

Alaska Sustainable Salmon Fund Statement of Work

I. Project Title: Instream Flow Protection: Southeast - Phase 17

II. Project Number: 53016

III. Principal Investigator

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IV. Project Period: 7/1/20 - 6/30/22

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) by preparing, filing, and adjudicating reservation of water applications. Salmon and steelhead fisheries, including important subsistence fisheries, will be benefited by legally reserving instream flows needed to attain long-term protection and conservation of salmon and steelhead populations and their habitats.

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 reserve instream flows needed to attain long-term protection and conservation of salmon and steelhead habitat in rivers throughout SE AK.

Numerous state and federal mechanisms can be used to reserve and 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 in perpetuity 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. With an established water right (in this case, called a Certificate of Reservation), the permittee 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. The priority date for reservation of water applications is based on the date they are accepted for filing by the Alaska Department of Natural Resources (DNR). A Certificate of Reservation remains in effect in 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 main activities of this project include obtaining and analyzing the biological and hydrologic data needed to quantify the instream flow 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 DNR. A blank reservation of water application can be found at http://dnr.alaska.gov/mlw/forms/water/rsvr_app.pdf.

This project will continue and expand upon AKSSF projects 44040, 45107, 45213, 45766, 45822, 45326 (800), 45979, 44552, 44563, 44567, 44915, 44171, 44920, 44373, 51013, and 52014, *Instream Flow Protection: Southeast – Phases 1-16*. To date, 136 reservation of water applications encompassing 72 waterbodies and 151 stream reaches in SE AK have been completed and successfully filed with DNR (accepted as complete and given a priority date). Sixty-five adjudications have been completed and Certificates of Reservation issued for 25 waterbodies. To support reservation of water applications, hydrologic data has also been successfully collected at 20 streamgages and 47 discharge measurement stations.

3. Locations

- Eva Creek Stream Gage: 57.405949, -135.080774
- Davies Creek Stream Gage: 58.655367, -134.880091
- Luck Creek Stream Gage: 55.921770, -132.764917
- Control Creek Stream Gage: 55.700063, -132.849673
- Freshwater Creek Stream Gage: 57.934332, -135.247941
- Dangerous River Stream Gage: 59.4175, -139.0175
- Italio River Stream Gage: 59.3020278, -139.0456944
- Lake Eva Inlet Discharge Station: 57.393002, -135.116544
- North Fork Freshwater Creek Discharge Station: 57.954674, -135.289663
- Freshwater Creek Discharge Station: 57.934193, -135.248665
- Kennel Creek Discharge Station: 57.888194, -135.166234
- Pavlof River Discharge Station: 57.846363, -135.162591
- Upper Luck Creek Discharge Station: 55.907176, -132.782220
- Eagle Creek Discharge Station: 55.955004, -132.750538
- Ratz Creek Discharge Station: 55.886650, -132.635860

- Log Jam Creek Discharge Station: 55.905458, -133.008303
 - Eagle River Discharge Station: 58.5281889, -134.806161
 - Douglas ADF&G Office: 58.276093, -134.392716
4. Related Projects
45040, 45107, 45213, 45766, 45822, 45326 (800), 45979, 44552, 44563, 44567, 44915, 44171, 44920, 44373, 51013, 52014

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 (this includes converting previously filed multiple-reach reservation applications into single-reach applications per new DNR requirements)

VIII. Methods

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 IFP. 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. 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 reservation reach applications.

Hydrologic data needed to characterize the natural intra- and inter-annual variability in streamflows 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. When hydrologic data are limited or not available, stream gages will be installed and operated by project staff in accordance with standard sampling protocols developed by USGS and the IFP, and through consultation with USGS staff and other hydrologists as applicable. 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.

ADF&G will also work with DNR on adjudications, the administrative determinations of the validity and amount of the water right including the settlement of conflicting claims among competing appropriators. 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 (ADNR-ADF&G 2002 MOU). If DNR is successful in its determination of the amount of water to be granted, DNR will issue a

Certificate of Reservation, the legal document that establishes the water right. The priority list of reservation applications for adjudication is updated annually based on discussions with DNR.

This project will be evaluated based on the number of reservation of water applications prepared, filed, and adjudicated and on successfully collecting hydrologic data at each of the stream gage and discharge stations. During this project, it is anticipated that 1) a minimum of six reservation applications will be prepared and filed with DNR; 2) three waterbodies will be adjudicated and Certificates of Reservation received; and 3) any remaining multiple reach applications will be converted to 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 provide long-term habitat protection by legally reserving instream flows needed to conserve priority salmon and steelhead populations.

