

Comparative Fishing

Although a watch will be kept on changes and adaptations in fishing gear during the year it is considered that sufficient information has now been gathered from inter-ship comparisons. From these and earlier underwater photographic studies it is apparent that the time has come to direct some effort to the study of the behaviour of fish in relation to the trawl or other gear by which they are captured. It is hoped, therefore, that in 1953 it will be possible to carry out these studies using underwater cameras alone or operated by frogmen. Particular attention will be paid to the behaviour of fish in relation to the on-coming trawl.

Developmental work on types of pelagic trawl will be undertaken with a view to fishing the gear upon specific shoals.

Work on mesh selection will include a special study of the selection ogives of various meshes suitable for soles and small round fish of commercial value, and an attempt will be made to employ a mesh giving a double selection, i.e. one that will let small flatfish escape, which would normally be retained by a mesh with a suitable selection point for roundfish.

Sprat Experiments are to be carried out to discover if the sprat shoals of the S.E. English coast are suitable for capture by pelagic trawls, as more and more attention is being given to this class of gear by local fishery authorities. It is not intended to devote much time to biological work on this fish owing to other commitments.

Pilchard Work on the pilchards of the eastern Channel will be confined to tagging experiments designed to discover the relationship between these fish and those found in Cornish waters.

Plaice The series of surveys of the plaice spawning ground in the southern North Sea which have been made each year since 1946 will be discontinued in 1953. They will be succeeded by an attempt to trace the same part of the drifting population of plaice larvae as it flows along with the water in which it is carried, and to determine the mortality of successive stages of larvae up to the time of metamorphosis. The work will take place between mid-January and the end of March and it is not likely that it can be completed in one "drift", it is expected that two drifts will be arranged. In order to carry out this programme four 10-day cruises of the steam trawler SIR LANCELOT and two 5-day cruises of the motor trawler PLATESSA will be made available and devices will be employed to indicate the drift of the water mass so that the ships may keep station in the "drifts". Assessments of the abundance of I-group plaice will be made with the young plaice trawl in Bridlington Bay in June, for comparison with similar surveys made off Esbjerg, and it is hoped, on other parts of the European coast of the North Sea.

In co-operation with Holland the age-census and density survey of plaice along the Leman-Texel line will be carried out in January, April, July and October.

An experiment to determine the rate of dispersion of plaice by releasing marked fish from a special pattern of release points is designed to take place in December.

In connection with a proposal for the large-scale transplantation of plaice to the Dogger Bank a special survey of the benthos up-growth in an area of the Texel, and a repetition of the 1952 observations will be undertaken. To implement this programme two cruises of 120 stations and 10-12 days will be made in April and May and again in October and November.

Tank experiments on the rate of development of plaice larvae in relation to temperature and the usual market observations at English fishing ports will be continued.

Sole Samples for otolith readings once a quarter, and for length measurements once a week will be taken at Lowestoft fish market.

Plankton The long term programme of Hensen net observations on the Flamborough Line between April and September, and the fat and dry-weight observations taken on a cruise in June off the N.E. coast will be continued. Special Hensen net grids will also be made over the area investigated for plaice food.

Hydrography As included in the English Provisional Programme submitted to the Hydrographic Committee.

R. S. Wimpenny
4.9.52.

Fisheries Laboratory,
Lowestoft.