

FINAL CRUISE INSTRUCTIONS

EcoFOCI

NOAA Ship *Oscar Dyson*, DY-08-07
May 11 – 20, 2008
Chief Scientist: Jeffrey M. Napp, NOAA/AFSC

1.0 FINAL CRUISE INSTRUCTIONS

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

1.2 Cruise Numbers:

1.2.1 Cruise Number – DY-08-07

1.2.2 EcoFOCI Number – 3DY08

1.3 Cruise Dates:

1.3.1 Departure – Depart Dutch Harbor, Alaska, at 1500 hours on Sunday, May 11, 2008.

1.3.2 Arrival – Arrive Dutch Harbor, Alaska, at 0800 hours on Tuesday, May 20, 2008.

1.4 Operating Area – Eastern Bering Sea.

2.0 CRUISE OVERVIEW

2.1 Cruise Objectives – Examine the interactions among climate, weather, and the recruitment of fishes in the eastern Bering Sea. We will conduct ichthyoplankton and zooplankton survey in the waters along the eastern Aleutian Island chain and the Alaska Peninsula. This work is needed to describe larval fish assemblages and determine how physical and biological factors affect the transport and survival of fish larvae. The cruise is 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 are: arrowtooth flounder (*Atheresthes stomias*), Pacific cod (*Gadus macrocephalus*) and walleye pollock (*Theragra chalcogramma*). We will determine 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 will be attempted at sea using molecular techniques.

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.

2.3 Participating Organizations

NOAA – Alaska Fisheries Science Center (AFSC)
7600 Sand Point Way N.E.
Seattle, Washington 98115-6349

2.4 Personnel

2.4.1 Chief Scientist

Name	Gender	Affiliation	E-mail Address	Citizenship
Jeffrey Napp	Male	AFSC	Jeff.Napp@noaa.gov	USA

2.4.2 Participating Scientists

Name	Gender	Affiliation	E-mail Address	Citizenship
Deborah Blood	Female	AFSC	Debbie.Blood@NOAA.gov	USA
Rachael Cartwright	Female	AFSC	Rachael.Cartwright@NOAA.gov	USA
Daniel Cooper	Male	AFSC	Dan.Cooper@NOAA.gov	USA
Colleen Harpold	Female	AFSC	Colleen Harpold@NOAA.gov	USA
Kathy Mier	Female	AFSC	Kathy.Mier@NOAA.gov	USA
Ingrid Spies	Female	AFSC	Ingrid.Spies@NOAA.gov	USA
Matt Wilson	Male	AFSC	Matt.Wilson@NOAA.gov	USA

2.5 Administration

2.5.1 Ship Operations

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

LCDR Douglas Schleiger,
Chief, Operations Division, Pacific (MOP1)
Telephone Number: 206-553-8705
Fax Number: 206-553-1109
E-mail Address: 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 M. Napp, AFSC
Telephone: (206) 526-4148
E-mail: Jeff.Napp@noaa.gov

3.0 OPERATIONS

3.1 Data To Be Collected – At each station we will collect ichthyo- and zooplankton samples with paired 20 & 60-cm bongo arrays and a neuston sampler. The 20 cm bongo will have 150 μm mesh and the 60 cm frame will have both 333 and 505- μm mesh nets. The neuston sampler is a Sameoto net with 505- μm mesh. Sampling locations will be chosen from a grid of approximately 100 stations in the waters on the northern sides of the eastern Aleutian Islands and Alaska Peninsula. The MOCNESS will be used several times during the cruise to collect diel series of the vertical distribution of larvae. This will occur at stations with high larval counts of the target species. During each bongo tow we will collect data on the physical environment using the Sea-Bird Electronics SBE-19 SEACAT profiler to relate larval fish assemblage structure to environmental variables (temperature and salinity). Along preselected transects we will also conduct CTD casts using a Sea-Bird Electronics SBE 911*plus* CTD system. If time allows, the Continuous Underway Fish Egg Sampler (CUFES) will be used during one or two transects. We anticipate deploying 2-3 satellite-tracked drifters at selected stations within the survey grid.

3.1.1 Scientific Computer System (SCS) – The ship's SCS shall operate throughout the cruise, acquiring and logging data from navigation, meteorological, and oceanographic sensors. See *FOCI Standard Operating Instructions* (SOI 5.2) for specific requirements.

3.2 Staging Plan – The majority of the equipment necessary for the cruise will be loaded onto NOAA Ship *OSCAR DYSON* on May 10th in Dutch Harbor, AK. We will require dedicated use of the wet, chemistry, and dry labs for sample and equipment preparation and request as much counter and cabinet space as possible. We will use the Dry lab for SeaCat, MOCNESS, and CTD operations.

