

Alaska Sustainable Salmon Fund Statement of Work

I. Project Title: Instream Flow Protection: Southeast – Phase 12

II. Project Number: 44171

III. Principal Investigator

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IV. Project Period: 12/1/16 – 6/30/17

V. AKSSF Objective: 1A-1 **PCSRF Objective:** HP&R/P&A

VI. Project Description

1. Synopsis

This project will quantify and protect instream flows for important salmon- and steelhead-producing rivers in Southeast Alaska (SE AK) through preparation and submission of reservation of water applications. Salmon populations will benefit by the retention of sufficient quantities of water to meet their spawning, rearing, incubation, overwintering, and migration habitat requirements.

2. Introduction

The rivers of SE AK support some of North America's most productive salmon and steelhead sport, commercial, and subsistence fisheries. Salmon and steelhead migration, spawning, rearing, and ultimately production in these waterbodies depend on sufficient seasonal quantities of water. The purpose of this project is to quantify and protect instream flows needed to conserve salmon and steelhead habitat in rivers throughout SE AK.

Numerous state and federal mechanisms can be used to protect instream flows. The primary mechanism that will be used in this project is the Alaska Water Use Act (AS

46.15). The Alaska legislature amended this Act in 1980 in recognition of the economic, social, and other benefits of retaining water in rivers and lakes. This amendment provides the opportunity for the private sector and government agencies to legally secure reservations of water under Alaska law (AS 46.15.145) and regulation (11 AAC 93.141-147) to maintain instream flow rates in rivers or water levels in lakes for a variety of purposes, including the protection of fish and wildlife habitat, migration, and propagation.

The main activities of this project include obtaining and analyzing the biological and hydrologic data needed to quantify the instream requirements of salmon and steelhead and preparing reservation of water applications for important salmon- and steelhead-producing rivers in SE AK for filing and adjudication with the Alaska Department of Natural Resources (DNR).

Alaska water law is based on the doctrine of “prior appropriation”, giving the first appropriator of water from a given water source a priority of right over subsequent appropriators on a “first-in-time, first-in-right” basis. With an established water right (in this case, a Certificate of Reservation), the permittee has legal standing to assert that right against conflicting uses of water from others who do not have water rights or who are junior in priority. Priority for reservation of water applications is based on the date they are accepted for filing by DNR.

A Certificate of Reservation remains in effect for perpetuity unless DNR determines the purpose for which it was filed has changed or new information demonstrates that a lower amount of water would provide the same level of protection, at which time DNR can amend the reservation.

3. Location
Douglas ADF&G Office: Latitude: 58.276093 N Longitude: 134.392716 W
4. Related Projects
45040, 45107, 45213, 45766, 45822, 45326 (800), 45979, 44552, 44563, 44567, 44915

VII. Objectives

- Obtain the biological, hydrologic, and other information needed to quantify instream flow requirements of salmon and steelhead in priority waterbodies
- Prepare, file, and adjudicate reservation of water applications to protect salmon and steelhead habitat in priority waterbodies including the conversion of previously filed multiple-reach reservation applications into single-reach applications per new DNR requirements

VIII. Methods

The process for prioritizing waterbodies in SE AK for instream flow protection was developed during AKSSF Project 45040. Candidate waterbodies identified for this proposal include stream reaches on Grace Creek, Red River, Ella Creek, EF Hobo Creek, Klahini River, Alsek River, Chilkat River, Blossom River, and Fish Creek. Many of these

waterbodies support steelhead. The priority list of reservation applications for adjudication is updated annually based on discussions with DNR.

DNR reservation of water application forms will be prepared and adjudicated to comply with state law (AS 46.15.145) and regulations (11 AAC 93.141-147) and following protocols established by SARCU. Hydrologic data needed to characterize the natural intra- and inter-annual variability in stream flows and quantify instream requirements will be obtained from the United States Geological Survey (USGS) Water Resources of Alaska website for historic streamflow data when available. Fish distribution and periodicity data (seasonal use of habitat for migration, spawning, incubation, and rearing) by species and life stage will be compiled and summarized from the *Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes* and its associated Atlas, input from biologists from ADF&G and other agencies, and the scientific literature. Requested flows will be based primarily on flow duration analyses. This approach provides a basis to mimic natural seasonal flows that fish are adapted to and depend upon.

When hydrologic data are limited or not available, data will be collected by project staff in accordance with standard sampling protocols developed by the USGS and through consultation with USGS staff and other hydrologists as applicable. Ongoing stream gaging projects include the Thorne River and four of its major tributaries (Prince of Wales Island), Peterson Creek (out-the-road, Juneau), Windfall Lake/Creek (Juneau), and Eva Creek (Chichagof Island).

Some reservation applications accepted by DNR under previous AKSSF projects were filed with requested flows for multiple stream reaches in one application. DNR now requires that each reach be filed under a separate application. This project will also convert multiple reservation reach applications into single reach applications.

