



NOAA FISHERIES

ALASKA REGION • ALASKA FISHERIES SCIENCE CENTER

AFSC News

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NOAA Fisheries Surveys Planned for Summer to Collect Data Crucial to Manage Alaska Fisheries and Monitor Alaska Marine Ecosystems

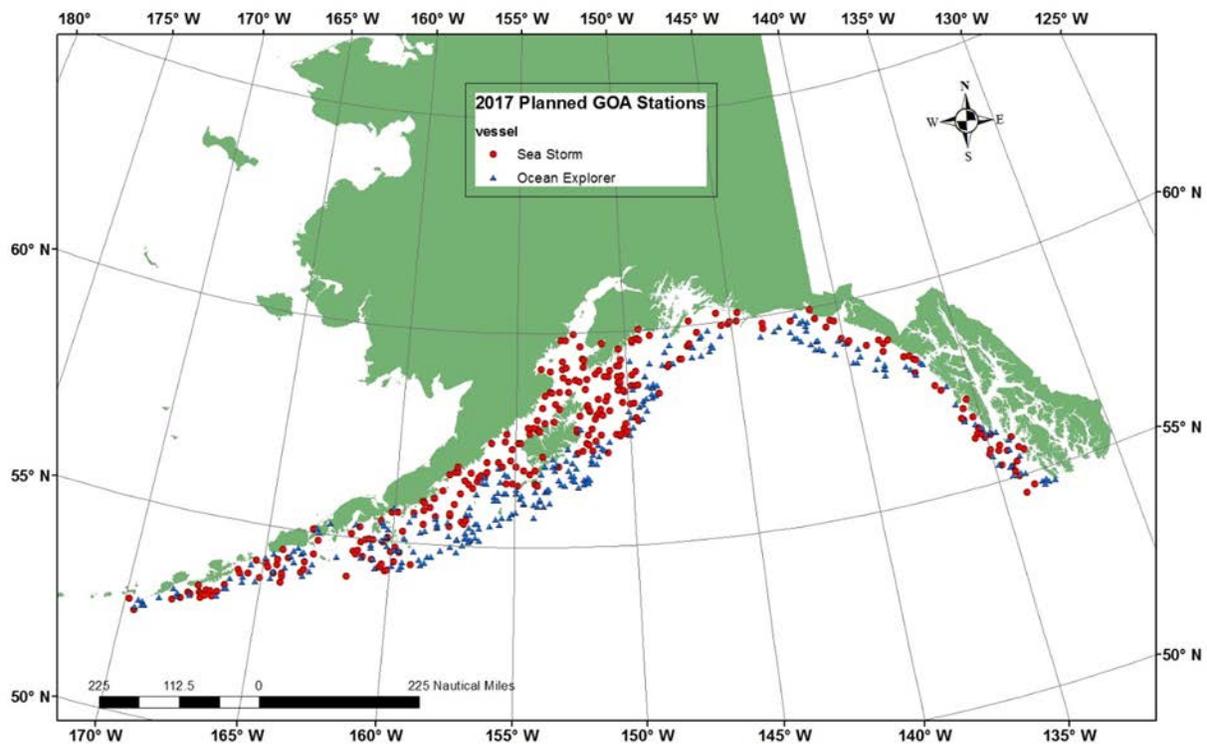
NOAA Fisheries-Alaska and partners will embark from Dutch Harbor, AK, today for the start of the survey season off the Alaska coast. Scientists use collected data to monitor trends and abundance of fish, crab and other species taken in commercial, recreational and subsistence fisheries throughout Alaska and to support biological and ecological studies. Under federal law, NOAA Fisheries is responsible for monitoring and managing marine resources in federal waters.

“Long term, scientific surveys like this are really important,” said Dr. Doug DeMaster, NOAA Fisheries Alaska Fisheries Science Center Director. “Even though our surveys only sample a very small percentage of the ocean, we actually are able to detect changes to marine ecosystems over broad areas over time with the help of a little math. The information we collect is essential because these marine ecosystems provide jobs, a stable seafood supply for U.S. citizens, and help preserve a traditional culture based on subsistence harvesting that has endured for centuries.”

During surveys, NOAA scientists sort, weigh, and count species collected by each trawl. They also collect specimens and data on various species, as requested by cooperating scientists, agencies, and institutions. For example during the Gulf of Alaska survey, a special project involves deploying a camera and plankton pump to test whether or not larval rockfish associate with deep-sea corals.

Gulf of Alaska Continental Shelf and Upper Continental Slope Survey

This long running, biennial survey includes two chartered fishing vessels, F/V *Sea Storm* and F/V *Ocean Explorer*. Its purpose is to monitor trends in distribution and abundance of groundfish, crabs and other bottom-dwelling species, and to measure various biological and environmental information. Scientists use estimates of fish biomass and population derived from this survey in annual stock assessments of Gulf of Alaska groundfish and ecosystem models. Collaborating partners include the International Pacific Halibut Commission, University of Washington, NOAA Fisheries Northeast Fisheries Science Center, and University of Alaska Fairbanks. The survey runs from May 23 to August 6, beginning in Dutch Harbor, AK, and ending in Ketchikan, AK.



