Fixed-location riverine hydroacoustics as a method of enumerating migrating adult Pacific salmon: comparison of split-beam acoustics vs. visual counting

A split-beam hydroacoustic system with automatic tracking of individual fish is being used to estimate the number of upstream migrating adult Pacific salmon in the Fraser River in British Columbia, Canada. To determine the bias and variance of the estimates of migrating fish numbers produced by this system, we compare simultaneous acoustic and visual estimates. These data demonstrate that, as fish densities increased, both a 4° × 10° and an 8° transducer produced lower estimates than the visual count. However, in the region of fish densities typically observed for migrating salmon, the 4° × 10° transducer estimates did not differ significantly from the visual count. A detailed description of the experimental configuration is given, including how the acoustic and video data were synchronized. Analyses of the data indicate that the size and shape of the acoustic beam has a pronounced effect on the bias of the acoustic estimates. In addition, the performance of the tracking software deteriorates as fish densities become very high.

Auteurs du document : Hermann J. Enzenhofer, Norm Olsen, Timothy J. Mulligan
Obtenir le document : EDP Sciences
Thème (issu du Text Mining) : MILIEU NATUREL
Date : 1998-03-15
Format : text/xml
Source : https://doi.org/10.1016/S0990-7440(98)80062-4
Langue : Anglais
Télécharger les documents : https://www.alr-journal.org/10.1016/S0990-7440(98)80062-4/pdf
Permalien : https://www.documentation.eauetbiodiversite.fr/notice/fixed-location-riverine-hydroacoustics-as-a-method-of-enumerating-migrating-adult-pacific-salmon-com0