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**RESEARCH PLAN FOR THE UNITED STATES CRUISE IN THE  
EASTERN BERING SEA SEPTEMBER, 1999**

by

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## ABSTRACT

A research cruise to study distribution and migration of Bristol Bay juvenile sockeye salmon along the coastal waters of the eastern Bering Sea during September 3 – 12, 1999 is described. Primary objectives of the cruise are: to determine the extent of seaward migrations of Bristol Bay juvenile sockeye salmon; and to describe the physical environment of coastal waters used by migrating juvenile sockeye salmon as they leave Bristol Bay.

The cruise will begin in Dutch Harbor, Alaska on September 3 and end in Dutch Harbor on September 12 (Table 1). Sampling will begin at Cape Seniavin on the Alaska Peninsula near Port Moller; transects will be perpendicular to shore, approximately 30 nautical miles apart, and will be at least 60 nautical miles in length (Figure 1). The first trawl station for each transect will begin as nearshore as possible with the second trawl station starting at ten nautical miles from shore. The remaining trawl stations will be located every ten nautical miles, thereafter, to at least 60 nautical miles or further if juvenile salmon are still present. Trawl gear will be deployed for 15 or 30 minutes at each station (depending on salmon density) and then retrieved.

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.

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 will be taken from subsamples of all salmon species. All other fish species will be counted and subsamples frozen for later laboratory analyses.

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 (CTD) meter. Plankton samples will be collected at each trawl station using double oblique bongo tows taken to near bottom depths using a 60-cm diameter frame with 505 and 333 micron mesh nets.

Table 1. Proposed cruise itinerary for September 1999 research cruise.

Date	Location/Activity
3-September	Depart Dutch Harbor, enroute to Cape Seniavin
4-September	enroute to Cape Seniavin
5-September	Begin sampling Cape Seniavin; enroute Cape Rozhnof
6-September	Begin sampling Cape Rozhnof; enroute Cape Lieskof
7-September	Begin sampling Cape Lieskof; enroute Moffit Point
8-September	Begin sampling Moffit Point; enroute Cape Krenitzin
9-September	Begin sampling Cape Krenitzin; enroute Cape Lapin
10-September	Begin sampling Cape Lapin; enroute Cape Sarichef
11-September	Begin sampling Cape Sarichef; enroute Dutch Harbor
12-September	Arrive Dutch Harbor; offload samples and gear; disembark scientists

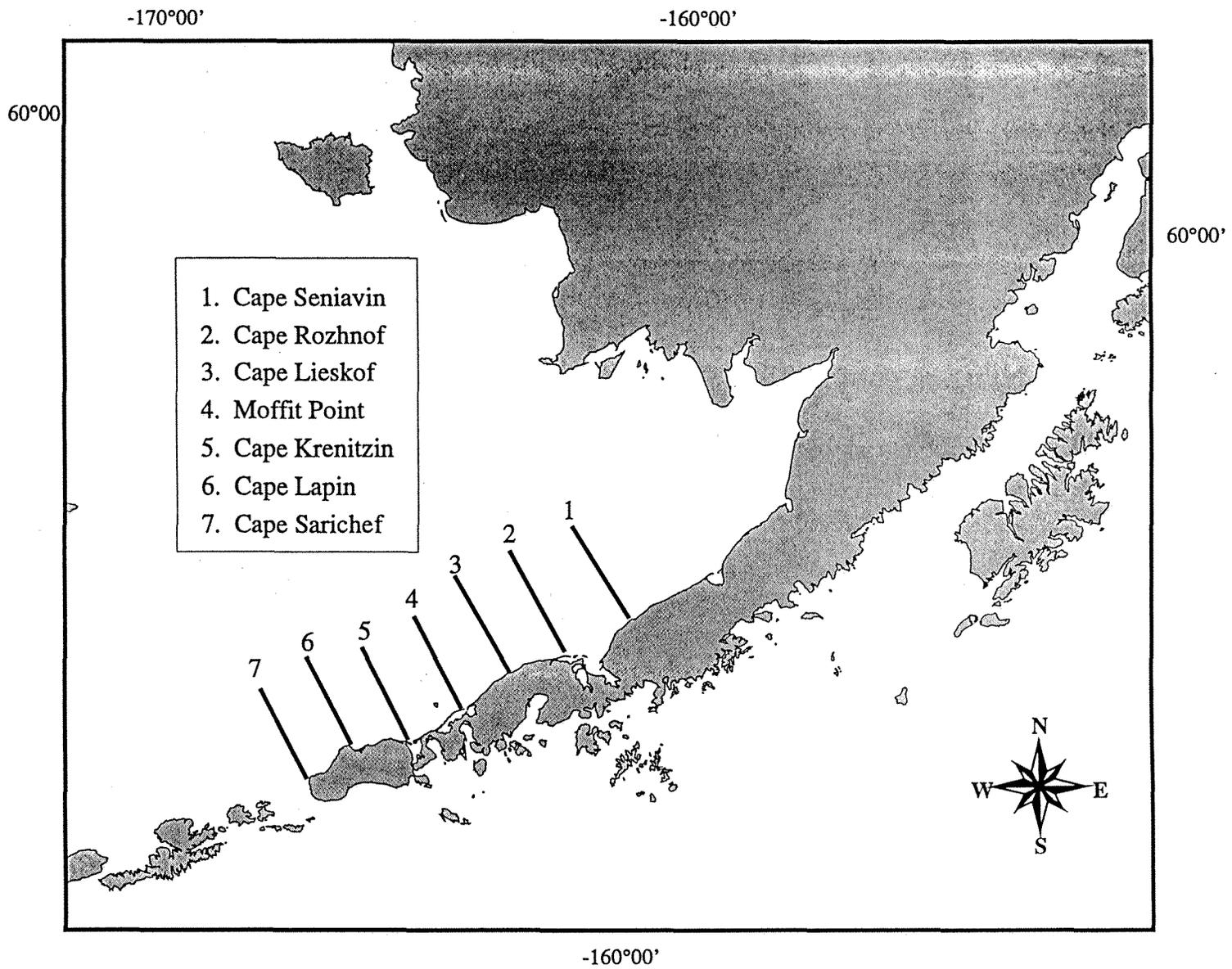


Figure 1. Proposed transects for September 3 - 12, 1999 Bristol Bay juvenile sockeye salmon program.