

CONSULTANT'S REPORT
PEND OREILLE LAKE, IDAHO

ANALYSIS OF CREEL CENSUS DATA
FOR 1957

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PEND OREILLE LAKE KOKANEE
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The final tabulation of the Creel Census data for 1957 has been made available by the Idaho Fish and Game Department in advance of their formal publication. This analysis follows the pattern of the preceding report of this series - "Analysis of Creel Census Data for 1956" issued by the Corps of Engineers, U. S. Army, Seattle District, June, 1957. In this earlier report data through 1956 were presented and the methods of analysis explained. The present report gives the data for 1957 and compares the indices of relative abundance for this year with the averages of the corresponding indices for the base years, 1951 - 1954. Then a similar comparison is made between the averages of the indices for the three years, 1955-1957 with those of the base years. The data and statistics are presented in Tables 1 and 2 herewith, which are, in effect, merely extensions of Tables 1 and 2 of the preceding report.

In the report on the data for 1956 it was shown that the index k/f for the Sport Fishery is unreliable and must be discarded. This results from the distinct downward trend of the average number of hours of fishing (h/f) shown in Figure 1 of that report. In Table 1 herewith the value of this is shown to be 4.8 which is slightly higher than that of 1956 (4.7) but is lower than any other year of record. It is consistent with the trend shown in Figure I of the preceding report. Although the index k/f , Sport Fishery, cannot be used as a measure of relative abundance I have, for the sake of uniformity, continued to present the statistics pertaining to it.

TABLE 1

Data from Creel Census Reports and
derived statistics, 1951 - 1957

Sport Fishery: Resident and Non-resident Fishermen; Hope, Garfield
and Bayview, April through October

Year	f	h	k		h/f	k/f	k/h
			Base	\bar{X}	5.52	9.40	1.70
			Years	s	0.17	0.88	0.14
1955	9869	50117	70419		5.1	7.2	1.4
1956	11703	55168	94957		4.7	8.1	1.7
1957	9918	47304	81285		4.8	8.2	1.7
			1955-	\bar{X}	4.87	7.83	1.60
			1957	s	0.21	0.55	0.17

Commercial Fishery; all localities, April and May only

			Base	\bar{X}	6.92	88.12	12.78
			Years	s	0.90	9.54	1.16
1955	509	3201	35228		6.3	69.4	11.0
1956	534	3569	48395		6.7	90.7	13.5
1957	315	1911	23362		6.1	74.16	12.2
			1955-	\bar{X}	6.36	78.09	12.23
			1957	s	0.32	11.18	1.25

It is obvious from the probability values (P) given in Table 2 that none of the indices for 1957 is significantly lower than the means of the corresponding indices for the base years. When the means of the indices for the years 1955-57 are compared with the corresponding means for the base years (Table 2) only the index k/f, Sport Fishery, is shown to be significantly below that for the base years; and this, as shown must be discarded. The other three indices are all slightly lower than the corresponding values for the base years; but none of the differences is statistically significant.

TABLE 2

Comparison of the indices for 1955, 1956, 1957 and the three years combined with the base years. P is for negative deviations only. Figures for 1955 and 1956 are repeated from the preceding report.

Years		Sport Fishery		Commercial Fishery	
		k/f	k/h	k/f	k/h
1955	t	2.24	1.93	1.76	1.34
	P	0.056	0.076	0.088	0.136
1956	t	1.32	0.00	-0.25	-0.56
	P	0.139	0.500	0.590	0.693
1957	t	1.22	0.00	1.31	0.45
	P	0.156	0.500	0.143	0.329
1955-	t	2.68	0.85	1.28	0.60
1957	P	0.023	0.218	0.119	0.300

I conclude, therefore, that there is still no satisfactory evidence that the two dams have reduced the relative abundance of kokanee in Pend Oreille Lake. However, because the three reliable indices for the years 1955-1957 are all lower than those for the base years it is possible that further study may provide evidence that the present level of abundance is significantly lower than that observed during the period 1951-1954.

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