

REQUEST FOR METHODOLOGY REVIEW OF NET CHANGE IN ACOUSTIC-TRAWL METHOD SURVEY FOR DATA USED IN COASTAL PELAGIC SPECIES STOCK ASSESSMENTS

TITLE: NOAA Integrated West Coast Pelagics Survey

PROPOSERS: Fisheries Resources Division, SWFSC; Annie Yau, Director

HOW WILL THIS METHODOLOGY IMPROVE CPS STOCK ASSESSMENTS:

The NOAA Southwest Fisheries Science Center (SWFSC) conducts Coastal Pelagic Species (CPS) surveys (aka California Current Ecosystem Surveys) to collect data used to inform management of federally-managed fisheries. CPS surveys using the acoustic-trawl method (ATM) have been conducted since 2006 and data from these surveys are used in CPS stock assessments, with a different subset of data years used for each stock based on data and review history. These CPS surveys have almost always taken place during the summer and sometimes during the spring; spring CPS surveys have not happened since 2021. The survey data is used to estimate species-specific biomasses, age compositions, and weight-at-age data used in stock assessments.

In 2025, the SWFSC integrated their summer CPS survey with the Northwest Fisheries Science Center's Joint U.S.-Canada Integrated Ecosystem and Pacific Hake Survey, since both surveys used the ATM along the U.S. West Coast. The resulting Integrated West Coast Pelagics Survey, commonly referred to as the "Integrated Survey", completed its inaugural survey during summer 2025.

The Integrated Survey still uses the ATM to collect survey data. Methods and gear remain primarily the same as used on the CPS survey, with the exception of switching to a new Multi-Function Trawl (MFT) Net from the Nordic 264 net used during prior CPS surveys. The MFT was designed in collaboration with industry experts to be able to trawl in both the mid-water for hake and at the surface for CPS. The dual fishing modality of the MFT increases safety and efficiency with the goal of providing comparable biological data for the target species. The MFT was first tested during December 2023 then used operationally by the SWFSC for the duration of the 2024 summer CPS survey, the data from which has been incorporated into the 2025 Pacific sardine stock assessment update. The intent is to use the MFT as part of the ATM on the Integrated Survey for collecting survey data on CPS moving forward.

The proposed methodology review panel will address the following questions:

- 1) Has the switch from a Nordic 264 to the new MFT net on the Integrated Survey resulted in important changes to the species- and length-selectivities?*
- 2) If so, have these changes resulted in important changes in the survey-derived data inputs for the stock assessment (biomass, age composition, weight-at-age)?*

DESCRIPTION OF ANALYTICAL METHODS:

In order to address the above questions, the following presentations and analyses will be provided to the proposed methodology review panel by SWFSC scientists:

1. Presentations and analyses:
 - a. Results and recommendations from paired trawling tests in other systems and resource considerations as rationale for switching from the Nordic 264 to the MFT without extensive paired trawling.
 - b. Specifications of both the Nordic 264 and MFT net systems, including dimensions of nets and doors, mesh sizes, and mesh-size transitions.
 - c. Performance of the Nordic 264 and MFT nets during fishing, including sampling depth and vertical and horizontal spread of the net mouth opening.
 - d. Methods and biomass estimation from the 2025 Integrated Survey.
 - e. Species- and length-selectivity comparisons between the Nordic 264 and MFT nets.
 - f. Statistical comparisons of length-selectivity between the Nordic 264 and MFT nets for effects on survey-derived age composition and weight-at-age estimates.

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