FINAL CRUISE INSTRUCTIONS

ECO-FOCI

NOAA Ship *Oscar Dyson*, Cruise DY-09-08
May 26 – June 6, 2009
Chief Scientist – Annette Dougherty, NOAA/AFSC

1.0 DRAFT CRUISE INSTRUCTIONS

1.1 **Cruise Title –** Ecosystem and Fisheries-Oceanography Coordinated Investigations (Eco-FOCI).

1.2 **Cruise Numbers:**

1.2.1 **Cruise Number** – DY-09-08

1.2.2 **Eco-FOCI Number** – 4DY09

1.3 **Cruise Dates:**

1.3.1 **Departure** - Depart Tuesday, May 26, 2009, at 1500 hours from Kodiak Island, Alaska.

1.3.2 **Arrival** – Arrive Saturday, June 6, 2009 at 0800 hours in Kodiak Island, Alaska.

1.4 **Operating Area** – Shumagin Islands to Shelikof Strait, Gulf of Alaska.

2.0 CRUISE OVERVIEW

2.1 **Cruise Objectives** - The objectives of this cruise are to conduct an ichthyoplankton survey and process oriented studies in the region between the Shumagin Islands to Shelikof Strait so that we may estimate the abundance, transport, and factors influencing the survival of young walleye pollock larvae. We will also occupy stations on Line 8 to continue our 24-year time series of environmental and biological conditions in Shelikof Strait.

2.2 **Applicability** - These instructions, with ***FOCI Standard Operating Instructions for NOAA Ship Oscar Dyson***, dated November 11, 2005, (http://www.pmel.noaa.gov/foci/operations/OD_SOI.pdf), present complete information for this cruise present complete information for this cruise.

2.3 **Participating Organizations**

NOAA - Alaska Fisheries Science Center (AFSC)
7600 Sand Point Way N.E., Seattle, Washington 98115-0070

2.4 Personnel

2.4.1 Chief Scientist

Name	Gender	Affiliation	E-mail Address	Citizenship
Annette Dougherty (206)526-6523	Female	AFSC	Annette.Dougherty@noaa.gov	USA

2.4.2 Other Participating Scientists

Name	Gender	Affiliation	E-mail Address	Citizenship
Steven Porter	Male	AFSC	Steve.Porter@noaa.gov	USA
Tiffany Vance	Female	AFSC	Tiffany.C.Vance@noaa.gov	USA
Miriam Doyle	Female	AFSC	Miriam.Doyle@noaa.gov	USA

2.5 Administration

2.5.1 Ship Operations

Marine Operations Center, Pacific
1801 Fairview Avenue East
Seattle, Washington 98102-3767
Tel: (206) 553-4548 / Fax: (206) 553-1109

CDR Mike Francisco, NOAA
Chief, Operations Division, Pacific (MOP1)
Telephone: (206) 553-8705
Cellular: (206) 518-1941
E-mail: ChiefOps.MOP@noaa.gov

2.5.2 Scientific Operations

Dr. Phyllis J. Stabeno, PMEL
Telephone: (206) 526-6453
E-mail: Phyllis.Stabeno@noaa.gov

Dr. Jeffrey Napp, AFSC
Telephone: (206) 526-4148
E-mail: Jeff.Napp@noaa.gov

3.0 OPERATIONS

3.1 Data To Be Collected

3.1.1 **Scientific Computer System (SCS)** - The ship's SCS shall operate throughout the cruise, acquiring and logging data from navigation, meteorological, oceanographic, and fisheries sensors. See ***FOCI Standard Operating Instructions for NOAA Ship***

Oscar Dyson (SOI 5.2) for specific requirements.

3.2 **Staging Plan** – **NOAA *Oscar Dyson*** will be loaded with FOCI gear May 7, 2009 while the ship is in port in Dutch Harbor, Alaska before DY-09-07 survey begins.

3.3 **De-staging Plan** - AFSC will off-load FOCI gear and samples from **NOAA Ship *Oscar Dyson*** while the ship is Kodiak Island, Alaska the morning of June 6. The scientific party will need assistance from the vessel in off-loading the gear and samples to be picked up by contracted shipping company.

