



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

December 19, 2003

F/SWC1:AEH

CRUISE ANNOUNCEMENT

- VESSEL: NOAA Vessel *David Starr Jordan*, 0401-JD, DS 04-01.
- CRUISE DATES: January 5 - 30, 2004.
- PROJECT: CalCOFI Survey, Fisheries Resources Division.
- ITINERARY: Leg I: Depart San Diego, California at 0800 on January 5, 2004. Proceed to first CalCOFI station 93.3/26.7 (position 32E 57.4'N/117E 18.3'W) and begin a modified CalCOFI pattern. 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 January 11 to exchange personnel in Dana Point, California.
- Leg II: Once personnel exchanges are complete, the *Jordan* will continue to occupy stations up to Avila Beach, California. The vessel will stop on or about January 19 to exchange personnel in Avila Beach.
- Leg III: Once personnel exchanges are complete, the *Jordan* will continue to occupy stations up to Monterey, California. The vessel will stop on or about January 22 to exchange personnel in Monterey.
- Leg IV: Once personnel exchanges are complete, the *Jordan* will continue to occupy stations up to San Francisco. The vessel will return to San Diego on January 30, 2004.
- 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 (ADCP).
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, 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 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 μm mesh net on a frame with a mouth area of 0.1333 m^2 .
 - 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. 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 C^{14} 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. The egg pump will be mounted inside the ship's hull drawing water from a depth of three meters. This will only be a test run of a new pump system to be installed on the *Jordan*. The system will only be used periodically at the discretion of the chief scientist and watch leaders.

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 μ m mesh nets (SWFSC)
- CalCOFI 150 μ m Calvet nets and codends (SWFSC)
- CalCOFI Pairovet frames (SWFSC)
- 333 μ m 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 auto-titrator (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)
- CUFES (SWFSC)

2. Supplied by *David Starr Jordan*:

- Starboard hydro winch with $\frac{1}{4}$ " cable for standard Bongo, Pairovet and Manta tows
- Port winch with .322" conductive cable
- Constant temperature room set at 22°C \pm 1°C (71.5°F \pm 2°F)
- Winch monitoring system
- Seabird thermosalinometer
- EK-500 Scientific sounder
- Knudsen 320B/R 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.
8. Stops will be made at Dana Point and Monterey to exchange scientific personnel.

PERSONNEL:	Amy Hays, Cruise Leader	SWFSC
	Dave Griffith †	SWFSC
	Sue Manion	SWFSC
	Ronald Dotson	SWFSC
	Valerie Growney †	SWFSC
	Jim Wilkinson, MLR technical coordinator**	SIO
	Fernando Ramirez**	SIO
	Dave Wolgast**	SIO
	Jennifer Sheldon**	CDFG/SIO
	Dan Schuller, ODF chemist**	SIO
	Jesse Powell**	SIO
	Russ Bradley	PRBO
	Marguerite Blum*	MBARI
	Jason Mulsow*	MBARI

SWFSC personnel authorized per diem at the rate of \$2.00 per day to be paid via the Imprest Fund at the termination of the cruise.

‡ Embarking in Dana Point, CA.
† Disembarking in Dana Point, CA.
* Embarking in Avila Beach, CA
**Disembarking in Monterey, CA

WATCH HOURS: 0000-1159 Charge to account 8L4S0D05
1200-2359

OVERTIME: 168 hours (Authorized total per NMFS personnel)
NIGHT DIFF: 156 hours (Authorized total per NMFS personnel)

Date: _____

Prepared by: _____
D.A. Griffith

Approved by: _____
Michael F. Tillman Ph.D
Science & Research Director
Southwest Region



