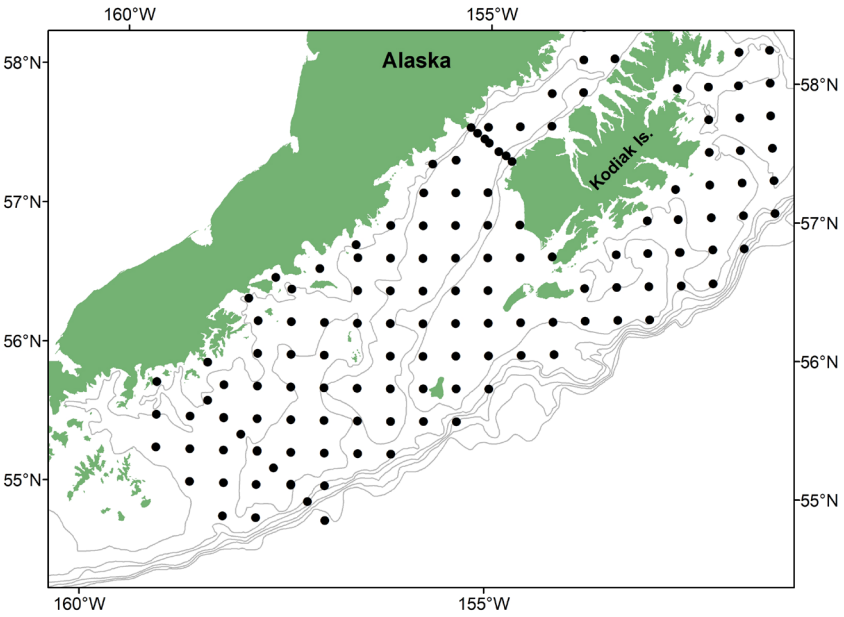
NOAA FISHERIES
National Marine Fisheries Service
Alaska Fisheries Science Center

Research Brief

EcoFOCI Juvenile Groundfish and Forage Fish Survey

August 27 – September 12, 2023



Who is conducting the research?

Scientists from the Recruitment Processes Program at the Alaska Fisheries Science Center.

What is the research objective?

The objectives of this project are: one, to conduct a survey to extend a time series of abundance of the juvenile stage of commercially-important fish species, including walleye pollock, and other forage fish species in the western Gulf of Alaska. Second, to collect zooplankton (prey of those fishes), and to measure other environmental variables that influence the survival of those fishes. Observations support research on recruitment processes and contribute to our understanding of how young fish and their prey respond to changes in climate.

What are you sampling?

Fish: a sampling grid of stations is used to determine the spatial abundance of juvenile and forage fishes. Additionally fish will be collected to examine their diets, as well as physiological condition. Zooplankton: spatial abundance, along with both lipid and HABs (harmful algal bloom) studies of both krill and copepod species. Oceanographic data: temperature and salinity measurements will be taken at each station.

What are you sampling and where?

We plan to sample fish, zooplankton, and collect oceanographic data in the western Gulf of Alaska aboard the NOAA Ship *Oscar Dyson* using two types of nets, and a CTD. A Stauffer trawl is a small-mesh midwater trawl that is used to collect juvenile and forage fishes. A bongo net is used for collecting zooplankton, and a CTD measures temperature and salinity of the water column. Sampling will begin near the Shumagin Islands and progress toward Kodiak Island.

Why is the data important? How will data be used?

The data collected will be used to track and understand the impacts of changing ocean conditions on the juvenile stage of commercial fishes (e.g., walleye pollock, and Pacific cod), a critical period that can affect year-class strength (number of fish spawned in a given year). Abundance estimates will give an early indication of the year-class strength of those fishes. Environmental conditions will be assessed by the abundance and distribution of zooplankton, and by using oceanographic data. Zooplankton prey quality will be assessed because it affects how well fish are able to store energy for the winter, and overwinter survival can influence year-class strength.

These data support Ecosystem-Based Fisheries Management by forming the basis for ecosystem indicators, providing early warnings of species and ecosystem shifts, and contributing to risk assessments for commercial stocks in Alaska.

See timetable and station map on back

Schedule for the 2023 EcoFOCI Juvenile Groundfish and Forage Fish Survey

Begin survey mobilization in Kodiak, AK	August 25th
Survey vessel departs Kodiak, AK	August 27th
Survey operations begin	August 27th
Survey operations end	September 12th

What steps are you taking to prevent spread of COVID-19? (bulleted list, cite only high level activities from SOP)

- General and Vessel Specific AFSC SOPs for Fieldwork for FY 23.
- 72 hour reduced contact period prior to travel.
- Antigen testing prior to travel with negative result.
- Masks, hand-washing, and social distancing as possible during travel.
- 3-day reduced contact period at port of embarkation.
- Pre-boarding testing on day of embarkation with negative result.
- Continual daily monitoring of symptoms, rapid testing as needed.

How do you plan to communicate research results? (e.g., outreach document, webstory, radio interview, community meeting, etc.)

Initial results will be presented to the Joint Groundfish Plan Team in September.

Ecosystem indicators describing juvenile fish abundance trends, zooplankton abundance trends, and oceanographic conditions will be contributed to the Gulf of Alaska Ecosystem Status Report and presented to the North Pacific Fishery Management Council in December.

Notable research findings will be communicated via web stories and through the scientific literature.

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