



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

11/3/09

FINAL CRUISE INSTRUCTIONS

NOAA Ship: NOAA Ship *McArthur II*

Cruise Number: 0907M2

Cruise Dates: July 14 – August 5, 2009

Cruise Title: CalCOFI Survey.

Study Area: US/Mexican border to Monterey, CA out to 400 nautical miles.

Itinerary:

Transit from Seattle to San Diego: July 6 – 11, 2009
Ship loading and gear preparation: July 11 – 13, 2009.
Leg 1: July 14 – August 5 - Station 93.3/26.7
Arrive San Francisco, CA: August 5, 2009
The ship will offload scientific gear in San Francisco, CA.

Tracklines and station positions are included at the end of this document in Appendix 1 and 2.

Sponsoring Institution: NOAA/NMFS, 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 continue an ongoing assessment of pelagic fish stocks between La Jolla and Monterey Bay, California.



3. To monitor environmental conditions within the CalCOFI survey area.
4. To make continuous observations of sea birds and marine mammals.
5. To record continuous acoustic targets obtained with the EK-60 scientific sounder.

Chief Scientist: David A. Griffith, SWFSC (858) 546-7155, Dave.Griffith@noaa.gov

PLAN OF OPERATIONS

1.0 OPERATIONS

1.1 The *McArthur II* will conduct operations in the Southern California Bight as well as occupying line 76.7 and just north of Point Conception and line 66.7 out of Monterey Bay.

1.1.1 Each standard CalCOFI station will include the following:

1.1.1.1 CTD/Rosette - consisting of 24 10-liter hydrographic bottles will be lowered to 500 meters (depth permitting) to measure physical parameters and collect water at discrete depths for analysis of: salinity, nutrients and chlorophyll. CTD casts on line 66.7 will be down to 1000 meters.

1.1.1.2 CalBOBL (CalCOFI Bongo) - 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.

Although the probability is very low that the gear being lowered into the water on station will interact with any marine mammals, a marine mammal watch will be initiated 30 minutes before arriving on station. If any marine mammals are detected in the area, operations will be suspended and the station location moved.

1.1.1.3 Manta net (neuston) tow - using a 505 μm mesh net on a frame with a mouth area of 0.1333 m². Tows are 15 minutes in duration at a 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 out to and including

station 70. 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 PRPOOS (Planktonic Rate Processes in Oligotrophic Ocean Systems net) - will be taken at all stations on line 90.0 and 80.0 as well as stations out to and including station 70.0 on lines 86.7 and 83.3. These stations are occupied as part of the LTER (Long Term Ecological Research) project. The mesh of the PRPOOS net is 202 µm and the tow is a vertical cast up from 210 meters.

1.1.1.7 Primary productivity - at about 1100 hours on each day of the cruise a primary productivity CTD cast consisting of six 10-liter hydrographic bottles will be carried out. The cast arrangement will be determined by a Secchi disc observation. The purpose of the cast is to collect water from six discrete depths for daily *in situ* productivity experiments. Measurements of extracted chlorophyll and phaeophytin will be obtained with a fluorometer. Primary production will be measured as C¹⁴ uptake in a six hour *in situ* incubation. Nutrients will be measured with an auto-analyzer. All radioisotope work areas will be given a wipe test before the departure of the SIO technical staff.

1.1.1.8 A light meter - will be used to measure the light intensity in the euphotic zone once a day with the primary productivity cast.

1.1.2 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.

1.1.3 Acoustics -The scientific EK-60 depth sounder will be operated, at 38, 70, 120 and 200 KHz and interfaced to a data acquisition system to estimate micronekton biomass between 0 and 500 m. The vessel's EQ-50 depth sounder (or comparable) may be used at the discretion of the Commanding Officer, but will normally remain off while underway. The ship shall inform the Cruise Leader of any use of the vessel's EQ-50, as it interferes with the signals received on the scientific EK-60. Its use will be continuous. On the day of departure the ship will move to a predetermined location within the bay to perform calibration of the EK-60. Most likely this will be an anchorage in the channel in front of Harbor Island, San Diego.

1.1.4 Marine mammal and sea bird observations - During transit between stations, a bird observer and marine mammal observer will be recording location and species of various birds and marine mammals.

