



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Science Center
8604 La Jolla Shores Drive
La Jolla, CA 92037

March 25, 2008

CRUISE INSTRUCTIONS

NOAA Ship: NOAA Ship *Miller Freeman*

Cruise Number: MF-08-04

Cruise Dates: March 26 – May 3, 2008

Cruise Title: California Current Ecosystem (CCE) Survey.

Study Area: 38°N to 48°N out to 129°W and no less than 5 miles from the coast.

Itinerary:

Transit Kodiak AK to Port Angeles WA	26 – 30 MAR	5 DAS
Leg I: 01 APR - Depart Port Angeles WA	14 APR - Arrive Newport OR	14 DAS
Leg II: 17 APR - Depart Newport OR	30 APR - Arrive San Francisco CA	14 DAS
<u>Transit San Francisco CA to Seattle WA</u>	<u>30 APR – 3 MAY</u>	<u>3 DAS</u>
Total		36 DAS

Track lines and station positions are included at the end of this document in Appendix I.

Sponsoring Institutions: NOAA/NMFS, the Southwest Fisheries Science Center (SWFSC) Fisheries Resources Division (FRD).

Cruise Description and Objectives:

1. To conduct continuous underway sampling of surface waters. Temperature and salinity will be automatically logged by computer with the output from the GPS navigational unit.
2. To record current profiles throughout the duration of the cruise with the Acoustic Doppler Current Profiler.
3. To perform an assessment of pelagic fish stocks between Point Reyes, CA and Cape Flattery, WA.



4. To collect information on sardine reproductive parameters, spatial distribution of size, age and abundance of sardine, and acoustics ground truth information using trawling.
5. To monitor environmental conditions within the survey area.
6. To make continuous observations of sea birds (and marine mammals when possible).
7. To record continuous acoustic targets obtained with a Simrad EK-60 scientific sounder.

Chief Scientist: Sam McClatchie, SWFSC (858) 546-7083, Sam.McClatchie@noaa.gov

PLAN OF OPERATIONS

1.0 OPERATIONS

1.1 The *Miller Freeman* will conduct operations in the coastal and offshore waters of Washington, Oregon and California. Sampling operations will be divided between daytime and nighttime activities. Eighty primary stations have been plotted on the survey track with an approximate spacing of 30 nautical miles between stations and 60 nautical miles between survey lines (please refer to attached diagram in Appendix 1). Trawling stations will be occupied during nighttime hours. The CCE Survey is being conducted as a two ship synoptic survey of the western US coast of North America. The NOAA vessel *David Starr Jordan* will conduct similar operations over the southern section of the CCE during the same time period.

1.1.1 Each nighttime station will include the following:

1.1.1.1 CTD - will be lowered to 500 meters (depth permitting) to measure salinity, temperature, nutrients, oxygen and chlorophyll at each station.

1.1.1.2 CalBOBL (CalCOFI Bongo Oblique) - standard oblique plankton tow with 300 meters of wire out, depth permitting, using paired 505 μm mesh nets with 71 cm diameter openings. The technical requirements for this tow are: Descent wire rate of 50 meters per minute and an ascent wire rate of 20 meters per minute. All tows with ascending wire angles lower than 38° or higher than 51° in the final 100 meters of wire will be repeated. Additionally, a 45° wire angle should be closely maintained during the ascent and descent of the net frame.

1.1.1.3 Manta net (neuston) tow - using a 505 μm mesh net on a frame with a mouth area of 0.1333 m^2 . Tows are 15 minutes in duration at towing speed of approximately 1.5 - 2.0 knots. Wire angles should be kept between 15° and 25° .

1.1.1.4 Weather observations.

1.1.1.5 Pairovet net - will be fished from 70 meters to the surface (depth

permitting) using paired 25 cm diameter 150 µm mesh nets at all stations. The technical requirements for Pairovet tows are: Descent rate of 70 meters per minute, a terminal depth time of 10 seconds and an ascent rate of 70 meters per minute. All tows with wire angles exceeding 15° during the ascent will be repeated.

