowF	
13-May-08	8:31	4	2	BM10	BON005	455	54 39.94 N	167 12.13 W	20Bon	QTowF	
13-May-08	8:31	4	2	BM10	BON005	455	54 39.94 N	167 12.13 W	60Bon	AMGEN, ISGEN, QTowF, RCountL	
13-May-08	8:31	4	2	BM10	BON005	455	54 39.94 N	167 12.13 W	CAT	CAT	
13-May-08	10:47	5	1	BJ10	CTD001	288	54 47.23 N	166 49.05 W	CTDB	Chlor, CTD, Fluor, PAR	
13-May-08	11:06	5	2	BJ10	NEU005	291	54 47.02 N	166 48.99 W	Neu	QTowF	
13-May-08	12:11	5	3	BJ10	BON006	288	54 47.28 N	166 49.35 W	20Bon	QTowF	
13-May-08	12:11	5	3	BJ10	BON006	288	54 47.28 N	166 49.35 W	60Bon	AMGEN, QTowF, RCountL	
13-May-08	12:11	5	3	BJ10	BON006	288	54 47.28 N	166 49.35 W	CAT	CAT	
13-May-08	13:48	6	1	BJ7	NEU006	418	54 34.36 N	166 37.24 W	Neu	QTowF	
13-May-08	14:21	6	2	BJ7	BON007	420	54 34.16 N	166 37.58 W	20Bon	QTowF	
13-May-08	14:21	6	2	BJ7	BON007	420	54 34.16 N	166 37.58 W	60Bon	AMGEN, CW, QTowF, RCountL	
13-May-08	14:21	6	2	BJ7	BON007	420	54 34.16 N	166 37.58 W	CAT	CAT	
13-May-08	15:16	6	3	BJ7	CTD002	420	54 34.09 N	166 37.31 W	CTDB	Chlor, CTD, Fluor, PAR	
13-May-08	17:25	7	1	BJ4	CTD003	674	54 21.00 N	166 24.35 W	CTDB	Chlor, CTD, Fluor, PAR	
13-May-08	18:02	7	2	BJ4	NEU007	663	54 21.18 N	166 25.13 W	Neu	QTowF	
13-May-08	18:37	7	3	BJ4	BON008	669	54 21.09 N	166 24.86 W	20Bon	QTowF	
13-May-08	18:37	7	3	BJ4	BON008	669	54 21.09 N	166 24.86 W	60Bon	AMGEN, QTowF, RCountL	

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
13-May-08	18:37	7	3	BJ4	BON008	669	54 21.09 N	166 24.86 W	CAT	CAT	
13-May-08	21:34	8	1	BJ1	NEU008	89	54 07.79 N	166 12.11 W	Neu	QTowF	
13-May-08	21:50	8	2	BJ1	BON009	86	54 07.64 N	166 11.08 W	20Bon	QTowF	
13-May-08	21:50	8	2	BJ1	BON009	86	54 07.64 N	166 11.08 W	60Bon	QTowF, RCountL	
13-May-08	21:50	8	2	BJ1	BON009	86	54 07.64 N	166 11.08 W	CAT	CAT	
13-May-08	22:26	8	3	BJ1	CTD004	89	54 07.99 N	166 12.05 W	CTDB	Chlor, CTD, Fluor, PAR	
14-May-08	1:48	9	1	UP A	CTD005	110	54 19.56 N	165 23.59 W	CTDB	Chlor, CTD, Fluor, PAR	FOCI Station is Unimak Pass A
14-May-08	2:13	9	2	UP A	NEU009	148	54 19.77 N	165 24.53 W	Neu	QTowF	
14-May-08	2:48	9	3	UP A	BON010	147	54 19.66 N	165 24.30 W	20Bon	QTowF	
14-May-08	2:48	9	3	UP A	BON010	147	54 19.66 N	165 24.30 W	60Bon	AMGEN, QTowF, RCountL	
14-May-08	2:48	9	3	UP A	BON010	147	54 19.66 N	165 24.30 W	CAT	CAT	
13-May-08	3:45	10	1	UP C	NEU010	165	54 22.33 N	165 16.40 W	Neu	QTowF	
14-May-08	4:13	10	2	UP C	BON011	169	54 22.38 N	165 16.75 W	20Bon	QTowF	
14-May-08	4:13	10	2	UP C	BON011	169	54 22.38 N	165 16.75 W	60Bon	AMGEN, QTowF, RCountL	
14-May-08	4:13	10	2	UP C	BON011	169	54 22.38 N	165 16.75 W	CAT	CAT	
14-May-08	4:47	10	3	UP C	CTD006	177	54 22.38 N	165 17.27 W	CTDB	Chlor, CTD, Fluor, PAR	
14-May-08	5:41	11	1	UP E	CTD007	151	54 24.97 N	165 09.00 W	CTDB	Chlor, CTD, Fluor, PAR	
14-May-08	5:58	11	2	UP E	NEU011	158	54 24.99 N	165 09.47 W	Neu	QTowF	
14-May-08	6:24	11	3	UP E	BON012	157	54 25.04 N	165 09.39 W	20Bon	QTowF	
14-May-08	6:24	11	3	UP E	BON012	157	54 25.04 N	165 09.39 W	60Bon	QTowF, RCountL, SPEGGS, THPCOD	
14-May-08	6:24	11	3	UP E	BON012	157	54 25.04 N	165 09.39 W	CAT	CAT	
14-May-08	7:13	12	1	UP G	NEU012	85	54 27.85 N	165 00.91 W	Neu	QTowF	
14-May-08	7:42	12	2	UP G	BON013	52	54 27.63 N	165 00.84 W	20Bon	Discard	Hit bottom - redo.
14-May-08	7:42	12	2	UP G	BON013	52	54 27.63 N	165 00.84 W	60Bon	Discard	Hit bottom - redo.
14-May-08	7:42	12	2	UP G	BON013	52	54 27.63 N	165 00.84 W	CAT	CAT	Hit bottom - redo.
14-May-08	8:02	12	3	UP G	BON014	52	54 27.61 N	165 00.69 W	20Bon	QTowF	
14-May-08	8:02	12	3	UP G	BON014	52	54 27.61 N	165 00.69 W	60Bon	AMGEN, QtowF, RCountL, SPEGGS, THCOD	
14-May-08	8:02	12	3	UP G	BON014	52	54 27.61 N	165 00.69 W	CAT	CAT	
14-May-08	8:22	12	4	UP G	CTD008	78	54 28.00 N	165 00.76 W	CTDB	Chlor, CTD, Fluor, PAR	
15-May-08	0:13	13	1	Q7	CTD009	49	56 21.71 N	160 48.24 W	CTDB	Chlor, CTD, Fluor, PAR	Collected water at 43 meters for egg incubation
15-May-08	0:27	13	2	Q7	NEU013	49	56 21.77 N	160 48.58 W	Neu	QTowF	
15-May-08	0:55	13	3	Q7	BON015	48	56 21.39 N	160 48.09 W	20Bon	QTowF	
15-May-08	0:55	13	3	Q7	BON015	48	56 21.39 N	160 48.09 W	60Bon	QTowF, RCountL	
15-May-08	0:55	13	3	Q7	BON015	48	56 21.39 N	160 48.09 W	CAT	CAT	
15-May-08	2:22	14	1	Q10	NEU014	72	56 34.74 N	161 00.82 W	Neu	QTowF	
15-May-08	2:48	14	2	Q10	BON016	72	56 34.61 N	161 00.82 W	20Bon	QTowF	
15-May-08	2:48	14	2	Q10	BON016	72	56 34.61 N	161 00.82 W	60Bon	QTowF, RCountL	

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
15-May-08	2:48	14	2	Q10	BON016	72	56 34.61 N	161 00.82 W	CAT	CAT	
15-May-08	3:05	14	3	Q10	CTD010	73	56 34.76 N	161 00.88 W	CTDB	Chlor, CTD, Fluor, PAR	
15-May-08	4:33	15	1	Q13	CTD011	68	56 47.91 N	161 13.84 W	CTDB	Chlor, CTD, Fluor, PAR	
15-May-08	4:45	15	2	Q13	NEU015	68	56 47.95 N	161 13.81 W	Neu	QTowF	
15-May-08	5:07	15	3	Q13	BON017	68	56 47.90 N	161 13.95 W	20Bon	QTowF	
15-May-08	5:07	15	3	Q13	BON017	68	56 47.90 N	161 13.95 W	60Bon	QTowF, RCountL, SPEGGS	
15-May-08	5:07	15	3	Q13	BON017	68	56 47.90 N	161 13.95 W	60Bon	QTowF, RCountL, SPEGGS	9 hippoglossoides elassadon eggs collected for Steve Porter
15-May-08	5:07	15	3	Q13	BON017	68	56 47.90 N	161 13.95 W	CAT	CAT	
15-May-08	6:32	16	1	Q16	NEU016	73	57 01.15 N	161 27.20 W	Neu	QTowF	
15-May-08	6:57	16	2	Q16	BON018	73	57 01.15 N	161 27.23 W	20Bon	QTowF	1 chrysaora (8 cm diameter) removed from 60BON net 1.
15-May-08	6:57	16	2	Q16	BON018	73	57 01.15 N	161 27.23 W	60Bon	QTowF, RCountL	1 chrysaora (8 cm diameter) removed from 60BON net 1.
15-May-08	6:57	16	2	Q16	BON018	73	57 01.15 N	161 27.23 W	CAT	CAT	1 chrysaora (8 cm diameter) removed from 60BON net 1.
15-May-08	7:13	16	3	Q16	CTD012	73	57 01.18 N	161 27.21 W	CTDB	Chlor, CTD, Fluor, PAR	
15-May-08	10:58	17	1	Z19	NEU017	66	56 52.92 N	162 51.18 W	Neu	QTowF	
15-May-08	11:28	17	2	Z19	BON019	66	56 52.88 N	162 50.91 W	20Bon	QTowF	
15-May-08	11:28	17	2	Z19	BON019	66	56 52.88 N	162 50.91 W	60Bon	QTowF, RCountL	
15-May-08	11:28	17	2	Z19	BON019	66	56 52.88 N	162 50.91 W	CAT	CAT	
15-May-08	12:54	18	1	Z16	NEU018	76	56 39.72 N	162 38.22 W	Neu	QTowF	
15-May-08	13:14	18	2	Z16	BON020	76	56 39.71 N	162 37.47 W	20Bon	QTowF	
15-May-08	13:14	18	2	Z16	BON020	76	56 39.71 N	162 37.47 W	60Bon	QTowF, RCountL, SPEGGS	5 jellies taken out of 60Bon Net 1 before processing.
15-May-08	13:14	18	2	Z16	BON020	76	56 39.71 N	162 37.47 W	CAT	CAT	
15-May-08	14:36	19	1	Z13	NEU019	76	56 26.89 N	162 25.31 W	Neu	QTowF	
15-May-08	15:00	19	2	Z13	BON021	76	56 26.55 N	162 24.81 W	20Bon	QTowF	3 jellyfish removed from 60bon Net 1
15-May-08	15:00	19	2	Z13	BON021	76	56 26.55 N	162 24.81 W	60Bon	QTowF, RCountL	3 jellyfish removed from 60bon Net 1
15-May-08	15:00	19	2	Z13	BON021	76	56 26.55 N	162 24.81 W	CAT	CAT	3 jellyfish removed from 60bon Net 1
15-May-08	16:30	20	1	Z10	NEU020	79	56 12.97 N	162 11.99 W	Neu	QTowF	
15-May-08	16:55	20	2	Z10	BON022	78	56 13.55 N	162 11.84 W	20Bon	QTowF	1 large jellyfish removed from 60 bon net 1
15-May-08	16:55	20	2	Z10	BON022	78	56 13.55 N	162 11.84 W	60Bon	QTowF, RCountL, SPEGGS	1 large jellyfish removed from 60 bon net 1
15-May-08	16:55	20	2	Z10	BON022	78	56 13.55 N	162 11.84 W	60Bon	QTowF, RCountL, SPEGGS	1 large jellyfish removed from 60 bon Net 1; Sample lost/spilled
15-May-08	16:55	20	2	Z10	BON022	78	56 13.55 N	162 11.84 W	CAT	CAT	1 large jellyfish removed from 60 bon net 1
15-May-08	19:32	21	1	Z7	NEU021	53	55 59.93 N	161 59.71 W	Neu	QTowF	
15-May-08	19:58	21	2	Z7	BON023	54	56 00.21 N	161 59.32 W	20Bon	QTowF	
15-May-08	19:58	21	2	Z7	BON023	54	56 00.21 N	161 59.32 W	60Bon	QTowF, RCountL	
15-May-08	19:58	21	2	Z7	BON023	54	56 00.21 N	161 59.32 W	CAT	CAT	

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
15-May-08	20:20	22	1	Z7		54	56 00.26 N	161 59.59 W	60Bon	Live, SPEGGS	live tow at surface for eggs. Start mark was mark of record. Bongo out at 20:30, 55 59.84 n lat, 161 59.86 w lon. Bongo about half in water so COD calculated vol. filtered is incorrect.
15-May-08	20:20	22	1	Z7		54	56 00.26 N	161 59.59 W	60Bon	Live, SPEGGS	live tow at surface for eggs. Start mark was mark of record. Bongo out at 20:30, 55 59.84 n lat, 161 59.86 w lon. Bongo about half in water Tow time was approx. 10 minutes.
15-May-08	21:45	23	1	AC7	NEU022	63	55 53.10 N	162 22.86 W	Neu	QTowF	
15-May-08	22:03	23	2	AC7	BON024	60	55 52.69 N	162 22.98 W	20Bon	QTowF	
15-May-08	22:03	23	2	AC7	BON024	60	55 52.69 N	162 22.98 W	60Bon	QTowF, RCountL	
15-May-08	22:03	23	2	AC7	BON024	60	55 52.69 N	162 22.98 W	CAT	CAT	
15-May-08	23:30	24	1	AC10	NEU023	80	56 05.90 N	162 35.35 W	Neu	QTowF	
15-May-08	23:55	24	2	AC10	BON025	79	56 06.75 N	162 36.19 W	20Bon	QTowF	Two samples (33 and 7) for Ron Heintz
15-May-08	23:55	24	2	AC10	BON025	79	56 06.75 N	162 36.19 W	60Bon	QTowF, RCountL, RHBIO	20BON NET 1 HAD A HOLE IN COD END COLLAR, COLLECTED SAMPLE FROM NET
2.											
15-May-08	23:55	24	2	AC10	BON025	79	56 06.75 N	162 36.19 W	60Bon	QTowF, RCountL, RHBIO	Two samples (33 and 7) for Ron Heintz
15-May-08	23:55	24	2	AC10	BON025	79	56 06.75 N	162 36.19 W	CAT	CAT	Two samples (33 and 7) for Ron Heintz
16-May-08	1:25	25	1	AC13		80	56 19.39 N	162 48.23 W	Neu	Discard	FAILED TOW. NET WRAPPED AROUND
WIRE											
16-May-08	1:28	25	2	AC13	NEU024	80	56 19.39 N	162 47.97 W	Neu	QTowF	
16-May-08	1:56	25	3	AC13	BON026	80	56 19.44 N	162 48.43 W	20Bon	QTowF	POSSIBLE CLOGGING. FLOW COUNTS FOR 500 MICRON MESH NET MUCH HIGHER
THAN											
16-May-08	1:56	25	3	AC13	BON026	80	56 19.44 N	162 48.43 W	60Bon	QTowF, RCountL, RHBIO	OTHER MESHES POSSIBLE CLOGGING. FLOW COUNTS FOR 500 MICRON MESH NET MUCH HIGHER
THAN											
16-May-08	1:56	25	3	AC13	BON026	80	56 19.44 N	162 48.43 W	CAT	CAT	OTHER MESHES POSSIBLE CLOGGING. FLOW COUNTS FOR 500 MICRON MESH NET MUCH HIGHER
THAN											
16-May-08	3:34	26	1	AF13		86	56 12.16 N	163 12.16 W	Neu	Discard	OTHER MESHES FAILED TOW. VESSEL SPEED OVER 4 KNOTS WHEN NET DEPLOYED. TOW TIME APPROX. 2 MINUTES. REDO ON NEXT
HAUL.											
16-May-08	3:44	26	2	AF13	NEU025	86	56 12.20 N	163 11.58 W	Neu	QTowF	
16-May-08	4:05	26	3	AF13	BON027	86	56 12.19 N	163 12.24 W	20Bon	QTowF	POSSIBLE CLOGGING. FLOW COUNTS FOR 500 MICRON MESH MUCH HIGHER THAN
FOR											
16-May-08	4:05	26	3	AF13	BON027	86	56 12.19 N	163 12.24 W	60Bon	QTowF, RCountL, RHBIO	OTHER MESHES POSSIBLE CLOGGING. FLOW COUNTS FOR 500 MICRON MESH MUCH HIGHER THAN
FOR											
OTHER MESHES											

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	Samples Collected	Haul Comments
16-May-08	4:05	26	3	AF13	BON027	86	56 12.19 N	163 12.24 W	CAT	CAT	POSSIBLE CLOGGING. FLOW COUNTS FOR 500 MICRON MESH MUCH HIGHER THAN OTHER MESHES
FOR											
16-May-08	6:06	27	1	AC16	NEU026	80	56 32.36 N	163 01.51 W	Neu	QTowF	
16-May-08	6:28	27	2	AC16	BON028	80	56 32.54 N	163 01.45 W	20Bon	QTowF	REMOVED 12 CM JELLY FROM NET 1
16-May-08	6:28	27	2	AC16	BON028	80	56 32.54 N	163 01.45 W	60Bon	QTowF, RCountL	REMOVED 12 CM JELLY FROM NET 1
16-May-08	6:28	27	2	AC16	BON028	80	56 32.54 N	163 01.45 W	60Bon	QTowF, RCountL	REMOVED 12 CM JELLY FROM NET 1. POSSIBLE CLOGGING. 500 MICRON MESH HAD HIGHER FLOWMETER COUNTS THAN SMALLER MESHES.
16-May-08	8:01	28	1	AC19	NEU027	72	56 45.73 N	163 14.33 W	Neu	QTowF	
16-May-08	8:26	28	2	AC19	BON029	72	56 45.73 N	163 14.36 W	20Bon	QTowF	5 jellyfish removed from 60 BON Net 1
16-May-08	8:26	28	2	AC19	BON029	72	56 45.73 N	163 14.36 W	60Bon	QTowF, RCountL, SPEGGS	5 jellyfish removed from 60 BON Net 1
16-May-08	8:26	28	2	AC19	BON029	72	56 45.73 N	163 14.36 W	CAT	CAT	5 jellyfish removed from 60 BON Net 1
16-May-08	10:02	29	1	AF19	NEU028	77	56 38.48 N	163 38.34 W	Neu	QTowF	8 jellyfish removed from Net 1
16-May-08	10:21	29	2	AF19	BON030	77	56 38.59 N	163 37.67 W	20Bon	QTowF	2 jellyfish removed from 60 BON Net 1
16-May-08	10:21	29	2	AF19	BON030	77	56 38.59 N	163 37.67 W	60Bon	QTowF, RCountL	2 jellyfish removed from 60 BON Net 1
16-May-08	10:21	29	2	AF19	BON030	77	56 38.59 N	163 37.67 W	CAT	CAT	2 jellyfish removed from 60 BON Net 1
16-May-08	11:57	30	1	AF16		84	56 25.56 N	163 24.94 W	Neu	Discard	Lost codend
16-May-08	12:12	30	2	AF16	NEU029	84	56 25.30 N	163 24.78 W	Neu	QTowF	
16-May-08	12:35	30	3	AF16	BON031	84	56 25.41 N	163 24.83 W	20Bon	QTowF	
16-May-08	12:35	30	3	AF16	BON031	84	56 25.41 N	163 24.83 W	60Bon	QTowF, RCountL, RHBIO, SPEGGS	
16-May-08	12:35	30	3	AF16	BON031	84	56 25.41 N	163 24.83 W	CAT	CAT	
16-May-08	15:36	31	1	AF10	NEU030	87	55 59.03 N	162 59.13 W	Neu	QTowF	
16-May-08	16:00	31	2	AF10	BON032	86	55 59.15 N	162 58.98 W	20Bon	QTowF	1 large jellyfish removed removed from both 60BON net 1 and 20BON net 1
16-May-08	16:00	31	2	AF10	BON032	86	55 59.15 N	162 58.98 W	60Bon	QTowF, RCountL, RHBIO, SPEGGS	1 large jellyfish removed from 60 BON net 1 and 20 BON net 1.
16-May-08	16:00	31	2	AF10	BON032	86	55 59.15 N	162 58.98 W	60Bon	QTowF, RCountL, RHBIO, SPEGGS	1 large jellyfish removed removed from both 60BON net 1 and 20BON net 1
16-May-08	16:00	31	2	AF10	BON032	86	55 59.15 N	162 58.98 W	CAT	CAT	1 large jellyfish removed removed from both 60BON net 1 and 20BON net 1
16-May-08	17:40	32	1	AF7	NEU031	61	55 45.86 N	162 46.60 W	Neu	QTowF	
16-May-08	18:02	32	2	AF7	BON033	61	55 45.75 N	162 46.76 W	20Bon	QTowF	
16-May-08	18:02	32	2	AF7	BON033	61	55 45.75 N	162 46.76 W	60Bon	AMGEN, QTowF, RCountL, RHBIO	
16-May-08	18:02	32	2	AF7	BON033	61	55 45.75 N	162 46.76 W	CAT	CAT	
16-May-08	18:39	32	3	AF7	SAT001	60	55 45.83 N	162 46.36 W	SatBuoy	Deploy	Drifter #80088
16-May-08	19:47	33	1	AF4	NEU032	39	55 35.81 N	162 36.43 W	Neu	QTowF	
16-May-08	22:09	33	2	AF4	BON034	38	55 35.83 N	162 36.72 W	20Bon	QTowF	
16-May-08	22:09	33	2	AF4	BON034	38	55 35.83 N	162 36.72 W	60Bon	QTowF, RCountL, RHBIO	
16-May-08	22:09	33	2	AF4	BON034	38	55 35.83 N	162 36.72 W	CAT	CAT	

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
16-May-08	21:42	34	1	AI4	NEU033	42	55 28.11 N	162 55.85 W	Neu	QTowF	
16-May-08	22:02	34	2	AI4	BON035	42	55 28.14 N	162 55.72 W	20Bon	QTowF	
16-May-08	22:02	34	2	AI4	BON035	42	55 28.14 N	162 55.72 W	60Bon	QTowF, RCountL	
16-May-08	22:02	34	2	AI4	BON035	42	55 28.14 N	162 55.72 W	CAT	CAT	
16-May-08	23:22	35	1	AI7	NEU034	70	55 39.22 N	163 10.52 W	Neu	QTowF	
16-May-08	23:37	35	2	AI7	BON036	69	55 39.01 N	163 09.82 W	20Bon	QTowF	
16-May-08	23:37	35	2	AI7	BON036	69	55 39.01 N	163 09.82 W	60Bon	QTowF, RCountL, RHBIO	
16-May-08	23:37	35	2	AI7	BON036	69	55 39.01 N	163 09.82 W	CAT	CAT	
17-May-08	1:34	36	1	AI10	NEU035	91	55 51.81 N	163 22.30 W	Neu	QTowF	
17-May-08	1:58	36	2	AI10	BON037	91	55 51.98 N	163 22.17 W	20Bon	QTowF	
17-May-08	1:58	36	2	AI10	BON037	91	55 51.98 N	163 22.17 W	60Bon	AMGEN, QTowF, RCountL, SPFCM	
17-May-08	1:58	36	2	AI10	BON037	91	55 51.98 N	163 22.17 W	CAT	CAT	
17-May-08	2:25	36	3	AI10	CTD013	91	55 52.02 N	163 22.18 W	CTDB	CTD, Fluor, PAR	BOTTLES TRIPPED AT WRONG DEPTHS MZ SAMPLES FOR STEVE PORTER LARVAL CONDITION STUDY
17-May-08	2:52	36	4	AI10	CTD014	91	55 52.30 N	163 22.01 W	CTDB	Chlor, CTD, Fluor, MZ, PAR	
17-May-08	4:19	37	1	AI13	NEU036	91	56 05.03 N	163 34.90 W	Neu	QTowF	
17-May-08	4:38	37	2	AI13	BON038	91	56 05.05 N	163 35.14 W	20Bon	QTowF	"bongo at depth" was pushed a couple seconds late. Time above is correct.
17-May-08	4:38	37	2	AI13	BON038	91	56 05.05 N	163 35.14 W	60Bon	AMGEN, QTowF, RCountL, RHBIO	"bongo at depth" was pushed a couple seconds late. Time above is correct.
17-May-08	4:38	37	2	AI13	BON038	91	56 05.05 N	163 35.14 W	CAT	CAT	"bongo at depth" was pushed a couple seconds late. Time above is correct.
17-May-08	6:04	38	1	AI16	NEU037	87	56 18.05 N	163 47.89 W	Neu	QTowF	
17-May-08	6:26	38	2	AI16	BON039	87	56 18.21 N	163 48.09 W	20Bon	QTowF	
17-May-08	6:26	38	2	AI16	BON039	87	56 18.21 N	163 48.09 W	60Bon	QTowF, RCountL	
17-May-08	6:26	38	2	AI16	BON039	87	56 18.21 N	163 48.09 W	CAT	CAT	
17-May-08	7:59	39	1	AL16	NEU038	90	56 11.18 N	164 10.77 W	Neu	QTowF	
17-May-08	8:18	39	2	AL16	BON040	90	56 11.10 N	164 11.11 W	20Bon	QTowF	
17-May-08	8:18	39	2	AL16	BON040	90	56 11.10 N	164 11.11 W	60Bon	QTowF, RCountL	
17-May-08	8:18	39	2	AL16	BON040	90	56 11.10 N	164 11.11 W	CAT	CAT	
17-May-08	10:02	40	1	AL13	NEU039	92	55 57.88 N	163 58.80 W	Neu	QTowF	
17-May-08	10:31	40	2	AL13	BON041	92	55 57.87 N	163 58.68 W	20Bon	QTowF	
17-May-08	10:31	40	2	AL13	BON041	92	55 57.87 N	163 58.68 W	60Bon	AMGEN, QTowF, RCountL	
17-May-08	10:31	40	2	AL13	BON041	92	55 57.87 N	163 58.68 W	CAT	CAT	
17-May-08	12:09	41	1	AL10	NEU040	95	55 44.87 N	163 45.82 W	Neu	QTowF	
17-May-08	12:37	41	2	AL10	BON042	95	55 44.75 N	163 45.70 W	20Bon	QTowF	1 large jellyfish removed from 60BON Net 1
17-May-08	12:37	41	2	AL10	BON042	95	55 44.75 N	163 45.70 W	60Bon	AMGEN, QTowF, RCountL	1 large jellyfish removed from 60BON Net 1
17-May-08	12:37	41	2	AL10	BON042	95	55 44.75 N	163 45.70 W	CAT	CAT	1 large jellyfish removed from 60BON Net 1
17-May-08	14:07	42	1	AL7	NEU041	74	55 31.36 N	163 33.25 W	Neu	QTowF	
17-May-08	14:31	42	2	AL7	BON043	75	55 31.47 N	163 33.14 W	20Bon	QTowF	

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
17-May-08	14:31	42	2	AL7	BON043	75	55 31.47 N	163 33.14 W	60Bon	AMGEN, QTowF, RCountL	
17-May-08	14:31	42	2	AL7	BON043	75	55 31.47 N	163 33.14 W	CAT	CAT	
17-May-08	17:00	43	1	AI7	MOC001	67	55 38.84 N	163 08.98 W	MOC1	Discard	Electrical conductor in ship's termination broke during deployment. Unable to begin tow. Time and position dummied.
17-May-08	19:09	43	2	AI7	CTD015	67	55 38.70 N	163 09.65 W	CTDB	Chlor, CTD, Fluor, MZ, PAR	
17-May-08	22:29	43	3	AI7	MOC002	67	55 38.30 N	163 10.42 W	MOC1	QTowF	Initial pressure on deck = 2
18-May-08	1:52	43	4	AI7	MOC003	68	55 38.84 N	163 08.98 W	MOC1	QTowF	
18-May-08	4:14	43	5	AI7	CTD016	70	55 38.80 N	163 09.32 W	CTDB	Chlor, CTD, Fluor, MZ, PAR	
18-May-08	4:52	43	6	AI7	MOC004	69	55 39.87 N	163 09.66 W	MOC1	QTowF	
18-May-08	6:49	43	7	AI7	BUOY002	67	55 38.45 N	163 07.91 W	SatBuoy	Deploy	
18-May-08	9:22	43	8	AI7	MOC005	67	55 38.46 N	163 09.28 W	MOC1	QTowF	2 jellyfish removed from net 2. 1 jellyfish removed from net 4. Salinity sensor not working.
18-May-08	11:49	43	9	AI7	CTD017	68	55 38.73 N	163 09.62 W	CTDB	Discard	Bottle 7 did not open. Redo.
18-May-08	12:07	43	10	AI7	CTD018	68	55 38.86 N	163 09.38 W	CTDB	Chlor, CTD, Fluor, MZ, PAR	2nd conductivity failed. Full moon.
18-May-08	12:40	43	11	AI7	MOC006	68	55 38.72 N	163 09.66 W	MOC1	QTowF	Net 7-1 large jelly removed. Net 5-1 huge jelly removed. Salinity sensor not working.
18-May-08	12:40	43	11	AI7	MOC006	68	55 38.72 N	163 09.66 W	MOC1	QTowF	Net 7-1 large jelly removed. Net 7-1 huge jelly removed. Salinity sensor not working.
18-May-08	16:13	43	12	AI7	MOC007	68	55 38.63 N	163 09.51 W	MOC1	QTowF	Salinity sensor not working. After opening net 2; frame sank to 64 m; but did not hit bottom.
18-May-08	20:11	43	13	AI7	CTD019	67	55 38.45 N	163 09.48 W	CTDB	Chlor, CTD, Fluor, MZ, PAR	
18-May-08	20:37	43	14	AI7	MOC008	67	55 38.65 N	163 09.88 W	MOC1	QTowF	Salinity sensor not working
18-May-08	23:00	43	15	AI7	BON044	67	55 38.75 N	163 09.92 W	60Bon	SPFCM	Live tow to collect larvae for Steve Porter
18-May-08	23:00	43	15	AI7	BON044	67	55 38.75 N	163 09.92 W	60Bon	SPFCM	Live tow to collect larvae for Steve Porter. Larvae collected from both 60bon net 1 and 60bon net 2.
18-May-08	23:00	43	15	AI7	BON044	67	55 38.75 N	163 09.92 W	CAT	CAT	
19-May-08	0:08	43	16	AI7	BON045	67	55 38.19 N	163 09.43 W	60Bon	Discard	Live tow #2 to collect larvae for Steve Porter. Codend filled with jellyfish
19-May-08	0:08	43	16	AI7	BON045	67	55 38.19 N	163 09.43 W	CAT	CAT	
19-May-08	0:21	43	17	AI7	BON046	65	55 37.88 N	163 09.05 W	60Bon	RHBIO, SPFCM	Live tow #3 to collect pollock larvae for steve porter and ron heinz.
19-May-08	0:21	43	17	AI7	BON046	65	55 37.88 N	163 09.05 W	60Bon	RHBIO, SPFCM	Live tow #3 to collect pollock larvae for steve porter and ron heinz. Samples were taken from both 60bon cod ends.
19-May-08	0:21	43	17	AI7	BON046	65	55 37.88 N	163 09.05 W	CAT	CAT	Live tow #3 to collect pollock larvae for steve porter and ron heinz.
19-May-08	3:05	44	1	AL4	NEU042	49	55 18.05 N	163 20.31 W	Neu	QTowF	
19-May-08	3:29	44	2	AL4	BON047	50	55 18.46 N	163 20.08 W	20Bon	QTowF	Flowmeters in air were blown for 30sec-1min before deployment.

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	Samples Collected	Haul Comments
19-May-08	3:29	44	2	AL4	BON047	50	55 18.46 N	163 20.08 W	60Bon	AMGEN, QTowF, RCountL	Flowmeters in air were blown for 30sec-1min before deployment.
19-May-08	3:29	44	2	AL4	BON047	50	55 18.46 N	163 20.08 W	CAT	CAT	Flowmeters in air were blown for 30sec-1min before deployment.
19-May-08	4:59	45	1	AO4	NEU043	48	55 11.24 N	163 43.36 W	Neu	QTowF	
19-May-08	5:19	45	2	AO4	BON048	47	55 11.13 N	163 43.70 W	20Bon	QTowF	
19-May-08	5:19	45	2	AO4	BON048	47	55 11.13 N	163 43.70 W	60Bon	AMGEN, QTowF, RCountL	
19-May-08	5:19	45	2	AO4	BON048	47	55 11.13 N	163 43.70 W	CAT	CAT	
19-May-08	6:38	46	1	AO7	NEU044	89	55 24.16 N	163 56.07 W	Neu	QTowF	
19-May-08	6:58	46	2	AO7	BON049	90	55 24.46 N	163 56.40 W	20Bon	QTowF	Jelly removed from 60bon net 1.
19-May-08	6:58	46	2	AO7	BON049	90	55 24.46 N	163 56.40 W	60Bon	AMGEN, QTowF, RCountL, THCOD	Jelly removed from 60bon net 1.
19-May-08	6:58	46	2	AO7	BON049	90	55 24.46 N	163 56.40 W	CAT	CAT	Jelly removed from 60bon net 1.
19-May-08	8:35	47	1	AO10	NEU045	95	55 37.72 N	164 09.47 W	Neu	QTowF	
19-May-08	8:54	47	2	AO10	BON050	96	55 37.23 N	164 08.52 W	20Bon	QTowF	Nets stayed at surface about 30 seconds on retrieval. 1 jellyfish removed from 60BON net 1.
19-May-08	8:54	47	2	AO10	BON050	96	55 37.23 N	164 08.52 W	60Bon	QTowF, RCountL	Nets stayed at surface about 30 seconds at retrieval. 1 jellyfish removed from 60BON net 1.
19-May-08	8:54	47	2	AO10	BON050	96	55 37.23 N	164 08.52 W	60Bon	QTowF, RCountL	Nets stayed at surface about 30 seconds on retrieval. 1 jellyfish removed from 60BON net 1.
19-May-08	8:54	47	2	AO10	BON050	96	55 37.23 N	164 08.52 W	CAT	CAT	Nets stayed at surface about 30 seconds on retrieval. 1 jellyfish removed from 60BON net 1.
19-May-08	10:47	48	1	AO13	NEU046	95	55 50.97 N	164 22.15 W	Neu	QTowF	
19-May-08	11:05	48	2	AO13	BON051	95	55 55.51 N	164 21.13 W	20Bon	QTowF	
19-May-08	11:05	48	2	AO13	BON051	95	55 55.51 N	164 21.13 W	60Bon	AMGEN, QTowF, RCountL, THCOD	
19-May-08	11:05	48	2	AO13	BON051	95	55 55.51 N	164 21.13 W	CAT	CAT	
19-May-08	12:38	49	1	AR13	NEU047	98	55 43.72 N	164 44.97 W	Neu	QTowF	
19-May-08	13:04	49	2	AR13	BON052	98	55 43.57 N	164 44.90 W	20Bon	QTowF	
19-May-08	13:04	49	2	AR13	BON052	98	55 43.57 N	164 44.90 W	60Bon	QTowF, RCountL	
19-May-08	13:04	49	2	AR13	BON052	98	55 43.57 N	164 44.90 W	CAT	CAT	
19-May-08	14:29	50	1	AR10	NEU048	101	55 30.50 N	164 32.32 W	Neu	QTowF	
19-May-08	14:54	50	2	AR10	BON053	102	55 30.41 N	164 32.18 W	20Bon	QTowF	Flowmeters on 60BON were closer in no. of revs this time; probably due to less algae.
19-May-08	14:54	50	2	AR10	BON053	102	55 30.41 N	164 32.18 W	60Bon	QTowF, RCountL, THCOD	Flowmeters on 60BON were closer in no. of revs this time; probably due to less algae.
19-May-08	14:54	50	2	AR10	BON053	102	55 30.41 N	164 32.18 W	60Bon	QTowF, RCountL, THCOD	Flowmeters on 60BON were closer in no. of revs this time; probably due to less algae.
19-May-08	14:54	50	2	AR10	BON053	102	55 30.41 N	164 32.18 W	CAT	CAT	Flowmeters on 60BON were closer in no. of revs this time; probably due to less algae.
19-May-08	16:19	51	1	AR7	NEU049	97	55 17.18 N	164 19.75 W	Neu	QTowF	

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
19-May-08	16:46	51	2	AR7	BON054	97	55 17.14 N	164 19.75 W	20Bon	QTowF	
19-May-08	16:46	51	2	AR7	BON054	97	55 17.14 N	164 19.75 W	60Bon	QTowF, RCountL	
19-May-08	16:46	51	2	AR7	BON054	97	55 17.14 N	164 19.75 W	CAT	CAT	
19-May-08	18:31	52	1	AR4	NEU050	46	55 05.97 N	164 09.43 W	Neu	QTowF	
19-May-08	18:48	52	2	AR4	BON055	47	55 05.67 N	164 09.40 W	20Bon	QTowF	
19-May-08	18:48	52	2	AR4	BON055	47	55 05.67 N	164 09.40 W	60Bon	AMGEN, QTowF, RCountL, THCOD	
19-May-08	18:48	52	2	AR4	BON055	47	55 05.67 N	164 09.40 W	CAT	CAT	
19-May-08	20:12	53	1	AU4	NEU051	52	54 57.24 N	164 32.38 W	Neu	QTowF	
19-May-08	20:22	53	2	AU4	BON056	52	54 57.24 N	164 32.38 W	20Bon	Discard	FAILED TOW. SEACAT DID NOT COMMUNICATE AND TOW ABORTED. TIME;LAT LON; DEPTH ARE APPROXIMATE. REDO ON NEXT TOW.
19-May-08	20:22	53	2	AU4	BON056	52	54 57.24 N	164 32.38 W	60Bon	Discard	FAILED TOW. SEACAT DID NOT COMMUNICATE AND TOW ABORTED. TIME;LAT LON; DEPTH ARE APPROXIMATE. REDO ON NEXT TOW.
19-May-08	20:22	53	2	AU4	BON056	52	54 57.24 N	164 32.38 W	CAT	CAT	FAILED TOW. SEACAT DID NOT COMMUNICATE AND TOW ABORTED. TIME;LAT LON; DEPTH ARE APPROXIMATE. REDO ON NEXT TOW.
19-May-08	20:50	53	3	AU4	BON057	53	54 57.24 N	164 32.38 W	20Bon	Discard	SEACAT NOT COMMUNICATING AGAIN. ABORTED TOW. REDO ON NEXT HAUL. TIME;LAT;LON; AND MAX DEPTH ARE APPROXIMATE.
19-May-08	20:50	53	3	AU4	BON057	53	54 57.24 N	164 32.38 W	60Bon	Discard	SEACAT NOT COMMUNICATING AGAIN. ABORTED TOW. REDO ON NEXT HAUL. TIME;LAT;LON; AND MAX DEPTH ARE APPROXIMATE.