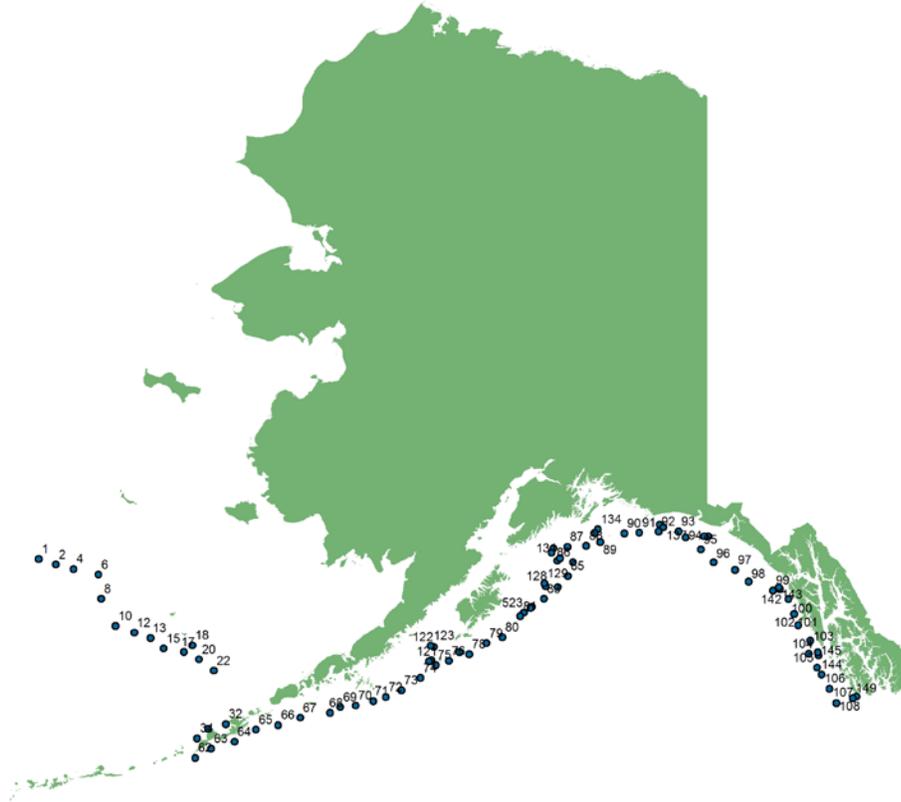
Proposed sample stations for the Gulf of Alaska Bottom Trawl Survey.

Longline Survey in Bering Sea and Gulf of Alaska

Scientists will be onboard the chartered fishing vessel F/V *Ocean Prowler* to conduct a longline survey from May 25 through September 1. The vessel will be operating in the eastern Bering Sea and the Gulf of Alaska. Longline operations will be conducted along the continental slope to catch major groundfish species including sablefish. The survey

will begin and end in Dutch Harbor, AK, although shift changes for different legs will occur in other Alaska ports throughout the summer.

AFSC Longline Survey Stations (Odd Years)



