

PERFORMANCE REPORT

STATE: Alaska

GRANT NO.: F-10-33

GRANT TITLE: Sport Fish Investigations in Alaska

PERIOD COVERED: July 1, 2017 – June 30, 2018

STUDY NO. AND TITLE: S-2-15 Lower Kenai Peninsula Salmon Egg Takes/Releases and Ninilchik Weir

STUDY OBJECTIVES:

1. Census the Ninilchik River wild and hatchery-reared Chinook salmon run and escapement¹ at 7.7 RKM during July 1 through early August, 2017; census for sex composition and estimate age compositions. The census will continue mid-May through June 30, 2018.
2. Collect, hold, and artificially spawn 140 Ninilchik River adult Chinook salmon
3. Release 570,000 Chinook salmon smolt in the Ninilchik River, Halibut Cove Lagoon, Seldovia, and Nick Dudiak Fishing Lagoon.

RESULTS/DISCUSSIONS:

Starting in 2016, Chinook salmon escapement monitoring on the Ninilchik River transitioned to monitoring the entire run from late May through early August instead of just during the SEG monitoring period from July 3-31. The run timing of Ninilchik River Chinook salmon does not match this reporting period; therefore to provide a better understanding of the results, the objectives and tasks extend beyond the reporting period to more accurately reflect the Chinook salmon runs.

Objective 1: In 2017, the total number of Chinook salmon counted through the Ninilchik River weir from May 18 through August 17 was 1,469 of which 945 were wild and 524 were hatchery-reared. A total of 362 Chinook salmon were removed from the escapement of which 272 hatchery-reared Chinook salmon. After removal of all wild Chinook salmon mortalities, the wild Chinook salmon escapement was 855. The contribution of wild Chinook salmon to the total escapement was 77% (855/1,107). The 2017 wild escapement fell within the SEG range (550-1,300).

In 2017, the total wild run was 44.8% males which was less than the hatchery-reared run (71.0%). Significant differences ($p < 0.05$) were detected between the wild and hatchery-reared age compositions. The wild run was primarily comprised of ocean age 3 (58.5%) and ocean age 2 (33.3%) fish. The hatchery-reared run was primarily comprised of ocean age 2 (33.3%) and ocean age 1 (42.4%) fish.

¹ Run and escapement differ by the number of fish sacrificed for broodstock.

Objective 2: Three eggtakes were conducted from July 21 through August 3 and the broodstock collection goal of 140 pairs was not achieved though 77 (43 wild, 34 hatchery-reared) pairs were spawned. Wild brood stock collection was significant enough to meet the Ninilchik River stocking goal. The brood stock collection for the Kachemak Bay terminal fishery stocking locations was met at other locations. In the future the weir operation may need to be extended to meet the brood stock collection goal.

Objective 3: In 2018, the stocking goal was met with a total of 584,107 Chinook salmon smolt being stocked in the Lower Kenai Peninsula locations. Ninilchik River was stocked with 150,053 Chinook salmon smolt. All were adipose fin-clipped, and thermal marked. In order to approach the stocking goal (420,000 smolt) for the Kachemak Bay terminal fisheries, multiple broodstocks (Ninilchik River, Ship Creek and Crooked Creek) were needed. Smolt intended for Halibut Cove Lagoon stocking was reallocated to the Nick Dudiak Fishing Lagoon where returns could be more fully utilized. The Nick Dudiak Fishing Lagoon on the Homer Spit was stocked with 329,164 smolt and Seldovia Lagoon with 104,890 smolt.

FINAL REPORT STATUS:

This performance report is the final report for S-2-15 for this grant period. The objectives and tasks will also be reported in the below Fisheries Data Series. The draft report will be submitted for biometric review by the end of March 2020.

Booz, M. and H. Smith In prep. Ninilchik River Chinook salmon stock assessment and supplementation, 2016-2018. Alaska Department of Fish and Game, Fisheries Data Series No. xx-xx, Anchorage.

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