3.4 **Cruise Plan** - An ichthyoplankton survey will be conducted from the Shumagin Islands to Shelikof Strait. The standard gear for this survey will be a 60-cm bongo with 0.505-mm mesh netting. Tows will be to 100 meters or 10 meters off the bottom where water depth is shallower. See Section 10.2 DY-09-08 Station Locations and Section 10.3 DY-09-08 Chartlet for a complete listing of station locations and an overview of the cruise area of operations. Operations will begin at Line 135 (HB135) and proceed upstream to Line 185. Live tows may be conducted with the bongos to examine larval walleye pollock condition if larvae 8-mm or less are found. While we are working up the grid toward Kodiak Island, Alaska, we will occupy Line 8. Line 8 sampling will include 20-cm and 60-cm bongos and conductivity, temperature, and depth (CTD) profiles with Niskin bottle samples taken for chlorophyll, microzooplankton, and nutrients. See Section 10.2.1 Line 8 Station Locations and Activities for further details. Net tows at Line 8 are to 10 meters off the bottom. The 60-cm bongo will be fitted with 0.505-mm and 0.333-mm mesh nets for Line 8 sampling while the 20-cm bongo mesh will be 0.153-mm. On completion of Line 8, the 60-cm bongo will be refitted with the 0.505-mm mesh netting and cod ends and sampling will resume as before.

3.5 **Station Locations** – See Section 10.2 DY-09-08 Station Locations and Section 10.2.1 Line 8 Station Locations and Activities .

3.6 **Station Operations** - The following are operations to be conducted on this cruise. The procedures for these operations are listed in the ***FOCI Standard Operating Instructions for NOAA Ship Oscar Dyson*** (SOI). Operations not addressed in the SOI and changes to standard procedures are addressed below.

- CTD/Water Sample Operations (SOI 3.2.1)
- MARMAP Bongo Tows (SOI 3.2.2)
- Bongo Larval Condition Tows (SOI 3.2.3)
- Chlorophyll Sampling Operations (SOI 3.2.10)
- SIMRAD EK-60 and 12 Khz Simrad ES-60 Scientific Echosounder Monitoring (SOI 3.2.12)

3.7 **Underway Operations** - The following are underway operations to be conducted on this cruise. The procedures for these operations are listed in the ***FOCI Standard Operating Instructions for NOAA Ship Oscar Dyson*** (SOI). Operations not addressed in the SOI and changes to standard procedures are addressed below.

- Acoustic Doppler Current Profiler (ADCP) Operations (SOI 3.2.13),
- Scientific Computer System (SCS) data acquisition (SOI 3.2.13.3),

3.8 **Applicable Restrictions** – None

3.9 **Small Boat Operations** – None

4.0 FACILITIES

4.1 Equipment and Capabilities Provided by Ship

- Oceanographic winch with slip rings and 3-conductor cable terminated for CTD,
- 12 Khz hull mounted Edgetech Acoustic release transducer,
- Manual wire-angle indicator,
- Oceanographic winch with slip rings and 3-conductor cable terminated for the SBE SEACAT, for net tow operations,
- Sea-Bird Electronics' SBE 911*plus* CTD system with stand, each CTD system should include underwater CTD, weights, and pinger. There should be a deck unit for the system,
- Niskin Bottles: as many 10 liter bottles that are available
- Conductivity and temperature sensor package to provide dual sensors on the CTD (primary),
- ADCP
- Sea-Bird Electronics' SBE-19 SEACAT system for plankton tows,
- Meter block for plankton tows,
- Wire speed indicators and readout for oceo winches,
- For meteorological observations: 2 anemometers (one R. M. Young system interfaced to the SCS), calibrated air thermometer (wet-and dry-bulb) and a calibrated barometer and/or barograph,
- Freezer space for storage of biological and chemical samples (both blast and storage freezers, -20° C and -80° C) turned on and operating,
- SIMRAD ES-60 and SIMRAD EK-60 echosounders,
- Use of Pentium PC in Dry and/or Computer Lab for data analysis,
- Scientific Computer System (SCS),
- Video monitors in Dry, Chemistry, and Wet labs for viewing SCS and Electronic MOA output,
- Laboratory space with exhaust hood, sink, lab tables, and storage space,
- Sea-water hoses and spray nozzles to wash nets (hero deck),
- Adequate deck lighting for night-time operations,
- Navigational equipment including GPS and radar,
- Safety harnesses for working on starboard sampling station/hero platform, and
- Ship's crane(s) used for loading and/or deploying gear and supplies
- Prior to departure, we will need the assistance of the ET in mounting the ship's network drive on our FOCI computer in the Acoustic Lab for transfer of SeaCat data for processing.

