

Alaska Sustainable Salmon Fund Statement of Work

I. Project Title: Instream Flow Protection: Southeast – Phase 10

II. Project Number: 44567

III. Principal Investigator

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IV. Project Period: 12/1/14 – 6/30/15

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

VI. Project Description

1. Synopsis

This project will protect instream flows needed to sustain salmon habitat and production in water bodies in Southeast Alaska (SE AK) through preparation and submission of reservation of water applications. Streams will be selected using the Statewide Aquatic Resources Coordination Unit's (SARCU's) prioritization of water bodies for instream flow protection based on an assessment of fishery values and risks. Protected streams will retain sufficient quantities of water to meet the spawning, rearing, incubation, overwintering, and migration habitat requirements of their salmon populations. *This project continues work begun in AKSSF projects 45040, 45107, 45213, 45766, 45822, 45326 (800), 45979, 44552, 44563, and 44915.*

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 water bodies depend on sufficient seasonal quantities of water.

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 AS 46.15 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.

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. Adjudications are the administrative determinations of the validity and amount of the water right, including the settlement of conflicting claims among competing appropriators, performed by the Alaska Department of Natural Resources (DNR). Once agreement has been reached between ADF&G and DNR on flows to be reserved, the decision goes out for public notice. If no further administrative actions are needed, DNR, in consultation with ADF&G, prepares a “Finding of Fact, Conclusion of Law, and Decision” document that describes the information and rationale used for their decision. If the DNR adjudication decision is challenged, there is an administrative appeal process that ultimately will result in a Commissioner decision. If that, too, is appealed, judicial remedy may result. Assuming DNR is successful in its determination of the amount of water to be granted, DNR will issue a Certificate of Reservation of Water, the legal document that establishes the water right. The certificate will include a description of the water right and any conditions placed on it, including the priority date which establishes the seniority of the water. With a certificate of reservation, the permit holder has a 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.

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.

The primary 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 submittal to DNR. The biological, hydrologic, and other information collected, analyzed, and summarized in this project will also be available for use by ADF&G staff dealing with water development and fisheries management issues

3. Locations

Site: Thorne River Gage

Latitude: 55.705839 N

Longitude: 132.626844 W

Site: Peterson Creek Gage

Latitude: 58.489783 N

Longitude: 134.77475 W

Site: Windfall Creek Gage

Latitude: 58.509822 N Longitude: 134.7353 W

Site: Douglas Regional ADF&G Office

Latitude: 58.276093 N Longitude: 134.392716 W

VII. Objectives

- Update and maintain the regional prioritization of instream flow needs for salmon- and steelhead-producing water bodies in SE AK
- Prepare, file, and adjudicate reservation of water applications to protect salmon and steelhead habitat

VIII. Methods

The process for prioritizing water bodies in SE AK for instream flow protection was developed with AKSSF Project 45040. This regional prioritization will be updated during this project through consultation with staff from ADF&G and other resource agencies.

Final selection of water bodies will be based on the importance of a water body to salmon and steelhead production; the likelihood for competing out-of-stream uses; whether existing hydrologic and biological data for a water body are adequate for performing an instream flow analysis; the availability of resources to collect additional site-specific data, if needed; and whether other state and federal statutory mechanisms would provide better or more cost effective protection than a reservation of water right acquired under Alaska law.

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 scientific literature.

Hydrologic data needed to characterize the natural intra- and inter-annual variability in stream flows and quantify instream requirements will be obtained, when available, from the United States Geological Survey (USGS) Water Resources of Alaska website for historic streamflow data. 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 appropriate.

DNR Reservation of Water application forms will be prepared to comply with state law (AS 46.15.145) and regulations (11 AAC 93.141-147) and following protocols established by the SARCU. Applications will include maps and legal descriptions identifying the location of the water body to be reserved; maps and legal descriptions of gaging stations within the water body; a description of inter- and intra-annual variability in stream flows; and the requested flows to be reserved during specified time periods accompanied by supporting documentation that justifies and describes the data and analyses used to develop the requested flows. Some 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 begin converting these multiple-reach applications into single-reach applications.

