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Results of Canada-USSR Silver Hake Otolith Exchange

by

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Introduction

As part of a continuing project to monitor the level of inter-reader agreement between Canadian and USSR age readers, samples of silver hake otoliths have been exchanged between the two countries. This report summarizes results of comparison age readings for 1985.

Materials and Methods

A sample of 100 otoliths was collected during the Canadian Scotian Shelf groundfish survey in July. The sample consisted of 53 females ranging in length from 15 to 61 cm and 47 males ranging in length from 14 to 38 cm. Otoliths were stored in glass vials in a solution of 60:40 water and glycerin.

Age determinations were made using accepted conventions and following established guidelines. Age readings were made independently by the two age readers.

Results

Estimated age of the females ranged between 1 and 11 years and between 1 and 8 for the males. The overall level of agreement for the two readers was 85% with 13 differences in females and 2 in males and, with one exception, the USSR reading was higher than the Canadian. Individual readings are shown in Tables 1 and 2 and are summarized below:

Canadian reading relative to USSR				
Difference	-2	-1	0	+1
Percent	1	13	85	1

Conclusions

While the overall level of agreement between the two readers appears to be at an acceptable level, the direction of differences indicates a bias for USSR readings to be higher relative to Canadian. The differences at ages one and two suggest difficulty in assessing early growth.

Table 1. Comparison of Canadian and USSR estimates of age for silver hake.

Fish	Len	Sex	Age		Fish	Len	Sex	Age		Fish	Len	Sex	Age	
			USSR	CDN				USSR	CDN				USSR	CDN
1	15	F	1	1	34	36	F	4	4	67	20	M	1	1
2	16	F	1	1	35	36	F	6	4 *	68	21	M	1	1
3	17	F	1	1	36	37	F	5	4 *	69	21	M	1	1
4	18	F	1	1	37	37	F	6	6	70	22	M	1	1
5	19	F	1	1	38	38	F	6	6	71	22	M	1	1
6	19	F	1	1	39	39	F	6	6	72	23	M	1	1
7	20	F	1	1	40	40	F	5	5	73	23	M	1	1
8	20	F	1	1	41	41	F	6	6	74	24	M	2	2
9	21	F	1	1	42	42	F	6	6	75	24	M	1	1
10	22	F	1	1	43	43	F	7	7	76	25	M	2	2
11	22	F	1	1	44	44	F	7	7	77	25	M	1	1
12	23	F	1	1	45	45	F	8	8	78	26	M	2	2
13	33	F	3	3	46	46	F	7	6 *	79	26	M	2	2
14	24	F	2	1 *	47	47	F	9	8 *	80	27	M	2	2
15	24	F	1	1	48	48	F	9	9	81	27	M	2	2
16	25	F	2	2	49	49	F	10	10	82	28	M	2	2
17	25	F	2	1 *	50	50	F	8	8	83	28	M	2	2
18	26	F	2	1 *	51	53	F	11	10 *	84	29	M	3	3
19	26	F	2	1 *	52	55	F	10	11 *	85	29	M	2	2
20	27	F	3	2 *	53	61	F	11	11	86	30	M	3	3
21	27	F	2	2	54	14	M	1	1	87	30	M	3	2 *
22	28	F	3	3	55	14	M	1	1	88	31	M	4	4
23	28	F	2	2	56	15	M	1	1	89	31	M	5	4 *
24	29	F	3	3	57	15	M	1	1	90	32	M	4	4
25	30	F	3	3	58	16	M	1	1	91	32	M	6	6
26	31	F	3	3	59	16	M	1	1	92	33	M	5	5
27	31	F	4	3 *	60	17	M	1	1	93	33	M	4	4
28	32	F	4	3 *	61	17	M	1	1	94	34	M	5	5
29	32	F	4	4	62	18	M	1	1	95	34	M	4	4
30	33	F	3	3	63	18	M	1	1	96	35	M	6	6
31	33	F	5	5	64	19	M	1	1	97	35	M	6	6
32	34	F	3	3	65	19	M	1	1	98	36	M	6	6
33	35	F	3	3	66	20	M	1	1	99	36	M	8	8
										100	38	M	7	7

Table 2. Summary of silver hake ages

		Canadian Age Reader											Total
		1	2	3	4	5	6	7	8	9	10	11	Total
U S S R A g e R e a d e r	1	35											35
	2	4	12										16
	3		2	10									12
	4			2	6*								8*
	5				2	4							6
	6				1		9						10
	7						1	3					4
	8								3				3
	9								1	1			2
	10										1	1	2
	11										1	1*	2*
Total		39	14	12	9*	4	10	3	4	1	2	2*	100

* indicates counts which have been corrected.