3.3 De-staging Plan – The majority of our equipment (and all samples) will stay on the ship for the following cruise (DY-08-07; Chief Scientist - Annette Dougherty). One exception is the MOCNESS which will be offloaded and transported to FTS for storage until our fall cruise on the NOAA Ship *Miller Freeman*.

3.4 Cruise Plan – The cruise will depart from Dutch Harbor, Alaska, on Sunday, May 11, 2008, and occupy a series of approximately 100 stations. Station positions and a figure of the working area are in [Sections 9.2 DY-08-07 – Station Locations](#) and [9.3 DY-08-07 – Cruise Chartlet](#), respectively

Grid Survey – During the regular grid survey, the Sameoto neuston net will be deployed first. The net will collect fish larvae in the surface layer. Samples from the Neuston net will be preserved in 1.8% buffered Formaldehyde (5% formalin). Marks should be made at surface (in) and surface (out). A Marine Assessment Monitoring and Prediction (MARMAP) Bongo tow (SOI 3.2.2) will be conducted next. The SBE 19 SEACAT, the

20-cm Bongo (20BON) net with 0.150-mm mesh netting and the 60-cm Bongo (60BON) net mounted with 0.333 and 0.505-mm mesh will all be mounted together for this tow. Grid station bongo tows will be to a depth of 300 meters, or to 5 meters off bottom, whichever is shallowest. Marks should be made at surface (in), at-depth, and surface (out). The sample from Bongo Net 1 will be preserved in its entirety in 1.8% buffered formaldehyde solution (5% formalin) and the sample from Net 2, whenever time allows, will be rough sorted, and the contents identified. If *Atheresthes* spp. or other fish larvae specified by A. Matarese are found in the rough sort, then these larvae will be removed and saved for other purposes. The remainder of the sample will be preserved for zooplankton.

3.4.2 MOCNESS – We will opportunistically fish the MOCNESS (0.505 and/or 0.333 mm mesh) at 2 or 3 selected stations in Bering Canyon, over the slope, and on the Bering Sea continental shelf during the survey (SOI 3.2.5). At each of these stations the CTDB cast (with 8 bottles) will occur after the MOCNESS tow. Samples will be preserved in formalin. Locations for this sampling to be determined at sea at the discretion of the Chief Scientist and the CO. The MOCNESS stations will entail 24- 36 hr occupations with tows approximately every 4 hr. to examine diel changes in vertical distribution of ichthyoplankton and zooplankton. Marks for MOCNESS tows should be surface (in), at-depth, one mark for each subsequent closed net, and surface (out). The associated CTDB (8 bottles) casts will collect water samples for microzooplankton, chlorophyll (SOI 3.2.10), and nutrient data. At these stations, the CTD cast will follow the MOCNESS tow. CTD bottle trips will be made at the same depths as the MOCNESS. Marks for CTD casts should be surface (in), at-depth, each bottle trip, and surface (out).

3.4.3 ARGOS Satellite-Tracked Drifter Buoy Deployments – FOCI anticipates deployment of 3-4 ARGOS drifters (SOI 3.3.11) at selected stations in Bering Canyon. Sites will be determined at sea dependent upon catches of egg/larvae in the bongo or MOCNESS tows.

3.5 Station Locations – See [Section 9.2 DY-08-07 – Station Locations](#).

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* (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), and
- MOCNESS tows, (SOI 3.2.5)
- ARGOS Satellite-Tracked Drifter Buoy Deployments (SOI 3.2.11).

3.6.1 Neuston Net Tows

3.6.1.1 Description – Neuston nets are used for sampling the upper few centimeters of the water column. There are many frame styles that may be used; we use a Sameoto sampler made of stainless steel. The

mouth opening is 30-cm x 50-cm and is designed to fish half in and half out of the water.

3.6.1.2 Rates/Fishing – The vessel should be moving slowly ahead, about 1.5 to 2.0 knots, so that the net is fishing half in and half out of the water. The exact speed necessary varies with sea conditions and is a learning process. Lower the neuston net to the surface with a crane and pay out 10 to 15 meters of wire. It may be necessary to adjust the ship's speed to maintain the proper skimming action.

Start the stopwatch when the net starts to fish and tow the net for approximately 9.5 minutes, unless otherwise instructed. After 9.5 minutes, decrease vessel speed to retrieve the net. Read and record flow meter revolutions, duration of tow, and any comments on the COD form.