This project will be evaluated based on the number of reservation of water applications prepared, successfully filed with DNR, and adjudicated. Candidate reservation applications that may be submitted during this project include stream reaches on the Thorne River, Klahini River, Blossom River, Keta River, Windfall Creek, Peterson Creek, Staney Creek, and Starrigavan Creek.

IX. Benefits

The rivers and lakes of SE AK support some of North America’s most viable and productive salmon and steelhead fisheries. Salmon and steelhead are dependent upon 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 salmon and steelhead habitat and production.

X. Products, Milestones, and Timelines

December 1, 2014 – June 30, 2015: Prepare, submit, and adjudicate reservation of water applications; visit streamgage sites approximately every two months to take discharge measurements, survey transducer and staff gage elevations, and download transducer data

XI. Budget

ADF&G SF	Total
100 Personnel	\$74,566
200 Travel	\$18,384
300 Contractual	\$4,720
400 Supplies	\$7,000
500 Equipment	\$0
Subtotal	\$104,670
Expenses subject to indirect	\$74,566
600 Indirect @ 21%	\$15,659
Total	\$120,329

Budget Narrative:

Line 100: Personnel (\$74,566)

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

Jarrold Sowa, Fishery Biologist III (FBIII), will prepare and adjudicate reservation of water applications and operate and maintain streamgages: 5 months @ \$9,632/month = \$48,160.

Jason Hass, FBII, will prepare and adjudicate reservation of water applications and operate and maintain streamgages: 3 months @ \$8,802/month = \$26,406.

Line 200: Travel (\$18,384)

Jarrold Sowa and Jason Hass will travel from Juneau to Prince of Wales Island to maintain streamgages on the Thorne River and other sites:

- Airfare: 7 tickets @ \$656/ticket x 2 people = \$9,184
- Hotel: 7 nights @ \$120/night x 2 people = \$1,680
- Per diem: 14 days @ 60/day x 2 people = \$1,680
- Ground transportation: 7 trips @ \$220/trip = \$1,540
- Other incidentals (e.g., baggage, airport parking, gas): 7 trips @ \$200/trip x 2 people = \$2,800

Jarrold Sowa will travel 12 times from Juneau to Peterson Creek to maintain streamgages:

- Ground transportation: 12 trips @ \$75/trip = \$900

Jarrold Sowa will travel 8 times from Juneau to Windfall Creek to maintain streamgages:

- Ground transportation: 8 trips @ \$75/trip = \$600

Line 300: Contractual (\$4,720)

- Minivan lease: 7 months @ \$60/month = \$420
- Repair and calibration of discharge equipment: \$500
- Vehicle maintenance: \$1,200
- Transducer repair and calibration: \$500
- Statistical analysis software program (SAS) license: \$700
- Mapping software program for making ROW maps (GIS) license: \$400
- Streamgage data software program and database (WISKI) annual license: \$1,000

Line 400: Supplies (\$7,000)

- Discharge equipment (velocity current meter, wading rod): \$500
- Transducer cable: \$500
- Transducer desiccant: \$250
- Stream gaging supplies (pipes, conduit, hardware): \$500
- Personnel protection (safety supplies, gloves, waders, rain coats): \$500
- Cases and dry bags for transport of scientific equipment: \$250
- Computers: \$1,500
- Streampro ADCP compass upgrade (allows Streampro to take discharge measurement under moving bed conditions): \$3,000

Line 600: Indirect (\$15,659)

ADF&G's federally negotiated indirect rate through June 30, 2015, is 22.37% 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 Budget (33%)	Total
100 Personnel	\$39,709
200 Travel	\$0
300 Contractual	\$0
400 Supplies	\$0
500 Equipment	\$0
Total	\$39,709

Match Budget Narrative:

Line 100: Personnel (\$39,709)

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

Shawn Johnson, FBIII, will implement and administer the project, prepare; review, and adjudicate reservation of water applications; and assist with gaging projects: 450.6 hours @ \$64/hour = \$28,834.

Joe Klein, Environmental Engineer II, will review, file, and adjudicate reservation of water applications: 125 hours @ \$87/hour = \$10,875.