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**United States Cruise Plan for the Gulf of Alaska
Assessment Survey for 2017**

by

Wesley W. Strasburger and Jamal H. Moss

National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Alaska Fisheries Science Center, Auke Bay Laboratories
Ted Stevens Marine Research Institute
17109 Point Lena Loop Road, Juneau, AK 99801 USA

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United States Cruise Plan for the Gulf of Alaska Assessment Survey for 2017

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ABSTRACT

Scientists from the National Marine Fisheries Service (NMFS) will conduct a fisheries oceanographic survey within the southeastern region of the Gulf of Alaska (GOA) during summer of 2017. The goal of this work will be to provide key ecological data on pelagic ecosystems, examine oceanographic transport mechanisms, measure lower trophic level production, and quantify age-0 marine fish and juvenile salmon distribution and ecology. Additionally, the pilot age-0 sablefish survey conducted during August of 2016 will be repeated as an extension of the Gulf of Alaska Assessment Survey during August of 2017.

GOA Assessment planned for 2017

Juvenile salmon and other pelagic fish will be collected with a midwater rope trawl, model Nordic 264¹. The trawl is 184 m long, with hexagonal mesh in wings and body, a 0.8-cm mesh liner in the codend, and a typical spread of 25 m horizontally and 18 m vertically. The trawl will be towed at or near the surface for 30 minutes at speeds of approximately 4.5 knots at each station. Stations have been selected as part of a systematic grid covering the nearshore on-shelf and offshore basin areas of the eastern Gulf of Alaska.

Trawl catches will be sorted by species, catch will be estimated by weight and numerically via weight based sub-sampling. Standard biological data will be collected from age-0 groundfish and forage species, including: length, weight, sex, condition, and maturity data. Scales, otoliths, genetic tissue samples, and whole fish specimens for laboratory analysis will also be collected from juvenile salmon species. Length frequency data and whole fish specimens for laboratory analysis will be collected from other pelagic nekton species. Diet information will be collected from stomachs of trawl caught fish. Live capture techniques (“live-box trawling”) may be used to capture adult scyphomedusae, when sufficient numbers of macro jellyfish are present and as time permits. Up to 100 *Chrysaora melanaster* and *Cyanea capillata* will be sampled with the live box. A new effort to tag live age-0 sablefish to track movement and survival over time is planned for 2017. Sample requests and collections for all aspects of the survey by collaborating scientists will be filled as time permits.

Oceanographic data will also be collected at each main trawl station. Vertical profiles of salinity, temperature, chlorophyll a fluorescence, light attenuation (beam c), photosynthetically available radiation (PAR), and dissolved oxygen will be obtained from surface to near bottom depths at each main trawl station using a conductivity, temperature, and depth meter (CTD) with ancillary sensors (SBE-25, Sea-Bird Electronics, Inc, Bellevue, WA). Water samples for nutrients (N, P, Si), chlorophyll a (total and size fractionated), and phytoplankton will be collected at the surface and below the pycnocline using 5-L Niskin bottles. Zooplankton samples will be collected at each trawl station from surface to near bottom (200m maximum depth) using double oblique bongo consisting of a 60-cm diameter frame with 505 and 333 micron mesh nets and a 20-cm diameter frame with 150 micron mesh nets.

Table 1. Tentative cruise itinerary for the Gulf of Alaska Assessment pelagic trawl survey in the coastal and offshore waters of northern southeast Alaska and offshore waters of the eastern Gulf of Alaska, June 24 – August 18, 2017.

Date	Location/Activity
<u>Leg 1a</u>	
June 30	Transit to northern grid (YB Stations)
June 30	Arrival and proceed to sample YB Stations to the south
July 15	Port call Sitka, AK crew change
<u>Leg 1b</u>	
July 15	Depart Sitka, AK in the evening, transit to southern grid (SE Stations)
July 16	Arrival and proceed to sample SE Stations
July 30	Port call Juneau, unload
<u>Leg 2</u>	
August 1	Depart Juneau, AK in the evening, transit to offshore grid (EEZ)
August 2	Arrival and proceed to sample offshore stations
August 18	Port call Juneau, unload

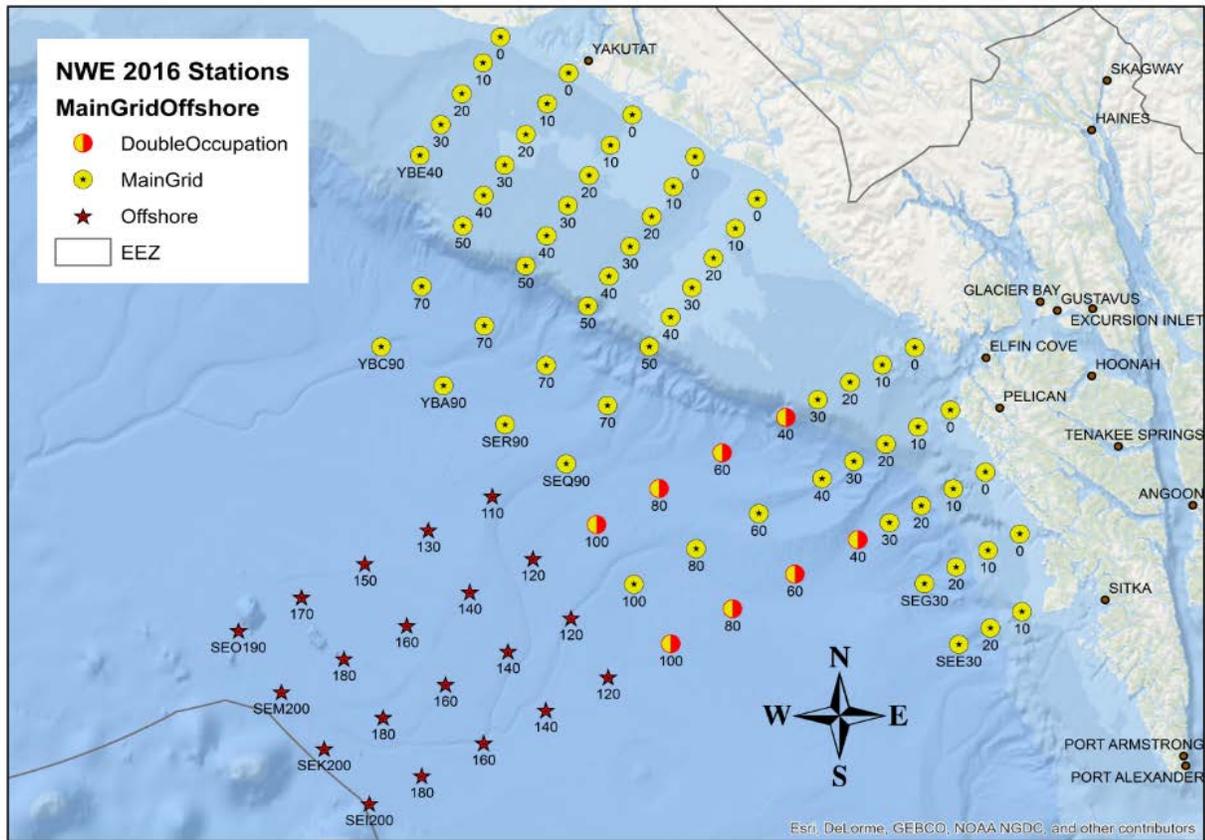


Figure 1. — Gulf of Alaska Assessment survey planned stations are to be the same stations that were sampled during 2016, including the offshore age-0 sablefish sampling grid. Double occupation stations will be occupied twice, once during the last two weeks of July (regular GOA survey), and again during the first two weeks of August (directed age-0 sablefish survey).