

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-2-34 Kodiak Chinook Salmon Egg-Take

STUDY OBJECTIVES:

1. Collect 450,000 fertilized Chinook salmon eggs from adults returning to Monashka Creek.

Study Tasks:

1. Test all brood stock used for levels of Bacterial Kidney Disease infection and the presence of the IHN virus.
2. Capture and artificially spawn approximately 80 female and 80 male Chinook salmon from Monashka Creek during August.
3. Collect amniotic fluid samples from females and tissue samples from both sexes of all spawned fish.
4. Transport and release approximately 80,000 Chinook salmon smolt each into the American, Olds and Salonie river drainages.

RESULTS/DISCUSSIONS:

Objective 1: Approximately 70,000 fertilized Chinook salmon eggs were obtained from 13 Chinook salmon females captured during late June and July and subsequently spawned on August 14, 2017. A lack of returns of mature females precluded achievement of the objective of collecting 450,000 fertilized eggs (approximately 80 adults of each sex). Broodstock were obtained from the enhanced Chinook salmon returns not only to Monashka Creek, but also the American and Olds rivers and Salonie Creek. An outbreak of the parasitic fungus *Saprolegniasis* amongst maturing females resulted in a subsequent mortality rate of approximately 50%. Fecundity rates averaging 5,400 eggs per surviving female accounted for the 2017 production total. Unfortunately, all of the eggs collected died at a later date at the hatchery before hatching and ponding, due to an accidental blockage of the water flow to the rearing area. The hatchery has taken steps to prevent this in future, including recurrent staff training on managing water flow to the different areas of the hatchery.

Task 1: All 13 females spawned during the 2017 egg take were tested with negative results for the IHN virus. All the male and female fish used as brood stock were tested for the BKD pathogen. A small number of fish tested positive for BKD and broods from these fish were culled.

Task 2: A lack of returns of mature females precluded achievement of the task of collecting 80 fish of each sex. Broodstock were obtained from the enhanced Chinook salmon returns not only to Monashka Creek, but also the American and

Olds rivers and Salonie Creek. An outbreak of the parasitic fungus *Saprolegniasis* amongst ovigerous females resulted in a subsequent mortality rate of approximately 50% leaving only 13 females for the egg-take.

Task 3: Amniotic fluid was collected from all 13 females spawned. Kidney samples were collected from all males and females to test for the presence of the BKD pathogen. Genetic tissue samples were collected from all males and females spawned to attempt to track offspring via parental based tagging.

Task 4: Approximately 26,560 Chinook smolt were released into the American River; approximately 45,015 Chinook smolt were released into the Olds River; and approximately 45,972 Chinook smolt were released into Salonie Creek

FINAL REPORT STATUS:

This performance report constitutes the final report of activities for study S-2-34 during this reporting period.

Final project results for the current reporting period will also be presented in 'Area Management Report for the Recreational Fisheries of Kodiak, 2017-18' (Fisheries Management Report, *in prep*). Additionally, results are presented in written annual reviews of ADF&G Sport Fish Program activities.

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DATE: August, 2018



Figure 1.- Smolt imprinting and release site at Salonie Creek.



Figure 2.- King salmon broodstock at Monashka Creek raceway.