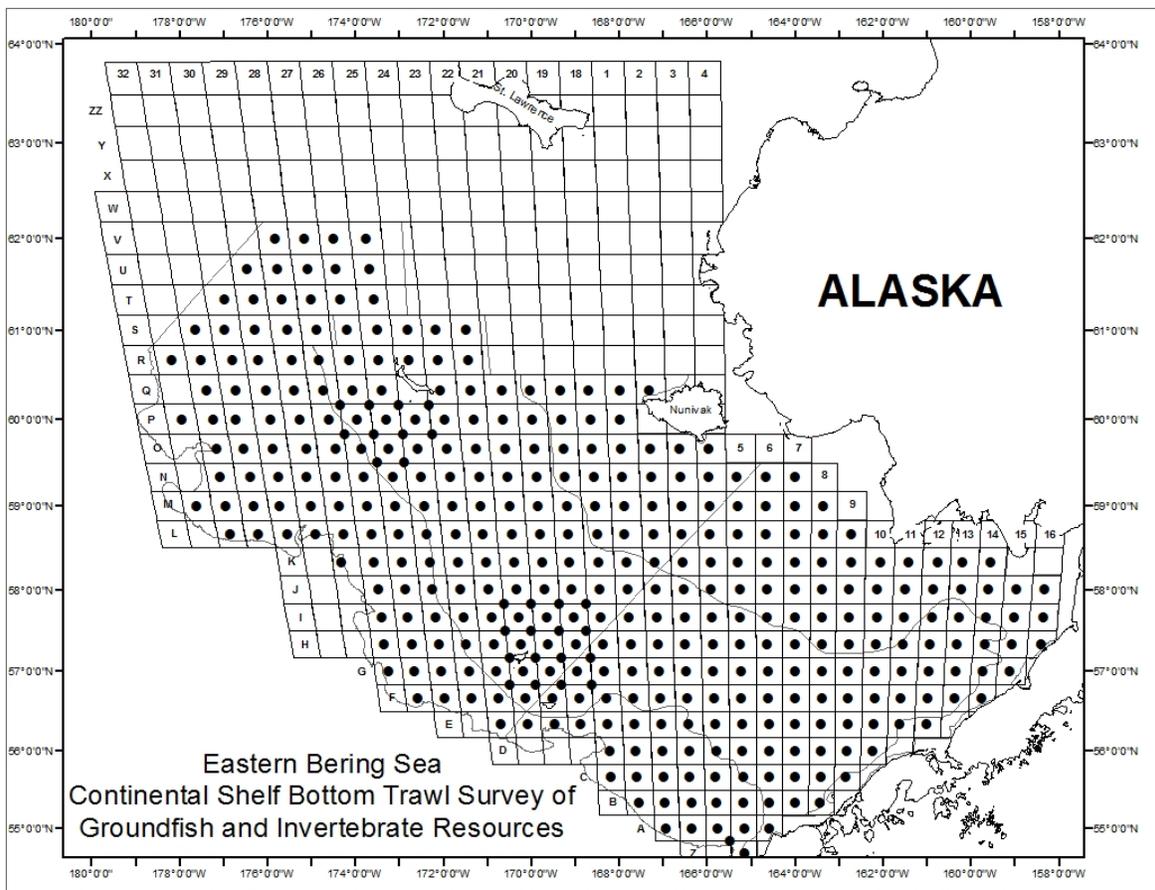
Proposed stations for this year's NOAA Fisheries' Alaska Longline Survey.

Annual Eastern Bering Sea Continental Shelf Bottom Trawl Survey

For the past 40 years, NOAA Fisheries has been conducting annual bottom trawl surveys of the continental shelf of the eastern Bering Sea to monitor the status and trends in commercial fish and shellfish stocks. Focus species include walleye pollock, Pacific cod, Greenland turbot, yellowfin sole, northern rock sole, red king crab, snow, and Tanner crabs. Scientists use estimates of biomass and population from this survey in annual stock assessments of eastern Bering Sea groundfishes and crabs, and in Bering Sea ecosystem models. Scientists collect additional data on the survey to

improve understanding of species' life history, and the ecological and physical factors affecting their distribution and abundance.

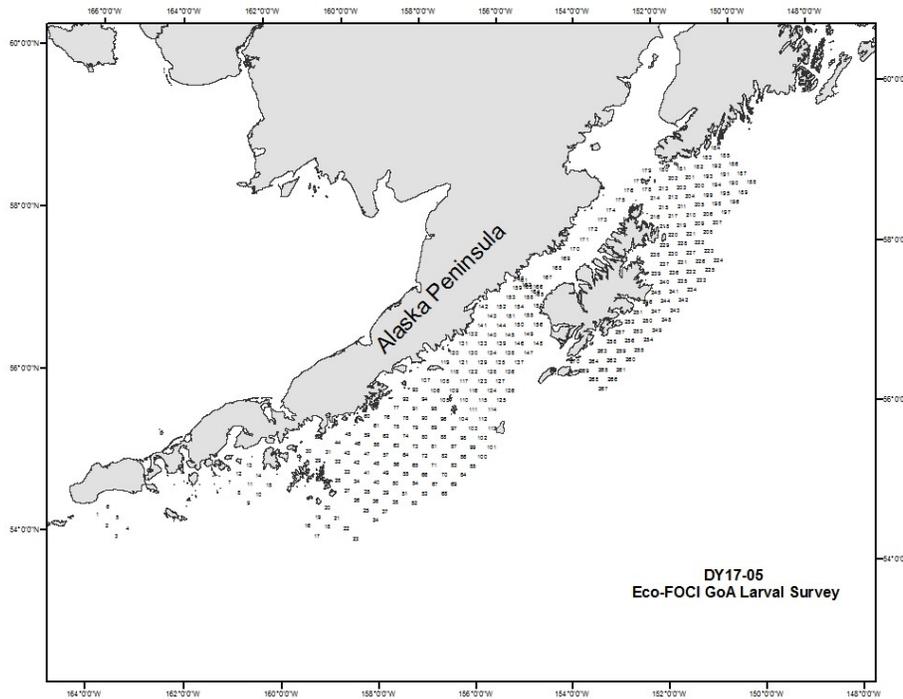
Collaborating scientists are from the Alaska Department of Fish and Game, United States Coast Guard Academy, Oregon State University, International Pacific Halibut Commission, University of Washington, and NOAA Fisheries' Northeast Fisheries Science Center. Scientific staff will be onboard the F/Vs *Alaska Knight* and *Vesteraalen* to conduct the annual shelf survey from May 30 to August 8. Vessels will begin sampling at the eastern end of Bristol Bay, AK and progress westward until completed. The port of departure and return is Dutch Harbor, AK.



Planned sample stations for the eastern Bering Sea Continental Shelf Bottom Trawl Survey.

2017 Western Gulf of Alaska Ichthyoplankton Survey

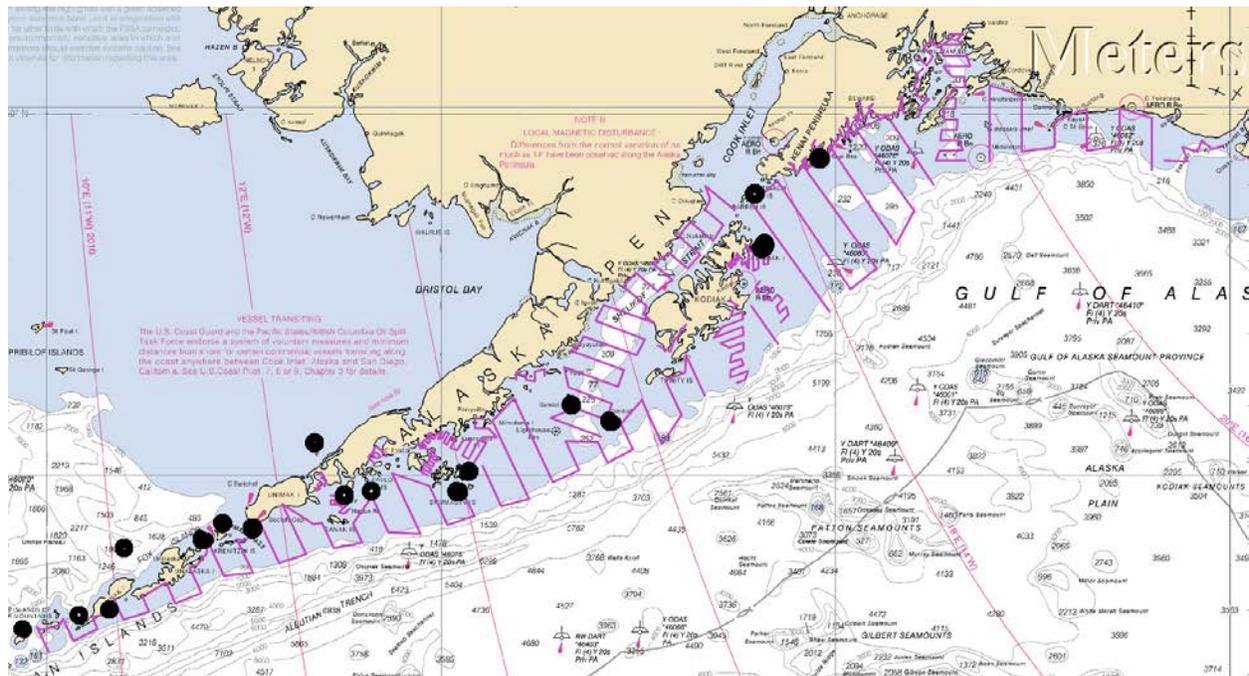
NOAA Fisheries is conducting process research aboard the NOAA Ship *Oscar Dyson* in the western Gulf of Alaska from Prince William Sound to Unimak Island to examine the effects of climate variability on lower trophic level zooplankton and larval fishes. This research is part of a long-term investigation examining factors contributing to recruitment variability of key economic and ecologically important fishes including walleye pollock, Pacific cod, and sablefish. Results are used to evaluate recruitment potential of groundfish species, resolve underlying mechanisms of variation, and forecast recruitment strength. Ecosystem data are also collected as part of this research including information on ocean currents, heat and salt content, nutrients, phytoplankton, and zooplankton. The survey ends on June 2 with the ship returning to Kodiak, AK.



Ichthyoplankton survey stations planned for 2017.

2017 Gulf of Alaska Summer Acoustic-Trawl Pollock Survey of the Gulf of Alaska Shelf, Bays, and Troughs

NOAA Fisheries conducts an acoustic-trawl stock assessment survey of the Gulf of Alaska shelf from the Islands of Four Mountains to Yakutat Bay in summer to estimate the distribution and abundance of walleye pollock. Previous summer surveys of the Gulf of Alaska were conducted in 2003, 2005, 2011, 2013, and 2015 (now done on a biennial schedule). Other research is often conducted during the summer's survey. This year, projects include broadband acoustic classification, euphausiid (krill) target strength, and untrawlable rockfish habitat work using multibeam acoustics (ME70) and underwater stereo camera measurements. This survey, on the NOAA Ship *Oscar Dyson*, begins June 8 and concludes on August 14. The port of departure and return is Kodiak, AK.