IX. Benefits

The rivers of SE AK support some of North America's most viable and productive salmon and steelhead fisheries. Salmon and steelhead depend on sufficient quantities of water to meet their spawning, rearing, incubation, overwintering, and migration habitat requirements. This project will benefit salmon and steelhead populations (including those used for important subsistence fisheries) throughout SE AK by legally reserving water needed to sustain their production.

X. Products, Milestones, and Timelines

- December 1, 2016 – June 30, 2017: Prepare and file reservation of water applications; convert multiple reach applications into single reach applications; adjudicate reservation applications; visit stream gage sites approximately every two months to take discharge measurements; and survey transducer and staff gage elevations, download transducer data, and work up gage records
- June 30, 2017: Provide completed reservation of water applications and certificates of reservation to AKSSF

XI. Budget

ADF&G SF Budget	Total
100 Personnel	\$79,748
200 Travel	\$8,725
300 Contractual	\$12,730
400 Supplies	\$1,750
500 Equipment	\$0
Subtotal	\$102,953
Expenses subject to indirect	\$79,748
600 Indirect	\$16,747
Total	\$119,700

ADF&G CF Budget Narrative:

Line 100: Personnel (\$79,748)

The State of Alaska salary calculator was used to estimate personnel costs.

- Jarrod Sowa, Fishery Biologist (FB) III, will prepare and adjudicate reservation of water applications and operate and maintain stream gages: 4.3 months @ \$9,999/month = \$42,996.
- Jason Hass, FB II, will prepare reservation of water applications and operate and maintain stream gages: 4 months @ \$9,188/month = \$36,752.

Line 200: Travel (\$8,725)

Jarrod Sowa and Jason Hass will travel to Prince of Wales Island three times to maintain stream gages on the Thorne River:

- Airfare: 3 tickets @ \$720/ticket x 2 people = \$4,320
- Hotel: 3 nights @ \$120/night x 2 people = \$720
- Per diem: 6 days @ 60/day x 2 people = \$720
- Ground transportation: 3 trips @ \$200/trip = \$600
- Other incidentals (e.g., baggage, airport parking, gas): \$1,200

Jarrod Sowa will travel seven times from Juneau to Peterson Creek to maintain stream gages:

- Ground transportation: 7 trips @ \$75/trip = \$525

Jarrod Sowa will travel four times from Juneau to Windfall Creek to maintain stream gages:

- Ground transportation: 4 trips @ \$75/trip = \$300

Jarrod Sowa and Jason Hass will travel twice to Eva Creek to maintain its stream gage:

- Lodging: 2 nights @ \$60/night x 2 people = \$240
- Other incidentals (e.g., baggage, airport parking, gas): \$100

Line 300 Contractual (\$12,730)

- Vehicle lease: 7 months @ \$35/month = \$245
- Statistical analysis software program (SAS) license: \$1,200
- Mapping software program (GIS) license for making ROW maps: \$800
- Streamgage data software program and database (WISKI) annual license: \$1,200
- Satellite phone service: 7 months @ \$55/month = \$385
- Fixed wing air charter from Juneau to Eva Creek: 2 trips @ \$1,600/trip = \$3,200
- Helicopter Charter from JNU to Eva Creek: 2 trips @ \$2,400/trip = \$4,800
- Vehicle maintenance: \$500
- Repair and calibration of discharge equipment: \$400

Line 400: Supplies (\$1,750)

- Discharge equipment (velocity current meter, wading rod): \$250
- Transducer desiccant: \$125
- Personnel protection (safety supplies, gloves, waders, rain coats): \$250
- Cases and dry bags for transport of scientific equipment: \$125
- Field computers: \$1,000

Line 600: Indirect (\$16,747)

ADF&G's federally negotiated indirect rate through June 30, 2017, is 22.85% on salaries and wages including fringe benefits; however, indirect will be recovered at a reduced rate of 21% for this project.

XII. Match Budget

ADF&G SF Match	Total
100 Personnel	\$41,895
200 Travel	\$0
300 Contractual	\$0
400 Supplies	\$0
500 Equipment	\$0
Total	\$41,895

ADF&G SF Match Budget Narrative:

Line 100: Personnel (\$41,895)

The State of Alaska salary calculator was used to estimate personnel costs.

- Shawn Johnson, Habitat Biologist III, will implement and administer the project; prepare, review, and adjudicate reservation of water applications; review gaging operational plans and fishery data series reports; and assist with gaging projects: 2.2 months @ \$10,363/month = \$22,708.
- Jarrod Sowa, FB III, will prepare and adjudicate reservation of water applications and operate and maintain stream gages: 1 month @ \$9,999 = \$9,999.
- Jason Hass, FB II, will prepare reservation of water applications and operate and maintain stream gages: 1 month @ \$9,188 = \$9,188.