

**Statewide Chinook Salmon Research**

**FY2020 Request: \$1,850,000**

**Reference No: 62546**

**AP/AL:** Appropriation

**Project Type:** Research / Studies / Planning

**Category:** Natural Resources

**Location:** Statewide

**House District:** Statewide (HD 1-40)

**Impact House District:** Statewide (HD 1-40)

**Contact:** Tom Brookover

**Estimated Project Dates:** 07/01/2019 - 06/30/2024

**Contact Phone:** (907)267-2150

**Brief Summary and Statement of Need:**

Alaska’s Chinook salmon stocks are suffering a downturn in productivity and abundance that has been ongoing for over a decade. This downturn is causing both social and economic hardships across the state, in both rural and urban communities. Funding is needed to conduct stock assessments on important stocks around the state to fill information gaps in life histories so that state managers can make more informed decisions about the fisheries that optimizes fishing opportunities. Projects include: Yentna River Stock Assessment; and Kodiak Marine Harvest Sampling.

| <b>Funding:</b> | <u>FY2020</u> | <u>FY2021</u> | <u>FY2022</u> | <u>FY2023</u> | <u>FY2024</u> | <u>FY2025</u> | <u>Total</u> |
|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|
| 1004 Gen Fund   | \$1,850,000   |               |               |               |               |               | \$1,850,000  |
| <b>Total:</b>   | \$1,850,000   | \$0           | \$0           | \$0           | \$0           | \$0           | \$1,850,000  |

|   |   |                                       |   |                                   |
|---|---|---------------------------------------|---|-----------------------------------|
| <input type="checkbox"/> State Match Required | <input type="checkbox"/> One-Time Project | <input type="checkbox"/> Phased - new | <input type="checkbox"/> Phased - underway  | <input type="checkbox"/> On-Going |
| 0% = Minimum State Match % Required           |   | <input type="checkbox"/> Amendment    | <input type="checkbox"/> Mental Health Bill |                                   |

**Operating & Maintenance Costs:**

|                      | <u>Amount</u> | <u>Staff</u> |
|----------------------|---------------|--------------|
| Project Development: | 0             | 0            |
| Ongoing Operating:   | 0             | 0            |
| One-Time Startup:    | 0             | 0            |
| <b>Totals:</b>       | <b>0</b>      | <b>0</b>     |

**Prior Funding History / Additional Information:**

**Project Description/Justification:**

Chinook salmon are the iconic fish in Alaska. Each year, both residents and non-residents take to Alaskan waters in pursuit of a Chinook or king salmon. Today, Alaska’s Chinook salmon stocks are suffering a downturn in productivity and abundance that has been ongoing for over a decade. This downturn is causing both social and economic hardships across the state, in both rural and urban communities. To better understand this downturn in productivity the Alaska Department of Fish and Game initiated a comprehensive planning effort with a goal of identifying statewide knowledge gaps in Chinook salmon life histories and stock assessments. From these efforts the “Chinook Salmon Stock Assessment and Research Plan, 2013” was developed. This plan was a stock-specific, life history-based approach to research that focused on twelve indicator stocks spread from the Arctic to Southeast Alaska (i.e., Yukon, Kuskokwim, Nushagak, Chignik, Karluk, Susitna, Kenai, Copper, Chilkat, Taku, Stikine and Unuk rivers) representing a diversity of life histories and behaviors.

The plan covered a five-year period at a projected cost of \$30 million in cooperation with federal and university entities. Unfortunately, with a downturn in oil production and prices, Alaska entered a fiscal crisis and as a result, the original \$30 million plan for statewide Chinook salmon research was revised to a \$15 million plan.

The Chinook Salmon Research Initiative has funded over three dozen research projects and through this work many questions were answered yet many questions remain or have been spawned through these efforts. At this time a few key projects, listed below, have been identified as priorities for future project spending in order to continue to refine our understanding of Chinook salmon and ideally gain further insight into the mechanisms driving these production cycles. The projects proposed for funding are collaborative between the divisions of Commercial Fisheries and Sport Fish in order to generate needed information to better inform managers responsible for the respective fisheries.