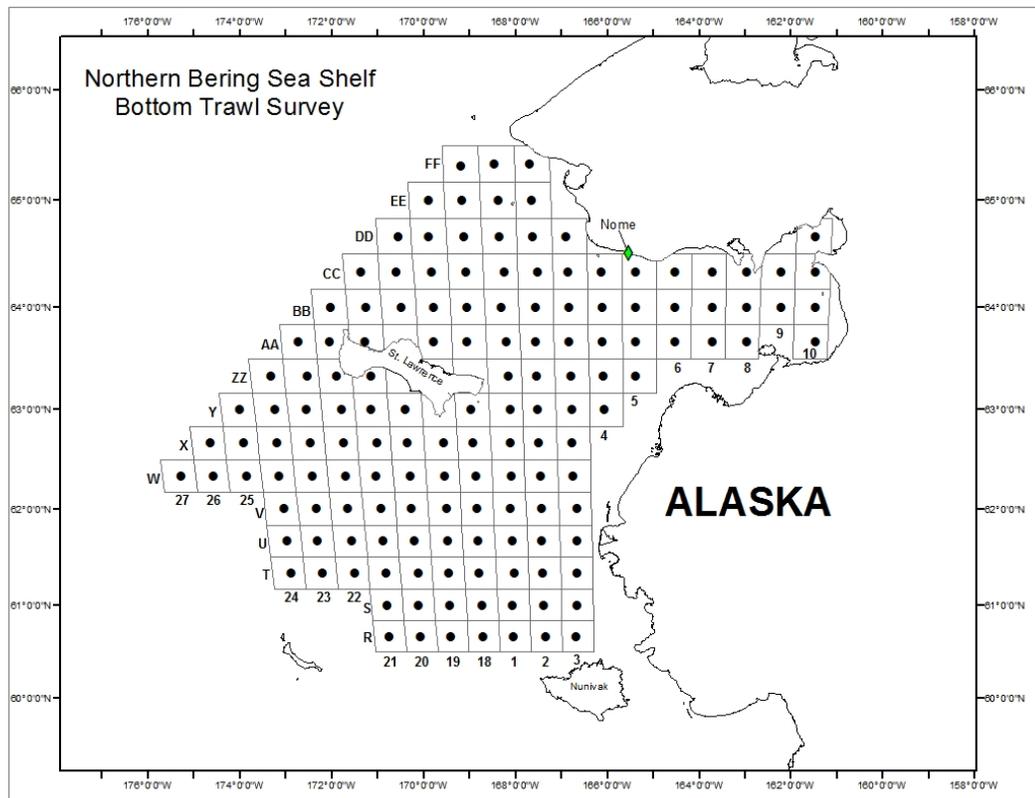


Planned survey stations for the Acoustic-Trawl Pollock Survey of the Gulf of Alaska Shelf, Bays, and Troughs.

Northern Bering Sea Survey

This year, scientists will survey the northern Bering Sea to continue a time-series of environmental and biological data for ecosystem forecast modeling. In particular, they will monitor fishes, crabs and other bottom dwelling marine life in response to changing environmental conditions and loss of seasonal sea ice. The northern Bering Sea survey

departs from Nome, AK on August 8. Two fishing vessels will be used, F/Vs *Alaska Knight* and *Vesteraalen*, to survey Norton Sound westward to the U.S./Russia maritime boundary. Collaborating scientists involved are from the International Pacific Halibut Commission, University of Washington, and Norton Sound Economic Development Corporation. This survey was last conducted in 2010. Scientists hope to conduct the survey biennially to monitor ecosystem changes in response to reduced seasonal sea ice. The survey will conclude on August 30, with vessels returning to Dutch Harbor, AK.