1.1.1.6 Surface trawling - A Nordic 264 surface trawl will be deployed between the hours of approximately 1800 and 0600 PST at positions indicated in appendix 1. The positions within the survey pattern may be changed at the discretion of the Chief Scientist or Cruise Leader depending on information gained by the CUFES system or the EK-60.

Any adult salmon caught in the trawl will be immediately returned to the sea and assumed to have survived. Any juvenile salmon caught incidentally will be frozen and turned over to Bob Emmett at NWFSC for further study.

Each tow will be fished for 30 minutes in duration at a towing speed of approximately 3.5 knots. The catch of each tow will be processed in the following manner: The fish will be sorted to species, if possible, and the catch weighed. Sardines collected in each trawl will be randomly subsampled. Standard length and body weight will be measured, fish are sexed and maturity graded, otoliths will be collected, ovaries preserved in buffered formalin and tails preserved in ethanol vials for genetics. Standard length and body weight will also be measured for Northern anchovy, Jack and Pacific mackerels, hake and other species as time permits.

1.1.2 Daytime stations will consist of :

1.1.2.1 Ichthyoplankton net tows, CTD and CUFES - will be conducted at daylight stations.

1.1.2.2 Marine seabird and mammal observations - will be conducted during daylight hours enumerating and identifying all seabirds and marine mammals encountered. Mammals will not be quantitatively surveyed on leg 2.

1.1.3 Thermosalinometer sampling - The ship will provide and maintain a thermosalinometer (TSG), which is calibrated and in working order, for continuous measurement of surface water temperature and salinity. A backup unit (calibrated and in working order) will also be provided by the vessel and remain aboard during the cruise. The Scientific Computing System (SCS) will serve as the main data collection system.. All SCS data will be provided to SWFSC personnel at the completion of the cruise.

1.1.4 Acoustics – Calibration of the Simrad EK-60 echosounder will be performed at the start of the cruise if the existing calibration is judged by the acousticians to require updating. The EK-60 echosounder will be operated at 18, 38, 120 and 200 kHz and interfaced to a data acquisition system to estimate small pelagic and krill biomass

between 10 and 250 m.

1.1.5 ADCP – The ship’s ADCP should run continuously and be logged to a data acquisition system. Complete system settings will be provided by the oceanographer, but will include 5-minute averaging of currents, AGC and 4 beam returns in 60 8-meter bins. The ADCP will be set to receive an external trigger from the EK-60 to avoid cross talk.

1.1.6 CUFES - The egg pump will be mounted inside the ship’s hull drawing water from a depth of three meters. During the grid occupation, the pump will run continuously between stations to sample any pelagic fish eggs. Approximately 640 liters/minute is sent through a concentrator which filters all material larger than 505µm. The sieved material is then collected and identified. All fish eggs are identified to lowest taxa, counted and entered into the data acquisition software. Each sample entry is coupled with sea surface temperature, geographical position, wind speed and direction, date and time, and surface salinity. Sampling intervals will vary in length, depending on the number of fish eggs seen, from five to 30 minutes. At any time during the survey when the CUFES detects sardine egg concentrations of one egg per minute or higher in two consecutive samples, the ship will begin conducting paironet tows at four mile intervals until the egg concentration falls below a density of one egg per minute in two consecutive samples. This information will be relayed to the bridge by scientists monitoring the CUFES system.

2.0 SCIENTIFIC PERSONNEL

2.1 Chief Scientist - The Chief Scientist is Sam McClatchie, SWFSC, at phone (858) 546-7083.

Cruise leader - The Cruise Leader is Ron Dotson, SWFSC, at phone (858) 546-7085.

The Cruise Leader or Chief Scientist is authorized to alter the scientific portion of this cruise plan with the concurrence of the Commanding Officer, provided that the proposed changes will not: (1) jeopardize the safety of personnel or the ship, (2) exceed the time allotted for the cruise, (3) result in undue additional expense, or (4) change the general intent of the project.

2.2 Participating Scientists

Please see Appendix 3.

2.3 Medical Forms - All scientific personnel will complete a NOAA Health Services Questionnaire (NHSQ) prior to embarking, as per NC Instruction 6000. This form will be routed through MOP Health Services for approval 30 days prior to the cruise.

3.0 EQUIPMENT

3.1 Supplied by scientific party:

1. 37% Formalin (SWFSC)
2. Ethanol (SWFSC)
3. Tris buffer (SWFSC)
4. Sodium borate (SWFSC)
5. 30 cc and 50 cc syringes (SWFSC)
6. Canulas (SWFSC)
7. Pint, quart and gallon jars (SWFSC)
8. Jars for ovaries (SWFSC)
9. Inside and outside labels (SWFSC)
10. CalCOFI net tow data sheets (SWFSC)
11. 71 cm CalCOFI Bongo frames (SWFSC)
12. 71 cm CalCOFI 505 μm mesh nets (SWFSC)
13. CalCOFI 150 μm Calvet nets and codends (SWFSC)
14. CalCOFI Pairovet frames (SWFSC)
15. 333 μm mesh codends (SWFSC)
16. CalCOFI Manta net frames (SWFSC)
17. 60 cm CalCOFI 505 μm mesh Manta nets (SWFSC)
18. Inclinator for bongo tows (SWFSC)
19. Digital flowmeters (SWFSC)
20. 75 lb Bongo weight (SWFSC)
21. Standard CalCOFI tool boxes (SWFSC)
22. Bucket thermometers and holders (SWFSC)
23. Hand held inclinometer for Pairovet tows (SWFSC)
24. Data sheets for scheduled hydrographic work (SIO)
25. Weather observation sheets (SIO)
26. Dissecting microscopes (SWFSC)
27. Nordic 264 rope trawl (SWFSC)
28. Trawl rigging (SWFSC)
29. 3.0 m² XL-Lite foam core trawl doors (SWFSC)
30. Motion compensated balances (SWFSC)
31. Fish measuring boards (SWFSC)
32. Simrad EK-60 GPTs and software (SWFSC)
33. Dissection equipment (SWFSC)

3.2 Supplied by ship - We request the following systems and their associated support services, sufficient consumables, back-up units, and on-site spares. All measurement instruments are assumed to have current calibrations and we request that all pertinent calibration information be included in the data package.

1. Port and starboard winches with .322" conductive cable
2. Port and starboard trawl winches with 1" trawl cable

3. Port and starboard gantries with trawl blocks for 1" trawl cable
4. A-frames w/blocks to accommodate .322" cable
5. Winch monitoring system
6. Seabird thermosalinometer
7. Seabird 9/11+ CTD system
8. Raytheon Deep Water Echo Sounder (12 kHz) with UGR recorder and JRC color scope
9. Acoustic Doppler Current Profiler w/writeable CD drive
10. Multifrequency transducers providing 38, 70, 120 and 200 kHz frequencies for the EK-60
11. The Continuous Underway Fish Egg Sampler pump installed in designed sea chest and plumbed to lab.
12. Mid-water trawl door legs and transfer cables.

3.3 Installation and Maintenance - Prior to departure from Port Angeles the Cruise Leader or Chief Scientist and members of the scientific party may board the vessel, with permission of the Commanding Officer, to test survey equipment and environmental sensors.

3.4 Hazardous Materials - The Cruise Leader or Chief Scientist shall be responsible for complying with NC Instruction 6280a, Hazardous Materials and Hazardous Waste; policy, guidance, and training, dated February 4, 1991, paragraph 7.g and paragraph 9. By Federal Law, the ship may not sail without a complete inventory of Material Safety Data Sheets (MSDS's) and appropriating neutralizing agents, buffers, and/or absorbents in amounts adequate to address spills of a size equal to the amount of chemicals brought on board. The Chief Scientist will provide the Commanding Officer with a copy of all MSDS's prior to the cruise.

4.0 DATA RESPONSIBILITIES

4.1 Collection of Data - The Chief Scientist will receive all original data related to the project. The Chief Scientist will in turn furnish the Commanding Officer with a complete inventory listing of all data gathered by the scientific party, detailing types of operations and quantities of data prior to departing the ship. All data gathered by the vessel's personnel that are desired by the Chief Scientist will be released to the Chief Scientist, including supplementary data specimens and photos gathered by the scientific crew.

