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Preliminary report on marking of spring
herring in the Rügen-Bodden 1975

by

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Introduction

Initial tagging experiments were performed on the Rügen spring spawning herring stocks from 1961 to 1964 (ANWAND, 1961, 1963; DANKE, 1962; WEISS, 1964). Due to the continually increasing importance of these herring stocks for the Baltic fisheries, this work was resumed in the Greifswalder Bodden in 1975.

Material and methods

Red and yellow plastic tags bearing punched letters and figures were used as tags. The herring were transferred from the trap net to the keep net, from where the fish were transferred in groups of 15 - 20 into a plastic tub in the open boat. During the tagging operation, the fish were laid in a small plastic trough filled with water. A puncture was made beneath the dorsal fin by means of a reverdin needle and the tag was attached by means of monofilament Dederon thread.

The tagging site was situated as close as possible to the open sea to ensure that as many tagged fish as possible would be able to leave the Bodden (see figure 1). In contrast, the tagging site during the earlier experiments was usually far inside the Bodden so that the high concentration of fishing gear had a particularly great effect on the number of fish caught again with the result that relatively few fish were recovered from outside of the Bodden.

A total of 3,144 herring were tagged during the period from February to May, 1975.

Table 1

Date	Number	Caught again	%
27.02.75	25	2	8.0
5.03.75	59	1	1.7
6.03.75	146	14	9.6
14.03.75	110	5	4.5
21.03.75	153	6	3.9
17.04.75	361	3	0.8
18.04.75	249	-	-
22.04.75	380	5	1.3
23.04.75	637	4	0.6
14.05.75	235	3	1.3
15.05.75	342	5	1.5
28.05.75	447	5	1.1
	3,144	53	Ø 1.7 %

Results

The majority of the fish recovered were caught from near the tagging site (see Fig 1). The fish recovered from the Thissower Aussenstrand where a total of 13 fish were caught are noteworthy. This, together with the fact that reports regarding such fish have scarcely been received from inside the Bodden indicate that the tagged herring rapidly left the Bodden, thus confirming that the location of the tagging site was correctly chosen.

Five tagged fish were caught on the open sea (see Fig.2). These involve fish tagged on the 5th, 6th and 14th of March, 1975. The furthest report involved a tagged fish recovered in the Bay of Mecklenburg at $54^{\circ}18'N$, $11^{\circ}41'E$. The herring was free for 48 days and covered a distance of about 180 km. Another herring was caught on a level with Wustrow; this fish was at liberty for 47 days and the distance covered was about 120 km. A further tagged fish was recovered by Darßer Ort and had covered a distance of 106 km in 40 days. One herring was caught on the northern edge of the Oder Bank and had covered the distance of about 50 km in three days. A further tagged fish was recovered at $54^{\circ}21' N$, $13^{\circ}58' E$ (off Saßnitz/Rügen).

Discussion

Considerably larger percentages of the tagged fish were usually recovered during the earlier tagging experiments:

ANWAND	15.4 %
DANKE	2.1 %
WEISS	8.0 %
(WEBER for Schleihering)	21.3 %.

The relatively low proportion of recovered fish (1.7 %) during the experiment described here is mainly due to the location of the tagging site which facilitated the migration of the herring to the open sea. The extent to which the method is responsible must be clarified on the basis of rearing experiments during 1976.

Whereas DANKE (1962) was unable to confirm the existence of a relationship between the spring herring by Rügen and the spring herring of the western Baltic, the tagging experiment performed in 1975 appears, in the same way as the experiment performed by ANWAND (1961) appears to indicate such a relationship. This would corroborate the results obtained by JENSEN (1955), REIMER (1970) and GRABDA (1974). The investigations will be continued.

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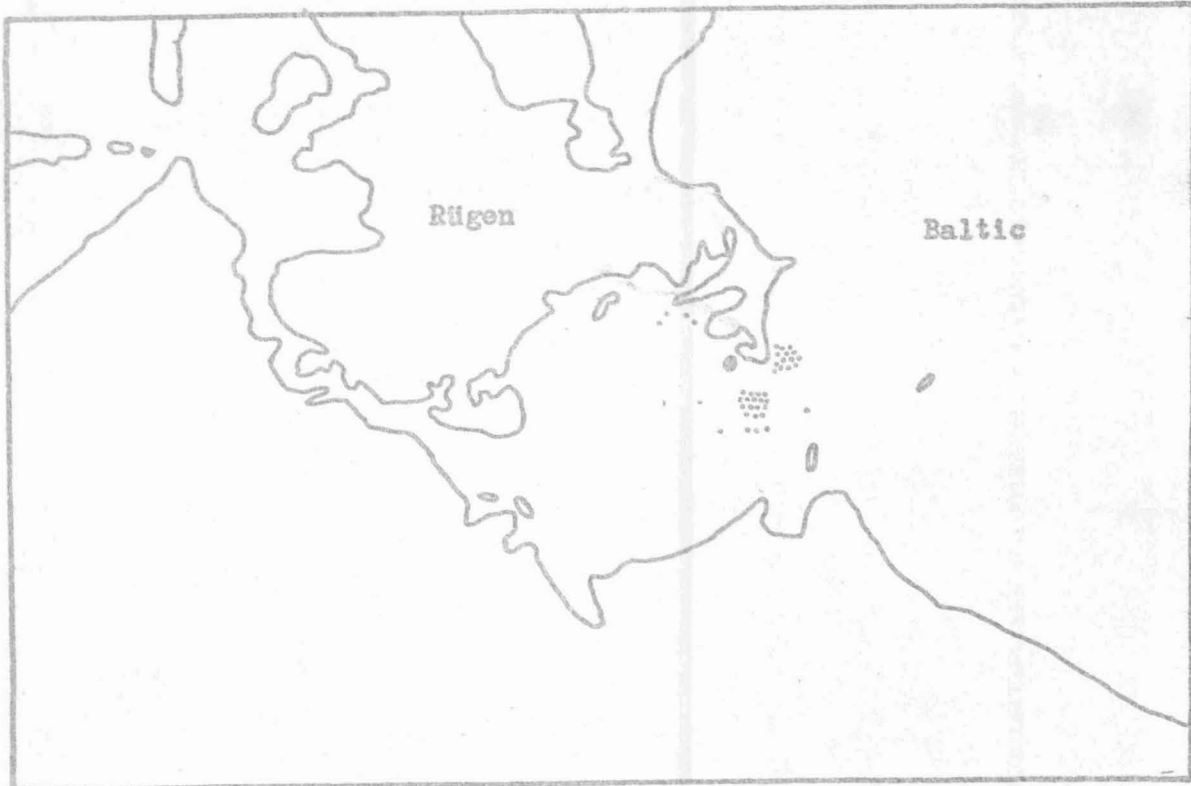


Fig.1 Place of tagging (strong blackpoint) and recoveries (small black points) near the Greifswalder Bodden



Fig.2 Recoveries in the Baltic