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1966 ICNAF Herring Otolith Exchange

by S.N.Tibbo

At the 1966 Annual Meeting of ICNAF it was recommended (Recommendation #20) "that Canada, Poland and USA exchange herring otoliths to compare ageing techniques. Canada will initiate the exchange and report on the results next year."

The exchange involved 3 regular samples of 50 pairs of otoliths taken in the Bay of Fundy (4X) and Gulf of St. Lawrence (4T) areas and one mixed sample of 100 pairs of otoliths taken from various localities and at various times during the year. The latter sample was included in order to cover the complete size range of herring in the Canadian Atlantic area.

The results have only recently become available and hence there has been insufficient time for a complete analysis. The data are, however, presented in the accompanying tables in summary form.

For each comparison the cases in which ages were identical are shown by numbers inside the squares. The disagreements are outside. It is obvious from these comparisons that there are substantial differences in the criteria used by workers in the three countries to estimate age. As might be expected, there is a high order of agreement for very young herring, but for spawning adults, which make up the major part of the fishery and are of most significance for population dynamics, the amount of agreement is poor. In several cases the difference is as much as four years in fish that are probably no more than seven years old.

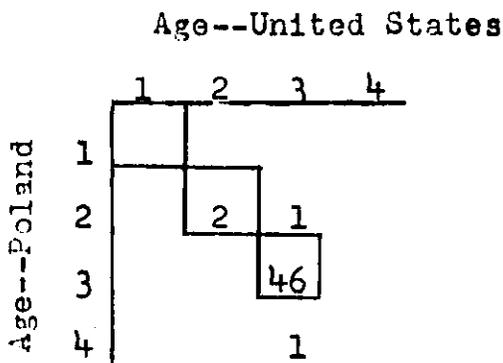
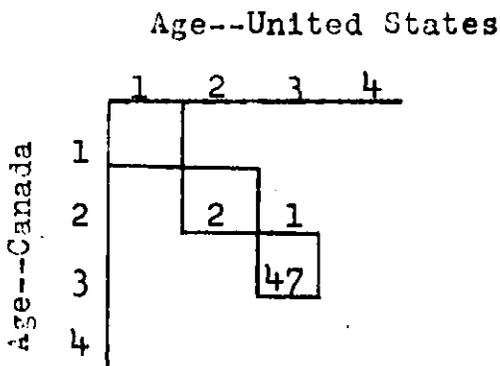
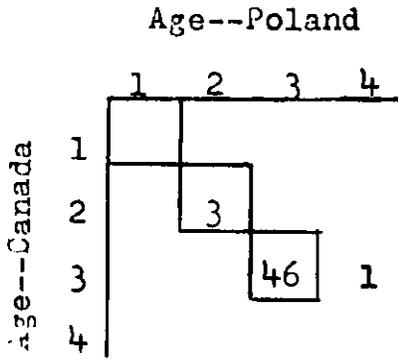
These discrepancies point to the need for a continuation of studies of ageing techniques and these should be broadened to include scales as well as otoliths.

St. Andrews, N.B.  
25 May 1967

Sample No. 1  
Location: St. Andrews Bay (Division 4X)  
Date: June 29, 1966  
No. of fish: 50

Mean age - (number of fish  
in brackets)

Poland - 2.96 (50)  
U.S. - 2.96 (50)  
Canada - 2.94 (50)



