

## Three dimensional characteristics of young-of-year pelagic fish schools in lake



Fish schools are aggregative structures encountered in all types of aquatic environments but have as yet been little studied in freshwaters except at small spatial scales. This study represents the three dimensional description of juvenile fish schools (*Perca fluviatilis* and *Rutilus rutilus*) in a lake environment using high resolution multibeam sonar system operating at a frequency of 455 kHz, composed of 60 beams of 1.5° allowing a 90° observation plane. The in situ diurnal schooling behaviour of young-of-the-year fish of both species is confirmed. The morphological, energetic and spatial variables of these schools are described and related to one another. The structures described are of the same order of magnitude as those described in the marine environment. The school shape is elliptical, they are shallow and they display a temporal and spatial stability over the course of a day but a highly variable morphology. The number of vacuoles, a descriptor of the internal morphology of the schools, was found to be significantly ( $p < 0.01$ ) correlated with the volume of the school, and showed two distinct relationships, with proportions similar to the percentage occurrence of both species sampled by a pelagic trawl. The relation may be efficient for fish species discrimination by 3-D acoustics methods in this lake with two main aggregative fish species.

**Auteurs du document :** Jean Guillard, Patrice Brehmer, Michel Colon, Yvon Guennégan

**Obtenir le document :** EDP Sciences

**Mots clés :** Shoaling behaviour, 3-D structure, Sonar, Annecy Lake

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

**Date :** 2006-6-22

**Format :** text/xml

**Source :** <https://doi.org/10.1051/alr:2006011>

**Langue :** Anglais

**Télécharger les documents :** <https://www.alr-journal.org/10.1051/alr:2006011/pdf>

**Permalien :** <https://www.documentation.eauetbiodiversite.fr/notice/three-dimensional-characteristics-of-young-of-year-pelagic-fish-schools-in-lake0>

Evaluer cette notice: