

## CRUISE REPORT

Cruise Number: MF01-01 leg 1

FOCI Number: 1MF01

Ship: NOAA Ship Miller Freeman

Area of Operations: Gulf of Alaska

### Itinerary:

Date depart/port: January 28, 2001/Kodiak, AK

Date arrive/port: February 5, 2001/Dutch Harbor, AK

### Participating organizations:

NOAA - Alaska Fisheries Science Center (AFSC)

NOAA - Pacific Marine Environmental Laboratory (PMEL)

### Chief Scientist:

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### Personnel:

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### Cruise Objectives:

The primary objective of this cruise was to conduct bottom trawl sampling on the outer continental shelf and upper slope in the Gulf of Alaska beginning near Kodiak Island and ending near Sanak Island to collect ripe adult arrowtooth flounder (ATF) and deploy deep bongo plankton tows to collect their eggs. This work was needed to establish the appearance of arrowtooth flounder eggs so they can be identified with confidence in plankton samples. Data (CTD) on physical characteristics of water in the area was also collected. Secondary objectives included two mooring recoveries, one mooring deployment, and trawl collections of rockfishes (*Sebastes* spp.) for maturity studies and sculpins (family Cottidae) for DNA studies.

### Summary of Operations:

Operation	Tally
CTD casts	4
Seabird SeaCat CTD	18
Mooring recoveries	1
Mooring deployments	1
Nor'eastern bottom trawls	24
Plankton tows	
Bongos, 60 cm	18

### Samples Collected:

Plankton samples	18
Misc. fish eggs	200 estimated (from discard side of 60 cm bongo)
ATF lengths	540
ATF maturities	540
ATF gonads	18
Rockfish gonads	117
DNA samples	82
Juvenile walleye pollock (frozen for otoliths)	9

## Summary of Cruise:

Days Lost to Weather 1.0

Days Lost to Equipment Failure 0.5

## Recommendations:

None

## Narrative:

After departure at 1800 hrs on January 28, we steamed to station 1 in Chiniak Bay where CTD casts were made before and after recovery and deployment of oceanographic moorings for the Kodiak NMFS laboratory (Figure 1). Deep bongo tow and bottom trawling operations began at station 2 on January 29 at approximately 0715 hrs. The first bottom trawl had to be aborted and redone as the trawl doors became crossed. After completing trawling and bongo operations at approximately 1330 hrs on January 30 at station 7, we steamed towards a marine mammal mooring located to the southwest in 2635 m depth water ( $56^{\circ} 37.9' N$ ,  $151^{\circ} 4.2' W$ ). The mooring recovery operation was cancelled at 1630 hrs due to inclement weather conditions and insufficient amount of daylight time remaining. Deep bongo tow and bottom trawling operations resumed at station 8 at 1800 hrs. Operations were suspended at 2030 hrs due to inclement weather and we steamed inshore towards the southwest end of Kodiak Island. Nearshore bongo and trawling operations, intended primarily for rockfishes and sculpins, began at 0800 on January 31 at station 9. Three stations were successfully sampled in this area concluding at 1530 hrs. We then steamed to the outer shelf domain and operations resumed at station 12 on February 1 at 0130 hrs. On February 2 at 1400 hrs, station 18, eggs stripped from a ripe female arrowtooth flounder were successfully fertilized with milt collected from three ripe males. At station 19, the first bottom trawl was aborted before completion because no response was received from the FURUNO and bottom could not be detected. The second bottom trawl was also not completed because the trawl doors crossed and cables became tangled. Additional operations at station 19 were cancelled and we steamed to station 20 and conducted a CTD cast with Niskin bottles to collect bottom water for arrowtooth flounder egg incubation. At 0600 hrs on February 3 we steamed west toward Sanak Island and surveyed for possible trawling sites but could not resume operations on the outer shelf because of inclement weather. At 1830 hrs, the weather remained very poor so we began steaming to the area immediately north of Sanak Island to conduct additional nearshore trawling. Operations began at 2300 hrs on February 3 and were concluded after three successful bottom trawl stations (21-23) at 0900 hrs February 4. At this time the weather had improved so we steamed to the outer shelf and surveyed for additional trawling sites. The final trawling station (24) was completed at 1815 hrs on February 4 and transit to Dutch Harbor began.

Acknowledgments:

The scientific party would like to acknowledge the hard work and support of the officers and crew of the Miller Freeman who performed their duties under difficult conditions. Because of their diligence and professionalism, all primary objectives and all but one of the secondary objectives were accomplished.

Attachments:

Table 1. MF01-01 leg 1 Cruise Summary

Figure 1. Station map

