

NPAFC  
Doc. 527  
Rev.

**RESEARCH PLAN FOR THE UNITED STATES CRUISE IN THE  
GULF OF ALASKA JULY - AUGUST, 2001**

by

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Submitted to the  
NORTH PACIFIC ANADROMOUS FISH COMMISSION  
by the  
**UNITED STATES OF AMERICA**

June 2001

THIS PAPER MAY BE CITED IN THE FOLLOWING MANNER:

Farley, E.V., Jr. 2001. Research plan for the United States cruise in the Gulf of Alaska July - August, 2001. (NPAFC Doc. 527) Auke Bay Laboratory, Alaska Fisheries Science Center, NMFS, NOAA, 11305 Glacier Highway, Juneau, AK 99801-8626. 5p.

## ABSTRACT

A research cruise by scientists from the National Marine Fisheries Service (NMFS), Ocean Carrying Capacity (OCC) program to study the distribution, migration, and growth of juvenile salmon along the coastal waters of the Gulf of Alaska in relation to oceanographic characteristics is described. The cruise is a key component of research being conducted by OCC and GLOBEC (GLOBal ocean ECosystem dynamics) to quantify the relationship between biological and physical oceanographic processes that affect the distribution of juvenile salmon in the coastal Gulf of Alaska. Primary objectives of the cruise are: to determine the distribution and migration pathways of juvenile salmon and ecologically related species along the continental shelf of the Gulf of Alaska within the GLOBEC study area (northern Southeast Alaska to the western end of Kodiak Island); and to describe the physical environment of coastal waters used by migrating juvenile salmon in this region.

The cruise will begin in Seattle, Washington on July 12 and end in Dutch Harbor, Alaska on August 8 (Table 1). Participating scientists are listed in Table 2. Sampling will occur along the coastal waters of the Gulf of Alaska beginning at Icy Point and ending at Cape Kaguyak on the western end of Kodiak Island (Figure 1). The cruise will be conducted aboard the contracted fishing vessel (F/V) *Great Pacific*. The vessel is a 38-m stern trawler with a main engine of 1450 horsepower and a cruising speed of 10 kts. Fish samples will be collected using a midwater rope trawl, which is 198 m long, has hexagonal mesh in wings and body, and has a 1.2-cm mesh liner in the codend. The rope trawl is towed at 5 kts, at or near surface, and has a typical spread of 52 m horizontally and 18 m vertically. Trawl gear will be deployed for 30 minutes at each station (or less depending on salmon density) and then retrieved.

Salmon and other fishes will be sorted by species and counted. Standard biological measurements including fork length, body weight, and sex as well as scale samples from the preferred area (for growth analyses) will be taken from subsamples of all salmon species. All other fish species will be counted and standard biological measurements including length and weight will be taken from subsamples of each species.

Oceanographic data will be collected at each trawl station. Depth profiles of salinity and temperature will be taken from surface to near bottom depths at each trawl station using a conductivity, temperature, and depth meter. Continuous measurements of current and surface temperature and salinity will be taken using an Acoustic Doppler Current Profiler and Thermosalinograph, respectively. Plankton samples will be collected at each trawl station using a Tucker Trawl; samples will be taken near the surface using 505 micron mesh nets. Plankton samples will be stored in formalin (5%) and brought back to the laboratory for analyses.

Table 1. Cruise itinerary for the July 12 – August 8, 2001 OCC/GLOBEC juvenile salmon survey in the coastal waters of the Gulf of Alaska.

Date	Location/Activity
Leg 1	
12-July	Depart Seattle, enroute Juneau
13-July	Enroute Juneau
14-July	Enroute Juneau
15-July	Arrive Juneau
16-July	Load scientists; enroute Icy Point
17-July	Begin sampling Icy Point; enroute Ocean Cape
18-July	Begin sampling Ocean Cape
19-July	Continue sampling Ocean Cape; enroute Icy Bay
20-July	Begin sampling Icy Bay
21-July	Continue sampling Icy Bay; enroute Cape St. Elias
22-July	Begin sampling Cape St. Elias; enroute Cape Clear
23-July	Begin sampling Cape Clear
24-July	Continue sampling Cape Clear; enroute GAK line
25-July	Begin sampling GAK line
26-July	Continue sampling GAK line
27-July	24hr repeated sampling at one station along GAK line; enroute Seward
28-July	Arrive Seward; offload Leg 1 scientists; load Leg 2 scientists and gear
Leg 2	
28-July	Depart Seward; enroute Gore Point
29-July	Begin sampling Gore Point
30-July	Continue sampling Gore Point
31-July	Continue sampling Gore Point; enroute Cape Chiniak
1-August	Begin sampling Cape Chiniak
2-August	Continue sampling Cape Chiniak; enroute Cape Nukshak
3-August	Begin sampling Cape Nukshak; enroute Cape Kekurnoi and begin sampling
4-August	Continue sampling Cape Kekurnoi; enroute Cape Kaguyak and begin sampling
5-August	Continue sampling Cape Kaguyak; enroute Dutch Harbor
6-August	Enroute Dutch Harbor
7-August	Enroute Dutch Harbor;
8-August	Offload scientists and gear; end cruise.

