



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES SCIENCE CENTER
P.O. BOX 271
LA JOLLA, CA 92038-0271

January 24, 2006

F/SWC1:DAG

FINAL CRUISE ANNOUNCEMENT

- VESSEL: NOAA Vessel *David Starr Jordan*, 0602-JD, DS 06-01.
- CRUISE DATES: February 1 - 26, 2006.
- PROJECT: CalCOFI Survey, Fisheries Resources Division.
- ITINERARY: Leg I: Depart San Diego, California at 0800 on February 1, 2006. Proceed to first CalCOFI station 93.3/26.7 (position 32° 57.4'N/117° 18.3'W) and begin a modified CalCOFI pattern (see attached cruise track). To complete the proposed cruise track, it will be necessary to maintain maximum speed between stations whenever possible. The vessel will stop on or about February 7 to exchange scientific personnel in Dana Point, California and then again in Avila Beach, California on or about February 16 to complete leg I.
- Leg II: Once personnel exchanges are complete, the *Jordan* will continue to occupy stations up to Monterey, California at which point the ship will exchange personnel on or around February 19.
- Leg III: After completing the personnel exchange the *Jordan* will continue to occupy stations until completion. The vessel will return to San Diego on February 26, 2006.
- OBJECTIVES: 1. To continue an ongoing assessment of pelagic fish stocks between La Jolla and San Francisco, California.
2. To monitor environmental conditions within the CalCOFI survey area.
3. To conduct continuous underway sampling of surface waters. Temperature, salinity and chlorophyll will be automatically logged by computer with the output from the GPS navigational unit.
4. To record current profiles throughout the duration of the cruise with the Acoustic Doppler Current Profiler.
5. To make continuous observations of sea birds and marine mammals.
- PROCEDURES: 1. Each standard CalCOFI station will include the following:
- a. A CTD/Rosette consisting of twenty four 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: oxygen concentration, salinity, nutrients, chlorophyll and phytoplankton.
- b. A 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, held at terminal depth for 30 seconds and retrieved at a 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. The Bongo frame will be fitted with a self contained LOPC (Laser Optical Particle Counter) mounted inside the port side opening.

- c. A Manta net (neuston) tow, using a 505 µm mesh net on a frame with a mouth area of 0.1333 m². The frame will be towed for 15 minutes at a target speed of 60 - 70 cm/sec or an angle of stray between 20 - 25 degrees.
 - d. Weather observations.
 - e. A Pairovet (vertical) plankton tow will be taken at all stations inshore of, and including station 70. The Pairovet net will be fished from 70 meters to the surface (depth permitting) using paired 25 cm diameter 150 µm mesh nets. The technical requirements for Pairovet tows are: Descent rate of 70 meters per minute, held at depth for a 10 second duration then an ascent rate of 70 meters per minute. All tows with wire angles exceeding 15° during the ascent will be repeated.
 - f. Up to and including line 77, 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 6 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 6 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.
 - g. A light meter will be used to measure the light intensity in the euphotic zone once a day with the primary productivity cast.
 - h. During transit between stations, a bird observer and two marine mammal observers will be recording location and species of various sea birds and marine mammals. In addition to visual observations of marine mammals, a towed hydrophone will be deployed between stations during daylight hours. Upon approaching a station, a sonobuoy will be deployed one nautical mile prior to stopping for station work.
 - i. A PRPOOS (Planktonic Rate Processes in Oligotrophic Ocean Systems) net tow will be taken at all stations on line 90 and 80 as well as stations out to and including station 70 on lines 87 and 83. 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.
2. 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 be run continuously between stations to sample any pelagic fish eggs.

3. An additional nine stations will be occupied within the CalCOFI pattern for SCCOOS (Southern 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.

EQUIPMENT: 1.

Supplied by scientific party:

- -80°C Freezer (SWFSC)
- 37% Formalin (SWFSC)
- Ethanol (SWFSC)
- Tris buffer (SWFSC)
- Sodium borate (SWFSC)
- 30 cc and 50 cc syringes (SWFSC)
- Canulas (SWFSC)
- Pint, quart and gallon jars (SWFSC)
- Inside and outside labels (SWFSC)
- CalCOFI net tow data sheets (SWFSC)
- 71 cm CalCOFI Bongo frames (SWFSC)
- 71 cm CalCOFI 505 µm mesh nets (SWFSC)
- CalCOFI 150 µm Calvet nets and codends (SWFSC)
- CalCOFI Pairovet frames (SWFSC)
- 333 µm mesh codends (SWFSC)
- Inclinometer for bongo tows (SWFSC)
- Digital flowmeters (SWFSC)
- 175 lb PRPOOS net weight (SIO)
- 75 lb Bongo weight (SWFSC)
- 100 lb hydro weights (SWFSC)
- CalCOFI Manta net frames (SWFSC)
- 60 cm CalCOFI 505 µm mesh Manta nets (SWFSC)
- PRPOOS net frame (SIO)
- PRPOOS 202 µm net and codend (SIO)
- Standard CalCOFI tool boxes (SWFSC)
- Bucket thermometers and holders (SIO)
- Hand held inclinometer (SWFSC)
- Oxygen auto-titrator (SIO)
- Oxygen flasks (SIO)
- Guildline Portasal (SIO, SWFSC)
- Salinity bottles (SIO)
- Sling psychrometer (SIO)
- Standard sea water (SIO)
- Data sheets for scheduled hydrographic work (SIO)
- Weather observation sheets (SIO)
- CTD and rosette (SIO)
- Self contained LOPC unit for bongo frame (SIO)
- 10 liter hydrographic bottles (SIO)
- Isotope van (SIO)
- LTER van (SIO)
- CUFES (SWFSC)
- Marine mammal hydrophone (SIO)
- Disposable sonobuoys (SIO)

