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Survey Plan for the United States in the Eastern Bering Sea During July and August-September, 2000

by

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ABSTRACT

Two research cruises to study distribution and migration of Bristol Bay juvenile sockeye salmon along the coastal waters of the eastern Bering Sea during July 12 – 23 and August 21 – September 4, 2000 are described. Primary objectives of the cruises 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.

Each cruise will begin and end in Dutch Harbor, Alaska. Sampling will occur along the Alaska Peninsula within the area bounded by Cape Cheerful on Unalaska Island and the Egegik River in Bristol Bay (Figure 1). Transects within the survey area will be perpendicular to shore and will be at least 110 km in length. Trawl stations along each transect will occur every 18 km. Trawl gear will be deployed for 30 minutes at each station (or less depending on salmon density) and then retrieved.

During the August – September cruise, we plan on conducting several trawl stations along the coastal waters of the Bering Sea near Kuskokwim Bay. The primary objective of this impromtu survey will be to determine the extent of seaward migrations of juvenile chum salmon leaving the Kuskokwim River.

Both cruises 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 stomachs from subsamples of these fish will be preserved for 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.

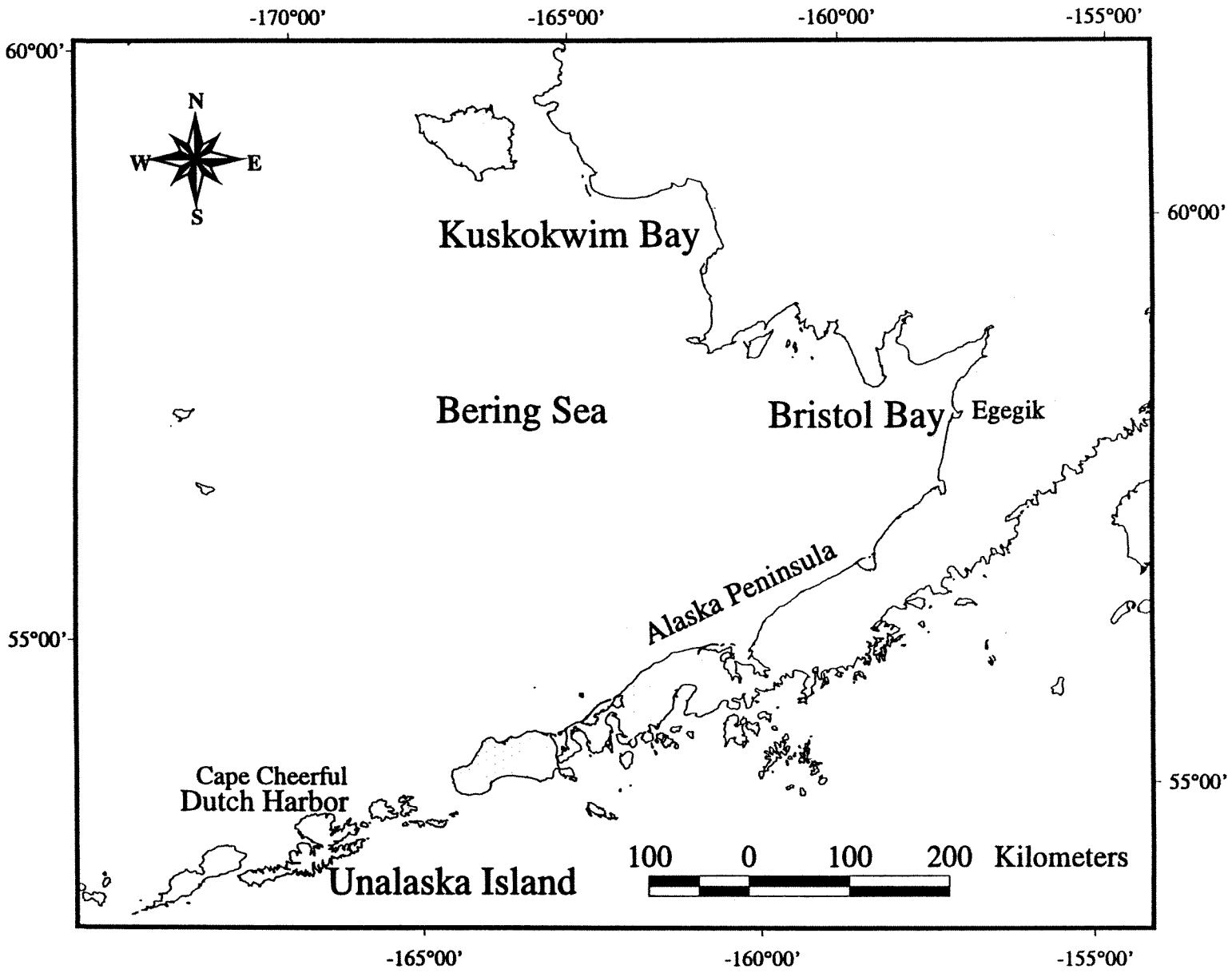

Figure 1. Proposed survey area (coastal waters - Cape Cheerful to Egegik and Kuskokwim Bay) for the July 12 - 23 and August 21 - September 4, 2000 Ocean Carrying Capacity eastern Bering Sea cruises.