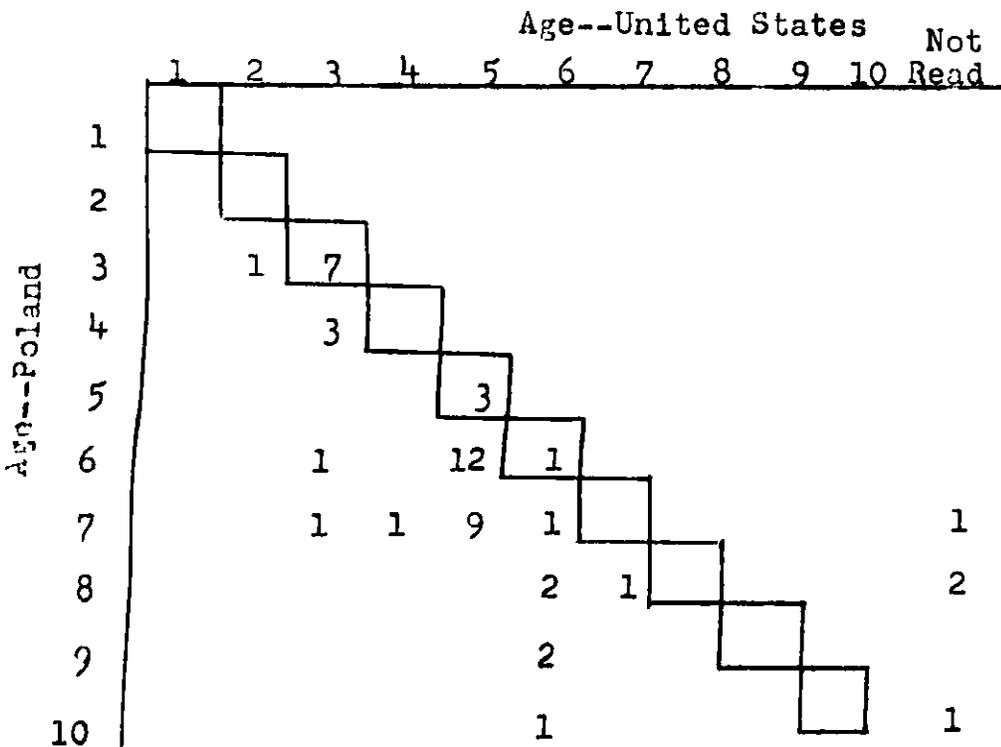
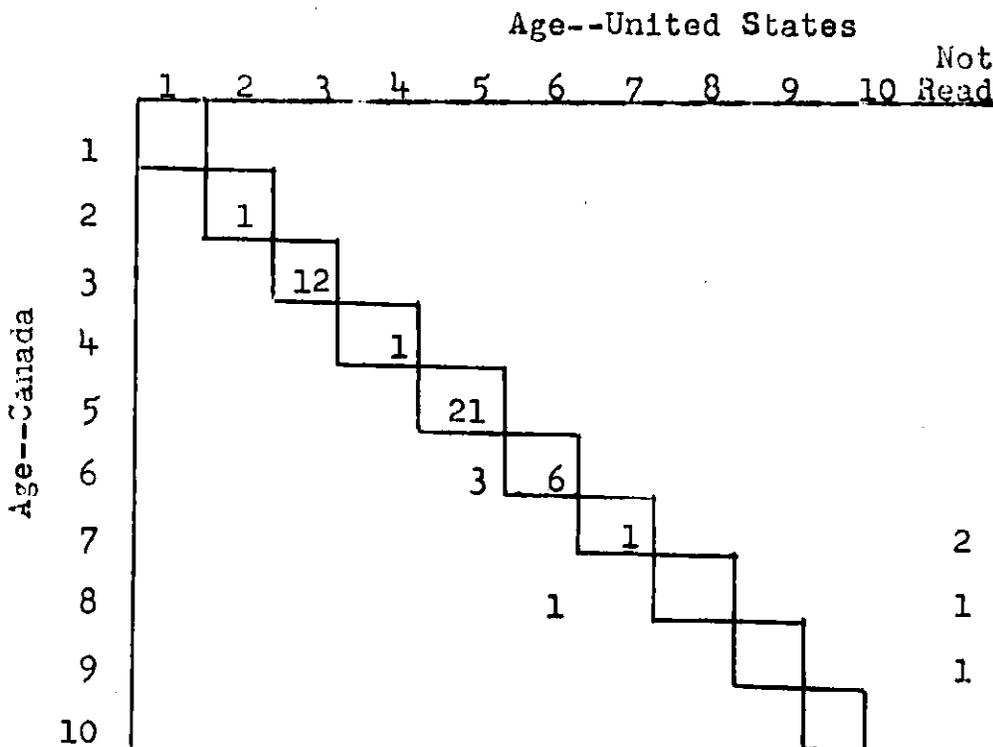
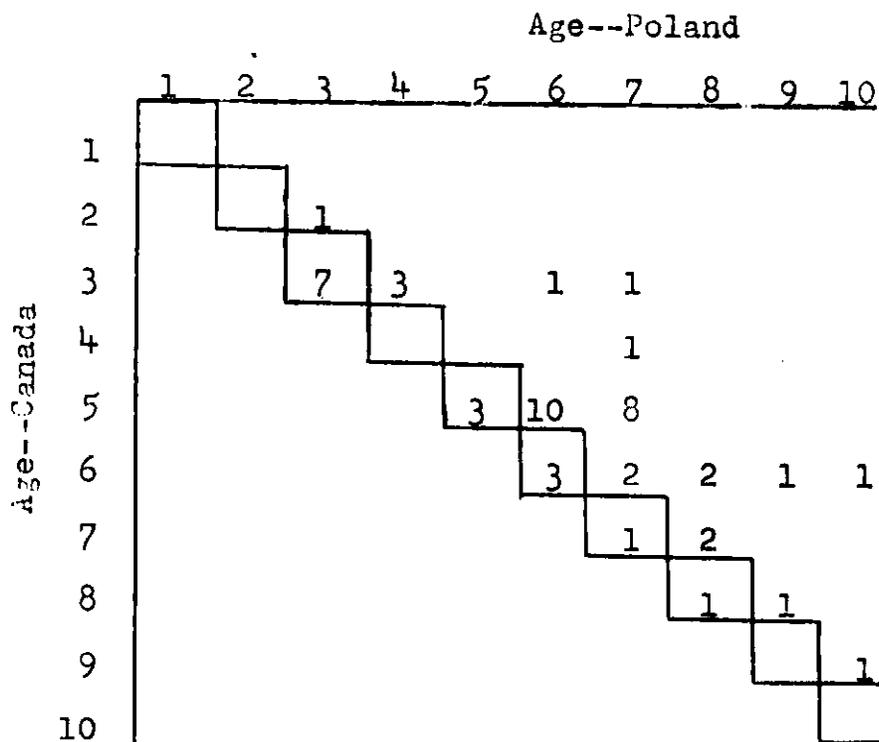
Sample No. 2  
 Location: Sandy Cove, N.S. (Division 4X)  
 Date: September 19, 1966  
 No. of fish: 50

