

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-1-3 Chilkat, Taku, and Stikine rivers Chinook Salmon
Stock Assessment

STUDY OBJECTIVES:

1. Coded-wire-tag Chinook salmon smolt leaving the Taku River from above Canyon Island in 2018.
2. Estimate the escapement and age composition of adult Chinook salmon in the Taku River above Canyon Island in 2018.
3. Coded-wire-tag Juvenile Chinook salmon in the Chilkat River during fall 2017 and spring 2018.
4. Estimate the 2018 escapement and age composition of adult Chinook salmon to the Chilkat River.
5. Coded-wire-tag Chinook salmon smolt leaving the Stikine River in the spring of 2018.

RESULTS/DISCUSSIONS:

Objective 1: A total of 55,474 Chinook salmon smolt were released with adipose fin clips and coded wire tags in the spring of 2018. Information gathered on the presence of adipose- fin clipped Chinook salmon sampled in 2019 through 2023 will be used to estimate the abundance of Chinook salmon smolt leaving the Taku River in 2018.

Objective 2: A total of 407 large Chinook salmon were sampled near Canyon Island using fish wheels and drift gillnets in the lower Taku River up through July of 2017. Of those, a total of 203(= n_1) were radiotagged and released and were assumed to have spawned. Upriver, a total of 3,046 (= n_2) large adult Chinook salmon were sampled in spawning tributaries as of September of 2017, and 70 (= m_2) of these fish possessed radio tags previously applied near Canyon Island. This information was used to estimate a spawning escapement of 8,754 (SE=823) large Chinook salmon in the Taku River during 2017. Age information was gathered on fish sampled on the spawning grounds indicating that 9%, 16%, 68%, and 7% were age-1.1, -1.2, -1.3, and -1.4 fish, respectively. Estimates of escapement and age composition for 2018 are not available at this time and will be reported on in the FY19 Performance Report.

Objective 3: During fall 2017, a total of 13,937 juvenile Chinook salmon were captured, marked with adipose fin clips, and released with coded-wire tags in three locations in the Chilkat River drainage: Tahini River, Kellsall River, and main channels of the Chilkat River during September and October 2017. Fall-tagged fish averaged 74mm (snout to fork) and 5.0g. The following spring, 3,473 Chinook salmon smolt from the same brood year 2016 population were captured, marked with adipose fin clips, and released with coded-wire tags in main channels of the Chilkat River during April and May 2018. Spring-tagged fish averaged 75mm (snout to fork) and 4.6g. Information gathered from CWT projects for Chilkat Chinook from brood year 2016 will include a smolt abundance estimate and a harvest estimate of this age class in mixed stock marine fisheries in Southeast Alaska; information will be gathered during this population's adult lifespan from 2019 through 2023.

Objective 4: A total of 65 (= n_1) large Chinook salmon were captured, sampled, and tagged in the lower Chilkat

River using drift gillnets and fishwheels during June and July 2017 (event 1). During event 2 on the spawning grounds in August 2017, a total of 148 ($= n_2$) large Chinook salmon were sampled and inspected for marks; 10 ($= m_2$) fish from this total had tags attached during event 1 in the lower Chilkat River. These data were used to estimate the 2017 spawning escapement of 1,173 (SE=240) large Chinook salmon in the Chilkat River drainage. Age information gathered during the mark-recapture experiment indicated that 32%, 51%, and 18% were age-1.2, -1.3, and -1.4 respectively. Estimates of escapement and age composition for 2018 are not available at this time and will be reported on in the FY19 Performance Report.

Objective 5: A total of 29,695 Chinook salmon smolt were released with adipose fin clips and coded wire tags in the spring of 2018. Information gathered on the presence of adipose- fin clipped Chinook salmon sampled in 2019 through 2023 will be used to estimate the abundance of Chinook salmon smolt leaving the Stikine River in 2018.

Multiple funding sources (including D-J) were used to support the above objectives on all river systems.

EQUIPMENT:

During the grant period, we received pre-approval and purchased the following:

- An outboard motor (for the Taku River);

With a useful life of 10 years, we plan to use this motor for this project addressing Objectives 1 and 2 for their useful life.

We also received pre-approval to contract the building of a replacement floathouse for storage. However, the bids came in much higher than expected and we chose to not move forward with this procurement at this time.

FINAL REPORT STATUS:

This constitutes the final performance report for project S-1-3 for the FY18 (F-10-33) grant period.

Objectives 1 and 3 will be reported in a Fishery Data Series (FDS) report in 2023. Objectives 2, 4 and 5 will be reported in an FDS report in 2019.

PREPARED BY:

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