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The International Herring Investigations in the Norwegian Sea.  
Present position and discussions of future work.

By Finn Devold.

As early as in 1873 G.O.Sars rejected the generally accepted theory, that the herring was a relatively stationary fish. Sars was of the opinion that the spring herring really belonged to the area between Scotland-Norway and Iceland.

In the year 1900, during his first cruise to the Norwegian Sea with the R/V "Michael Sars", Johan Hjort observed herring shoals over the whole area from Møre to Iceland, but fishing experiments in this area did not yield profitable catches. The validity of Sars's theory remained unproved until 1948 when Arni Fridriksson and Olav Aasen started their large scale tagging experiments both at Iceland and Norway.

Initiated by the serious postwar failure of the herring fishery at North Iceland, in the summer of 1949 we started herring surveys in the Norwegian Sea, and with financial aid from the herring industry the purse seiner "Vartdal" was chartered for this purpose. However, real progress was not achieved before 1950 when the ASDIC equipped R/V "G.O.Sars" was commissioned. The effective range of the ASDIC is about 1 n. mile, and thus areas with a width of 2 n. miles are surveyed at a time.

Already in the summer 1950 it was realized that the herring seem to accumulate along the frontier between Arctic and Atlantic water, and today the migration pattern of the mature part of the herring population is fairly well understood. (See Fig. 1).

The traditional fishing grounds at Iceland continued to yield poor catches in the 1950-ies. Following the information given by the R/V "G.O.Sars" about the herring distribution, the Norwegian herring fleet moved off to the Norwegian Sea, where good catches were made.

At the ICES meeting in Amsterdam in 1951 Denmark, Iceland and Norway agreed to co-operate on an extended herring investigation programme to cover the whole area of the Norwegian Sea. Later on the USSR participated in the joint programme, which was continued till the summer of 1960.

These investigations, which in the beginning included only hydrography and herring surveys were gradually extended to cover phytoplankton, zooplankton and primary production measurements as well.

The practical aim of the programme agreed on in Amsterdam, was to find commercially exploitable herring concentrations in the Norwegian Sea. This part of the task is by now solved with a satisfactory result, as the fishermen now know where to search for the herring, and are able to find them by means of their own instruments.

The questions of why the herring are found along the frontier between Arctic and Atlantic water, is yet not answered, as the area of investigation has been too large for detailed work, and so far only data from the month of June have been collected. To solve this problem we should restrict ourselves to cover only the area of the East Icelandic Current and adjacent waters, and extend the investigations in time to include the spring blooming of phyto-plankton and the Calanus spawning.

Such an investigation is very much desired, but it will require a team of scientists.

The items we have to discuss are:

1. Is there interest for a continuation of the joint investigations?
2. Are research vessels available for the purpose?
3. Are there scientists in the respective countries, who have the time and interest to do this work?

If these three items are affirmatively answered, we have to discuss:

4. Programme for the investigations.
5. Standardization of the instruments.
6. Publication of the results.