Table 2. Participating Scientists during the July 12 – August 8, 2001 OCC/GLOBEC juvenile salmon survey in the coastal waters of the Gulf of Alaska.

		Scientists		Affiliation
Leg 1	FPC	Ed Farley	Math. Stat.	NMFS/ABL
		Ned Cokelet	Oceanographer	NMFS/PMEL
		Ellen Martinson	Fish. Res. Biol.	NMFS/ABL
		Noele Weemes	Fish. Res. Biol.	NMFS/ABL
		Jamal Hasan Moss	Student	UW
Leg 2	FPC	Bruce Wing	Fish. Res. Biol.	NMFS/ABL
		Chris Kondzela	Fish. Res. Biol.	NMFS/ABL
		Chuck Guthrie	Fish. Res. Biol.	NMFS/ABL
		Jim Murphy	Fish. Res. Biol.	NMFS/ABL
		TBD		

- FPC - Field Party Chief
- NMFS - National Marine Fisheries Service
- ABL - Auke Bay Laboratory
- PMEL - Pacific Marine Environmental Laboratory
- UW - University of Washington
- TBD - To be determined

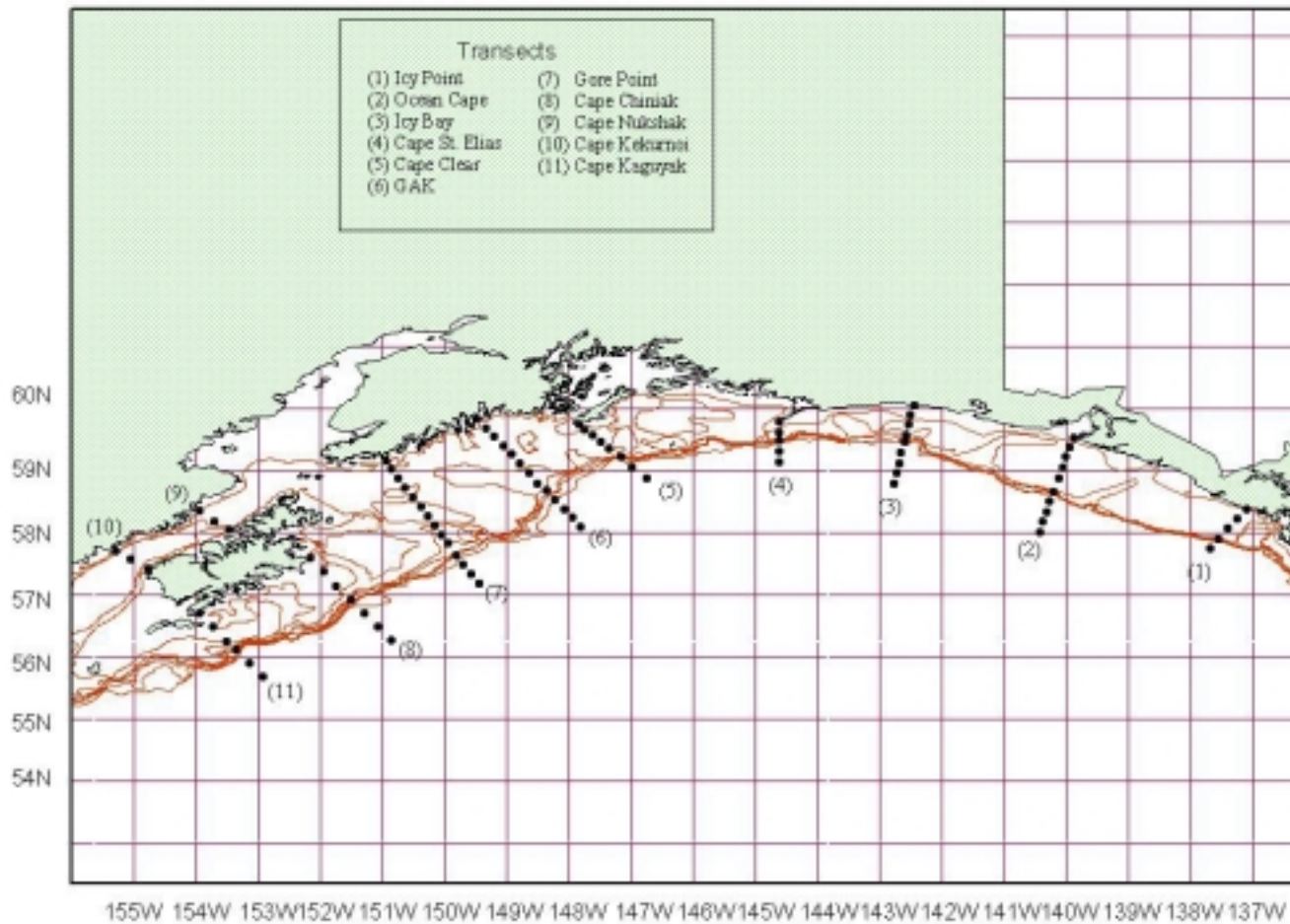


Figure 1. Transects and station locations to be sampled by the NMFS OCC program in the Gulf of Alaska July 12 – August 8, 2001.