1.1.5 Acoustic hydrophone - During transit between most daylight stations, an acoustic hydrophone array will be towed from the stern with a deck loaded winch to record sounds from marine mammals. Upon approaching a station, a sonobuoy will be deployed one nautical mile prior to stopping for station work.

1.1.6 SCCOOS - An additional nine stations will be occupied within the CalCOFI pattern for SCCOOS (S. California Coastal Ocean Observation System). These are 20 meter depth stations and will consist of a CTD lowered to within a few meters from the bottom and a Bongo tow. These stations are included in the original station plans provided to the ship.

2.0 SCIENTIFIC PERSONNEL

2.1 Chief Scientist - The Chief Scientist is David A. Griffith, SWFSC, at phone (858) 546-7155.

The 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. Inside and outside labels (SWFSC)
9. CalCOFI net tow data sheets (SWFSC)
10. 71 cm CalCOFI Bongo frames (SWFSC)

11. 71 cm CalCOFI 505 μm mesh nets (SWFSC)
12. CalCOFI 150 μm Calvet nets and codends (SWFSC)
13. CalCOFI Pairovet frames (SWFSC)
14. 333 μm mesh codends (SWFSC)
15. Inclinator for bongo tows (SWFSC)
16. Digital flowmeters (SWFSC)
17. PRPOOS frames (SIO)
18. 170 lb PRPOOS weight (SIO)
19. 202 μm mesh PRPOOS nets and codends (SIO)
20. 75 lb Bongo weight (SWFSC)
21. 100 lb hydro weights (SWFSC)
22. CalCOFI Manta net frames (SWFSC)
23. 60 cm CalCOFI 505 μm mesh Manta nets (SWFSC)
24. Standard CalCOFI tool boxes (SWFSC)
25. Bucket thermometers and holders (SWFSC)
26. Hand held inclinometer for Pairovet tows (SWFSC)
27. Oxygen auto-titration rig with reagents (SIO)
28. Oxygen flasks (SIO)
29. Guildeline Portasal (SWFSC, SIO)
30. Salinity bottles (SIO)
31. Standard sea water (SIO)
32. Data sheets for scheduled hydrographic work (SIO)
33. Weather observation sheets (SIO)
34. Primary productivity incubation rack (SIO)
35. C^{14} and other chemicals for primary productivity work (SIO)
36. CTD and rosette (SIO)
37. 10 liter hydrographic bottles (SIO)
38. Turner fluorometer (SIO)
39. 90% acetone and all supplies for chlorophyll extraction (SIO)
40. Nutrient vials (SIO)
41. Nutrient auto-analyzer (SIO)
42. Isotope van (SIO)
43. LTER van (SIO)
44. Marine mammal hydrophone array (SIO)
45. Disposable sonobuoys (SIO)
46. Electric Sea-Mac winch for acoustic array (SIO)

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. Starboard hydro winch with 1/4" cable for standard Bongo, Pairovet and Manta tows

2. Starboard ocea winch with .375" conductive cable
3. J-frame w/blocks to accommodate .375" and ¼" cable
4. Constant temperature room (or comparable) set at 22 °C ±1 °C (71.5 °F ±2 °F)
5. Winch monitoring system
6. Seabird thermosalinometer
7. Knudsen 12 kHz depth recorder
8. Shade canopy installed on the flying bridge for observers

3.3 Installation and Maintenance - Prior to departure from San Diego the 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. It is also requested that the constant temperature room be set at 22 °C ±1 °C (71.5 °F ±2 °F) prior to departure.

3.4 Hazardous Materials - The 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 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 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 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 Iridium or cellular telephone systems with permission from the Commanding Officer.

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 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.

7.0 MISCELLANEOUS

7.1 Pre-cruise Meeting - A pre-cruise meeting between the Chief Scientist and the Commanding Officer (and his staff) was 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 was February 20, 2009.

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. In addition, daily safety meetings will be held between the Commanding Officer, Chief Scientist and department heads. Additional meetings should occur as needed.

7.3 Debrief - A post-cruise debriefing will be held between the 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 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.

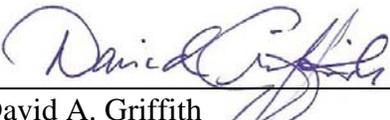
7.4 Time and Attendance - Time and Attendance will be filled out by the SWFSC timekeeper while the ship is at sea, based on information transmitted by the Cruise Leader to the Survey Coordinator. Scheduled overtime is authorized for Saturdays, Sundays, holidays and any hours over a standard eight hour week day. Irregular overtime will be authorized by the Chief Scientist or 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 28LEF01-P1A 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 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.