4.2 Dissemination of Data - The Cruise Leader or Chief Scientist is responsible for the quality assurance, disposition and archiving of data and specimens collected aboard the ship. The Chief Scientist is also responsible for the dissemination of copies of these data to cruise participants and to any other requesters. The SWFSC cruise report will be submitted according to SWFSC procedures to appropriate persons and groups.

4.3 Evaluation Form - The Cruise Leader or Chief Scientist will complete the Ship

Operations Evaluation Form and forward it to the Office of Marine and Aviation Operations. The Commanding Officer will provide this form.

5.0 ADDITIONAL INVESTIGATIONS AND PROJECTS

5.1 Ancillary Projects - Ancillary projects are secondary to the objectives of the cruise, should be treated as additional investigations, do not have representation aboard, and are accomplished by the ship's force. Ancillary tasks will be accomplished in accordance with the NOAA Fleet Standing Ancillary Instructions. Any additional work will be conducted so as not to interfere with operations as outlined in these instructions. The Cruise Leader or Chief Scientist will be responsible for determining the priority of additional work relative to the primary project with approval from the Commanding Officer.

6.0 COMMUNICATIONS

6.1 Radios - The Cruise Leader or designee may request, from the Commanding Officer, the use of radio transceivers aboard the ship to communicate with other vessels and aircraft, if necessary.

6.2 Telephone - The Cruise Leader or designee may require access to the ship's INMARSAT or cellular telephone systems with permission from the Commanding Officer. The Commanding Officer will provide the Cruise Leader with a log of all INMARSAT calls made from the ship for SWFSC business at the end of each leg. In accordance with the Communications Reimbursement Policy, SWFSC will pay these charges via a transfer of funds from SWFSC to the ship.

6.3 Electronic Mail - All members of the scientific party will have access to e-mail for communications with persons not aboard the ship. The amount of such communication traffic will be determined by the Cruise Leader or Chief Scientist.

6.4 Routine Reports - The Cruise Leader will submit a weekly cruise report, along with time and attendance for the scientific party, to the Survey Coordinator each Thursday during the cruise via e-mail or, if e-mail is not functioning properly, via fax. Richard Charter at SWFSC will be on the distribution list for the ship's noon position reports.

7.0 MISCELLANEOUS

7.1 Pre-cruise Meeting - A pre-cruise meeting between the Cruise Leader or Chief Scientist and the Commanding Officer (and his staff) will be held prior to the start of the cruise to identify operational requirements (i.e., overtime, modifications, repairs or procurement). The date and time for this meeting is yet to be scheduled.

7.2 Underway Meetings - Meetings between the Commanding Officer (and other officers) and the Cruise Leader should occur at the beginning and end of each leg to

discuss and solve any problems or changes that may arise. Additional meetings should occur as needed.

7.3 Debrief - A post-cruise debriefing will be held between the Cruise Leader or Chief Scientist and the Commanding Officer. If serious problems are identified, the Commanding Officer shall notify the Marine Operations Center, Pacific, in the most direct means available. The Cruise Leader or Chief Scientist shall document identified problems in the Ship Operations Evaluation Form. The time and date for the debrief will be determined toward the end of the cruise.

7.4 Time and Attendance - Time and Attendance will be filled out by the SWFSC timekeeper while the ship is at sea, based on information transmitted by the Cruise Leader to the Survey Coordinator. Scheduled overtime is authorized for Saturdays, Sundays, holidays and any hours over a standard eight hour week day. Irregular overtime will be authorized by the Cruise Leader as required. SWFSC personnel are authorized per diem at the rate of \$3.00 per day to be paid via a travel voucher at the termination of the cruise. Task Number F8LAF28-PCS will pay for per diem and overtime for any SWFSC permanent, term or temporary employees.

7.5 Navigation - Primary control will be GPS, also dead reckoning based on visual bearings and radar ranges when possible.