4.2 Equipment and Capabilities Provided by Scientists

- Sea-Bird Electronics' SBE 911*plus* CTD system,
- Sea-Bird Electronics' SBE-19 SEACAT system,
- PMEL PC with SEASOFT software for CTD data collection and processing,

- Fluorometer, light meter and dual oxygen sensors to be mounted on CTD,
- CTD stand modified for attachment of fluorometer,
- Conductivity and temperature sensor package to provide dual sensors on the CTD (backup),
- CTD rosette sampler,
- Niskin bottles (if required)
- IAPSO standard water,
- 60-cm bongo sampling arrays,
- 20 cm bongo arrays,
- Wire angle indicator,
- Miscellaneous scientific sampling and processing equipment,
- Scientific ultra-cold freezer
- Cruise Operations Database (COD)

5.0 DISPOSITION OF DATA AND REPORTS

5.1 The following data products will be included in the cruise data package:

- **NOAA Form 77-13d - *Deck Log - Weather Observation Sheets***,
- Electronic Marine Operations Abstracts,
- SCS backup,
- Calibration Sheets for all ship's instruments used,
- PMEL CTD Weather Observation Logs,
- CTD Cast Information/Rosette Log,
- ADCP Log Sheets,
- ADCP CD (CD-RW),
- Ultra-cold Freezer Temperature Daily Log.

5.2 **Pre- and Post-cruise Meetings** - Cruise meetings may be held in accordance with ***FOCI Standard Operating Instructions for NOAA Ship Oscar Dyson*** (SOI 5.5).

6.0 ADDITIONAL PROJECTS

6.1 **Definition** - Ancillary and piggyback projects are secondary to the objectives of the cruise and should be treated as additional investigations. The difference between the two types of secondary projects is that an ancillary project does not have representation aboard and is accomplished by the ship's force.

6.2 **Ancillary Projects** - Any ancillary work done during this project will be accomplished with the concurrence of the Chief Scientist and on a not-to-interfere basis with the programs described in these instructions and in accordance with the ***NOAA Fleet Standing Ancillary Instructions***.

6.3 **Piggyback Projects** – None.

7.0 HAZARDOUS MATERIALS The field party chief shall be responsible for complying with MOCDOC 15, Fleet Environmental Compliance #07, Hazardous Material and Hazardous Waste Management Requirements of Visiting Scientists.

7.1 **Inventory** - See Section 10.4 DY-09-08 HAZMAT Inventory for a complete listing of HAZMATS brought onboard the vessel. Spill kit contains materials for cleanup of formaldehyde, ethanol, and sodium borate. All scientific staff onboard are trained to handle spills.

7.2 **Material Safety Data Sheet (MSDS) -** A copy of all required MSDS was delivered with the chemicals when ship was loaded.

8.0 MISCELLANEOUS

8.1 **Communications** - Specific information on how to contact the **NOAA Ship *Oscar Dyson*** and all other fleet vessels can be found at:

http://www.moc.noaa.gov/phone.htm

8.2 **Important Telephone and Facsimile Numbers and E-mail Addresses**

8.2.1 **Pacific Marine Environmental Laboratory (PMEL)**:

FOCI - Ocean Environmental Research Division (OERD2):
- (206) 526-4700 (voice)
- (206) 526-6485 (fax)

Administration:
- (206) 526-6810 (voice)
- (206) 526-6815 (fax)

8.2.2 **Alaska Fisheries Science Center (AFSC)**:

FOCI - Resource Assessment and Conservation Engineering (RACE):
- (206) 526-4171 (voice)
- (206) 526-6723 (fax)

8.2.3 **NOAA Ship *Oscar Dyson*** - Telephone methods listed in order of increasing expense:

Homeport – Kodiak, Alaska:
• (907)-486-0460
(907)-486-0326

Cellular (in locations except Dutch Harbor)
• (206) 403-8433 (CO)
• (206) 295-0775 (XO)
• (206) 295-0550 (OPS/OOD)

Cellular (in Dutch Harbor)
- (907)-359-1801 (CO)
- (907)-359-1802 (XO)

INMARSAT B:
- 011-872-336-995-920 (voice)
- 011-872-336-995-921 (fax)

Iridium:
- (808)-659-0050

E-Mail: NOAA.Ship.Oscar.Dyson@noaa.gov (mention the person's name in SUBJECT field.)

8.2.4 Marine Operations Center, Pacific (MOP):

Operations Division (MOP1)
- (206) 553-4548 (voice)
- (206) 553-1109 (facsimile)

E-Mail: FirstName.LastName@noaa.gov

E-Mail to Radio Room: Radio.Room@noaa.gov

9.0 Deemed Exports-NAO 207-12

The procedures for foreign nationals are listed in the ***FOCI Standard Operating Instructions for NOAA Ship OSCAR DYSON*** (SOI), Section 9.0

10.0 APPENDICES

10.1 DY-09-08 Equipment Inventory

Equipment	Qty	Dimension	Weight	Total Weight
Larval Supply Trunk	1	20"x22"x36"	80.0 lbs	80.0 lbs
Microzooplankton Supply Trunks	2	20"x22"x36"	90.0 lbs	180.0 lbs
Miscellaneous Gear Trunks	4	20"x22"x36"	80.0 lbs	320.0 lbs
60-cm Bongo Frame	1	8"x26"x60"		
20-cm Bongo Frame	1	8"x14"x16"		
Cases Glass Jars (32-oz)	20	8"x12"x15"	2.5 lbs	50.0 lbs
Cases Glass Jars (8-oz)	6	4"x6"x8"	1.3 lbs	7.8 lbs
20-L Container, Formaldehyde 37%	3		40.0 lbs	120.0 lbs
1 L Container, Ethanol 95%	2		40.0 lbs	40.0 lbs
20-L Container, Sodium Borate Solution, Saturated	1		40.0 lbs	40.0 lbs
500-g Container, Sodium Borate	2		1.0 lbs	2.0 lbs
1 L Containers Absolute Alcohol	2		1.5 lbs	1.5 lbs
Spill Kit	1	8"x12"x14"	1.5 lbs	1.5 lbs
			TOTAL WEIGHT:	**842.8 lbs**

10.2 DY-09-08 Station Locations

xy grid	Lat Deg	Lat DecMin		Long Deg	Long DecMin	
hb135	54°	50.3766	N	158°	42.0720	W
gz135	54°	57.2640	N	158°	55.7580	W
gx135	55°	4.1508	N	159°	9.4860	W
gt135	55°	17.9250	N	159°	37.0800	W
gr135	55°	24.8118	N	159°	50.9400	W
gp135	55°	31.6992	N	160°	4.8480	W
gt139	55°	32.4396	N	159°	12.8100	W
gv139	55°	25.5528	N	158°	59.0640	W
gx139	55°	18.6654	N	158°	45.3600	W
gz139	55°	11.7786	N	158°	31.6980	W
hb139	55°	4.8912	N	158°	18.0840	W
hb143	55°	19.4064	N	157°	53.9460	W
gz143	55°	26.2932	N	158°	7.4940	W
gx143	55°	33.1806	N	158°	21.0780	W
gv143	55°	40.0674	N	158°	34.7160	W
gv147	55°	54.5820	N	158°	10.2120	W
gx147	55°	47.6952	N	157°	56.6520	W
gz147	55°	40.8078	N	157°	43.1340	W
hb147	55°	33.9210	N	157°	29.6640	W
hd147	55°	27.0342	N	157°	16.2300	W
hf147	55°	20.1468	N	157°	2.8380	W
hh151	55°	27.7746	N	156°	25.266	W
hf151	55°	34.6614	N	156°	38.544	W
hd151	55°	41.5488	N	156°	51.864	W
hb151	55°	48.4356	N	157°	5.226	W
gz151	55°	55.323	N	157°	18.63	W
gx151	56°	2.2098	N	157°	32.076	W
gv151	56°	9.0972	N	157°	45.564	W
gt151	56°	15.984	N	157°	59.094	W
gt153	56°	23.2416	N	157°	46.674	W
gv153	56°	16.3542	N	157°	33.18	W
gx153	56°	9.4674	N	157°	19.728	W
gz153	56°	2.58	N	157°	6.318	W
hb153	55°	55.6932	N	156°	52.956	W
hd153	55°	48.8058	N	156°	39.63	W
hf153	55°	41.919	N	156°	26.34	W
hh153	55°	35.0322	N	156°	13.098	W
hh155	55°	42.2892	N	156°	0.894	W
hf155	55°	49.1766	N	156°	14.1	W
hf157	55°	56.4336	N	156°	1.824	W
hd155	55°	56.0634	N	156°	27.354	W
hd157	56°	3.321	N	156°	15.036	W
hb157	56°	10.2078	N	156°	28.29	W
gz157	56°	17.0952	N	156°	41.58	W