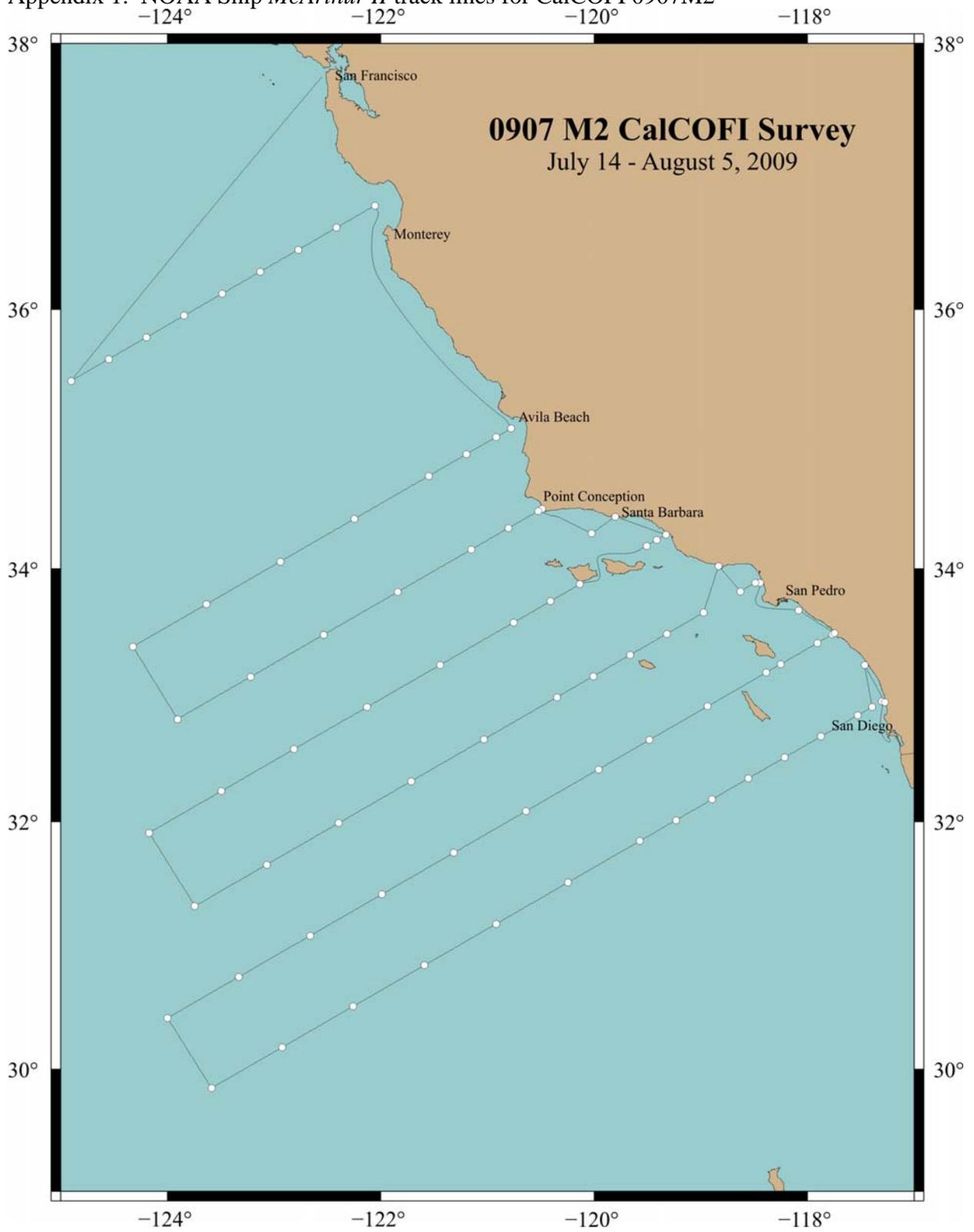
For further information contact Sam McClatchie, Southwest Fisheries Science Center, National Marine Fisheries Service, NOAA, 8604 La Jolla Shores Drive, La Jolla, CA 92037; Sam.McClatchie@noaa.gov, Phone (858) 546-7083. More information about the cruise and project can be found at the project's website:
<http://swfsc.nmfs.noaa.gov/frd/CalCOFI/CC1.htm>

Prepared by:  Date: 06/12/2009
David A. Griffith
Chief Scientist, SWFSC

Approved by:  Date: 06/12/2009
Norm W. Bartoo, PhD.
Acting Science & Research Director
Southwest Region

Approved by: _____ Date: _____
CAPT Michelle G. Bullock
Commanding Officer
NOAA Marine Operations Center – Pacific

Appendix 1. NOAA Ship *McArthur II* track lines for CalCOFI 0907M2



Appendix 2. Station positions:

| | Line | Station | °Latitude | °Longitude |
|----|------|---------|-------------|-------------|
| 1 | 93.3 | 26.7 | 32.95637243 | 117.3053809 |
| 2 | 93.4 | 26.4 | 32.94905192 | 117.2735654 |
| 3 | 91.7 | 26.4 | 33.24350056 | 117.4654169 |
| 4 | 93.3 | 28 | 32.91303909 | 117.3943818 |
| 5 | 93.3 | 30 | 32.84637243 | 117.5312206 |
| 6 | 93.3 | 35 | 32.67970576 | 117.8728643 |
| 7 | 93.3 | 40 | 32.51303909 | 118.2138649 |
| 8 | 93.3 | 45 | 32.34637243 | 118.5542278 |
| 9 | 93.3 | 50 | 32.17970576 | 118.8939582 |
| 10 | 93.3 | 55 | 32.01303909 | 119.2330612 |
| 11 | 93.3 | 60 | 31.84637243 | 119.5715421 |
| 12 | 93.3 | 70 | 31.51303909 | 120.2466579 |
| 13 | 93.3 | 80 | 31.17970576 | 120.9193461 |
| 14 | 93.3 | 90 | 30.84637243 | 121.5896467 |
| 15 | 93.3 | 100 | 30.51303909 | 122.2575992 |
| 16 | 93.3 | 110 | 30.17970576 | 122.9232422 |
| 17 | 93.3 | 120 | 29.84637243 | 123.5866142 |
| 18 | 90 | 120 | 30.41794919 | 123.9989326 |
| 19 | 90 | 110 | 30.75128253 | 123.3316429 |
| 20 | 90 | 100 | 31.08461586 | 122.6620162 |
| 21 | 90 | 90 | 31.41794919 | 121.9900131 |
| 22 | 90 | 80 | 31.75128253 | 121.3155939 |
| 23 | 90 | 70 | 32.08461586 | 120.6387183 |
| 24 | 90 | 60 | 32.41794919 | 119.9593451 |
| 25 | 90 | 53 | 32.65128253 | 119.4822756 |
| 26 | 90 | 45 | 32.91794919 | 118.9355113 |
| 27 | 90 | 37 | 33.18461586 | 118.3870812 |
| 28 | 90 | 35 | 33.25128253 | 118.2497109 |
| 29 | 90 | 30 | 33.41794919 | 117.9058212 |
| 30 | 90 | 28 | 33.48461586 | 117.7680788 |
| 31 | 90 | 27.7 | 33.49461586 | 117.7474083 |
| 32 | 88.5 | 30.1 | 33.67442348 | 118.0836933 |
| 33 | 86.8 | 32.5 | 33.88887212 | 118.4442347 |
| 34 | 86.7 | 33 | 33.88952596 | 118.4903339 |
| 35 | 86.7 | 35 | 33.82285929 | 118.6287319 |
| 36 | 85.4 | 35.8 | 34.02135923 | 118.8341306 |
| 37 | 86.7 | 40 | 33.65619263 | 118.9742516 |
| 38 | 86.7 | 45 | 33.48952596 | 119.3190964 |
| 39 | 86.7 | 50 | 33.32285929 | 119.6632718 |
| 40 | 86.7 | 55 | 33.15619263 | 120.0067835 |
| 41 | 86.7 | 60 | 32.98952596 | 120.3496367 |