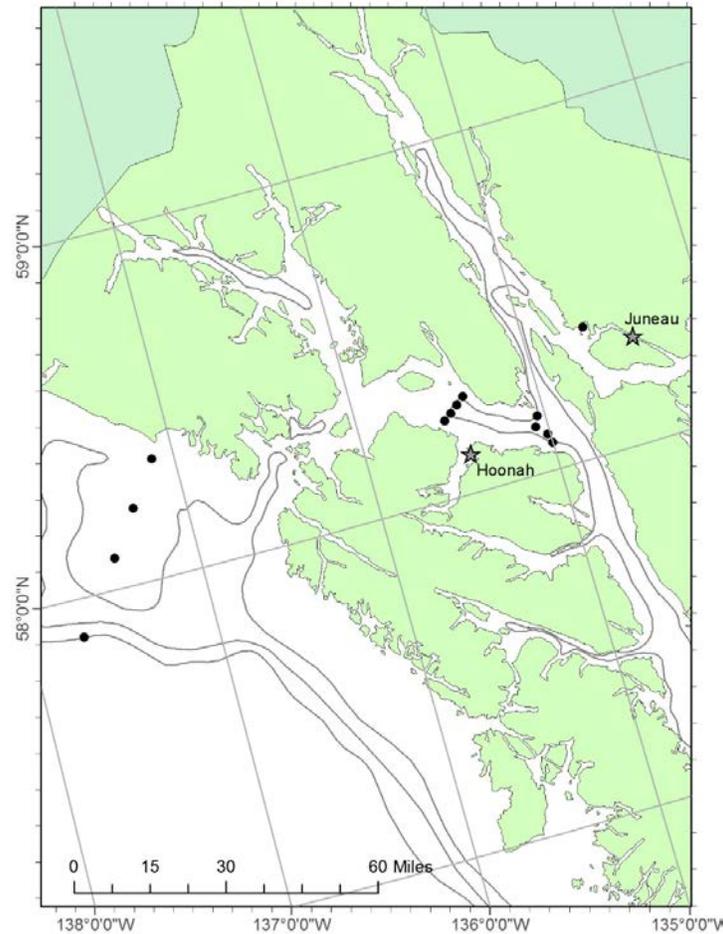


Station plan for sampling during the 2017 Northern Bering Sea survey.

Gulf of Alaska Surface Trawl Assessment Survey and Southeast Alaska Coastal Monitoring for 2017

During the summer of 2017, NOAA Fisheries scientists will conduct a fisheries oceanographic survey within the southeastern region of the Gulf of Alaska. 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. Traditionally,

monitoring of the Southeast coast entailed a separate survey. To increase efficiency and reduce costs, Southeast coastal monitoring stations will be sampled by the same vessel and crew involved in the Gulf of Alaska Assessment Survey. In August, the pilot Age-0 sablefish survey, conducted in 2016, will also be repeated.



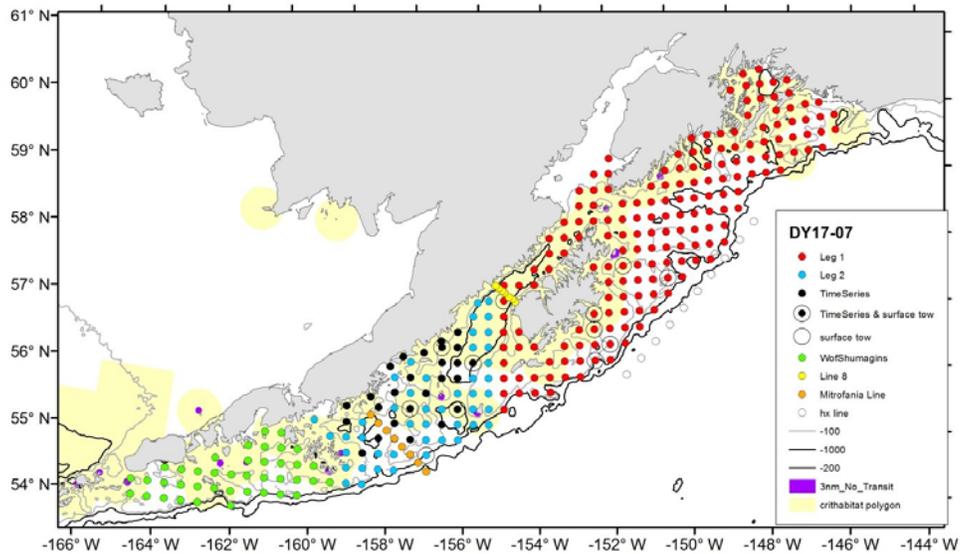
Southeast Coastal Monitoring survey stations scheduled for sampling in June and July of 2017 en route to carrying out the Gulf of Alaska Assessment survey.



Gulf of Alaska Assessment survey planned stations, same stations that were sampled during 2016, including the offshore age-0 sablefish sampling grid.

