# SURFACE CURRENTS IN THE NORTH SEA.

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A report by Mr. John B. TAIT of the Marine Laboratory at Aberdeen of the Fishery Board for Scotland (Fisheries, Scotland, Sci. Invest. N° 3, 1931) presents the results of a very detailed and painstaking cartographical analysis of the data accruing from certain large-scale experiments with surface floating drift-bottles carried out in 1911. Bottles were set afloat at positions selected to afford information concerning the surface water drift in the northern and middle areas of the North Sea and in the Faroe-Shetland Channel. Liberations were made in most months of the year.

The report in question, together with one which appeared somewhat earlier dealing with similar experiments made in 1910, and a third, wherein are to be found a statistical analysis and tabulated data relating to all such experiments carried out during five consecutive years immediately prior to the War, have added very greatly indeed to the body of knowledge on the subject.

TAIT has shown conclusively that the North Sea receives a far greater access of surface water through the Shetland-Norway opening than via the Shetland-Scotland passages; that the belt of north-streaming surface waters along the Norwegian coast, representing the sole regular escape stream from the North Sea, may be of no greater width than some 50-60 miles; that there may be at times an actual exodus of water from the North Sea via the Scotland-Shetland passages; that incursion of surface waters through these latter passages is subject to occasional stoppage due to a temporary north-flowing stream up the east coast of northern Scotland which pushes on up the eastern side of the Orkneys and Shetlands. He has, as the outcome of observing periodicities in the incidence of strandings from the same liberations, on certain stretches of coast, been able to demonstrate the intervention of delaying agencies which have operated to keep bottles at sea for multiples of particular time intervals.

In this connexion, Mr. TAIT has demonstrated the existence of large eddies in the surface waters of the areas concerned — some of them already known, and others now discovered for the first time. Changes in the situation, size and shape of the largest of these, which he has named the Great Northern North Sea Eddy, are shown to be capable of bringing about a profound modification of surface water flow over a very wide area of the North Sea.