19-May-08	20:50	53	3	AU4	BON057	53	54 57.24 N	164 32.38 W	CAT	CAT	SEACAT NOT COMMUNICATING AGAIN. ABORTED TOW. REDO ON NEXT HAUL. TIME;LAT;LON; AND MAX DEPTH ARE APPROXIMATE.
19-May-08	21:26	53	4	AU4	BON058	51	54 56.81 N	164 32.90 W	20Bon	QTowF	
19-May-08	21:26	53	4	AU4	BON058	51	54 56.81 N	164 32.90 W	60Bon	QTowF, RCountL	
19-May-08	21:26	53	4	AU4	BON058	51	54 56.81 N	164 32.90 W	CAT	CAT	
19-May-08	22:46	54	1	AU7	NEU052	101	55 09.54 N	164 43.03 W	Neu	QTowF	
19-May-08	23:02	54	2	AU7	BON059	101	55 09.93 N	164 42.66 W	20Bon	QTowF	
19-May-08	23:02	54	2	AU7	BON059	101	55 09.93 N	164 42.66 W	60Bon	AMGEN, QTowF, RCountL, THCOD	
19-May-08	23:02	54	2	AU7	BON059	101	55 09.93 N	164 42.66 W	CAT	CAT	
20-May-08	0:37	55	1	AU10	NEU053	107	55 23.24 N	164 55.78 W	Neu	QTowF	Flow counts seem high, but we checked and they seem correct.
20-May-08	1:03	55	2	AU10	BON060	107	55 23.19 N	164 55.52 W	20Bon	QTowF	
20-May-08	1:03	55	2	AU10	BON060	107	55 23.19 N	164 55.52 W	60Bon	AMGEN, QTowF, RCountL, THCOD	
20-May-08	1:03	55	2	AU10	BON060	107	55 23.19 N	164 55.52 W	CAT	CAT	

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
20-May-08	2:34	56	1	AU13	NEU054	110	55 36.28 N	165 08.48 W	Neu	QTowF	
20-May-08	2:51	56	2	AU13	BON061	109	55 36.68 N	165 07.31 W	20Bon	QTowF	
20-May-08	2:51	56	2	AU13	BON061	109	55 36.68 N	165 07.31 W	60Bon	QTowF, RCountL, THCOD	
20-May-08	2:51	56	2	AU13	BON061	109	55 36.68 N	165 07.31 W	CAT	CAT	
20-May-08	4:33	57	1	AX13	NEU055	116	55 29.28 N	165 31.02 W	Neu	QTowF	ROUGH SEAS
20-May-08	5:01	57	2	AX13	BON062	116	55 29.22 N	165 30.80 W	20Bon	QTowF	
20-May-08	5:01	57	2	AX13	BON062	116	55 29.22 N	165 30.80 W	60Bon	AMGEN, QTowF, RCountL, THCOD	
20-May-08	5:01	57	2	AX13	BON062	116	55 29.22 N	165 30.80 W	CAT	CAT	
20-May-08	6:36	58	1	AX10	NEU056	115	55 15.91 N	165 18.39 W	Neu	QTowF	
20-May-08	7:03	58	2	AX10	BON063	115	55 16.05 N	165 18.15 W	20Bon	QTowF	
20-May-08	7:03	58	2	AX10	BON063	115	55 16.05 N	165 18.15 W	60Bon	AMGEN, QTowF, RCountL, THCOD	
20-May-08	7:03	58	2	AX10	BON063	115	55 16.05 N	165 18.15 W	CAT	CAT	
20-May-08	8:40	59	1	AX7	NEU057	113	55 02.57 N	165 06.08 W	Neu	QTowF	Rough seas; gear hopping more than usual.
20-May-08	9:01	59	2	AX7	BON064	113	55 03.33 N	165 05.02 W	20Bon	QTowF	Rough seas.
20-May-08	9:01	59	2	AX7	BON064	113	55 03.33 N	165 05.02 W	60Bon	AMGEN, ISGEN, QTowF, RCountL, THCOD	Rough seas.
20-May-08	9:01	59	2	AX7	BON064	113	55 03.33 N	165 05.02 W	CAT	CAT	Rough seas.
20-May-08	9:23	59	3	AX4	BUOY03	111	55 04.05 N	165 04.80 W	SatBuoy	Deploy	Deploy SatBuoy 80090.
20-May-08	11:26	60	1	BA7	NEU058	126	54 55.46 N	165 29.14 W	Neu	QTowF	Rough seas.
20-May-08	11:58	60	2	BA7	BON065	127	54 55.71 N	165 28.79 W	20Bon	QTowF	Rough seas. Flowmeters spinning in wind. 3 dips in upcast due to changes in speed over ground because of wind and waves.
20-May-08	11:58	60	2	BA7	BON065	127	54 55.71 N	165 28.79 W	60Bon	AMGEN, QTowF, RCountL	Rough seas. Flowmeters spinning in wind. 3 dips in upcast due to changes in speed over ground because of wind and waves.
20-May-08	11:58	60	2	BA7	BON065	127	54 55.71 N	165 28.79 W	CAT	CAT	Rough seas. Flowmeters spinning in wind. 3 dips in upcast due to changes in speed over ground because of wind and waves.
20-May-08	13:40	61	1	BA10	NEU059	124	55 08.68 N	165 41.47 W	Neu	QTowF	Rough seas.
20-May-08	14:07	61	2	BA10	BON066	124	55 08.84 N	165 41.18 W	20Bon	QTowF	Rough seas. Flowmeters spinning in the wind. Dips of net during upcast due to changes in ship's speed. 60Bon Net 1 codend bottom blew out. Will redo.
20-May-08	14:07	61	2	BA10	BON066	124	55 08.84 N	165 41.18 W	60Bon	AMGEN, ISGEN, RCountL, THCOD	Rough seas. Flowmeters spinning in the wind. Dips of net during upcast due to changes in ship's speed. 60Bon Net 1 codend bottom blew out. Will redo.
20-May-08	14:07	61	2	BA10	BON066	124	55 08.84 N	165 41.18 W	CAT	CAT	Rough seas. Flowmeters spinning in the wind. Dips of net during upcast due to changes in ship's speed. 60Bon Net 1 codend bottom blew out. Will redo.
20-May-08	14:48	61	3	BA10	BON067	124	55 08.76 N	165 41.26 W	20Bon	QTowF	Rough seas. Dips in upcast caused by changing ship speed.

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	Samples Collected	Haul Comments
20-May-08	14:48	61	3	BA10	BON067	124	55 08.76 N	165 41.26 W	60Bon	QTowF, RCountL, THCOD	Rough seas. Dips in upcast caused by changing ship speed.