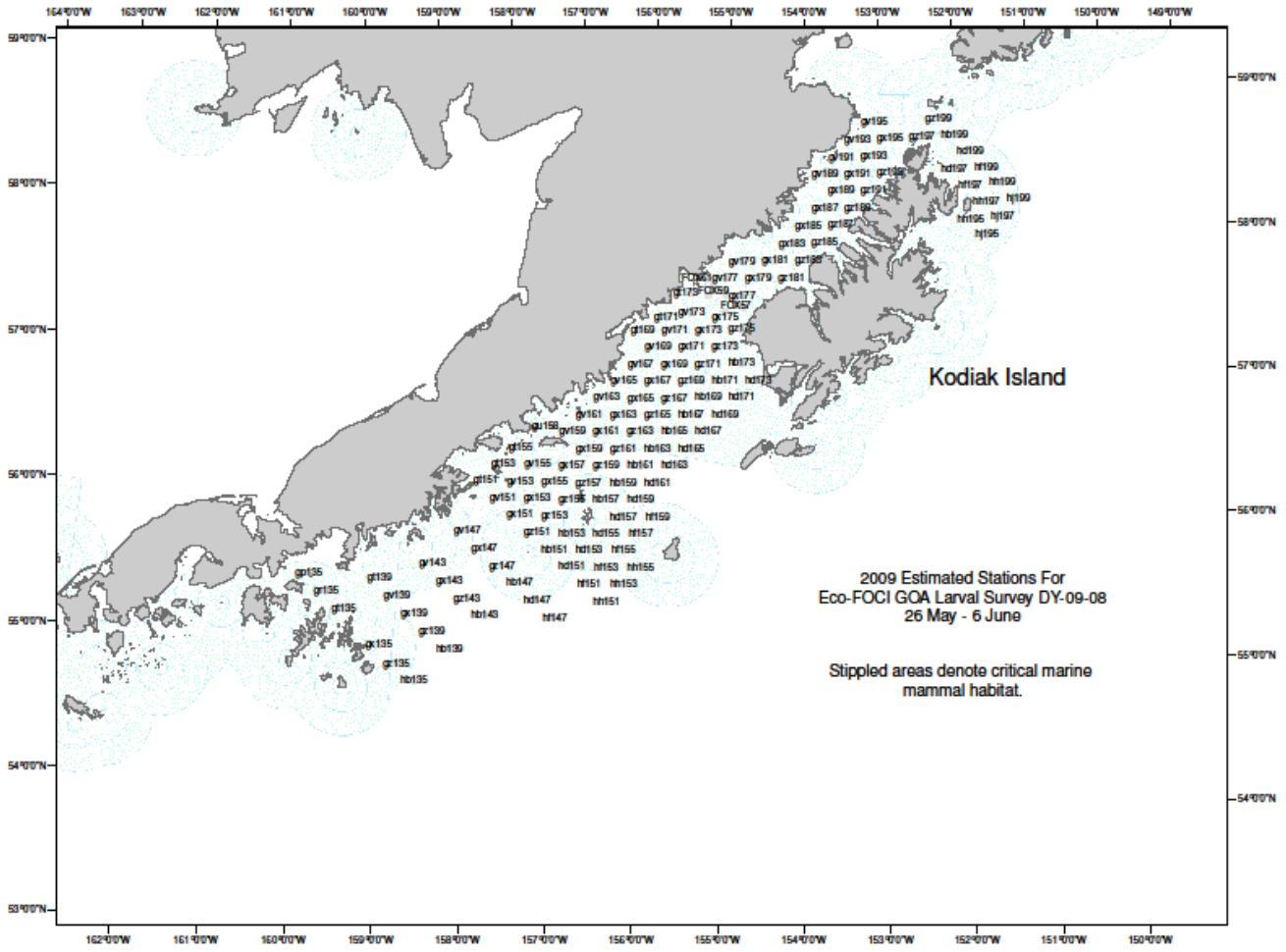
gz155	56°	9.8376	N	156°	53.97	W
gx155	56°	16.7244	N	157°	7.344	W
gx157	56°	23.982	N	156°	54.918	W
gv155	56°	23.6118	N	157°	20.754	W
gt155	56°	30.4986	N	157°	34.212	W
gu158	56°	40	N	157°	13	W
gv159	56°	38.1264	N	156°	55.788	W
gx159	56°	31.2396	N	156°	42.45	W
gz159	56°	24.3522	N	156°	29.154	W
hb159	56°	17.4654	N	156°	15.9	W
hd159	56°	10.578	N	156°	2.682	W
hf159	56°	3.6912	N	155°	49.506	W
hd161	56°	17.8356	N	155°	50.292	W
hb161	56°	24.7224	N	156°	3.468	W
gz161	56°	31.6098	N	156°	16.686	W
gx161	56°	38.4966	N	156°	29.946	W
gv161	56°	45.384	N	156°	43.248	W
gv163	56°	52.641	N	156°	30.666	W
gx163	56°	45.7542	N	156°	17.4	W
gz163	56°	38.8674	N	156°	4.182	W
hb163	56°	31.98	N	155°	51	W
hd163	56°	25.0932	N	155°	37.86	W
hd165	56°	32.3502	N	155°	25.386	W
hb165	56°	39.2376	N	155°	38.49	W
gz165	56°	46.1244	N	155°	51.636	W
gx165	56°	53.0118	N	156°	4.818	W
gv165	56°	59.8986	N	156°	18.042	W
gv167	57°	7.1562	N	156°	5.376	W
gx167	57°	0.2688	N	155°	52.188	W
gz167	56°	53.382	N	155°	39.048	W
hb167	56°	46.4946	N	155°	25.944	W
hd167	56°	39.6078	N	155°	12.876	W
hd169	56°	46.8654	N	155°	0.324	W
hb169	56°	53.7522	N	155°	13.35	W
gz169	57°	0.639	N	155°	26.418	W
gx169	57°	7.5264	N	155°	39.522	W
gv169	57°	14.4132	N	155°	52.668	W
gt169	57°	21.3	N	156°	5	W
gt171	57°	27	N	155°	46	W
gv171	57°	21.6708	N	155°	39.918	W
gx171	57°	14.784	N	155°	26.814	W
gz171	57°	7.8966	N	155°	13.746	W
hb171	57°	1.0098	N	155°	0.72	W
hd171	56°	54.1224	N	154°	47.736	W
hd173	57°	1.38	N	154°	35.106	W
hb173	57°	8.2668	N	154°	48.048	W
gz173	57°	15.1542	N	155°	1.038	W
gx173	57°	22.041	N	155°	14.064	W
gv173	57°	28.9284	N	155°	27.126	W
gt173	57°	37	N	155°	28	W
gv175	57°	36.1854	N	155°	14.298	W
gx175	57°	29.2986	N	155°	1.272	W

