

CRUISE REPORT

Cruise Number: MF 95-08
FOCI Number: 8MF95
NOAA Ship: R/V Miller Freeman
Area of Operations: Gulf of Alaska
Itinerary: Departed: Dutch Harbor, 20 May 1995
Arrived: Kodiak, 29 May 1995

Participating Organizations: NOAA Alaska Fisheries Science Center (AFSC)
NOAA Pacific Marine Environmental Laboratory (PMEL)

Chief Scientist: Michael Canino **Affiliation:** Alaska Fisheries Science Center

Personnel:	Morgan Busby	Scientist (AFSC)
	Deborah Blood	Scientist (AFSC)
	Michael Canino	Scientist (AFSC)
	Dan Dougherty	Scientist (PMEL)
	Leslie Lawrence	Scientist (PMEL)
	Kathy Mier	Scientist (AFSC)
	Steve Porter	Scientist (AFSC)
	Sarah Walters	Scientist (Pacific Science Center)

Objectives of Cruise: To conduct a survey of pollock larvae in Shelikof Strait, Gulf of Alaska in order to estimate larval abundance, distribution, and mortality. To collect samples of larval pollock for studies on feeding and growth. To continue data acquisition for long-term biological and physical time series.. To examine the biotic and abiotic conditions in the eventual nursery areas of pollock larvae.

Summary of Operations:

Operations:

ADCP Lines	0
ADCP backtrack "L"	0
CTD casts	34

Plankton Tows

Bongos, 60 cm	100
Bongos, 20 cm	24

Fishing Trawls	2
Tucker Trawls	0
MOCNESS tows	0
Live tows	9
Method tows	3

Mooring deployments	0
Mooring recoveries	0
Satellite-tracked buoy deployment	0
Loran-C drifters deployed	0
Loran-C drifters recovered	0

Samples Collected:

Chlorophyll samples	130
Nutrient samples	163
Microzooplankton samples	60
Plankton samples	173
Predator samples	3
Stomach samples	289
Adult pollock samples	0
Larval pollock samples	2159
Pollock egg samples	0

Summary of cruise: The survey began with occupation of four stations in Unimak Pass where four CTD casts and one 60 cm bongo tow were conducted. Bongo net sampling was conducted at Davidson Bank and Sanak Bank. The poly nor'easter net was used for two bottom trawls to obtain adult and juvenile specimens of rock sole, *Lepidopsetta bilineata*, for systematic studies. Sparse ichthyoplankton sampling then continued northeasterly to the Shumagin Islands. The larval survey grid was initiated by occupation of selected stations on FOX Lines 23 and 25 using the 60 cm bongo nets before moving onto the FOCI grid at Line 1. Stations on FOCI grid Lines 1,3,5,7, 9, and 11 were sampled for larval pollock abundance. High abundances of pollock larvae were found at inshore stations near Sutwik island. Additional sampling for water chlorophyll and nutrient concentrations and microzooplankton abundance was conducted on grid Lines 7, 9, and 11. Methot trawls were paired with 60 cm bongo tows for gear comparisons at three stations on Line 9. Three live tows were conducted on Line 11 to collect pollock larvae for genetic stock identification. Four stations on Line 16 were occupied for sampling of pollock larvae, microzooplankton, phytoplankton, and nutrient concentrations. Six live tows for gut contents of pollock larvae were taken with CTD casts for microzooplankton densities pm Line 15. Ichthyoplankton sampling with the 60 cm bongo nets then proceeded northeasterly along FOCI grid Lines 15 - 29 with emphasis on sampling stations along the peninsula side of Shelikof Strait. High abundances of pollock larvae ($> 500-1000$ larvae 10 m^2), first observed on Line 9, remained high at inshore stations up to Line 29. Six stations at FOCI Line 8, a transect across Shelikof Strait used for time series comparisons, were sampled by 20 and 60 cm bongo nets and CTD casts prior to departure for Kodiak.

Attachments: Cruise Sampling Summary Report

Report Date: 06/09/1995

Cruise: 8mf95

Page: 1

Cruise Sampling Summary where Performance = Good or Quest

=====

Number of casts where absorption samples collected: 0
Number of absorption samples: -00-
Number of dedicated ADCP transects: 0
Number of dedicated ADCP transect endings: 0
Number of tows where adults were taken for genetic samples: 2
Number of adults taken for genetic samples: 49
Number of tows where adult stomachs were collected: 0
Number of stomachs taken from adult fish: -00-
Number of tows where adult fish were measured for
length/frequency analysis: 0
Number of adult fish measured for length/frequency analysis: -00-
Number of tows where adult fish otoliths were collected: 0
Number of adult fish from which otoliths were collected: -00-
Number of tows where adult fish weights were collected: 0
Number of adult fish from which weights were collected: -00-
Number of weather balloons released: 0
Number of BKG-calibration casts: 0
Number of tows where blood samples were collected from adult
pollock: 0
Number of pollock from which blood samples were collected: -00-
Number of CAT files saved: 100
Number of ChLAM casts: 0
Number of chlorophyll casts: 24
Number of chlorophyll samples: 130
Number of CTD casts (with & without bottles): 34
Number of discards: 78
Number of EBKG depth files saved: 0
Number of dedicated EK500 transect beginnings: 0
Number of dedicated EK500 transect endings: 0
Number of fluorescence casts: 0
Number of Furuno depth files saved: 0
Number of tows where juvenile pollock were taken for genetic
samples: 0
Number of juvenile pollock taken for genetic samples: -00-
Number of tows where juvenile pollock stomachs were taken: 0
Number of stomachs taken from juvenile pollock: -00-
Number of tows where juvenile pollock were measured for
length/frequency analysis: 0
Number of juvenile pollock measured for length/frequency
analysis: -00-

