International Council for the
Exploration of the Sea

November 1956.

International Herring Investigations in the North Sea.

The ICES recommended:-

"Following the Recommendation of the Herring Committee, it was agreed that three experts nominated by this Committee should meet in Copenhagen as soon as possible and at all events before the end of 1956 in order to prepare detailed plans for a large-scale tagging experiment in the southern North Sea. It is expected that such a plan will involve participation and financial contributions by the interested Governments and that, as soon as possible, these Governments will be invited to send representatives to a special meeting convened by the Secretary General, at which the question of participation will be discussed."

(AASEN, BERTELSEN, Cushing)

On 8. and 9.November 1956 the nominated experts met under the chairmanship of Mr. Aasen, and made the following plan:-

I. Work at Sea.

(a) A purse seiner will be used to catch the herring in the best condition for tagging. The ship will be 80' long, will be able to steam at 10 knots and the purse seine will be shot from the vessel itself with the assistance of one dory. Esbjerg will be used as a base.

The purse seine will be 35 fms.deep and so will fish right to the bottom over all the Bløden Ground, much of which is smooth; Norwegian fishing skippers have examined Bløden echo-records (Atlas echo-sounder) and are confident that they can catch the fish.

(b) Tagging will be carried out on the Bløden Ground area from the end of July to the end of August 1957 in the best part of the fishing season, when the weather is normally good. Up to 10.000 internally tagged fish will be liberated in order to estimate fishing mortality; up to 5.000 externally tagged fish will be released to study the movement of Bløden fish into the adult fisheries.

(c) Three tagging teams will do the work under the supervision of a naturalist in charge. The naturalist in charge will also be responsible for deciding where to tag and how intensively to tag.

(d) It would be most welcome if national research programmes covered additional work in the area; such programmes should be reported to the working group mentioned below.

II. The Making of Records.

(a) The tagging records at sea are the responsibility of the naturalist in charge and he will hand them over to the Secretary General at the end of the experiment.

(b) Rewards paid for tags will be refunded from the ICES (the separate account (III c)). The Governments are asked to provide information services which facilitate the recovery of tags.

(c) In addition to the statistics of catch and effort already collected from the whole of the North Sea, it will be necessary to collect detailed statistics of catch and effort from the Bløden Ground itself. It will be also necessary to keep detailed records of the quantities of fish processed in each factory. Magnets in the principal factories should be tested for efficiency in recovery.

III. Administration.

(a) Each country should appoint an expert to deal with the tagging experiment and these experts should form a working group reporting back to the Herring Committee. In many cases these experts would be members of the Herring Committee. This working group will appoint four experts to carry out the work at sea, one of whom will be appointed naturalist in charge.

(b) An equal share of the expenditure is borne by the participating Governments.

(c) The funds provided by the interested Governments are to be paid into a separate account from which all expenses in connexion with the experiments are covered.

(d) While the salaries of these experts remain the responsibilities of the respective Governments, the travel expenses and per diem in connexion with the experiments are covered from the funds provided by the interested Governments.

(e) It is suggested that the special meeting of representatives should take place in the last ten days of January 1957.

(f) Accounting of expenses is carried out by the Secretariate.

(g) An estimate of the costs is given in detail as follows. The total expenditure amounts to Danish kroner 140,000.-.

Estimated Expenses:

I. Purse Seiner:			
Ship	kr. 20,000.00		
Crew (1 Skipper + 10 Fishermen)	" 20,000.00		
Food and Water	" 5,000.00		
Oil and lubricants ..	" 15,000.00		
Gear	" 15,000.00	kr. 75,000.00	kr.75,000.00
II. Tagging Equipment:			
a) Internal tagging.			
2 tagging guns	" 1,552.00		
160 magasines	" 1,040.00		
4 boxes (stainless)..	" 552,00		
20.000 tags(numbered)	" 3,600.00	kr. 6,744.00	
b) External tagging.			
5.000 Lea hydrostatic tags	" 7,500.00	kr. 7,500.00	
c) Accessories.			
3 live nets	" 2,000.00		
6 dip nets	" 360.00		
1 tagging sluice	" 1,500.00	kr. 3,860.00	
d) Miscellaneous.			
Ropes, buckets, tubs, recording forms etc..	" 1,896.00	kr. 1,896.00	kr.20,000.00
III. Rewards:			
3000 recaptures à kr.10.00		kr. 30,000.00	kr.30,000.00
IV. Administrative Expenses.			
Travel per diem, extra office expenses, working up of results etc.		kr. 15,000.00	kr.15,000.00
		Grand Total:	kr.140.000.00

Addendum (to Estimated Expenses):

Surplus fish from the catches should be allowed to be landed and sold at market prices in any participating country. Any income thus obtained should be paid into the account mentioned in III c. The percentage for the fishermen will be 30%. If fishing goes well, the cost of the experiment will be substantially reduced, and the participating Governments would be reimbursed.

It is sincerely to be hoped that the interested Governments will regard favourably the importance and urgency of the matter. The proposed plan represents a quick and reliable way of collecting vital information necessary for a sound evaluation of the state of affairs. The situation may well arise that the effect of fishing will be disastrous before sufficient statistics can be obtained by the methods heretofore employed. The time is therefore ripe to employ immediate radical and energetic measures to close the gaps in knowledge indispensable to any intelligent management of the fish stock in question.

Copenhagen, 9.November 1956.

(s.) Olav Aasen
E.Bertelsen
D.H.Cushing

Number of returns for the different experiments.

Year of recapture	1948 6018 SH	1948 7475 OH	1949 8261 SH	1950 9085 LH	1950 11215 SH	1950 1827 OH	1951 5998 LH	1951 9986 SH	1951 5076 OH	1952 10295 LH	1952 10763 SH	1952 17308 OH	1953 10080 LH	1953 10046 SH	1953 10181 OH	1954 10042 LH	1954 10291 SH	1954 13762 OH	1955 10045 LH	1955 9087 SH	1955 12063 OH
1950	14	9	26																		
1951	12	7	22	14	9	10															
1952	23	9	25	14	9	16	23	63	55												
1953	15	9	17	10	8	13	22	60	54	18	73	246									
1954	15	12	44	16	12	13	27	68	84	26	107	328	19	37	274						
1955	7	1	16	9	7	8	18	57	31	14	137	116	8	47	105	24	86	121	246	130	
1956	9	1	21	10	12	6	12	27	29	12	103	103	9	32	102	18	74	74	91	27	140

o/oo Returns per million hl

1950	1.30	0.67	1.75																		
1951	0.74	0.35	0.98	0.57	0.30	2.03															
1952	0.87	0.28	0.68	0.35	0.18	2.00	0.87	1.41	2.48												
1953	0.74	0.36	0.61	0.33	0.21	2.10	1.08	1.77	3.14	0.52	2.00	4.19									
1954	0.43	0.28	0.92	0.31	0.19	1.23	0.78	1.18	2.86	0.44	1.72	3.27	0.33	0.64	4.66						
1955	0.25	0.03	0.41	0.21	0.13	0.95	0.65	1.24	1.32	0.29	2.76	1.45	0.17	1.01	2.24	0.51	1.81	1.91	5.32	3.11	
1956	0.29	0.03	0.50	0.22	0.21	0.64	0.39	0.53	1.11	0.23	1.87	1.16	0.18	0.62	1.96	0.35	1.40	1.05	1.77	0.58	2.27