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 21, 2004 F/SWC1:DAG

CRUISE ANNOUNCEMENT

VESSEL: F/V *Frosti*, 0407-FR.

CRUISE DATES: July 6 - July 25, 2004.

PROJECT: Oregon - Washington Sardine Survey, Fisheries Resources Division.

ITINERARY: Depart Astoria, Oregon at approximately 1300 on July 6, 2004. Proceed to first station of the proposed survey track and occupy all 42 scheduled stations (see attached cruise track). The vessel will arrive in San Francisco, California on July 25, 2003.

OBJECTIVES:

1. Collect fishery independent adult sardines for spawning biomass estimates.
2. Map sardine egg distribution with CUFES (Continuous Underway Fish Egg Sampler) off of Oregon and Washington.
3. Collect oceanographic data over a fixed cruise track which covers the region 42°N to 48°N out to 127° W and no less that 15 miles from the coast.
4. Collect acoustic data continuously throughout the survey using the vessel's ES-60 Simrad sounder.
5. Conduct quantitative plankton tows using a Pairovet net for calibration of the CUFES and attempt to quantify the sardine spawning biomass using an EPM (Egg Production Method).
6. Collect continuous underway temperature and conductivity measurements of surface waters. These measurements will be collected using NOAA's SCS software which is also interfaced with the CUFES software.

PROCEDURES:

1. Forty-two primary stations have been plotted on the survey track with an approximate spacing of 30 nautical miles (please refer to attached diagram). At each station the following activities will be performed:

   a. Deployment of a Seabird SeaCat down to 200 meters, bottom depth permitting. The self-contained CTD will collect depth, temperature, conductivity and chlorophyll data.

   b. Standard Pairovet cast down to 70 meters depth deployed concurrently with the CUFES system.

   c. Standard meteorological data including SST, wind speed and direction, wave height and direction, cloud cover, relative humidity, air temperature and barometric pressure.

   d. During all transit between stations continuous measurements will be made of pelagic fish eggs (CUFES) and acoustic targets using the ES-60.

e. A 264 Nordic Rope Trawl with 3.0 meter^2 foam core doors will be towed on the surface at night for a duration of thirty minutes. The 264 NRT will be modified for surface trawling with Polyform floats attached to the head rope and trawl wings.

EQUIPMENT: 1. Supplied by scientific party:

- 37% Formalin (SWFSC)
- Sodium borate (SWFSC)
- 30 cc and 50 cc syringes (SWFSC)
- Canulas (SWFSC)
- Pint, 8 oz and 4 oz jars (SWFSC)
- Inside and outside labels (SWFSC)
- CalCOFI net tow data sheets (SWFSC)
- CalCOFI 150 µm Calvet nets and codends (SWFSC)
- CalCOFI Pairovet frames (SWFSC)
- 333 µm mesh codends (SWFSC)
- Digital flowmeters (SWFSC)
- Standard CalCOFI tool boxes (SWFSC)
- Bucket thermometers and holders (SWFSC)
- Hand held inclinometer (SWFSC)
- Weather observation sheets (SWFSC)
- Motion compensated balance (SWFSC)
- SeaCat CTD (NWFSC)
- CUFES system (SWFSC)
- Midwater trawls (SWFSC)
- Trawl doors (SWFSC)
- Underway monitoring system (SWFSC)

2. Supplied by *F/V Frosti*:

- Winch monitoring system
- Simrad EK-60 color sounder
- Port and starboard side trawl winches
- Winch for Pairovet tows

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 captain 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. All dates and times recorded will be in Pacific Standard Time.

