

Nur als microfiche vorhanden

International Council for the
Exploration of the Sea



C.M. 1993/B:16

**ON THE SHAPE, SIZE AND DENSITY OF NORTH SEA HERRING SCHOOLS AS
MAPPED BY ECHO INTEGRATION AND ACCURATE SONAR PROJECTION**

by

Ole Arve Misund and Asgeir Aglen

**Institute of Marine Research,
P.O.Box 1870,
N-5024 Bergen, Norway**

Abstract

The shape and horizontal extent of herring schools in the North Sea have been mapped by a naval sonar (SIMRAD SA 950) with narrow horizontal beam width. The density of schools that were passed over was measured by the SIMRAD EK 500 echo sounder.

In most cases the school shape fit a geometric category (circle, oval, square, rectangle, parabol), but a few schools had an undefined, amorph appearance. The fish density within the schools varied by a factor of about 100, but there were clear relationships between the geometric dimensions and biomass of the schools. The variation in the dimension-to-biomass relationships reduced substantially by classifying the schools according to density.