- **3.6.1.3 Preservation** – The Neuston sample should be preserved immediately, as specified in the *FOCI Field Manual* or sample collection request forms.
- **3.6.1.4 Maintenance** – Check net for holes and fill flow meter with water.
- **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* (SOI). Operations not addressed in the SOI and changes to standard procedures are addressed below:
 - Scientific Computer System (SOI 5.2), and
 - Thermosalinograph Monitoring (SOI 5.3).
- **3.8 Applicable Restrictions** – None
- **3.9 Small Boat Operations** – None

4.0 FACILITIES

4.1 Equipment and Capabilities Provided by Ship

- Hydrographic winch with slip rings and 3-conductor cable terminated for CTD,
- Manual wire angle indicator,
- Hydrographic winch with slip rings and 3-conductor cable terminated for the SBE-19 + SEACAT, for net tow operations,
- Sea-Bird Electronics' SBE-19+ SEACAT system,
- Sea-Bird Electronics SBE 911plus CTD system with rosette, each CTD system should include underwater CTD, weights, and pinger. There should be one deck unit for the two systems,
- Conductivity and temperature sensor package to provide one of each sensor on the CTD (primary),

- Niskin Bottles: as many 10 liter bottles as are available
- Underway fluorometer,
- Wire speed indicators and readout for both hydrographic winches visible in Dry Lab where SEACAT operations occur,
- For meteorological observations: 1 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 (quarterdeck),
- 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.

4.2 Equipment and Capabilities Provided by Scientists – See [Section 9.1 DY-08-07 – Equipment Inventory](#) for weights and dimensions.

- Sea-Bird Electronics SBE 911plus CTD system (backup) (PMEL),
- Second pair of conductivity and temperature sensors to use concurrently with ships CTD,
- Sea-Bird Electronics' SBE-19+ SEACAT system, (backup) (AFSC),
- PMEL PC with SEASOFT software for CTD data collection and processing,
- Fluorometer and light meter 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 (10)
- 20-cm and 60-cm Bongo sampling arrays,
- Sameoto neuston net and frame,
- MOCNESS nets and frame,
- Manual wire-angle indicator,
- Spare manual wire angle indicator,
- Miscellaneous scientific sampling and processing equipment,
- Microscopes for examining, sorting, and measuring fish eggs and larvae,
- ARGOS drifters
- Cruise Operations Database (COD) software and forms, and
- Miscellaneous scientific sampling and processing equipment.

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 – recordable compact diskette (CD-RW),
Calibration Sheets for all ship's and scientific instruments used,
PMEL CTD weather observation log
CTD Cast Information/Rosette Log,
Scientific Freezer Temperature Daily Log, and
Controlled Environmental Room Temperature Log.

5.2 Pre- and Post-cruise Meetings – Cruise meetings may be held in accordance with *FOCI Standard Operating Instructions* (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 –

- 6.3.1.** Collection of larval walleye pollock, Pacific cod, and arrowtooth flounder for R. Heintz (AFSC – TSMRI) to characterize growth and energy content.
- 6.3.2.** Collection of walleye pollock eggs for S. Porter (AFSC) for onboard rearing. Larvae will be used on DY08-08 for net extrusion experiments.
- 6.3.3.** Collection of larval walleye pollock for S. Porter (AFSC) for condition studies.
- 6.3.4.** Collection of larval starry flounder for M. Paquin (UW) for population genetic analyses.

7.0 HAZARDOUS MATERIALS

7.1 Inventory – See [Section 9.4 DY-08-07 – HAZMAT Inventory](#).

7.2 Material Safety Data Sheet (MSDS) – Submitted separately.

8.0 MISCELLANEOUS

8.1 Communications – Specific information on how to contact **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)

EcoFOCI – Ocean Environmental Research Division (OERD2):

- (206) 526-4700 (voice)
- (206) 526-6485 (fax)

Administration:

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

E-Mail: FirstName.LastName@noaa.gov

8.2.2 Alaska Fisheries Science Center (AFSC)

EcoFOCI – Resource Assessment and Conservation Engineering (RACE):

- (206) 526-4171 (voice)
- (206) 526-6723 (fax)

E-Mail: FirstName.LastName@noaa.gov

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) 403-8422 (CO)
- (206) 295-0775 (XO)
- (206) 295-0550 (OPS/OOD)

Cellular (in Dutch Harbor)

- (907)-359-1801 (CO)
- (907)-359-1802 (XO)

Wavetalk

- 1-800-668-4950-toll free

INMARSAT B:

- 011-872-336-995-920
- 011-872-336-995-921

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 APPENDICES

9.1 DY-08-07 – Equipment Inventory

Equipment	Quantity	Dimension	Weight
Larval Supply Trunk	1	20" x 22" x 36"	80-lbs
Formaldehyde Containers	1 x 20-Liter		20-lbs
Carboy, Saturated Sodium Borate	1 x 20-Liter		40-lbs
Miscellaneous Gear Trunks	4	20" x 22" x 36"	80-lbs (ea.)
60-cm Bongo Frame	2	8" x 26" x 60"	20-lbs
20-cm Bongo Frame	2	8" x 14" x 16"	20-lbs
Sameoto Neuston Frame	1	24" x 48" x 12"	20-lbs
MOCNESS Frame	1	90" x 90"	250 lbs.
Cases, Glass Jars, 32-oz	31 cases	8" x 12" x 15"	36-lbs
Cases, Glass Jars, 16-oz	12 cases	4"x12"x15"	8-lbs
ARGOS drifters	3		100-lbs

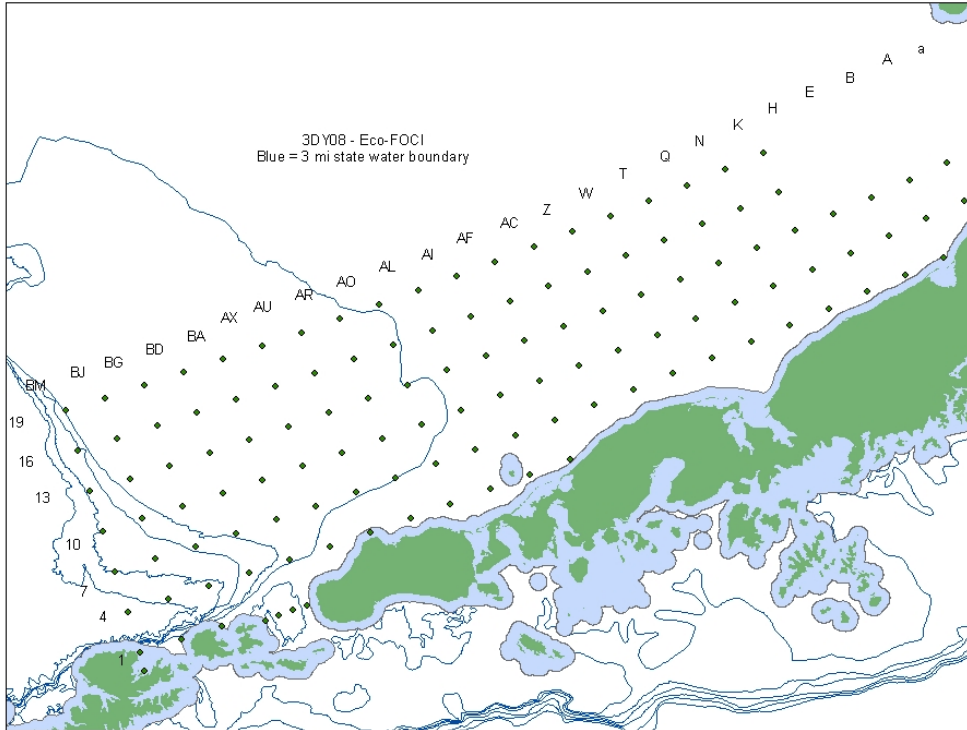
9.2 DY-08-07 – Station Locations (not in suggested order of occupation)

Station	LatDeg	LatMin	LongDeg	LongMin	DecLat	DecLong
Depart Dutch	53	54.50	-166	30.90	53.9083	-166.5150
BM19	55	19.80	-167	49.72	55.32992	-167.82870
BM16	55	06.61	-167	37.17	55.11010	-167.61950
BM13	54	53.42	-167	24.68	54.8903	-167.4114
BM10	54	40.23	-167	12.27	54.6705	-167.2045
BM7	54	27.04	-166	59.92	54.4507	-166.9986
BM4	54	13.85	-166	47.63	54.2308	-166.7939
BM1	54	0.66	-166	35.42	54.0110	-166.5903
BJ1	54	7.82	-166	12.62	54.1304	-166.2104
BJ4	54	21.01	-166	24.88	54.3502	-166.4147
BJ7	54	34.20	-166	37.20	54.5700	-166.6200
BJ10	54	47.39	-166	49.58	54.7898	-166.8264
BJ13	55	0.58	-167	2.04	55.0096	-167.0340
BJ16	55	13.77	-167	14.56	55.22945	-167.24270
BJ19	55	26.96	-167	27.16	55.44927	-167.45260
BG19	55	34.12	-167	04.52	55.56862	-167.07530
BG16	55	20.93	-166	51.89	55.34880	-166.86480
BG13	55	7.74	-166	39.33	55.1290	-166.6555
BG10	54	54.55	-166	26.84	54.9092	-166.4473
BG7	54	41.36	-166	14.41	54.6894	-166.2402
BG4	54	28.17	-166	2.06	54.4695	-166.0343
BG1	54	14.98	-165	49.77	54.2497	-165.8295
Unimak Pass A	54	19.78	-165	24.43	54.3297	-165.4072
Unimak Pass C	54	22.29	-165	17.06	54.3715	-165.2843
Unimak Pass E	54	24.90	-165	9.01	54.4150	-165.1502
Unimak Pass G	54	27.64	-165	0.83	54.4607	-165.0138
BD4	54	35.33	-165	39.17	54.5889	-165.6529
BD7	54	48.52	-165	51.56	54.8087	-165.8594
BD10	55	1.71	-166	4.02	55.0285	-166.0670
BD13	55	14.90	-166	16.55	55.2483	-166.2758
BD16	55	28.09	-166	29.15	55.46815	-166.48580
BD19	55	41.28	-166	41.81	55.68797	-166.69690
BA19	55	48.44	-166	19.05	55.80732	-166.31750
BA16	55	35.25	-166	06.34	55.58751	-166.10570
BA13	55	22.06	-165	53.71	55.3677	-165.8951
BA10	55	8.87	-165	41.14	55.1479	-165.6857
BA7	54	55.68	-165	28.64	54.9281	-165.4774
BA4	54	42.49	-165	16.22	54.7082	-165.2703
AX4	54	49.65	-164	53.19	54.8276	-164.8865
AX7	55	2.84	-165	5.66	55.0474	-165.0943
AX10	55	16.03	-165	18.19	55.2672	-165.3032
AX13	55	29.22	-165	30.80	55.4870	-165.5133
AX16	55	42.41	-165	43.47	55.70686	-165.72450
AX19	55	55.60	-165	56.21	55.92667	-165.93690
AU19	56	02.76	-165	33.31	56.04602	-165.55520

AU16	55	49.57	-165	20.53	55.82621	-165.34210
AU13	55	36.38	-165	7.81	55.6064	-165.1302
AU10	55	23.19	-164	55.18	55.3866	-164.9196
AU7	55	10.01	-164	42.60	55.1668	-164.7100
AU4	54	56.82	-164	30.10	54.9469	-164.5016
AR4	55	3.98	-164	6.94	55.0663	-164.1156
AR7	55	17.17	-164	19.48	55.2861	-164.3246
AR10	55	30.36	-164	32.09	55.5059	-164.5348
AR13	55	43.54	-164	44.77	55.7257	-164.7461
AR16	55	56.73	-164	57.52	55.94556	-164.95860
AR19	56	09.92	-165	10.34	56.16537	-165.17240
AR19	56	17.08	-164	47.30	56.28473	-164.78840
AO16	56	03.89	-164	34.44	56.06491	-164.57400
AO13	55	50.71	-164	21.65	55.8451	-164.3608
AO10	55	37.52	-164	8.93	55.6253	-164.1488
AO7	55	24.33	-163	56.28	55.4055	-163.9380
AO4	55	11.14	-163	43.70	55.1856	-163.7284
AL4	55	18.30	-163	20.40	55.3050	-163.3400
AL7	55	31.49	-163	33.02	55.5248	-163.5503
AL10	55	44.68	-163	45.70	55.7446	-163.7617
AL13	55	57.87	-163	58.46	55.9644	-163.9743
AL16	56	11.06	-164	11.29	56.18426	-164.18820
AL19	56	24.24	-164	24.20	56.40408	-164.40330
AI19	56	31.41	-164	01.02	56.52343	-164.01700
AI16	56	18.22	-163	48.07	56.30361	-163.80120
AI13	56	5.03	-163	35.20	56.0838	-163.5867
AI10	55	51.84	-163	22.40	55.8640	-163.3734
AI7	55	38.65	-163	9.68	55.6442	-163.1613
AI4	55	25.46	-162	57.02	55.4243	-162.9504
AF4	55	32.62	-162	33.58	55.5437	-162.5597
AF7	55	45.81	-162	46.27	55.7635	-162.7712
AF10	55	59.00	-162	59.03	55.9833	-162.9839
AF13	56	12.19	-163	11.87	56.2031	-163.1979
AF16	56	25.38	-163	24.79	56.42296	-163.41310
AF19	56	38.57	-163	37.77	56.64278	-163.62950
AC19	56	45.73	-163	14.45	56.76213	-163.24090
AC16	56	32.54	-163	01.43	56.54231	-163.02380
AC13	56	19.35	-162	48.47	56.3225	-162.8079
AC10	56	6.16	-162	35.60	56.1030	-162.5930
AC7	55	52.97	-162	22.79	55.8829	-162.3799
Z7	56	0.13	-161	59.24	56.0020	-161.9870
Z10	56	13.32	-162	12.08	56.2220	-162.2010
Z13	56	26.51	-162	25.00	56.4420	-162.4170
Z16	56	39.70	-162	38.00	56.66166	-162.63330
Z19	56	52.89	-162	51.07	56.88148	-162.85110
W19	57	00.05	-162	27.61	57.00083	-162.46010
W16	56	46.86	-162	14.50	56.78101	-162.24160
W13	56	33.67	-162	1.46	56.5610	-162.0240

W10	56	20.48	-161	48.50	56.3410	-161.8080
W7	56	7.29	-161	35.62	56.1220	-161.5940
T7	56	14.45	-161	11.92	56.2410	-161.1990
T10	56	27.64	-161	24.85	56.4610	-161.4140
T13	56	40.83	-161	37.84	56.6810	-161.6310
T16	56	54.02	-161	50.92	56.90036	-161.84860
T19	57	07.21	-162	04.07	57.12018	-162.06780
Q19	57	14.37	-161	40.46	57.23953	-161.67440
Q16	57	01.18	-161	27.27	57.01971	-161.45450
Q13	56	47.99	-161	14.15	56.8000	-161.2360
Q10	56	34.80	-161	1.12	56.5800	-161.0190
Q7	56	21.62	-160	48.15	56.3600	-160.8030
N7	56	28.78	-160	24.31	56.4800	-160.4050
N10	56	41.97	-160	37.31	56.6990	-160.6220
N13	56	55.15	-160	50.39	56.9190	-160.8400
N16	57	08.34	-161	03.55	57.13906	-161.05920
N19	57	21.53	-161	16.79	57.35888	-161.27980
K19	57	28.69	-160	53.03	57.47823	-160.88390
K16	57	15.50	-160	39.76	57.25841	-160.66260
K13	57	2.32	-160	26.56	57.0390	-160.4430
K10	56	49.13	-160	13.43	56.8190	-160.2240
K7	56	35.94	-160	0.38	56.5990	-160.0060
H7	56	43.10	-159	36.48	56.7180	-159.6080
H10	56	56.29	-159	49.55	56.9380	-159.8260
H13	57	9.49	-160	2.73	57.1580	-160.0460
E13	57	16.65	-159	38.90	57.2780	-159.6480
E10	57	3.45	-159	25.67	57.0580	-159.4280
E7	56	50.26	-159	12.60	56.8380	-159.2100
B7	56	57.42	-159	-11.28	56.9570	-158.8120
B10	57	10.61	-159	1.79	57.1770	-159.0300
B13	57	23.81	-159	15.07	57.3970	-159.2510
A13	57	30.97	-158	51.24	57.5160	-158.8540
A10	57	17.77	-158	37.91	57.2960	-158.6320
a10	57	24.93	-158	14.03	57.4160	-158.2340
a13	57	38.13	-158	27.41	57.6360	-158.4570

9.3 DY-08-07 – Cruise Chartlet



9.4 DY-08-07 – Hazardous Materials 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	Napp	AFSC	3, 20-L	3	2	2	Flammable	3 & 8	III	1198	100 LBS	1
Formaldehyde, 37%	50-00-0	Napp	AFSC	3, 1-L	3	2	2	Flammable	3 & 8	III	1198	100 LBS	1
Ethyl Alcohol	N/A	Napp	AFSC	4, 4-L	3	3	1	Flammable	3	I, II, III	1987		1
95% denatured Alcohol	N/A	Napp	AFSC	4, 4-L	2	3	1	Flammable	3	I, II, III	1993		1
Ethylene glycol	107-21-1	Napp	AFSC	1, 250-ml	2	1	1	General	Not regulated	N/A		5,000 lbs	2
Sodium Borate Solution, Saturated	mix	Napp	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.

9.5 Deemed Exports-NAO 207-12

Per the reference in Sec. 3.1.2.1, the NMAO guidance for ships (dated 11-14-06) regarding compliance with the policies of NAO 207-12 is herein incorporated for reference applicable to EcoFOCI individual cruise instructions:

Foreign National Access Guidance for NMAO Installations

All foreign national access must be in compliance with NAO 207-12. Any access to controlled technology by the foreign national must be in compliance with the facility/platform's Technology Access Control Plan and all export control regulations.

Specific requirements to be provided to the facility Commanding Officer for foreign nationals accessing NMAO facilities/platforms-

1. Written notification identifying the individual who is responsible for compliance with NOAA and export regulations by the foreign national. For scientific party members, the person identified must be from the Program and must be available to oversee the foreign nationals' visit; therefore, they must be on board when the platform is underway. NMAO (ship or shore based) personnel will not act in this capacity unless the foreign national is coming on board for NMAO, AOC or MOC reasons, e.g., MED or EED contractor, NMAO visitor. The responsible individual must be a U.S citizen NOAA employee or have been approved by the servicing security office as a foreign national escort.
2. A copy of the DOC/OSY clearance authorization for access by the foreign national. This isn't standardized and much of the time it comes in the form of an email stating that OSY has forwarded the name of the foreign national to the counter-intelligence (CI) staff and then advising you to proceed with the visit at your own risk. A foreign national who has been issued a NOAA ID badge can/may be considered as cleared; but the sponsor must confirm this with the servicing security office. All OSY badge/clearance issues and questions must be directed to the servicing security office.
3. A copy of the Appendix B of NAO 207-12 with the NOAA Chief Administrative Officer concurrence endorsement. (Certification of Conditions and Responsibilities for Departmental Sponsors of Foreign National Guests) The CAO concurrence on this document signifies that the foreign national's visit has been vetted and approved by the sponsoring Line or Corporate Office Controlled Technology Coordinator or designated senior official. DOC/OSY authorization is contingent upon approval of this certification
4. Written notification that the foreign national has been cleared against the DOC and Treasury Lists to Check. The clearance is required by NAO 207-12, Section 5.03 c, Responsibilities of the Departmental Sponsor/NOAA (DSN). (<http://www.bis.doc.gov/ComplianceAndEnforcement/ListsToCheck.htm>)
5. Provide the information required on the NOAA Foreign National Spreadsheet for each foreign national. A quarterly report of all foreign nationals accessing your facility is required in the NOAA Foreign National Spreadsheet format. The spreadsheet should be continually maintained.

Most of these requirements are set forth in RADM Debow's memo on Foreign National Access to NMAO Facilities, March 16, 2006.

(<http://www.oma.noaa.gov/foreign.html>)

The written notification must be maintained in the facility's records. The form of this notification (email, memo, note, post it, etc) is up to the command.

Note: These are specific requirements so that you are able to determine and demonstrate compliance with NAO 207-12.

NMAO has implemented a specific policy for the default denial of access to NMAO installations and platforms by foreign nationals from specified countries controlled for anti-terrorism reasons and embargoes. The requirements necessary should you wish to allow access to these foreign nationals are outlined below.

Program Export Controlled Items - The Program is responsible for complying with NAO 207-12 and development of Technology Access Control Plans for items they bring aboard. The Program should notify you of any export controlled items they bring aboard and any access restrictions associated with these items. You should cooperate fully in implementing any needed access controls. You should notify the Program of any NMAO-sponsored foreign nationals with access to your facility when Program export controlled items are on board so that they can implement any necessary control measures.

Relationship to approved Cruise Instructions - The appearance of the foreign national's name on the scientific party list, even if the cruise instructions are signed by the lab and the marine center, *in no way clears* the foreign national for access to NOAA property. Access to NOAA property requires compliance with the NAO 207-12.

Relationship of DOC/OSY clearance and cruise instructions to export controls - Clearance by DOC/OSY for a foreign national to access NOAA property, and/or approval of cruise instructions, *in no way* authorizes access by the foreign national to controlled technology. All access to controlled technology must be in accordance with United States law, federal regulations, and Commerce and NOAA policies. Access to export controlled technology is subject to the requirements and limitations of the Export Administration Regulations (EAR), International Traffic in Arms Regulations (ITAR), and Office of Foreign Asset Controls (OFAC) regulations.

Relationship of DOC/OSY clearance to approval by the NOAA Chief

Administrative Officer- Clearance by DOC/OSY for a foreign national to access NOAA property *does not* indicate that the foreign national's visit has been approved in accordance with NAO 207-12. A signed NAO 207-12 Appendix B with the NOAA Chief Administrative Officer concurrence is required. You must ensure that there is an approved Appendix B for each foreign national. Otherwise, your facility will be subject to an investigation by OSY for unauthorized release of controlled technology to or suspicious behavior by the foreign national.

Espionage Indicators Briefing - Ensure all OMAO personnel onboard receive the briefing on Espionage Indicators (NAO 207-12 Appendix A) at least annually or as required by the servicing Regional Security Officer.

While directly a responsibility of the Departmental Sponsor/NOAA, you must confirm that all non-foreign national members of the scientific party receive the briefing on Espionage Indicators (NAO 207-12 Appendix A) at least annually or as required by the servicing Regional Security Officer.

Escort Requirements

Section 5.10 of NAO 207-12 requires “Foreign national visitors [and guests] must be escorted at all times by a U.S. citizen employee of NOAA while on NOAA property.” (Also, see DAO 207-12 Section 5.08). DOC Security has stated that the “unescorted access” provision in 5.10 is unlikely to be approved.

Obviously, this requirement is problematic for vessel cruises where the foreign national will have access 24/7 for extended periods of time. ***DOC Security has stated that any alteration of the escort requirements of the NAO must be negotiated with your Regional Security Officer for each specific situation.*** The foreign national sponsor will be required to provide escorts to comply with the negotiated requirements.

Use of Personal Electronic Devices by Foreign Nationals – NAO 207-12 Section 5.11 prohibits the use of cell phones, computers, PDAs, cameras, etc. in areas where controlled technology is located. The general guidance is to prohibit the devices from being brought into DOC facilities. This guidance may prove problematic onboard ships. You should work with the servicing Regional Security Officer to establish acceptable restrictions to prevent the unauthorized release of controlled technology.

Foreign National Spreadsheet - The information required for the Foreign National Spreadsheet should be provided to you by the Program for the foreign nationals they sponsor. If the foreign nationals access any NOAA facilities, the information in the spreadsheet must be collected. In any case, the Program is required to clear with the Office of Security (OSY) the foreign nationals for whom they are requesting access to the ship, in accordance with the NAO 207-12, and must provide you with this information so that you, the platform manager, can determine if access is in accordance with NOAA regulations. It is hoped that for most Program foreign national "guests," a copy of the entries in the Program's Foreign National spreadsheet is all that will be needed, with appropriate alterations for access to the ship.

For NMAO sponsored foreign nationals, you must collect the information from the foreign national and their NMAO sponsor (Department Sponsor/ NOAA-DSN).

Unless you decide otherwise, you can enter the Cruise Instruction number in column L (Program under which the foreign national is working at NOAA) in the Foreign

National spreadsheet for scientific party personnel. This will allow them to be tied to the specific cruise/program.

Foreign Nationals from Countries Controlled for Anti-Terrorism Reasons

NMAO facilities and platforms have not been fully assessed for items controlled solely for Anti-Terrorism (AT) reasons.

Access to NMAO facilities by foreign nationals from AT-controlled counties is denied.

If access by an AT controlled foreign national is critical to the accomplishment of mission, access may be permitted with:

1. NMAO headquarters approval
2. Full inventory of the facility for items controlled for AT reasons
3. Access Control Information Sheets prepared for each export controlled item on the facility including those controlled solely for AT reasons.
4. Development of a detailed Technology Access Control Plan for the facility that includes items controlled solely for AT reasons. All items other than items classified as EAR99, must be specifically addressed.
5. A Technology Transfer Control Plan for any controlled technology that will be released to the foreign national
6. Receipt of all required export licensed and compliance with all conditions of those licenses.

As of November 2006, countries controlled for AT reasons are: Cuba, Iran, North Korea, Sudan, and Syria. For the latest information consult the Commerce Country Chart at <http://www.access.gpo.gov/bis/ear/pdf/738spir.pdf>

Foreign Nationals from Countries or Individuals Subject to Embargo or Sanctions

See <http://www.treas.gov/offices/enforcement/ofac/index.shtml> for the latest information.

All access by foreign nationals subject to U.S. embargoes or sanctions shall be in full compliance with the Office of Foreign Asset Control (OFAC) regulations.

Individuals appearing on the Specially Designated Nationals List (SDN) are denied from access to NMAO facilities without approval from DOC Security and NMAO headquarters and compliance with any restrictions imposed by the SDN.

Access to NMAO facilities by foreign nationals from Cuba and Iran is denied.

If access by a foreign national from Cuba or Iran is critical to the accomplishment of mission, access may be permitted with:

1. Full compliance with the requirements listed above for AT controlled countries.

2. Development of a detailed Technology Access Control Plan for EAR99 items controlled for Iran or Cuba.
3. Full compliance with the Cuban Assets Control Regulations (31 CFR 515) and the Iranian Transaction Regulations (31 CFR 560).
4. Receipt of all required OFAC and export licenses and compliance with all conditions of those licenses.

Most other embargo/sanction programs do not impose onerous restrictions on ordinary citizens of those countries but should be reviewed for ensure access is in compliance with such programs. Note: Government officials and employees from sanctioned countries can be severely restricted.

For information regarding NOAA rules regarding foreign national access, deemed exports, and controlled technology: <http://deemedexports.noaa.gov>

CAPT Michelle G. Bullock,
Commanding Officer
Marine Operations Center,
Pacific
206-553-7656

Dr. Douglas P. DeMaster
Science and Research Director
Alaska Fisheries Science Center
206-526-4000