This capital appropriation will be used to fund 2 projects across 5 years: The Yentna River Chinook Stock Assessment project, and the Kodiak Marine Harvest Sampling project.

**Title:** Yentna River Chinook Salmon Stock Assessment

**Funding Source:** Capital Improvement Project

**Project Type:** Inriver Adult Mark-Recapture

**Overview:**

The Yentna River is a glacially-fed river system that drains into the Susitna River in upper Cook Inlet. The total run of Chinook salmon in the Yentna River is unknown, as no comprehensive harvest and escapement programs have been conducted. Most of the harvest of Yentna River Chinook salmon presumably occurs in a directed set-gillnet commercial fishery off the mouth of the Susitna River and the Tyonek subsistence fishery in marine waters about 20 miles from the mouth of the Susitna River. The total harvest of Yentna Chinook salmon has not been estimated but is believed to be relatively small.

**Need:**

Annual estimates of spawning abundance are important for ensuring the population is managed in ways that promote long-term health and sustain existing fisheries. There is a need to accurately measure the spawning abundance of Yentna River Chinook salmon and to develop a time-series of abundance estimates to understand changes in productivity, refine escapement goals and forecasts, and evaluate surplus production available for harvest in a given year. Data collected from the Yentna River stocks, combined with an existing assessment project of mainstem Susitna River stocks will also enhance knowledge of the spawning distribution and habitat use of each species and quantify the annual variation in distribution and use.

**Objectives:**

Estimate the abundance and spawning distribution of Yentna River Chinook salmon.

**Benefits:**

Coupled with spawning abundance estimates for the mainstem Susitna River, this will be the sixth such study providing an estimate of Chinook salmon for the entire Susitna River drainage (mainstem Susitna River plus Yentna River) since estimates were first made during the 1984 Susitna hydroelectric project environmental assessment. The data generated by these studies will help interpret present and past stock assessments, choose future assessments that are efficient and effective, provide new knowledge to fishery managers and users, advise the Alaska Board of Fisheries regulatory process, and be useful in land use planning and permitting.

**Budget:**

| <b>Line Item</b>         | <b>Amount</b> |
|--------------------------|---------------|
| 1000 - Personal Services | \$650,900     |
| 2000 - Travel            | \$ 15,400     |
| 3000 - Contractual       | \$351,500     |
| 4000 - Commodities       | \$197,700     |
| 5000 - Capital Outlay    | \$ 34,500     |

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|                      |             |
|----------------------|-------------|
| 7000 - Grants        |             |
| <b>Total Request</b> | \$1,250,000 |

**Title:** Kodiak Marine Sampling**Project Type:** Coded wire tag and genetic stock identification sampling of the Kodiak area marine sport and commercial fisheries**Overview:**

Although there are seven known producers of Chinook salmon in the Kodiak area, coded wire tag and genetic tissue sampling has shown that a diversity of Chinook stocks are harvested in nearby marine sport and commercial fisheries. The recent downturn in Chinook salmon production has heightened concerns about local stock-specific harvests in these fisheries and recent advances in genetic stock identification techniques of Chinook salmon now allow for discriminating between discrete stocks in mixed-stock fishery samples.

**Need:**

Stock-specific harvest information from these fisheries improves the understanding of local stock productivity, aids in stock-specific run reconstructions, and reduces uncertainty associated with management of mixed-stock fisheries.

**Objectives:**

Estimate the stock composition inseason using coded wire tag contributions and post season using genetic stock identification techniques in the Kodiak area marine sport and commercial fisheries.

**Benefits:**

More accurate and precise stock assessment information reduces uncertainty in stock assessments and minimizes conservative management actions when such actions are not needed.

**Budget:**

| <b>Line Item</b>         | <b>Amount</b> |
|--------------------------|---------------|
| 1000 - Personal Services | \$312,400     |
| 2000 - Travel            | \$ 7,400      |
| 3000 - Contractual       | \$168,700     |
| 4000 - Commodities       | \$ 94,900     |
| 5000 - Capital Outlay    | \$ 16,600     |
| 7000 - Grants            |               |
| <b>Total Request</b>     | \$600,000     |