Northern Bering Sea Effects of Trawling Study (NETS)

End of Aug 2024 (TBD)

The NETs project study site (placement, size, and number of corridors) will be somewhere within this golden area and defined with community input in 2024.

What is the research objective?

The Northern Bering Sea Effects of Trawling Study (NETS) is a multi-year, phased effort to design and execute experimental studies of trawling impacts in the northern Bering Sea. This study will provide a baseline habitat assessment in the area including fine-scale data and information on features and processes in an area where data are lacking. Scientists will also identify sensitive habitats and determine the impacts and recovery times from trawling on bottom-dwelling species (e.g., crabs, clams, etc.). (cont'd)

Data will also support complementary modeling studies to better understand impacts on the animals that eat these species (mammals, birds, fish).

Who is conducting the research?

Scientists from the NOAA Fisheries Alaska Fisheries Science Center.

Why is this research project important?

Climate change in the northern Bering Sea Region is leading to many changes in the marine ecosystem. Those changes are affecting marine species including fish, crabs and marine mammals. The 2019 marine heat wave led to northward migration of numerous fish stocks and many changes to the northern Bering Sea marine ecosystem. Currently, commercial bottom trawl fisheries are not allowed in the northern Bering Sea but there is interest as the species are moving north. The future conservation of the northern Bering Sea ecosystem depends on understanding the effects that commercial fishing could have on multiple aspects of the ecosystem including those in this study.

Where is the research being conducted?

The survey will begin and end in Dutch Harbor, AK. It is anticipated that approximately 7.3 square nautical miles or 0.01% of 85,000 square nautical miles of the Northern Bering Sea Research Area will be sampled. The actual trawled area will be defined based on conversations with Tribal Governments and statistical analyses.

What research equipment is being used?

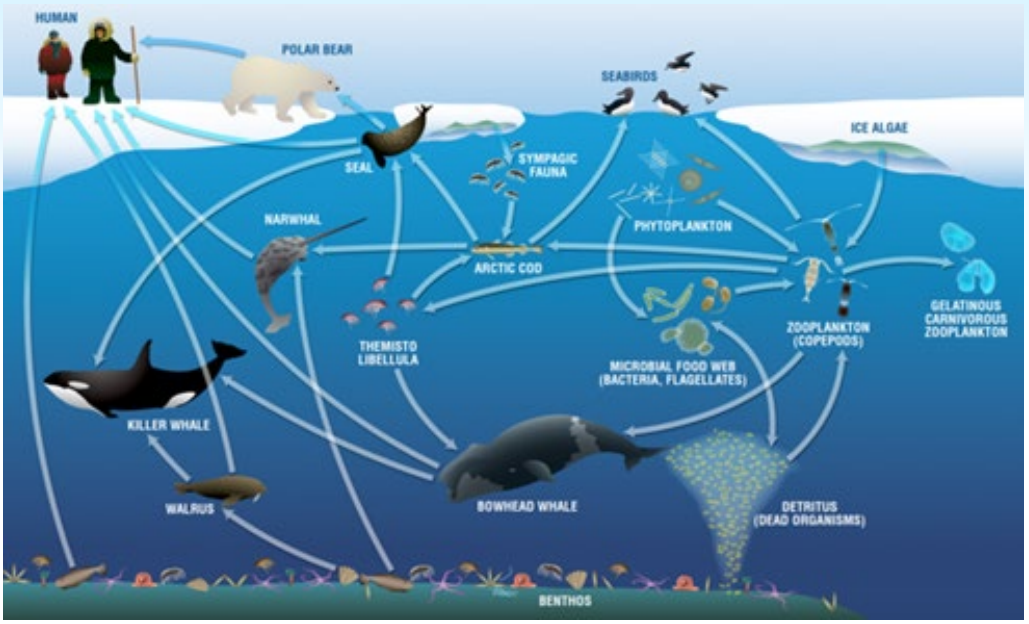
Research and commercial trawls will be used in specific areas for this study to determine trawling effects and recovery times. Specialized equipment will also be used to collect bottom samples before and after the trawling operations to help assess habitat and biological effects.

How will data be used?

Collected data will be valuable to villages and resource managers to inform any future management of commercial bottom-trawl fisheries and habitat conservation efforts in the region, including effects on subsistence resources and practices. Collected data will be used to inform food-web modelling and ecological consequences studies.

What is the History of this Project?

In 2023 partial funding was secured to support the research. Initial work was done to develop analytical software, the experimental design alternatives for depletion and recovery studies, and field testing protocols. Testing of survey gear was conducted in Puget Sound, WA, in January 2024. Project design, costs and timeline will be finalized in 2024, after discussions with Tribal Governments.



Collected data will support development of the northern Bering Sea food web model by scientists at the Alaska Fisheries Science Center as part of The Alaska Climate Integrated Modeling Project (ACLIM 2.0). The goal is to improve understanding of historical and future changes to food web dynamics in the Northern Bering Sea.

Proposed Schedule for the NETs Field Research in 2024 (in development)

Science Team boards ship and departs Dutch Harbor	3rd Week Aug
Transit north	TBD
Survey operations begin	TBD
Estimated date of completion of sampling	TBD
Survey operations end, begin transit to Dutch Harbor	TBD
Vessel arrives in Dutch Harbor, offload and demobilize gear	TBD
Vessel and science team depart Dutch Harbor	End of September

How do you plan to engage with Tribal governments?

Beginning in March 2023, the Project Lead contacted Kawerak to seek guidance on engaging Bering Strait Region Tribes in providing input on the project design. A meeting was held in August 2023. NOAA Fisheries is working with the Tribal Government of St. Paul, other Tribes and Kawerak staff to schedule a consultation to address concerns and answer questions about the project.

We are requesting engagement (and consultation if desired) with all Tribal Councils in the Bering Sea to answer questions and discuss any concerns about the project, seek input on project design and define the study area – particular areas to study or exclude. For example: areas used for subsistence hunting or with cultural/scientific significance and depth boundary (trawling occurs offshore). **We want to work with Tribes to ensure this work does not interfere with subsistence hunting activities.** This includes near-real time communications during the project operations to keep hunters and communities informed.

We also would like to explore opportunities for an at-sea Tribal scientist or observer, and special collection(s) for Tribal studies to gather data on species of concern, habitat, subsistence food, important prey for other species (e.g., mammals, salmon). At the end of each field season, we will share preliminary results with interested communities.

What are the project deliverables?

Planning phase (FY 23-24)

- Narrative report summarizing tribal and stakeholder input on research priorities and concerns.
- Detailed experimental-design package, including layout and dimensions of paired research corridors; sample-size requirements for species; written sampling protocols; and a detailed field-operations plan including timeline.
- Identify opportunities for enhanced tribal/stakeholder participation.

Fieldwork, Analysis, and Reporting phases (FY24-25)

- Annual project reports for field operations, describing methods, data collected, and results.
- Community and other presentations and a draft peer-reviewed manuscript on the scientific results.

How is this work being funded?

Funding is being provided by NOAA Fisheries through its Alaska Essential Fish Habitat (EFH), National Cooperative Research and Magnuson-Stevens Act programs.

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