7.6 Scientific Spaces - The Cruise Leader shall be responsible for the proper upkeep and cleaning of all spaces assigned to the scientific party, both laboratory and living spaces, throughout the cruise. The Cruise Leader or Cruise Leader or Chief Scientist will make berthing assignments for scientific personnel on a per-leg basis, with approval of the Commanding Officer.

7.7 Foreign Nationals Access to NMAO Vessels -
Please see Appendix 4.

For further information contact:

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Prepared by:  _____

Date:

Sam McClatchie
Chief Scientist, SWFSC



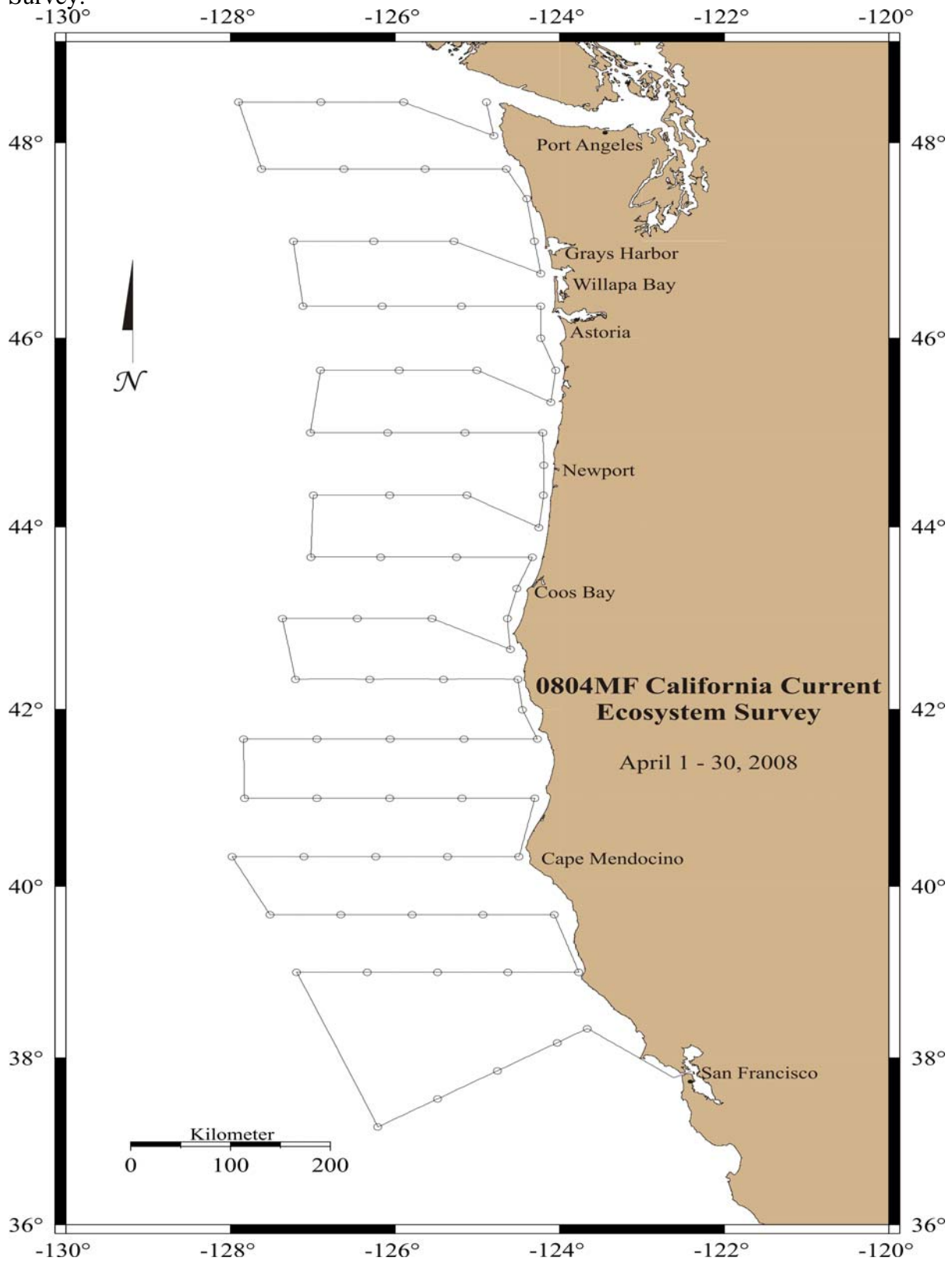
Approved by: _____
William W. Fox, PhD.
Science & Research Director
Southwest Region

