

FISHERY INTERIM SUMMARY REPORT SERIES NO. 98-

LONG POND SALMON MANAGEMENT

by

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LONG POND SALMON MANAGEMENT Interim Summary Report for 1996-97

This report summarizes findings from the 1996 and 1997 winter sport fishery creel surveys as well as fall trap-netting operations. Data are being collected to evaluate the effects of a one salmon limit imposed in 1990. The 1996 winter use estimate was derived from aerial counts while the 1997 winter use estimate was obtained from an on-ground, season-long random stratified creel survey. Long Pond, which provides winter fisheries for stocked landlocked salmon and pickerel, is an 897-acre body of water located in Mount Desert and Southwest Harbor in Hancock County.

1996 Ice Fishing Creel Survey

A total of 120 anglers was checked during the season (Table 2). These anglers caught 29 legal salmon, yielding a catch rate of 0.24 salmon/angler. Because anglers released over half (52%) of their salmon, harvest rate was 0.12 salmon/angler. About 21% of anglers were successful in catching a legal-size salmon which averaged 17.7 in long and 1 lb, 11 oz in weight.

Of the 10 salmon sampled, 6 (60%) were stocked age III's, 3 (30%) were stocked age IV's, and one (10%) was a stocked age V (Table 5). Age III salmon averaged 17.0 in long, 1 lb, 8 oz in weight, and had a mean condition factor (K) of 0.85. Fifty percent of the harvest was comprised of salmon ≥ 18 -in (Table 6). The largest salmon checked weighed 2 lb, 4 oz.

Catch rate for pickerel was 0.12 fish/angler. Eight percent of anglers were successful in catching a pickerel which averaged 19.1 in long and 1 lb, 10 oz in weight. The largest pickerel observed weighed 3 lb, 10 oz.

KEY WORDS: LLS, AGE FREQUENCY, SIZE AT AGE, WINTER ANGLER SURVEY

It's estimated that 420 ± 142 anglers fished during the season, harvesting 50 ± 17 salmon and 34 ± 11 pickerel. Use declined approximately 36% from the recent 4-yr mean of 657 angler-days.

The estimated salmon harvest registered a sharp decline of about 65% from the recent 4-yr mean of 141 salmon.

1996 Trap-netting

Growth, condition, and age class composition of salmon captured in 1996 are presented in Tables 3 and 4. Data are from hatchery-reared salmon only; one wild age V+ salmon accounted for 2% of our sample. Exclusive of age I+ fish, only 11% of the catch was comprised of older(i.e. $\geq$ age IV+) salmon. This index remained at a relatively low level for the second consecutive year. Proportions of ≥ 18 -in salmon(31%) and ≥ 20 -in salmon(6%) declined from the record levels established in 1995. Growth(mean length = 16.0in, mean weight = 1.3 lb) and condition(mean $K = 0.87$) of age II+ salmon was unsatisfactory, equalling the previous lows observed in 1992.

1997 Ice Fishing Creel Survey

Periodic spells of unusually mild, rainy weather throughout January created unsafe ice conditions in certain areas of the pond. This, coupled with a substantial decline in salmon growth, resulted in light angling pressure. Consequently, only 97 anglers(the smallest number yet for a winter survey) were interviewed during the season. The catch of 20 legal salmon yielded a catch rate of 0.21 salmon/angler. Because anglers released 30% of the legal-size salmon caught, harvest rate was 0.15 salmon/angler. About 18% of anglers were successful in catching a salmon which averaged 17.5 in long and 1 lb, 7 oz in weight(the second lowest size of 7 surveys).

Of the 9 salmon in the harvest, 4(44%) were age III, 3(33%) were age IV, one(11%) was age V, and the remaining fish was an unusually old age VII.. Age III salmon averaged 16.2 in long, 1

lb, 2 oz in weight, and had a mean K of 0.75. These parameters are the lowest observed for the 7 survey years, and are indicative of a serious decline in salmon growth. The largest salmon checked weighed 2 lb, 7 oz.

Anglers caught pickerel at a rate of 0.16 fish/angler. About 13% of anglers were successful in catching a pickerel which averaged 20.2 in long and 1 lb, 14 oz in weight. The largest pickerel observed weighed 2 lb, 10 oz.

1997 Trap-netting

Growth, condition, and age class composition of salmon trap-netted in 1997 are presented in Tables 3 and 4. Older age salmon were poorly represented, accounting for a mere 6% of the catch. This important benchmark indicator established a record low. Similarly, record 6-yr lows were set for these indices: mean length and weight of age II+ salmon, and mean weight and condition of age III+ fish. Thus, the pronounced decline in salmon growth which commenced sometime in 1996 persisted through November, 1997.