Mean Age - (number of fish  
 in brackets)

Poland - 6.08 (50)

U.S. - 4.58 (46)

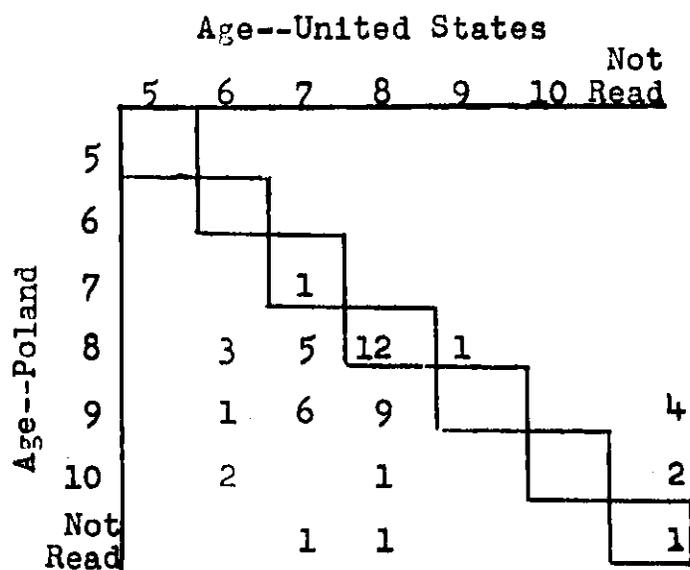
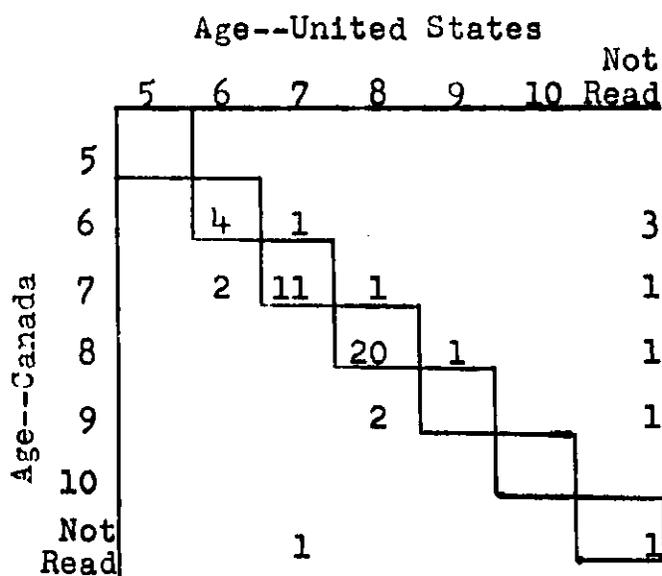
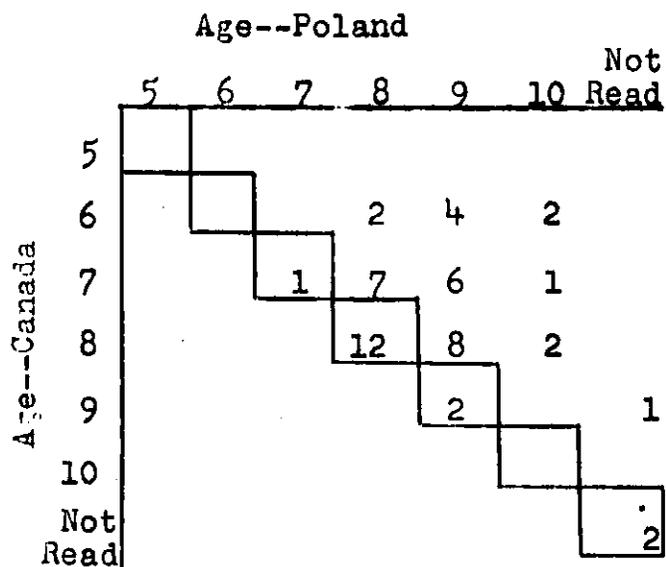
Canada - 4.94 (50)



