

Key lessons learned from opportunistic acoustic data collection on board pelagic freezer-trawlers

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Abstract

Acoustic data collection trials were carried out on pelagic freezer-trawlers between 2012 and 2015. The vessels were following normal fishing operation according to their own fishing strategies and the opportunistic data were captured during 374 fishing days. All participating vessels were using calibrated echosounders. While the feasibility of opportunistic acoustic data collection on board commercial vessels has already been established and reported on, an important remaining challenge is how to utilise these data to create inferences on stock development and distribution. As the data were not collected in a systematic stratified way (design based), the results cannot produce direct abundance estimates and therefore development of more advanced (model based) analysis methods are required. In combination with geostatistical methods, which deal with lack of structured sampling designs, the use of simulations to evaluate and derive relative abundance indices were explored. Increasing the availability of data from a large number of vessels operating simultaneously during a fishery will improve the accuracy of such estimates.

Keywords: industry acoustics; calibration; opportunistic data collection; analyses; predator-prey

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