



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES SCIENCE CENTER
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F/SWC1:DAG

CRUISE ANNOUNCEMENT

VESSEL: NOAA Vessel *David Starr Jordan*, 0201-JD, DS 02-01, (327).

CRUISE DATES: January 22 - February 13, 2002.

PROJECT: CalCOFI Survey, Fisheries Resources Division.

ITINERARY: Depart San Diego, California at 0800 on January 22, 2002. 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 return to San Diego, California on February 13, 2002.

- OBJECTIVES:
1. To continue an ongoing assessment of pelagic fish stocks between Monterey Bay and La Jolla, 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 20 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, chlorophylls and phytoplankton.
 - b. A CalBOBL (CalCOFI Bongo) standard oblique plankton tow with 300 meters of wire out, depth permitting, using paired 505 μ m mesh nets with 71 cm diameter openings. The technical requirements for this tow are: Descent rate of 50 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 OPC (Optical Particle Counter) mounted inside the port side opening.
 - c. A Manta net (neuston) tow, using a 505 μ m



mesh net on a frame with a mouth area of 0.1333 m².

- 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, ascent rate of 70 meters per minute. All tows with wire angles exceeding 15° during the ascent will be repeated.
 - f. 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 to be measured a 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 will be recording location and species of various sea birds and marine mammals.
2. At specified locations, a 1m² MOCNESS (Multiple Opening Closing Nets/Environmental Sampling System) will be lowered to 250 meters depth (bottom permitting) and nine discrete samples will be collected during the ascent using 150 µm mesh nets.
 3. Throughout the cruise, additional vertical bongo (VERB 150)tows will be performed at specific locations. The vertical bongo frame will consist of 150 µm mesh nets and codends.

EQUIPMENT: 1.

Supplied by scientific party:

- -80°C Freezer (SWFSC)
- 37% Formalin (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)
- Inclinator for bongo tows (SWFSC)
- Digital flowmeters (SWFSC)
- 10 lb OPC/Bongo weight (SIO)
- 75 lb Bongo weight (SWFSC)
- 100 lb hydro weights (SWFSC)

- CalCOFI Manta net frames (SWFSC)
- 60 cm CalCOFI 505 μ m mesh Manta nets (SWFSC)
- Standard CalCOFI tool boxes (SWFSC)
- Bucket thermometers and holders (SIO)
- Hand held inclinometer (SWFSC)
- Oxygen titration rig with reagents (SIO)
- Oxygen flasks (SIO)
- Guideline Portasal (SIO)
- Salinity bottles (SIO)
- Standard sea water (SIO)
- Data sheets for scheduled hydrographic work (SIO)
- Weather observation sheets (SIO)
- CTD and rosette (SIO)
- Self contained OPC unit for bongo frame (SIO)
- 10 liter hydrographic bottles (SIO)
- Isotope van (SIO)
- Filtration van (SIO)
- 1m² MOCNESS (SWFSC)
- MOCNESS computer and supplies (SWFSC)
- VERB 150, nets and additional weights (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
- Center combo winch with .322" conductive cable
- J-frame w/block to accommodate .322" cable
- A-frame w/block to accommodate .322" cable
- Guideline Autosal
- Constant temperature room set at 22°C \pm 1°C (71.5°F \pm 2°F)
- Winch monitoring system
- Seabird thermosalinometer
- Simrad EQ-50 color sounder
- EK-500 Scientific sounder
- Cable from SCS for egg pump data acquisition (port lab)
- Raytheon 12 kHz depth recorder
- Acoustic Doppler Current Profiler w/writeable CD drive

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.