Sample No. 3  
 Location: Caraquet (Division 4T)  
 Date: May 16, 1966  
 No. of fish: 50

Mean Age - (number of fish  
 in brackets)

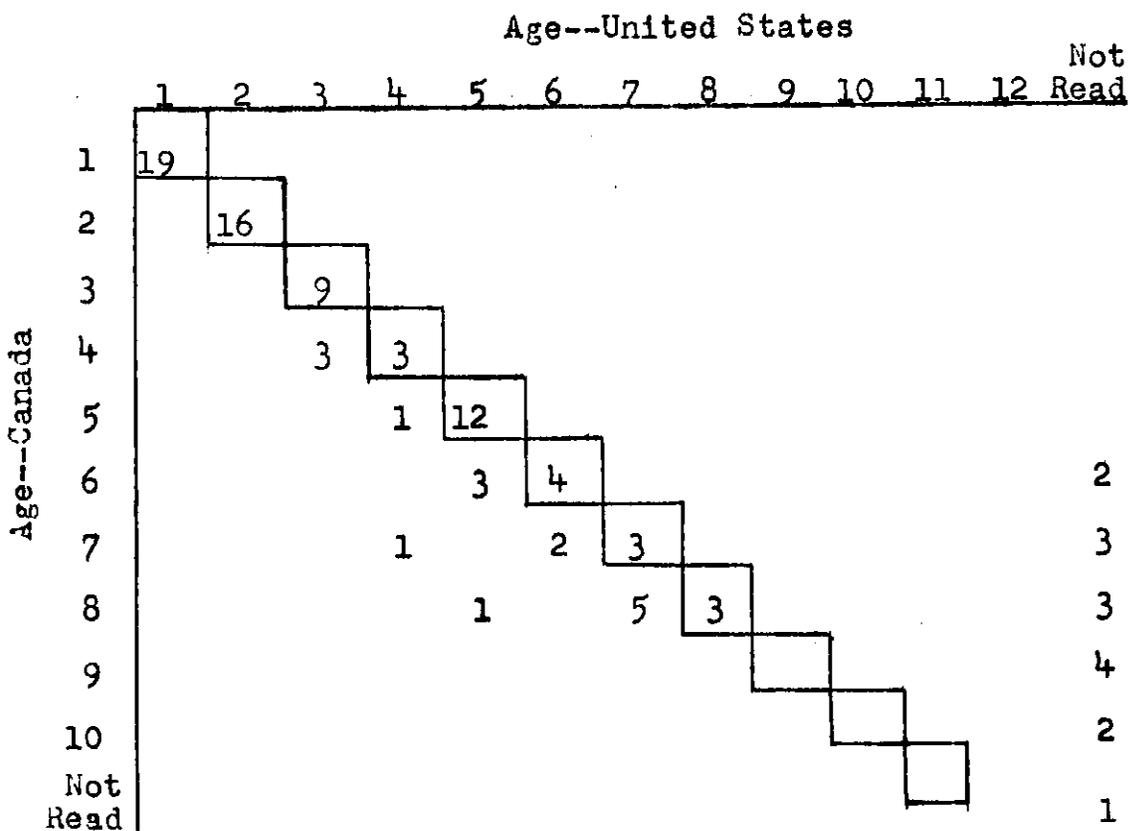
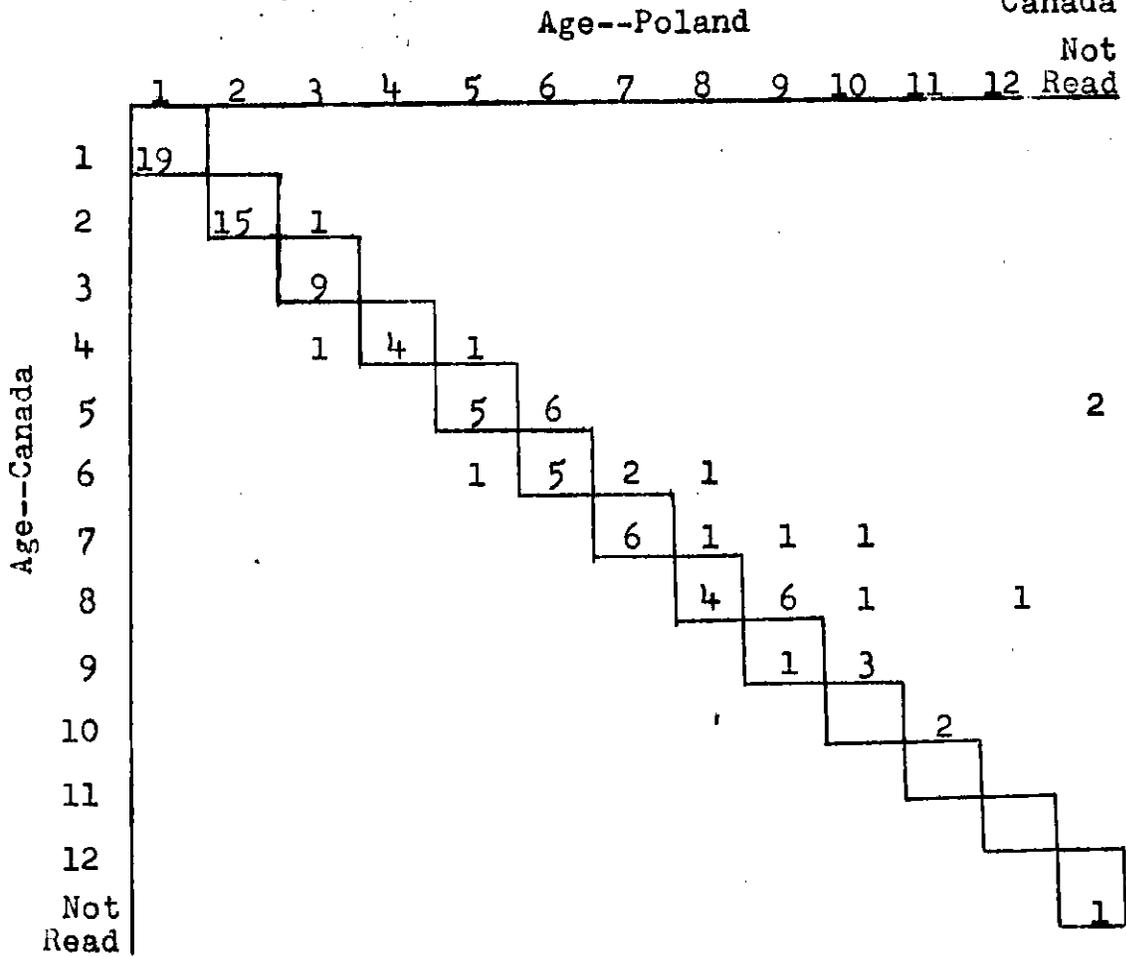
Poland - 8.61 (47)  
 U.S. - 7.44 (43)  
 Canada - 7.41 (48)



Sample No. 4  
 Location: Subarea 4 (various locations)  
 Date: March to October 1966  
 No. of fish: 100

Mean Age - (number of fish in brackets)

Poland - 4.73 (97)  
 U.S. - 3.56 (85)  
 Canada - 4.40 (99)



(continued)

Sample No. 4 (continued)  
 Location - Subarea 4 (various locations)  
 Date: March to October 1966  
 No. of fish: 100

	Age--United States												Not Read		
	1	2	3	4	5	6	7	8	9	10	11	12			
Age--Poland	19														
1		15													
2			10												
3		1		2											
4			2		1										1
5				1	5										1
6				1	7	2									1
7				1	1	1	2								3
8					1	1	4								
9						1	2	2							3
10							1								4
11															2
12								1							
Not Read					2										1