Cruise Sampling Summary where Performance = Good or Quest
=====

Number of tows where juvenile pollock were collected for
otolith analysis: 0
Number of juvenile pollock collected for otolith analysis: -00-
Number of tows where juvenile pollock were collected for
weight analysis: 0
Number of juvenile pollock collected for weight analysis: -00-
Number of hauls where larval pollock were collected for
biochemical analysis: 0
Number of larvae collected for biochemical analysis: -00-
Number of hauls where larval pollock were collected for
genetic analysis: 3
Number of larval pollock collected for genetic analysis: 100
Number of hauls where larval pollock were collected for
stomach analysis: 6
Number of larval pollock collected for stomach analysis: 289
Number of hauls where larval pollock were collected for
histological analysis: 0
Number of larval pollock collected for histological analysis: -00-
Number of hauls where live organisms were collected for
at sea experiments: 6
Number of hauls where larval pollock were collected for
muscle tissue DNA analysis: 0
Number of larval pollock collected for muscle tissue DNA
analysis: -00-
Number of hauls where larval pollock were collected for
otolith analysis: 71
Number of larval pollock collected for otolith analysis: 1770
Number of casts where samples preserved in Lugol's: 0
Number of Lugol's preserved samples: -00-
Number of hauls where meristic analysis collections were
taken: 0
Number of fish collected for meristic analysis: -00-
Number of Microzooplankton casts: 10
Number of Microzooplankton samples: 60
Number of NetFluor files saved: 0
Number of Nutrient casts: 24
Number of Nutrient samples: 163
Number of tows where pollock ovaries were collected: 0
Number of pollock from which ovaries were removed: -00-
Number of PAR casts: 0

Report Date: 06/09/1995

Cruise: 8mf95

Page: 3

Cruise Sampling Summary where Performance = Good or Quest

=====

Number of casts where phytoplankton preserved in formalin: 0
Number of formalin preserved phytoplankton samples: -00-
Number of Particulate Organic Carbon casts: 0
Number of Particulate Organic Carbon samples: -00-
Number of hauls where predators were collected: 0
Number of predators collected: -00-
Number of nets preserved as QTOWF: 173
Number of sample jars used for formalin preservation: 176
Number of nets preserved as QTOWS: 0
Number of sample jars used for Stockard's preservation: -00-
Number of mooring deployments: 0
Number of mooring recoveries: 0
Number of satellite tracked buoy deployments: 0
Number of ScanMar depth files saved: 1
Number of hauls where SedTrap was deployed: -00-
Number of hauls where SedTrap was recovered: 0
Number of RADAR tracked buoy deployments: 0
Number of RADAR tracked buoy recoveries: 0
Number of hauls where larval pollock were collected
for shrinkage studies: 0
Number of larval pollock measured for shrinkage studies: -00-
Number of dedicated SSF transect beginnings: 0
Number of dedicated SSF transect endings: 0
Number of dedicated TSG transect beginnings: 0
Number of dedicated TSG transect endings: 0
Number of VideoCTD recordings saved: 0
Number of VideoNet recordings saved: 0
Number of Xbt casts: 0
Number of hauls where 20Bon was used: 24
Number of hauls where 60Bon was used: 100
Number of tows where Anchovy trawl was used: 0
Number of casts where bottles were used w/o CTD: 0
Number of hauls where CalVET was used: 0
Number of tows where Diamond trawl was used: 0
Number of tows where 83-112 bottom trawl was used: 0
Number of tows where IKMT was used: 0
Number of tows where IKS was used: 0
Number of hauls where 10" Clarke-Bumpus was used: 0
Number of hauls where 60Bon with taped codends was used: 9
Number of tows where Marinovich trawl was used: 0

Report Date: 06/09/1995

Cruise: 8mf95

Page: 4

Cruise Sampling Summary where Performance = Good or Quest

Number of tows where Methot was used: 3
Number of hauls where MOC1 was used: 0
Number of hauls where MOC2 was used: 0
Number of hauls where Neuston was used: 0
Number of tows where Nor'eastern bottom trawl was used: 2
Number of hauls where .75m ring net was used: 0
Number of hauls where 1 m ring net was used: 0
Number of tows where rope trawl was used: 0
Number of tows where shrimp trawl was used: 0
Number of tows where Tucker epibenthic sled was used: 0
Number of hauls where 4 7/8" Clarke-Bumpus was used: 0
Number of tows where Tuck1 was used: 0
Number of tows where Tuck3 was used: 0

Report Date: 06/09/1995

Cruise: 8mf95

Page: 5

List of Hauls where Sample = BioOther
and Performance = Good or Quest

** There are no BioOther samples entered in the database **

Report Date: 06/09/1995
Cruise: 8mf95
Page: 6

List of Hauls where Gear = BioOther
and Performance = Good or Quest

8MF95	30	1
8MF95	34	1
8MF95	42	2
8MF95	43	2
8MF95	44	2
8MF95	69	2
8MF95	72	1
8MF95	73	1
8MF95	75	1
8MF95	76	1
8MF95	88	1

Report Date: 06/09/1995
Cruise: 8mf95
Page: 7

List of Hauls where Sample = PhyOther
and Performance = Good or Quest
=====

** There are no PhyOther samples entered in the database **

List of Hauls where Gear = PhyOther
and Performance = Good or Quest

8MF95	30	1
8MF95	34	1
8MF95	42	2
8MF95	43	2
8MF95	44	2
8MF95	69	2
8MF95	72	1
8MF95	73	1
8MF95	75	1
8MF95	76	1
8MF95	88	1