



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

June 1, 2005 F/SWC1:DAG

CRUISE REPORT

VESSEL: NOAA Vessel *David Starr Jordan*, 0501-JD, DS 05-01.

CRUISE DATES: January 19 - 31, 2005.

PROJECT: CalCOFI Survey, Fisheries Resources Division.

ITINERARY: Departed San Diego, California at 0900 on January 19, 2005. Proceeded to first station 73.3/100.0 (position 31° 5.1'N/122° 39.7'W) and continued the proposed pattern started by the Scripps Institution of Oceanography research vessel *New Horizon*. At the end of line 66.7, personnel conducting the UCTD tests disembarked in Monterey. The ship completed the proposed pattern and arrived in San Francisco on January 30, 2005.

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 a continuous sampling of surface waters using the ship's underway system. Temperature, salinity and chlorophyll were 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.

6. To conduct sea trials of a new underway CTD (UCTD) designed and fabricated by researchers at SIO.

PROCEDURES: 1. Each standard CalCOFI station included the following:

a. A CTD/Rosette consisting of 12 2-liter hydrographic bottles was lowered to 500 meters (depth permitting) to measure physical parameters and collect water at discrete depths. Additional intermediate stations were added to line 66.7 and the CTD casts were sent down to 1000 meters. Sea water from each hydrographic bottle was analyzed for chlorophyll, salinity, and nutrients. Continuous profiling during the cast was obtained for oxygen, temperature, conductivity, light transmittance and chlorophyll fluorescence.

b. A CalBOBL (CalCOFI Bongo) standard oblique plankton tow with 300 meters of wire out, depth permitting, used paired 505 μ m mesh nets with 71 cm diameter openings. The technical requirements for this tow were: 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 were repeated. Additionally, a 45° wire angle was closely maintained during the ascent and descent of the net



frame. Contents of the starboard side net were preserved in buffered formalin for later identification. The port side net contents were preserved in buffered ethanol for later identification of ichthyoplankton and DNA studies for stations at and inshore of station 70.

c. A Manta net (surface) tow, using a 505 µm mesh net on a frame with a mouth area of 0.1333 m². The duration of each tow is 15 minutes at approximately 1½ knots.

d. Weather observations.

e. A Pairovet (vertical) plankton tow was taken at all stations inshore of, and including station 70. The Pairovet net was fished from 70 meters (depth permitting) to the surface using a 25 cm diameter 150 µm mesh net. 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 were repeated.

RESULTS:

<u>Activity</u>	<u>Requested</u>	<u>Completed</u>	<u>Aborted</u>
Bongo tows	34	34	0
Manta	34	34	0
Pairovet	19	17	2
CTD	38	38	0
Salinity	38	38	0
Nutrients	38	38	0
Chlorophyll	38	38	0
Weather	38	38	0
Surface Temp.	38	38	0
Underway data (hours)	288	288	0
ADCP (hours)	288	288	0

DISPOSITION OF DATA:

CalBOBL, Manta tow data sheets and formalin preserved samples - Richard Charter, FRD (SWFSC).

Station activity logs, weather data and surface temperature data - Richard Charter, FRD (SWFSC).

ADCP data - Richard Charter, FRD (SWFSC).

CTD data -Richard Charter, FRD (SWFSC)and Tim Pennington (MBARI).

Water analysis data (temperatures, salinities, nutrients and chlorophylls) - Tim Pennington (MBARI).

Underway data - Richard Charter, FRD (SWFSC).

Alcohol preserved bongo samples - William Watson, FRD (SWFSC).

INCIDENTS & MALFUNCTIONS:

Repeated failures of the CTD pump required the ship to pull into Monterey Bay to retrieve spare pumps from MBARI in Moss Landing. Approximately 4 hours lost.

After the completion of station 63.3/55.0, it was necessary to break off from the pattern to drop off a crewman in San Francisco. The pattern was picked up again at station 63.3/60.0 once the drop off was completed.

COMMENDATIONS:

The personnel of the *David Starr Jordan* should be recognized and commended for their dedication and professional manner, ensuring

the completion of the cruise:

The deck department for their ability to meet the needs of all types of gear with speed and expertise.

The bridge officers for their assistance with all sampling operations as well as assuring the safety and well-being of all personnel aboard. Efforts to complete stations in a timely manner and meet specific time schedules for projects contributed to the completion of all scheduled work.

The engineering department for their performance and ability correcting major and minor malfunctions to allow the completion of the cruise with little or no loss of time.

The electronics specialist for his assistance with communications and correcting any electronic malfunctions for both the ship and scientific gear.

The stewards department for providing excellent meals and accommodations in all weather conditions.

In addition, the scientific staff personnel of the SWFSC and MBARI should be commended on their ability to continuously collect high quality data throughout the duration of the cruise.

PERSONNEL:

Dave Griffith, Cruise Leader	SWFSC
Ron Dotson	SWFSC
Dimitry Abramenkoff	SWFSC
Noelle Bowlin	SWFSC
Valerie Andreass†	SWFSC
Melinda Kelley†	SWFSC
Jessica Redfern†	SWFSC
Jochen Klinker†	SIO
Marguerite Blum	MBARI
Asila Ghoul	MBARI

†Disembarked in Monterey

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.

WATCH HOURS:	1200 - 2359	Charge to account #28LAF01-P15
	0000 - 1159	

Date: _____

Prepared by: _____
David Griffith

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