Date:

Approved by: _____
CAPT Michele G. Bullock
Commanding Officer
NOAA Marine Operations Center - Pacific

Date:

Appendix 1. NOAA Ship *Miller Freeman* track lines for 0804MF California Current Ecosystem Survey.



Appendix 2. Station positions:

Miller Freeman CCE Cruise Stations				
Schedule_Order	Line	Station	Latitude	Longitude
1	9.9882326061996	-4.00818523873085	48.41	124.885995487037
2	11.6544871575419	-2.61629786253408	48.075	124.795995508404
3	8.24911188962157	5.02855108609538	48.41	125.891995464869
4	6.52480321089406	13.9883218045594	48.41	126.894995443022
5	4.81009854525071	22.8981886071685	48.41	127.897995421431
6	8.25608740181039	25.0623052615357	47.741	127.616995464957
7	9.97964505560709	16.1064369830855	47.741	126.619995486928
8	11.7005047090727	7.16458792559209	47.741	125.629995508996
9	13.4289871774471	-1.81687044005727	47.741	124.640995531294
10	15.2092864482793	-2.06757680933521	47.441	124.395995554399
11	17.3189574854324	-6.97490801520928E-02	47.009	124.300995581957
12	18.9476374113153	1.42738177715778	46.677	124.222995603365
13	15.5889932276126	8.91940888931387	47.009	125.278995559344
14	13.8699409149904	17.8518667283053	47.009	126.255995537004
15	12.1600241952673	26.7368546341213	47.009	127.232995514911
16	15.3146463921461	30.3549568630852	46.342	127.11299555577
17	17.0165738469401	21.5114823955865	46.342	126.149995577995
18	18.7291623519092	12.6126114863918	46.342	125.185995600487
19	20.4506501646437	3.66749841759159	46.342	124.221995623224
20	21.9493517944873	5.93001631276501	46.007	124.221995643122
21	23.7520356352978	6.52299630596374	45.675	124.044995667184
22	25.154461590764	9.34577727980134	45.338	124.100995685999
23	22.0333957140217	15.4533112966628	45.675	124.997995644241
24	20.3288215178611	24.3105386357259	45.675	125.947995621611
25	18.6275481740026	33.1506142431026	45.675	126.900995599149
26	21.3021976627276	39.0527278223728	45.015	127.025995634518
27	22.9954762807064	30.2541940292453	45.015	126.084995657069
28	24.6936070468783	21.4304477345281	45.015	125.145995679807
29	26.4092873890077	12.5155111681826	45.015	124.201995702905
30	27.9651593482186	14.7209633179077	44.672	124.184995723958
31	29.3878748970808	17.0183164718649	44.349	124.190995743299
32	30.8179558336288	19.9673979487544	44.003	124.246995762826
33	27.6794362435261	25.8956241205789	44.349	125.122995720084
34	25.9720272760735	34.7675813633584	44.349	126.058995697006
35	24.282055748415	43.5489310111067	44.349	126.989995674285
36	27.1357701672914	48.700595919749	43.683	127.018995712723
37	28.6874757761237	40.6376970610874	43.683	126.170995733767
38	30.3805491968064	31.8402295043868	43.683	125.249995756844
39	32.1	23	43.6798567015883	124.326629153871
40	33.2479991093288	27.2005226944435	43.341	124.5139957962

Miller Freeman CCE Cruise Stations				
Schedule Order	Line	Station	Latitude	Longitude
41	34.4752890315424	30.69333719177	43.012	124.632995813149
42	36.0302769146509	32.7533831356765	42.674	124.595995834712
43	32.7813300048285	39.4954064923951	43.012	125.543995789772
44	31.0971398875008	48.2467150508464	43.012	126.453995766648
45	29.4190232080471	56.9664651003737	43.012	127.364995743724
46	32.6052407766848	60.4503929618267	42.344	127.206995787349
47	34.2797459995703	51.7494085910955	42.344	126.305995810444
48	35.9582520608409	43.0276352542965	42.344	125.406995833711
49	37.6500998264568	34.2365363881402	42.344	124.504995857278
50	39.2508688096379	36.1186967579904	42.004	124.446995879684
51	41.0185859367094	36.713369125498	41.678	124.267995904547
52	39.3303147935255	45.4858833163388	41.678	125.159995880799
53	37.6496090936791	54.2190863104523	41.678	126.051995857272
54	35.976477685224	62.9129321320031	41.678	126.943995833964
55	34.3090656460399	71.5770592390595	41.678	127.83699581085
56	37.1906089448186	76.5841210459766	41.012	127.826995850866
57	38.8522663205499	67.9498960473617	41.012	126.943995874095
58	40.5194453680647	59.2869796005323	41.012	126.061995897514
59	42.1940145981321	50.5856626387276	41.012	125.179995921149
60	43.8778752440461	41.836066063961	41.012	124.296995945028
61	46.4212490790649	48.6303079492794	40.345	124.487995981308
62	44.7473666947402	57.328055955914	40.345	125.359995957402
63	43.0864036014254	65.9586733572684	40.345	126.22899593379
64	41.4231045522237	74.601428741463	40.345	127.102995910254
65	39.7689477107814	83.1966798206602	40.345	127.975995886958
66	43.4912404652319	83.835079306599	39.679	127.516995939535
67	45.1424450218678	75.2551687492513	39.679	126.653995963035
68	46.8045479669027	66.61862850462	39.679	125.788995986798
69	48.4717856029807	57.9554076226856	39.679	124.924996010744
70	50.1480050420533	49.2455159233606	39.679	124.059996034928
71	53.6246484819686	51.1603466901578	39.013	123.762996085434
72	51.9456325179203	59.8847695595105	39.013	124.621996060985
73	50.277432831739	68.5529894004201	39.013	125.4789960368
74	48.6161456407771	77.1852908625484	39.013	126.335996012822
75	46.9617836753334	85.7816077973222	39.013	127.192995989052
76	56.7	90	37.1856783816355	126.204139070946
77	56.7	80	37.5190117149688	125.480943021802
78	56.7	70	37.8523450483021	124.754481289725
79	56.7	60	38.1856783816355	124.024699604007
80	56.7	55	38.3523450483021	123.658546555888

Finish in San Francisco, CA to offload

Appendix 3. Personnel for the 0804MF California Current Ecosystem Survey

Miller Freeman Leg I:

01 APR - Depart Port Angeles WA 14 APR - Arrive Newport OR 15DAS

Position	Name	Affiliation	Citizenship	Health
Chief Scientist	Sam McClatchie	SWFSC	USA	y
Cruise Leader	Ron Dotson	SWFSC	USA	y
Fishery Biologist	Noelle Bowlin	SWFSC	USA	y
Fishery Biologist	Sherri Charter	SWFSC	USA	y
Biologist	Gary Friedrichsen	Arcata	USA	y
Biologist	Juliet Alla	private	USA	y
Biologist	Rachel Struch	private	USA	
Bird Observer	Scott Mills	NWFSC	USA	y
Bird Observer	Terry Hunefield	NWFSC	USA	
Mammal Observer	Candice Emmons	NWFSC	USA	y

Miller Freeman Leg II:

17 APR - Depart Newport OR 30 APR - Arrive San Francisco CA 14 DAS

Position	Name	Affiliation	Citizenship	
Cruise Leader	Ron Dotson	SWFSC	USA	y
Fishery Biologist	Noelle Bowlin	SWFSC	USA	y
Fishery Biologist	Amy Betcher	SWFSC	USA	
Fishery Biologist	Stephanie Snyder	SWFSC	USA	y
Fishery Biologist	Sherri Charter	SWFSC	USA	y
Fishery Biologist	Bill Flerx	AFSC	USA	y
Biologist	Jessica Wilson	private	USA	
Fisheries Biologist	Eric Bjorkstedt	SWFSC	USA	y
Bird, Observer	Scott Mills	NWFSC	USA	y
Bird Observer	Matt Sadowski	NWFSC	USA	