gz175	57°	22.4112	N	154°	48.282	W
gx177	57°	36.558	N	154°	48.438	W
gv177	57°	43.446	N	155°	1.422	W
gv179	57°	50.7	N	154°	48.498	W
gx179	57°	43.812	N	154°	35.562	W
gx181	57°	51.072	N	154°	22.638	W
gz181	57°	44.184	N	154°	9.774	W
gz183	57°	51.444	N	153°	56.85	W
gx183	57°	58.326	N	154°	9.672	W
gx185	58°	5.586	N	153°	56.664	W
gz185	57°	58.698	N	153°	43.884	W
gx187	58°	12.8430	N	153°	43.6140	W
gz187	58°	5.9556	N	153°	30.8700	W
gz189	58°	13.2132	N	153°	17.8200	W
gx189	58°	20.1000	N	153°	30.5160	W
gv189	58°	26.9874	N	153°	43.2480	W
gv191	58°	34.2444	N	153°	30.0660	W
gx191	58°	27.3576	N	153°	17.3700	W
gz191	58°	20.4708	N	153°	4.7160	W
gz193	58°	27.7278	N	152°	51.5760	W
gx193	58°	34.6152	N	153°	4.1820	W
gv193	58°	41.5020	N	153°	16.8300	W
gv195	58°	48.7596	N	153°	3.5580	W
gx195	58°	41.8722	N	152°	50.9520	W
gz197	58°	42.2424	N	152°	25.1460	W
gz199	58°	49.5000	N	152°	11.8680	W
hb199	58°	42.6132	N	151°	59.4180	W
hd199	58°	35.7258	N	151°	47.0100	W
hd197	58°	28.4688	N	152°	0.2040	W
hf197	58°	21.5814	N	151°	47.7840	W
hf199	58°	28.8390	N	151°	34.6320	W
hh199	58°	21.9516	N	151°	22.2900	W
hj199	58°	15.0648	N	151°	9.9840	W
hj197	58°	7.8072	N	151°	23.0460	W
hh197	58°	14.6946	N	151°	35.4000	W
hh195	58°	7.4370	N	151°	48.4620	W
hj195	58°	0.5502	N	151°	36.0720	W

10.2.1 DY-08-08 Line 8 Station Locations and Operations

Station	Latitude			Longitude			Lat (dd)	Lon (dd)	CTDB	Chlor	Nuts	MZ	20/60 Bongo
FOX61	57°	43.20'	N	155°	15.60'	W	57.72	-155.26	x	x	x	x	x
FOX60	57°	40.80'	N	155°	10.20'	W	57.68	-155.17	x	x	x	x	x
FOX59	57°	38.40'	N	155°	04.20'	W	57.64	-155.07	x	x	x	x	x
FOX58	57°	36.60'	N	155°	00.60'	W	57.61	-155.01	x	x	x	x	x
FOX57	57°	33.00'	N	154°	52.80'	W	57.55	-154.88	x	x	x	x	x
FOX56	57°	31.20'	N	154°	46.80'	W	57.52	-154.78	x	x	x	x	x
FOX55	57°	28.80'	N	154°	42.00'	W	57.48	-154.70	x	x	x	x	x

10.3 DY-09-08 Chartlet



10.4 Biomass Removal Estimates

DY09-08

26 May - 6 June 2009

Estimation of Fish Removal

Projected removal of fish biomass per sample:

Sample	# Hauls	Arrowtooth fl.	Rockfishes	Walleye pollock	Pacific cod	Pacific halibut
Bongo	55	<0.1 kg	<0.1 kg	<0.1 kg	<0.1 kg	<0.1 kg

Cruise No: DY09-08
FOCI No: 4DY08

10.5 DY-09-08 Hazmat Inventory

Chemical	CAS Number	Respondee	Org.	Qty	H	F	R	Storage Color Code	Hazard Class	Packing Group Number	UN	Reportable Quantity	Response Indices
Formaldehyde, 37%	50-00-0	Dougherty	AFSC	3, 20-L	3	2	2	Flammable	3 & 8	III	1198	100 LBS	1
Ethyl Alcohol	N/A	Dougherty	AFSC	2, 4-L	3	3	1	Flammable	3	I, II, III	1987		1
95% denatured Alcohol	N/A	Dougherty	AFSC	2, 4-L	2	3	1	Flammable	3	I, II, III	1993		1
Ethylene glycol	107-21-1	Dougherty	AFSC	1, 250-ml	2	1	1	General	Not regulated	N/A		5,000 lbs	2
Sodium Borate Solution, Saturated	mix	Dougherty	AFSC	20-L	1	0	0	General	Not regulated	N/A			2

Spill Response 1: Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, or earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. **Do not flush to sewer!** If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. U.S. Regulations (CERCLA) requires reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the U.S. Coast Guard National Response Center is (800) 424-8802.	**Spill Response 2:** Ventilate area of leak or spill. Wear appropriate personal protective equipment. Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

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