2017 Western Gulf of Alaska Juvenile Pollock and Forage Fish Survey

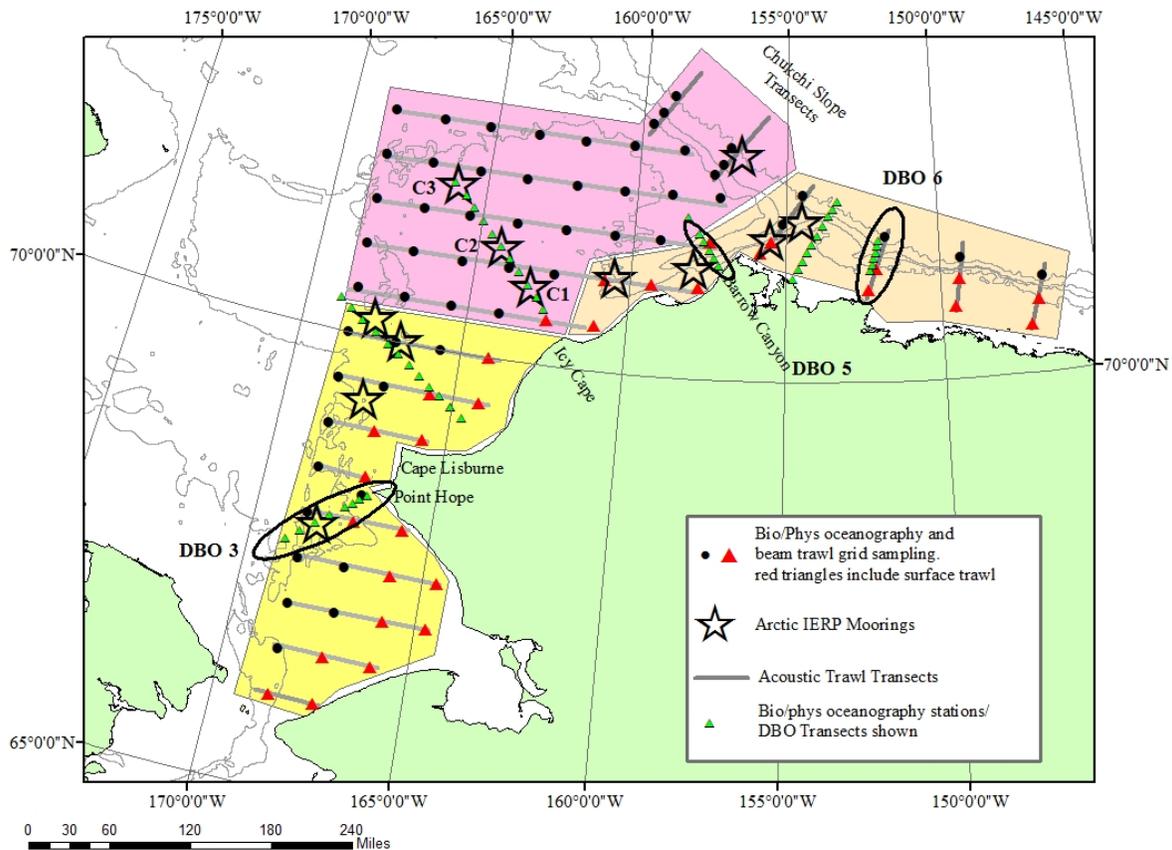
From August 19 to September 17, NOAA Fisheries and NOAA Research scientists will conduct a fisheries (midwater trawl) and oceanographic survey to examine the distribution, abundance, size, diet, and energy density of juvenile walleye pollock, Pacific cod, sablefish and forage fishes (capelin, eulachon). Survey observations and measurements will also include physical, chemical, and biological oceanography, as well as observations of zooplankton, phytoplankton, and seabirds. This survey will host a K-12 teacher through the NOAA Teacher at Sea Program. Survey results are used to evaluate the influence of oceanographic conditions on survivorship and condition of Alaskan ground- and forage fishes and forecast recruitment potential. The port of departure is Kodiak, AK. The port of return is Dutch Harbor, AK.



Planned research stations for the Western Gulf of Alaska Juvenile Pollock and Forage Fish Survey.

Arctic Ecosystem Integrated Survey: Phase II

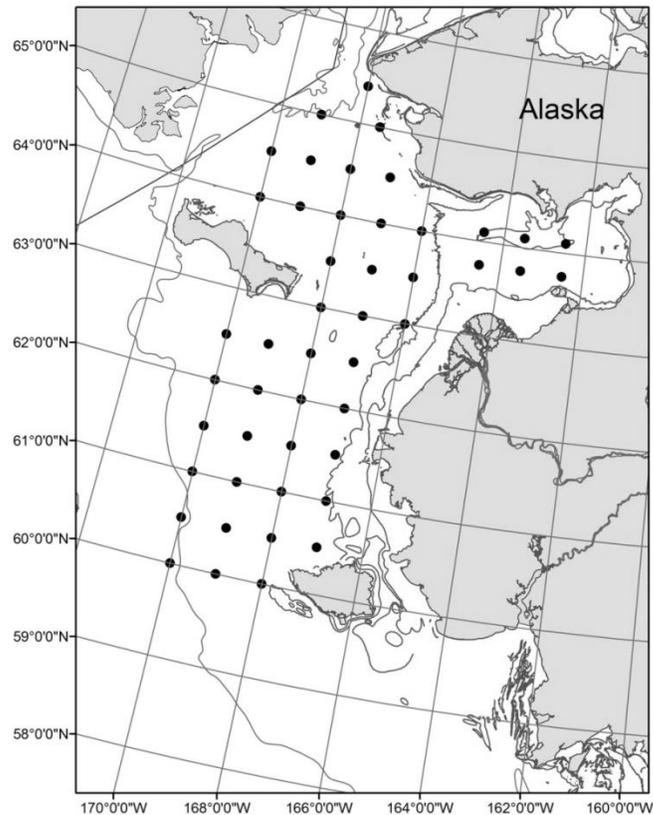
NOAA Fisheries and partners will conduct a fisheries and oceanography survey during summer and fall 2017 within the Beaufort and Chukchi Seas. The survey covers the area in the Chukchi Sea from 66°N to 73°N and transects within the Beaufort Sea from 147°W to 155°W. It is an expansion of prior surveys conducted in the Bering Strait and Chukchi Sea during 2012 and 2013. The focus of this survey is to assess the distribution, relative abundance, diet, energy density, size, and potential predators of juvenile salmon, other commercial fish, and forage fish. It will also include mooring deployments, targeted projects on zooplankton, phytoplankton, and seabirds. The data collected from this survey will help feed into a much larger long-term integrated research approach towards studying the Arctic. The project includes participation and/or funding from the following organizations: Bureau of Ocean Energy Management, NOAA's Pacific Marine Environmental Laboratory, North Pacific Research Board, University of Alaska-Fairbanks, and U.S. Fish and Wildlife Service. The survey will be conducted from Dutch Harbor, AK, starting August 1 and ending in late September.



