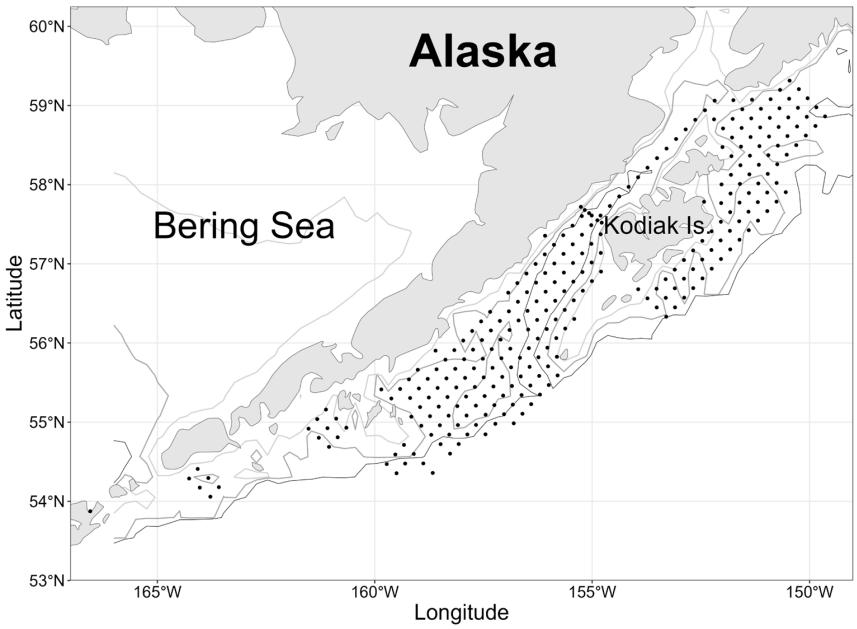
National Marine Fisheries Service
Alaska Fisheries Science Center

Research Brief

EcoFOCI Spring Ichthyoplankton Survey

May 14 - 25th, 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 to conduct zooplankton and ichthyoplankton surveys and process studies in the region between Unimak Pass and Shelikof Strait to estimate the abundance, transport, and other factors influencing the survival of young commercially-important fishes, including Walleye pollock. 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?

For ichthyoplankton: spatial abundance of larval fish, larval Walleye pollock otolith sampling for estimation of spawn timing and growth, as well as pollock morphometric condition work. For zooplankton: spatial abundance, along with both lipid and HABs (harmful algal bloom) studies of both krill and copepod species.

What are you sampling and where?

We plan to sample both ichthyoplankton and zooplankton in the Western Gulf of Alaska using two types of zooplankton nets aboard the RV *Oscar Dyson*. The bongo net is an obliquely towed net used for collecting larger zooplankton and larval fish and the smaller mesh CalVET net is vertically towed to collect microzooplankton. Sampling will begin near Unimak Pass and continue up through Shelikof Strait along the Kenai Peninsula, and then along the east side of Kodiak Island as time permits.

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

We will be performing larval and zooplankton assessments in the Western Gulf of Alaska to determine distribution and abundance of commercial fishes (i.e. Walleye pollock, Pacific cod) and their primary prey. These estimates will give early indications of year class strength, while simultaneously sampling the abundance of lipid-rich zooplankton prey that are needed to sustain these fishes throughout the summer, fall, and overwinter. We will also be collecting oceanographic data (temperature, salinity) to assess environmental conditions. These data will be used by scientists to track and understand the impacts of changing ocean conditions on the early life stages of fishes, a critical period during which year-class strength is often determined.

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 Spring Ichthyoplankton Survey

Begin survey mobilization in Dutch Harbor, AK	May 10th
Survey vessels depart Dutch Harbor, AK	May 14st
Survey operations begin	May 15th
Survey operations end	May 25th

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.

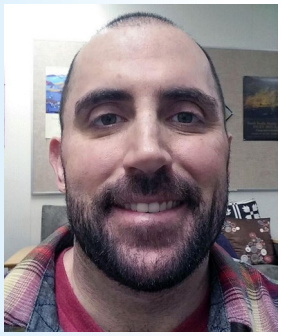
How do you plan to communicate research results? (e.g., outreach document, webstory, radio interview, community meeting, etc.)

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

Ecosystem indicators describing larval fish abundance trends, zooplankton abundance trends, and oceanographic conditions will be contributed to the GOA Ecosystem Status Report and presented to the NPFMC in December.

Larval data will be made publicly available on the AFSC Ichthyoplankton Information System after verification and quality controls.

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



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