Note 11 berths

Appendix 4. Foreign National Access

Foreign National Access and Deemed Export Controls on NMAO Vessels

All foreign national access to the vessel shall be in accordance with NAO 207-12 and RADM De Bow's March 16, 2006 memo (<http://deemedexports.noaa.gov>). The foreign national's sponsor is responsible for obtaining clearances and export licenses required and for providing for required escorts by the NAO. Programs sponsoring foreign nationals should consult with their designated line office personnel to assist with the process (<http://deemedexports.noaa.gov/contacts.html>).

The following are basic requirements. Full compliance with NAO 207-12 is required.

Responsibilities of the Chief Scientist:

Ensure the following is provided to the Commanding Officer before any foreign national will be allowed on board for any reason:

1. Written notification identifying the NOAA Program individual who is responsible for ensuring compliance with NOAA and export regulations for the foreign national (see Foreign National Sponsor responsibilities below).
2. A copy of the DOC/OSY clearance authorization for access by the foreign national.
3. A copy of Appendix B of NAO 207-12 with NOAA Chief Administrative Officer concurrence endorsement.
4. Written notification that the foreign national has been cleared against the State, Commerce and Treasury departments' Lists to Check.
<http://www.bis.doc.gov/ComplianceAndEnforcement/ListsToCheck.htm>
5. Provide the NOAA Foreign National List spreadsheet for each foreign national in the scientific party.

Escorts – The Chief Scientist is responsible to provide escorts to comply with NAO 207-12 Section 5.10, or as required by the vessel's DOC/OSY Regional Security Officer.

Ensure 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.

Export Control - The Chief Scientist is responsible for complying with NAO 207-12 and the development of Technology Access Control Plans for items they bring aboard. The Chief Scientist must notify the Commanding Officer of any export controlled items they bring aboard

and any access restrictions associated with these items.

The Commanding Officer and the Chief Scientist will work together to implement any access controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.

Responsibilities of the Commanding Officer:

Ensure only those foreign nationals with DOC/OSY clearance are granted access..

Deny access to OMAO platforms and facilities by foreign nationals from countries controlled for anti-terrorism (AT) reasons and individuals from Cuba or Iran without written NMAO approval and compliance with export and sanction regulations.

Ensure foreign national access is permitted only if unlicensed deemed export is not likely to occur.

Ensure receipt from the Chief Scientist of the NOAA Foreign National List spreadsheet for each foreign national in the scientific party.

Ensure Foreign Port Officials, e.g., Pilots, immigration officials, receive escorted access in accordance with maritime custom to facilitate the vessel's visit to foreign ports.

Export Control - 8 weeks in advance of the cruise, provide the Chief Scientist with a current inventory of OMAO controlled technology onboard the vessel and a copy of the vessel Technology Access Control Plan (TACP). Also notify the Chief Scientist of any OMAO-sponsored foreign nationals that will be onboard while program equipment is aboard so that the Chief Scientist can take steps to prevent unlicensed export of Program controlled technology.

The Commanding Officer and the Chief Scientist will work together to implement any access controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.

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.

Responsibilities of the Foreign National Sponsor

Export Control - The foreign national's sponsor is responsible for obtaining any required export licenses and complying with any conditions of those licenses prior to the foreign national being provided access to the controlled technology onboard regardless of the technology's ownership.

The Departmental Sponsor/NOAA of the foreign national shall assign an on-board Program

individual, who will be responsible for the foreign national while on board. The identified individual must be a U.S. citizen, NOAA employee or be approved by the vessel's DOC Regional Security Officer homeport.

Ensure completion and submission of Appendix C (Certification of Conditions and Responsibilities for a Foreign National Guest) as required by NAO 207-12 Section 5.03.h