

Spawning run of Atlantic Salmon (



Fixed location split-beam horizontal echosounding was used to assess the size and timing of the Atlantic salmon (*Salmo salar*) spawning run in the River Tornionjoki. Four transducers, two on each river bank, were mounted across the river at the study site 4 km upstream from the river mouth. Net weirs were used on both shores to direct the passage of fish through the acoustic beams. Hydroacoustic monitoring covered 40–50% of the river cross-sectional area. Also test fishing and yearly catch statistics of salmon were used as an indication of the size of the spawning run in the river. Altogether, 7700, 5300 and 4300 salmon-sized targets (target strength, $TS \geq -29$ dB) moving upstream were detected in 1997, 1998, and 1999, respectively. The fish migration began in all the years by early June and peaked during the second half of the month; the migration period of large salmon lasted until mid-July. The observations made by the echosounding and catch statistics were similar in this respect. In 1998 and 1999, however, more targets of $TS \geq -29$ dB were detected during late summer than could be expected by the river catches of salmon. It may be that the large targets in late summer were, in fact, whitefish whose run occurred during the same time. Hydroacoustic estimation of the total salmon run at the study site was found difficult. The numbers of salmon-sized targets detected were almost the same as the numbers of salmon caught each year by fishermen. Therefore, only an index of the run timing and the size of the stock can be produced from the data. It was clear that a considerable amount of fish escaped the acoustic monitoring by using areas uncovered by the beam, such as gaps in the bottom and the surface layers of the water column near the shores. Moreover, it was found that species recognition based on TS only is not adequate in multispecies environments. Assessment of spawning runs remains, however, a key issue in the management of Baltic salmon, and with further development, the hydroacoustic monitoring may be the most viable means of doing it.

Auteurs du document : Atso Romakkaniemi, Juha Lilja, Mari Nykänen, Timo J. Marjomäki, Juha Jurvelius

Obtenir le document : EDP Sciences

Mots clés : splitbeam acoustics, target strength (, migration, River Tornionjoki, Baltic Sea

Thème (issu du Text Mining) : MILIEU NATUREL, FAUNE

Date : 2000-09-15

Format : text/xml

Source : [https://doi.org/10.1016/S0990-7440\(00\)01083-4](https://doi.org/10.1016/S0990-7440(00)01083-4)

Langue : Anglais

Télécharger les documents : [https://www.alr-journal.org/10.1016/S0990-7440\(00\)01083-4/pdf](https://www.alr-journal.org/10.1016/S0990-7440(00)01083-4/pdf)

Permalien : <https://www.documentation.eauetbiodiversite.fr/notice/spawning-run-of-atlantic-salmon0>

Evaluer cette notice: