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ICNAF Scale and Otolith Exchange Program  
1968-1969  
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At the 1968 meeting of the Subcommittee on Herring and Other Pelagic Fishes, it was recommended "that the herring otolith exchange program be continued and, if possible, an exchange of scales and photographs of otoliths be made in order to allow comparing criteria for herring age determination". Canada agreed to coordinate this additional exchange and interest in the program was shown by Canada, Germany, Poland, Romania, United States and USSR.

In implementing the exchange 50 pairs of otoliths and photographs of 50 scales from the same fish were sent to the countries listed above and to the Fisheries Laboratory at Lowestoft. Age estimates based on examination of this material were received from all except USSR and Romania. Because the records are incomplete, no attempt has been made to compare the results from the various countries and the attached is a simple tabulation of year-classes estimated from independent readings of both scales and otoliths by countries.

While no direct comparisons have been made, it is obvious that for young fish (12-17 cm) the age or year-class estimates are almost identical. For larger fish, there is a considerable amount of variation and this gets progressively worse with the increase in size and presumably age. For fish of 30-34 cm, for example, there are differences of as much as 4 years in the estimates of age.

Although this program has not been completed, it is obvious that there is a lack of uniformity and presumably substantial errors in age estimates for herring in the Bay of Fundy area and that this problem needs to be solved before any confidence can be placed in various population estimates which use age as part of the basic data.

COMPARISON OF SCALE AND OTOLITH READINGS /YEAR CLASSES/

SAMPLE FROM LEONARDVILLE, DEER ISLAND, CANADA - AUGUST 6, 1968.

Length /mm/	CANADA		UNITED STATES		GERMANY		ENGLAND		POLAND		USSR		ROMANIA	
	O	S	O	S	O	S	O	S	O	S	O	S	O	S
118	1966	1966	1966	1966	1966	1966	1966	1966	1966	1966	1966			
117	66	66	66	66	66	66	66	66	66	66	66			
121	66	66	66	66	66	66	66	66	66	66	66			
117	66	66	66	66	66	66	66	66	66	66	66			
116	66	66	66	66	66	66	66	66	66	66	66			
126	66	66	66	66	66	66	66	66	66	66	66			
140	66	66	66	66	66	66	66	66	66	66	66			
140	66	66	66	66	66	66	66	66	66	66	66			
142	66	66	66	66	66	66	66	66	66	66	—			
142	66	66	66	66	66	66	66	66	66	66	66			
163	66	66	66	65	66	66	66	66	66	66	66			
167	66	66	66	66	66	66	66	66	66	66	66			
161	66	66	66	66	66	66	66	66	66	66	66			
172	66	66	66	66	66	66	66	66	66	66	66			
173	66	66	66	65	66	66	66	66	66	66	65			
196	66	66	66	65	66	66	66	66	66	66	65			
188	65	66	65	65	65	66	65	65	65	65	65			
182	65	66	65	64	65	66	65	65	65	65	65			
194	66	66	66	65	66	66	66	66	66	66	65			
192	65	66	65	64	65	65	65	65	65	65	65			
215	65	66	65	65	66	66	65	65	65	65	65			
223	65	66	65	63	65	65	65	65	65	65	64			
212	65	66	65	62	65	65	65	65	65	65	—			
208	65	66	65	63	65	65	65	65	65	64	64			
202	66	65	66	65	65	65	66	65	65	66	65			
245	65	65	64	60	65	64	65	65	65	64	—			
241	65	65	65	63	65	65	65	65	65	65	65			
248	65	65	65	60	65	65	65	65	65	65	64			
228	65	65	65	64	65	65	65	65	65	65	64			
228	65	65	65	65	65	65	65	65	65	65	65			
265	65	64	—	63	64	64	64	64	64	—	64			
251	65	65	64	64	65	65	65	65	65	65	65			
261	64	64	64	62	64	64	64	64	64	64	—			
273	64	64	63	61	64	64	64	64	64	63	—			

ctd.

Length /mm/	CANADA		UNITED STATES		GERMANY		ENGLAND		POLAND		USSR		ROMANIA	
	O	S	O	S	O	S	O	S	O	S	O	S	O	S
251	64	64	64	64	64	64	--	--	64	64				
280	63	63	62	61	63	63	64	64	63	63				
291	63	63	63	63	63	63	63	64	63	63				
292	63	63	63	61	63	62	64	--	63	--				
293	63	64	62	62	63	64	63	--	63	64				
280	64	64	64	61	64	64	64	64	63	63				
307	63	63	63	62	63	63	63	63	63	64				
320	62	62	62	62	60	59	61	61	61	61				
314	63	63	63	60	63	61	--	62	63	--				
310	62	63	61	61	61	59	61	--	61	--				
319	62	62	61	62	60	60	61	62	61	61				
327	62	61	61	60	60	59	61	62	61	--				
327	62	60	61	61	59	59	61	61	61	60				
340	62	62	--	62	--	--	--	--	61	--				
329	62	62	61	60	--	59	59	60	60	59				
326	61	61	61	61	59	59	60	61	60	--				

O = Estimates from Otoliths;  
S = Estimates from Scales.