| | | | | |
|----|------|------|-------------|-------------|
| 42 | 86.7 | 70 | 32.65619263 | 121.0333897 |
| 43 | 86.7 | 80 | 32.32285929 | 121.7145734 |
| 44 | 86.7 | 90 | 31.98952596 | 122.3932299 |
| 45 | 86.7 | 100 | 31.65619263 | 123.0694006 |
| 46 | 86.7 | 110 | 31.32285929 | 123.7431265 |
| 47 | 83.3 | 110 | 31.91175657 | 124.1703953 |
| 48 | 83.3 | 100 | 32.2450899 | 123.4923224 |
| 49 | 83.3 | 90 | 32.57842323 | 122.8117321 |
| 50 | 83.3 | 80 | 32.91175657 | 122.1285823 |
| 51 | 83.3 | 70 | 33.2450899 | 121.4428307 |
| 52 | 83.3 | 60 | 33.57842323 | 120.7544339 |
| 53 | 83.3 | 55 | 33.7450899 | 120.4092298 |
| 54 | 83.3 | 51 | 33.87842323 | 120.1325788 |
| 55 | 83.3 | 42 | 34.17842323 | 119.5085132 |
| 56 | 83.3 | 40.6 | 34.2250899 | 119.4112355 |
| 57 | 83.3 | 39.4 | 34.2650899 | 119.3278113 |
| 58 | 81.7 | 43.5 | 34.40555136 | 119.80037 |
| 59 | 81.8 | 46.9 | 34.27489752 | 120.0252367 |
| 60 | 80 | 50.5 | 34.46666667 | 120.4890554 |
| 61 | 80 | 51 | 34.45 | 120.5239048 |
| 62 | 80 | 55 | 34.31666667 | 120.802448 |
| 63 | 80 | 60 | 34.15 | 121.15 |
| 64 | 80 | 70 | 33.81666667 | 121.8430351 |
| 65 | 80 | 80 | 33.48333333 | 122.5333494 |
| 66 | 80 | 90 | 33.15 | 123.2209872 |
| 67 | 80 | 100 | 32.81666667 | 123.9059922 |
| 68 | 76.7 | 100 | 33.38824343 | 124.3228913 |
| 69 | 76.7 | 90 | 33.72157677 | 123.633345 |
| 70 | 76.7 | 80 | 34.0549101 | 122.9410906 |
| 71 | 76.7 | 70 | 34.38824343 | 122.2460832 |
| 72 | 76.7 | 60 | 34.72157677 | 121.5482772 |
| 73 | 76.7 | 55 | 34.88824343 | 121.1983102 |
| 74 | 76.7 | 51 | 35.02157677 | 120.9178206 |
| 75 | 76.7 | 49 | 35.08824343 | 120.7774028 |
| 76 | 66.7 | 50 | 36.78696091 | 122.0563271 |
| 77 | 66.7 | 55 | 36.62029424 | 122.4148226 |
| 78 | 66.7 | 60 | 36.45362757 | 122.7725371 |
| 79 | 66.7 | 65 | 36.28696091 | 123.1294771 |
| 80 | 66.7 | 70 | 36.12029424 | 123.4856487 |
| 81 | 66.7 | 75 | 35.95362757 | 123.8410585 |
| 82 | 66.7 | 80 | 35.78696091 | 124.1957124 |
| 83 | 66.7 | 85 | 35.62029424 | 124.5496169 |
| 84 | 66.7 | 90 | 35.45362757 | 124.9027779 |

San Francisco

Appendix 3. Personnel for the CalCOFI 0907M2 survey

McArthur II Leg I:

| Position | Name | Affiliation | Berth |
|-------------------------|--------------------------|-------------|-------|
| Chief Scientist | Dave Griffith | SWFSC | |
| Fishery Biologist | Sue Manion | SWFSC | |
| Fishery Biologist | Amy Hays | SWFSC | |
| Biologist | Bryan Overcash | CDFG | |
| Oceanographer | Dave Wolgast | SIO | |
| Oceanographer | Jim Wilkinson | SIO | |
| Oceanographer | Jennifer Rodgers-Wolgast | SIO | |
| Oceanographer | Dave Faber | SIO | |
| Oceanographer | Shonna Dovel | SIO | |
| Oceanographer | Megan Roadman | SIO | |
| Volunteer | Elena Perez | SIO | |
| Chemist | Dan Schuller | SIO | |
| Mar. Mammal Acoustician | Karlina Merkens | SIO | |
| Mar. Mammal Biologist? | Andrea Havron | SIO | |
| Seabird biologist | Michael Force | Farallon | |

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