



Selected Publications by the Midwater Assessment and Conservation Engineering (MACE) Program

Surveys

- [Results of the acoustic-trawl survey of walleye pollock \(*Gadus chalcogrammus*\) on the U.S. Bering Sea Shelf in June - August 2022 \(DY2207\)](#) (2025)
- [Results of the acoustic-trawl survey of walleye pollock \(*Gadus chalcogrammus*\) in the Shelikof Strait, March 2022 \(DY2022-04\)](#) (2024)
- [Results of the acoustic-trawl survey of walleye pollock \(*Gadus chalcogrammus*\) in the Gulf of Alaska, June-July 2021 \(DY2021-04\)](#) (2024)
- [Climate-driven shifts in pelagic fish distributions in a rapidly changing Pacific Arctic](#) (2023)
- [Results of the February 2020 acoustic-trawl survey of walleye pollock \(*Gadus chalcogrammus*\) conducted in the southeastern Aleutian Basin near Bogoslof Island, Cruise DY2020-02](#) (2023)
- [Results of the acoustic-trawl surveys of walleye pollock \(*Gadus chalcogrammus*\) in the Shumagin Islands and Shelikof Strait, February and March 2020 \(DY-202001 and DY-202003\)](#) (2022)
- [Acoustic Vessel-of-Opportunity \(AVO\) index for midwater Bering Sea walleye pollock, 2021](#) (2022)
- [Spatio-temporal distribution of euphausiids: an important component to understanding ecosystem processes in the Gulf of Alaska and eastern Bering Sea](#) (2016)
- [Developing an acoustic survey of euphausiids to understand trophic interactions in the Bering Sea ecosystem](#) (2012)
- [Using acoustic data from fishing vessels to estimate walleye pollock \(*Theragra chalcogramma*\) abundance in the eastern Bering Sea](#) (2011)

Acoustics

- [Acoustic observations of walleye pollock \(*Gadus chalcogrammus*\) migration across the US-Russia boundary in the northwest Bering Sea](#) (2024)
- [Transport-driven seasonal abundance of pelagic fishes in the Chukchi Sea observed with seafloor-mounted echosounders](#) (2023)
- [Uncrewed surface vehicle \(USV\) survey of walleye pollock, *Gadus chalcogrammus*, in response to the cancellation of ship-based surveys](#) (2021)
- [Autonomous vehicle surveys indicate that flow reversals retain juvenile fishes in a highly advective high-latitude ecosystem](#) (2020)

- [Long-term measurements of fish backscatter from Saildrone unmanned surface vehicles and comparison with observations from a noise-reduced research vessel](#) (2019)
- [Combining bottom trawls and acoustics in a diverse semipelagic environment: What is the contribution of walleye pollock \(*Gadus chalcogrammus*\) to near-bottom acoustic backscatter in the eastern Bering Sea?](#) (2017)
- [Can a bottom-moored echo sounder array provide a survey-comparable index of abundance?](#) (2017)
- [Fish avoidance of research vessels and the efficacy of noise-reduced vessels: a review](#) (2013)

Optics

- [Fish behavior in response to an approaching underwater camera](#) (2023)
- [The design of a camera-based fisheries-independent survey for untrawlable habitat in the Gulf of Alaska](#) (2023)
- [Estimates of availability and catchability for select rockfish species based on acoustic-optic surveys in the Gulf of Alaska](#) (2021)
- [Estimating habitat-specific abundance and behavior of several groundfishes using stationary stereo still cameras in the southern California Bight](#) (2020)
- [A method for computing volumetric fish density using stereo cameras](#) (2018)
- [Automated measurements of fish within a trawl using stereo images from a Camera-Trawl device \(CamTrawl\)](#) (2016)
- [An underwater stereo-camera trap](#) (2015)
- [Use of stereo camera systems for assessment of rockfish abundance in untrawlable areas and for recording pollock behavior during midwater trawls](#) (2010)

Evaluating trawl gear

- [Midwater trawl comparison study for acoustic surveys of walleye pollock \(*Gadus chalcogrammus*\) in Alaska](#) (2024)
- [Evaluating Pacific salmon swimming behavior in the aft end of a pelagic trawl to inform bycatch reduction device design and use](#) (2024)
- [Evaluating Chinook salmon \(*Oncorhynchus tshawytscha*\) response to artificial light in support of bycatch mitigation](#) (2022)
- [Evaluating the role of bycatch reduction device design and fish behavior on Pacific salmon \(*Oncorhynchus* spp.\) escapement rates from a pelagic trawl](#) (2021)
- [Modifying a trawl to better retain small Arctic fishes](#) (2019)
- [Length-selective retention of walleye pollock, *Theragra chalcogramma*, by midwater trawls](#) (2011)

Hardware/Software development

- [A passive acoustic drifter for radiated noise measurements of NOAA Fisheries survey vessels](#) (2024)

- [Amplifier linearity accounts for discrepancies in echo-integration measurements from two widely used echosounders](#) (2019)
- [An inexpensive millimeter-accuracy electronic length measuring board](#) (2010)

Data processing

- [Making do with less: Extending an acoustic-based time series of euphausiid abundance using an uncrewed surface vehicle with fewer frequencies](#) (2025)
- [A Bayesian inverse approach to identify and quantify organisms from fisheries acoustic data](#) (2023)
- [Mining previous acoustic surveys to improve walleye pollock \(*Gadus chalcogrammus*\) target strength estimates](#) (2023)
- [Incorporating vertical distribution in index standardization accounts for spatiotemporal availability to acoustic and bottom trawl gear for semi-pelagic species](#) (2021)
- [Don't work too hard: Subsampling leads to efficient analysis of large acoustic datasets](#) (2019)
- [Broadband echosounder measurements of the frequency response of fishes and euphausiids in the Gulf of Alaska](#) (2017)
- [Development and application of an empirical multifrequency method for backscatter classification](#) (2010)