It took 6 years from imposition of the one salmon limit before the onset of the first significant slow-down in salmon growth. Growth remained satisfactory throughout the 1990-95 period with annual stocking densities from 0.45-0.56 SY's/acre. Although it's not possible to ascertain if the one salmon limit was the likely cause of the current downturn in growth, it seems probable that it is exacerbating the decline. Many anglers release small(14-15 ½ in) salmon in hopes of catching a larger one from 17-19". Because such desirable fish are currently quite scarce, anglers end up harvesting few salmon. Under a general law 2-fish bag limit, more of the smaller salmon would be harvested, thereby effectively removing some predators.

Once the serious growth decline was observed in January, 1997, the two standard regional management initiatives utilized to address the problem were employed in the spring. First, a large number of smelt eggs were transferred into the pond in late April in an effort to bolster smelt abundance. Secondly, the stocking rate was cut in half to 200 SY's. Preliminary indications from the 1998 ice fishing season are favorable in that salmon growth appears to be recovering.

The preponderance of data collected through 1995 suggested that the one salmon limit was fostering increased escapement to older ages. However, data from the last two years are contra-indicative. Thus, at this point in the study, the "jury is still out". The objective of the one salmon limit is to improve the fishery for larger(i.e. ≥ 18 -in) salmon by encouraging the release of more 14 to 17-in fish. Through 1995, it seemed that the one salmon limit was at least partially successful in achieving this objective. However, when examining the data through 1997, the validity of this assessment is now open to question. Winter harvest rates of ≥ 18 -in salmon/angler for the 7 survey years are as follows:

1987 .055

1989 .017 PRE-ONE SALMON LIMIT

1992 .031 POST-ONE SALMON LIMIT

1994 .061

1995 .039

1996 .042

1997 .031

Mean for the two "pre" restriction years is .031 while that for the 5 "post" restriction years is .041. Thus, recent catch rates are only slightly better than the late 1980's.

1996 Aerial Count of Boats

For the second consecutive year, a survey of open water use was conducted. A plane flew over the pond twice weekly with most counts occurring between 1000-1200. Counts of non-fishing boats were also tallied as a considerable number of summer tourists rent canoes from a lakeside business to spend part of a day canoeing on the pond. An estimated 715 ± 200 anglers (0.80 angler-days/acre) fished during the season. Angler use declined 35% from the 1995 level. The decline in use is partially attributed to the unusually rainy, cool spring.

RECOMMENDATIONS

1. Stock 300 SY salmon in 1998 and 1999 in an effort to improve salmon growth rate to the level observed in 1994-95.
2. Continue to conduct annual trap-netting operations to monitor salmon growth, condition, and age class composition.

CREEL SURVEY DESCRIPTION

Table: 1

Season: IF

er: Long Pond Acres: 897

Miles:

Water type: Oligotrophic

Town: Mt. Desert

County:

Principal fisheries: LLS, PKL

Year	Date	No. days surveyed	No. days in season	Clerk	Vol.	Other
1996	Jan 8-Mar 26	20	78	Yes		
1997	Jan 11-Mar 23	18	80	Yes		
19						
19						
19						
19						

Year	Stocking History	Marks	Regulation History
1995	Salmon: 400 SY	BV	Daily limit on salmon: 1 fish
1996	Salmon: 372 SY	RV	" "
1997	Salmon: 200 SY	AD	" "
19			
19			
19			

Remarks:

CREEL SURVEY SUMMARY

le: 2

Season: IF

Water: Long Pond

Acres: 897

Miles:

Town: Mt. Desert

County: Hancock

Region: C

Principal fisheries: LLS, PKL

Survey method: Random stratified clerk creel survey

		CENSUS YEAR			
Statistics	Species	1994	1995	1996	1997
No. anglers surveyed		180	127	120	96
No. angler hours		882	680	567	445
No. anglers (and %) successful in catching a legal fish	Salmon	37 (21)	22 (17)	25 (21)	17 (18)
	Pickerel	10 (6)	12 (9)	10 (8)	12 (13)
No. legal fish kept	Salmon	26	17	14	14
	Pickerel	12	19	10	12
No. legal fish released	Salmon	17	13	15	6
	Pickerel	3	1	4	3
No. (and %) short fish released	Salmon	14 (25)	2 (6)	11 (28)	6 (23)
	Pickerel	-	-	-	-