Station locations for the Arctic Ecosystem Integrated Survey phase II survey August 1 – October 4, 2017. Colored tiles denote the survey legs, tan or light orange is leg 1, pink is leg 2, and yellow is leg 3.

Northern Bering Sea Surface Trawl Survey

NOAA Fisheries conducts cooperative research trawl and oceanographic surveys to gather needed data for ecosystem research on salmon and other pelagic fish, and plankton in the northern Bering Sea. These surveys have provided annual assessments of the status of salmon stocks and the pelagic ecosystem in the northern Bering Sea since 2002. The 2017 survey will be conducted aboard the *F/V Northwest Explorer*, starting and ending in Dutch Harbor on August 25 and September 13, respectively. The Alaska Sustainable Salmon Fund in support of Yukon River Chinook salmon research and management provides the principal funding for the survey, with in-kind support provided by the NOAA Fisheries, Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, University of Alaska-Fairbanks, and Alaska Pacific University.

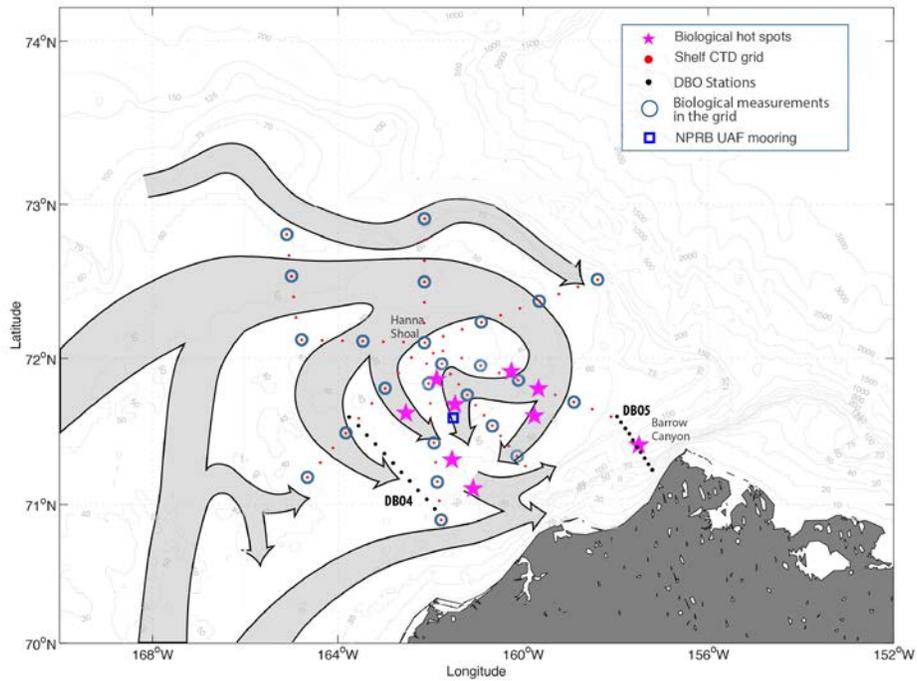


Planned stations for the Northern Bering Sea Surface Trawl Survey.

2017 Distributed Biological Observatory Collaborative Research Survey

On August 25, NOAA Fisheries and NOAA Research will collaborate as part of a multi-institutional, cross-disciplinary research team conducting work aboard the U.S. Coast Guard Cutter *Healy* to maintain and extend the network of climate observing systems in the US Arctic. These observing systems, including the network known as the Distributed Biological Observatory (DBO), measure the temperature of the water and air, presence and extent of sea ice, species abundance, biodiversity and production. Scientists will use data from these annual observations to document current physical state of the U.S. High Arctic (Chukchi and Beaufort Seas) and examine the biological and ecological responses to that physical environment. Researchers work with national and international partners and well as members of the local native communities to make observations from a suite of Arctic climate observatories. Results are used to increase understanding of processes involving ocean heat, circulation, and transport pathways into and out of the Arctic region, and to resolve effects on lower trophic level biological

resources (plankton). The survey ends on September 15. Port of departure and return is Dutch Harbor, AK.



Planned study area for the NOAA Arctic Research Program.

NOAA's mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources. Join us on [Twitter](#), [Facebook](#), [Instagram](#), and our other [social media channels](#).