



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

November 9, 2004 F/SWC1:DAG

CRUISE ANNOUNCEMENT

- VESSEL:** R/V *Roger Revelle* (SIO) Cruise 0411-RR.
- CRUISE DATES:** November 2 - 21, 2004.
- PROJECT:** CalCOFI Survey, Fisheries Resources Division.
- ITINERARY:** Depart San Diego, California at 0900 on November 2, 2004. Proceed to first CalCOFI station 93.3/26.7 (position 32° 57.4'N/117° 18.3'W) and begin CalCOFI pattern (see attached cruise track). The vessel will return to San Diego, California on November 21, 2004.
- OBJECTIVES:**
1. To continue an ongoing assessment of pelagic fish stocks between Morro 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.
- 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/OPC (CalCOFI Bongo with optical particle counter mounted on port side of frame) 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, ascent 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.

c. A Manta net (surface) tow, using a 505 µm 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 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.

EQUIPMENT:

1. Supplied by scientific party:
 - 37% Formalin (SWFSC)
 - Sodium borate (SWFSC)
 - Buffered ethanol (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)
Inclinometer for bongo tows (SWFSC)
Digital flowmeters (SWFSC)
75 lb Bongo weights (SWFSC)
100 lb hydro weights (SWFSC)
CalCOFI Manta net frames (SWFSC)
60 cm CalCOFI 505 μ m mesh nets (SWFSC)
Standard CalCOFI tool boxes (SWFSC)
Bucket thermometers and holders (SIO)
Hand held inclinometer (SIO)
Oxygen auto-titration rig with reagents (SIO)
Oxygen flasks (SIO)
Guideline Portasal (SIO, SWFSC)
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)

2. Supplied by R/V *Roger Revelle*:

Hydro winch with $\frac{1}{4}$ " cable for standard Bongo, Pairovet
and Manta tows
Oceanographic winch w/.322" conductive cable
Squirt boom w/blocks to accommodate .322" conductive
cable and $\frac{1}{4}$ " mechanical cable
Constant temperature in main lab set at 22°C \pm 1°C
(71.5°F \pm 2°F)
Winch monitoring system
12 kHz Knudsen precision depth recorder
Acoustic Doppler Current Profiler

MISCELLANEOUS:

1. At the completion of the cruise an inspection will be made of scientific working and berthing spaces by the Master or his designated representative. The scientific party is responsible for the condition and cleanliness of spaces assigned to the scientific party.
2. The Cruise Leader will hold a pre-cruise meeting aboard the vessel before departure.
3. All dates and times recorded will be in Pacific

Standard Time.

PERSONNEL: Amy Hays SWFSC
Ron Dotson SWFSC
Dimitry Abramenkoff SWFSC
Noelle Bowlin SWFSC

NMFS personnel authorized per diem at the rate of \$3.00 per day to be paid via the Imprest Fund on a Travel Roll Voucher at the termination of the cruise.

WATCH HOURS: 0000-1159 OVERTIME: 128 hours
1200-2359 NIGHT DIFF: 120 hours

Date: _____ Prepared by: _____
D.A. Griffith

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

124°

122°

120°

118°

116°

34°

34°

32°

32°

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Avila Beach

Point Conception

Santa Barbara

Santa Monica

Dana Point

San Diego

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