PERSONNEL:

Dave Griffith, Cruise Leader	SWFSC
Bev Macewicz	SWFSC
Elaine Acuña	SWFSC
Noelle Bowlin	SWFSC
Amy Thurman	WDFW
TBD	

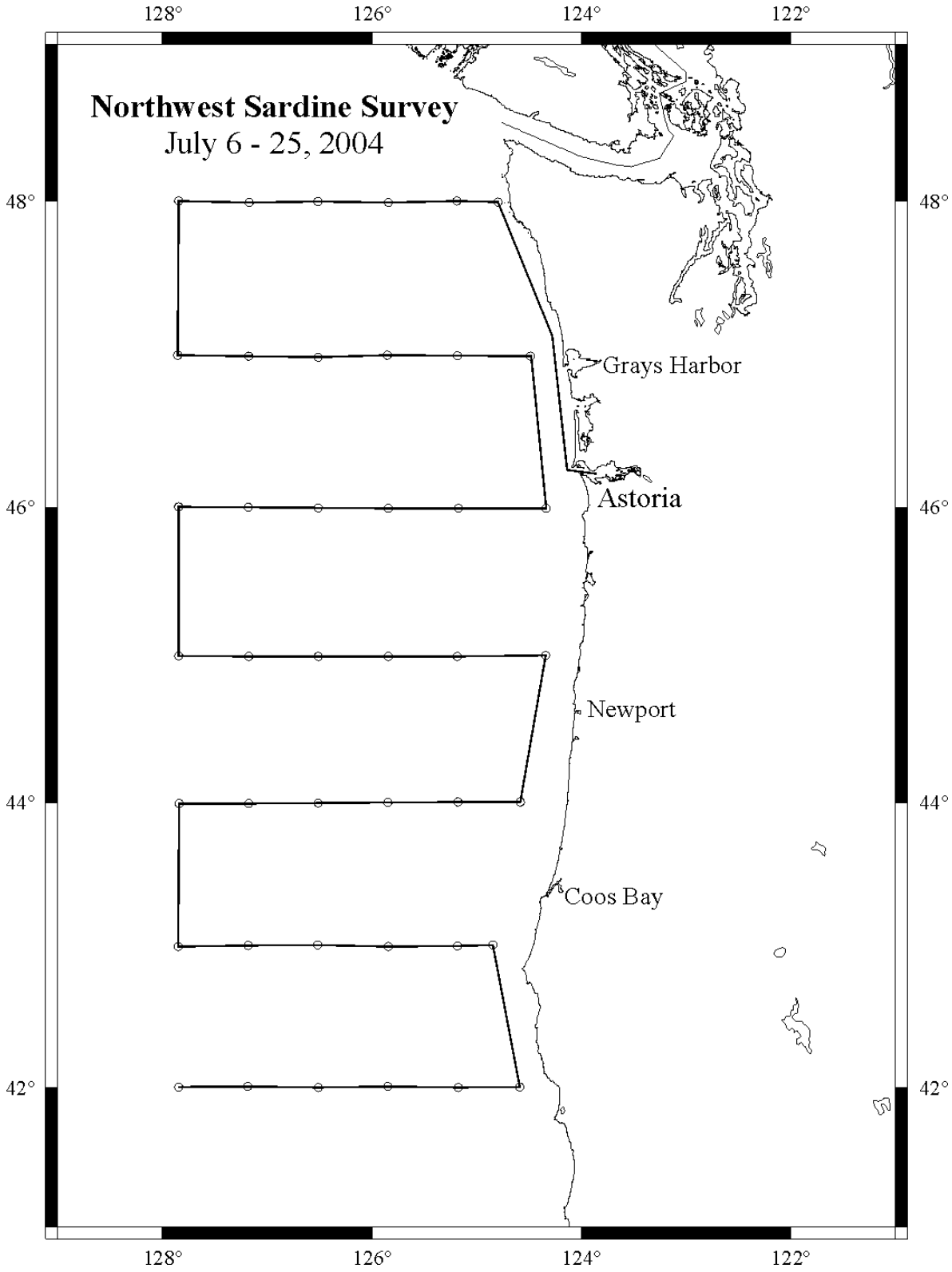
NOAA personnel authorized per diem at the rate of $3.00 per day to be paid via the Imprest Fund at the termination of the cruise.

WATCH HOURS: 0600-1800 Charge to account #B8LSEDH-P15
1800-0600

OVERTIME: 120 hours (Authorized total per NMFS personnel)
NIGHT DIFF: 120 hours (Authorized total per NMFS personnel)

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

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


Northwest Sardine Survey
July 6 - 25, 2004
128°
126°
124°
122°
48°
46°
44°
42°
Grays Harbor
Astoria
Newport
Coos Bay