2. Supplied by *David Starr Jordan*:

- Starboard hydro winch with ¼" cable for standard Bongo, Pairovet and Manta tows
- Port winch with .322" conductive cable
- Constant temperature room set at 22°C ±1°C (71.5°F ±2°F)
- Winch monitoring system
- Seabird thermosalinometer
- EK-500 Scientific sounder
- Knudsen 12 kHz depth recorder

- Acoustic Doppler Current Profiler w/writeable CD drive
- Net reel for acoustic hydrophone

MISCELLANEOUS:

1. The disposal of fish caught will be in accordance with NOAA Administrative order 202-735B dated January 25, 1989.
2. At the completion of the cruise an inspection will be made of scientific working and berthing spaces by the Commanding Officer or his designated representative. The Scientific party is responsible for the condition and cleanliness of spaces assigned to the scientific party.
3. The Cruise Leader will hold a pre-cruise meeting aboard the vessel before departure.
4. The Cruise Leader will hold a post-cruise meeting upon termination of the cruise.
5. NOAA Fleet Medical Policy requires that all scientific personnel embarking on NOAA vessels complete an SF-93 form, Report of Medical History.
6. All dates and times recorded will be in Pacific Standard Time.
7. It is requested that the constant temperature room be set at the required temperature prior to the installation of the Portasal unit.
8. Stops will be made at Dana Point, Avila Beach and Monterey to exchange scientific personnel.

HAZARDOUS MATERIALS:

The Chief Scientist shall be responsible for complying with MOCDOC 15, Fleet Environmental Compliance #07, Hazardous Material and Hazardous Waste Management Requirements for Visiting Scientists, released July 2002. The MOCDOC web site address is:

<http://205.156.48.106/>

By Federal regulations and NOAA Marine and Aviation Operations policy, the ship may not sail without a complete inventory of all hazardous materials by name and the anticipated quantity brought aboard, MSDS and appropriate neutralizing agents, buffers, and/or absorbents in amounts adequate to address spills of a size equal to the amount of chemicals brought aboard and a chemical hygiene plan. The amount of hazardous material arriving and leaving the vessel shall be accounted for by the Chief Scientist.

PERSONNEL:	Dave Griffith, Cruise Leader	SWFSC
	Ron Dotson †	SWFSC
	Dimitry Abramenkoff §	SWFSC
	Amy Hays	SWFSC
	Noelle Bowlin	SWFSC
	Sue Manion †¶	SWFSC
	Jim Wilkinson, MLR technical coordinator ¥	SIO
	Fernando Ramirez ¥	SIO
	Dave Wolgast ¥	SIO
	Jennifer Sheldon ¥	SIO
	Teresa Kacena, ODF chemist ¥	SIO
	Shonna Dovel ¥	SIO

Craig Murdoch ¥	SIO
Zac Chsieh ¶	SIO
Stephen Claussen ¶	SIO
Greg Campbell	SIO
Dominique Camacho §	SIO
Marguerite Blum §¥	MBARI
Asila Ghoul §¥	MBARI
Jim Teitz, bird observer ¶	PRBO

SWFSC personnel authorized per diem at the rate of \$3.00 per day to be paid via the Imprest Fund at the termination of the cruise.

† Disembarking in Dana Point, CA.
‡ Embarking in Dana Point, CA.
¶ Disembarking in Avila Beach, CA.
§ Embarking in Avila Beach, CA.
¥ Disembarking in Monterey, CA.

WATCH HOURS: 0000-1159 Charge to account 28LEF01-P15
 1200-2359

OVERTIME: 168 hours (Authorized total per NMFS personnel)
NIGHT DIFF: 158 hours (Authorized total per NMFS personnel)

Date: _____

Prepared by: _____
 D.A. Griffith

Approved by: _____
 William W. Fox Ph.D
 Science & Research Director
 Southwest Region

