ICES CM 2016/G:285

Surveying 2.0 - Using remote cameras to monitor a highly specialized recreational fishery in the Baltic Sea

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Surveying marine recreational fishing activities is challenging, but useful sampling strategies have been developed and successfully applied over the past decades. However, those sampling methodologies are often inadequate to obtain representative data from small, specialized angler populations. Such hard-to-reach angler populations may account for a substantial fraction of the total catch for certain target species. Estimates of these catches are critical for stock assessment and sustainable fisheries management, especially for endangered species or species with low reproduction rates when mainly targeted by anglers. A nationwide telephone-diary survey was conducted to collect representative data on catch and effort, and social, economic and demographic parameters for the German marine recreational fishery. However, this survey resulted in very low numbers of panelists for some small, but - in terms of stock exploitation - important and highly specialized fisheries, e.g. the recreational Atlantic salmon (*Salmo salar*) fishery in the Baltic Sea. Using the German recreational salmon trolling fishery as a case study, we tested the long-term use of remote cameras in harbors to monitor boat fishing effort. The camera monitoring was complemented by on-site interviews to estimate catch-per-unit-effort and to collect biological catch data and socio-economic information. Preliminary results revealed that remote cameras proved to be a cost-efficient method providing accurate fishing effort estimates helping to reduce bias in recreational catch estimates. The results help to increase the accuracy of the Baltic salmon stock assessment and the methodology may also help to monitor small-scale commercial fisheries which operate like recreational boat fisheries.

Keywords: Atlantic salmon, fisheries management, fishing effort, recreational fishing, small-scale fisheries, survey design

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