20-May-08	14:48	61	3	BA10	BON067	124	55 08.76 N	165 41.26 W	CAT	CAT	Rough seas. Dips in upcast caused by changing ship speed.
20-May-08	16:41	62	1	BD10	NEU060	137	55 01.43 N	166 04.58 W	Neu	QTowF	Rough seas.
20-May-08	17:04	62	2	BD10	BON068	137	55 02.17 N	166 03.77 W	20Bon	QTowF	rough seas. Dip in upcast do to slowing ship speed.
20-May-08	17:04	62	2	BD10	BON068	137	55 02.17 N	166 03.77 W	60Bon	AMGEN, QTowF, RCountL	rough seas. Dip in upcast do to slowing ship speed.
20-May-08	17:04	62	2	BD10	BON068	137	55 02.17 N	166 03.77 W	CAT	CAT	rough seas. Dip in upcast do to slowing ship speed.
20-May-08	18:56	63	1	BD7	NEU061	168	54 48.31 N	165 51.88 W	Neu	QTowF	
20-May-08	19:21	63	2	BD7	BON069	166	54 48.58 N	165 51.77 W	20Bon	Discard	ROUGH SEAS. FLOWMETERS SPINNING IN WIND. 20 BON NET FRAME FELL OFF OF PRIMARY MOUNT. DISCARD BOTH 20 BON NETS.
20-May-08	19:21	63	2	BD7	BON069	166	54 48.58 N	165 51.77 W	60Bon	CW, QTowF, RCountL	ROUGH SEAS. FLOWMETERS SPINNING IN WIND.
20-May-08	19:21	63	2	BD7	BON069	166	54 48.58 N	165 51.77 W	CAT	CAT	ROUGH SEAS. FLOWMETERS SPINNING IN WIND. 20 BON NET FRAME FELL OFF OF PRIMARY MOUNT. DISCARD BOTH 20 BON NETS.
20-May-08	21:03	64	1	BG7	NEU062	292	54 41.17 N	166 15.55 W	Neu	QTowF	ROUGH SEAS.
20-May-08	22:47	64	2	BG7	BON070	269	54 42.52 N	166 14.03 W	20Bon	QTowF	THERE WAS A FIRST ATTEMPT TO DEPLOY THIS BONGO BUT SEACAT WASN'T TURNED ON. DEPLOYED AGAIN WITH NEW FLOW NUMBERS AFTER RINSING NETS. DID NOT COUNT ERROR TOW AS A FAILED TOW.
20-May-08	22:47	64	2	BG7	BON070	269	54 42.52 N	166 14.03 W	60Bon	AMGEN, ISGEN, QTowF, RCountL	THERE WAS A FIRST ATTEMPT TO DEPLOY THIS BONGO BUT SEACAT WASN'T TURNED ON. DEPLOYED AGAIN WITH NEW FLOW NUMBERS AFTER RINSING NETS. DID NOT COUNT ERROR TOW AS A FAILED TOW.
20-May-08	22:47	64	2	BG7	BON070	269	54 42.52 N	166 14.03 W	CAT	CAT	THERE WAS A FIRST ATTEMPT TO DEPLOY THIS BONGO BUT SEACAT WASN'T TURNED ON. DEPLOYED AGAIN WITH NEW FLOW NUMBERS AFTER RINSING NETS. DID NOT COUNT ERROR TOW AS A FAILED TOW.
20-May-08	23:39	65	1	BG10	NEU063	155	54 53.75 N	166 27.53 W	Neu	QTowF	ROUGH SEAS.
21-May-08	0:00	65	2	BG10	BON071	153	54 54.65 N	166 26.61 W	20Bon	QTowF	STOPPED SHORT OF THE BOTTOM
BECAUSE											
WAS											
ANGLE WAS HIGH AND SO MUCH WIRE											
OUT THAT THERE WAS A DANGER OF HITTING THE BOTTOM. NET WENT UNDER SHIP. ROUGH SEAS.											

Cruise Summary For FOCI Cruise 3DY08 (DY0807)

Date (GMT)	Time (GMT)	Station	Haul	FOCI Grid	Alternate Station	Depth (m)	Latitude	Longitude	Gear	SamplesCollected	HaulComments
21-May-08 BECAUSE	0:00	65	2	BG10	BON071	153	54 54.65 N	166 26.61 W	60Bon	AMGEN, CW, ISGEN, QTowF, RCountL, THCOD	STOPPED SHORT OF THE BOTTOM ANGLE WAS HIGH AND SO MUCH WIRE OUT THAT THERE WAS A DANGER OF HITTING THE BOTTOM. NET WENT UNDER SHIP. ROUGH SEAS.
21-May-08 BECAUSE	0:00	65	2	BG10	BON071	153	54 54.65 N	166 26.61 W	CAT	CAT	STOPPED SHORT OF THE BOTTOM ANGLE WAS HIGH AND SO MUCH WIRE OUT THAT THERE WAS A DANGER OF HITTING THE BOTTOM. NET WENT UNDER SHIP. ROUGH SEAS.
21-May-08	1:59	66	1	BJ10	NEU064	292	54 47.07 N	166 49.93 W	Neu	QTowF	
21-May-08	2:24	66	2	BJ10	BON072	273	54 48.52 N	166 49.63 W	20Bon	QTowF	
21-May-08	2:24	66	2	BJ10	BON072	273	54 48.52 N	166 49.63 W	60Bon	AMGEN, CW, ISGEN, QTowF, RCountL, THCOD	
21-May-08	2:24	66	2	BJ10	BON072	273	54 48.52 N	166 49.63 W	CAT	CAT	
21-May-08	4:44	67	1	BJ7	CTD020	418	54 34.36 N	167 37.34 W	CTDB	CTD	COLLECTED WATER AT 129 METERS FOR STEVER PORTER EGG INCUBATION NEXT CRUISE.
21-May-08	5:03	67	2	BJ7	NEU065	421	54 33.95 N	166 37.01 W	Neu	QTowF	
21-May-08	5:39	67	3	BJ7	BON073	424	54 34.08 N	166 37.10 W	20Bon	QTowF	
21-May-08	5:39	67	3	BJ7	BON073	424	54 34.08 N	166 37.10 W	60Bon	CW, ISGEN, QTowF, RCountL	
21-May-08	5:39	67	3	BJ7	BON073	424	54 34.08 N	166 37.10 W	CAT	CAT	
21-May-08	7:19	68	1		BON074	482	54 28.96 N	166 53.71 W	20Bon	QTowF	
21-May-08	7:19	68	1		BON074	482	54 28.96 N	166 53.71 W	60Bon	AMGEN, CW, ISGEN, QTowF, RCountL	
21-May-08	7:19	68	1		BON074	482	54 28.96 N	166 53.71 W	CAT	CAT	

Figure 1. Station Map