X. Products, Milestones, and Timelines

- July 1, 2020 - June 30, 2022: Contract the USGS to continue the operation of streamgages on the Dangerous River and Italoio River
- July 1, 2021 – June 30, 2022: Prepare and file a minimum of six reservation of water applications; adjudicate multiple reservation applications for a minimum of three waterbodies and convert any remaining multiple reach applications into single reach applications; visit stream gage and discharge stations approximately every 2.5 months to take discharge measurements, survey transducer and staff gage elevations, download transducer data, and compute gage records
- June 30, 2022: Submit completed reservation of water applications and Certificates of Reservation to AKSSF

XI. Project Budget

ADF&G Budget	Total
100 Personnel	\$100,350
200 Travel	\$14,450
300 Contractual	\$135,770
400 Supplies	\$3,661
500 Equipment	\$0
Subtotal	\$254,231
Expenses subject to indirect	\$100,350
600 Indirect	\$23,081
Total	\$277,312

ADF&G Budget Narrative:

Line 100: Personnel (\$100,350)

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

- Jarrod Sowa, Habitat Biologist (HB) III (PCN 11-4344), will prepare and adjudicate reservation of water applications and operate and maintain stream gages: 4.5 months @ \$11,800/month = \$53,100.
- Jason Hass, HB II (PCN 11-4342), will prepare and adjudicate reservation of water applications and operate and maintain stream gages: 4.5 months @ \$10,500/month = \$47,250.

Line 200: Travel (\$14,450)

Jarrold Sowa will travel eight times each from Juneau to Davies Creek and Eagle River to maintain stream gage and discharge stations:

- Ground transportation: 16 trips @ \$50/trip = \$800

Jason Hass will travel to Eva Creek three times during the summer by fixed wing aircraft to maintain its stream gage:

- USFS Eva Lake Cabin rental (in order to utilize the cabin's skiff to access the gage): 3 nights @ \$150/night = \$450
- Other incidentals (e.g., baggage, airport parking, gas for skiff): \$150

Jarrold Sowa and Jason Hass will travel to Klawock five times to maintain stream gages on Control and Eagle creeks:

- Airfare: 5 tickets @ \$800/ticket x 2 people = \$8,000
- Lodging: 2 nights @ \$120/night x 2 people = \$480
- Per diem: 7 days @ \$45/day x 2 people = \$630
- Ground transportation: 5 trips @ \$161/trip = \$805
- Other incidentals (e.g., baggage, airport parking, gas): 5 trips @ \$225/trip = \$1,125

Jarrold Sowa and Jason Hass will travel three times to Hoonah to maintain the Freshwater Creek streamgage:

- Airfare: 3 tickets @ \$200/ticket x 2 people = \$1,200
- Ground transportation: 3 trips @ \$120/trip = \$360
- Other incidentals (e.g., baggage, airport parking, gas): 3 trips @ \$150/trip = \$450

Line 300 Contractual (\$135,770)

- Statistical analysis software program (SAS) license: \$750
- Mapping software program (GIS) license (for making ROW maps): \$600
- Stream gage data software program and database (WISKI) annual license: \$1,200
- Satellite phone service: 12 months @ \$60/month = \$720
- Fixed wing air charters from Juneau to Eva Creek (spring to fall): 3 trips @ \$1,500/trip = \$4,500
- Helicopter charters from Juneau to Freshwater Creek (winter): 2 trips @ \$2,000 each = \$4,000

- Contract with USGS to gage the Dangerous River: 2 years @ \$32,000/year = \$64,000
- Contract with USGS to gage the Italo River: 2 years @ \$30,000/year = \$60,000

Line 400: Supplies (\$3,661)

- Discharge equipment (velocity current meter, wading rod): \$500
- Transducer cable: \$500
- Transducer desiccant: \$150
- Transducer for measuring water levels at stream gages: \$1,500
- Stream gage installation supplies (pipes, conduit, hardware, brackets): \$500
- Personnel protection (safety supplies, gloves, waders, rain coats): \$261
- Cases and dry bags for transport of scientific equipment: \$250

Line 600: Indirect (\$23,081)

ADF&G's federally negotiated indirect rate changes each fiscal year but is estimated to be approximately 23% during the project period; indirect will be collected at the rate current at the time of the expense on direct salaries and wages including fringe benefits.

XII. Match Budget

ADF&G Match Budget	Total
100 Personnel	\$97,060
200 Travel	\$0
300 Contractual	\$0
400 Supplies	\$0
500 Equipment	\$0
Total	\$97,060

ADF&G Match Budget Narrative:

Line 100: Personnel (\$97,060)

Jarrod Sowa, HB III, will implement and administer the project; prepare, review, and adjudicate reservation of water applications; install and maintain stream gages; and prepare and review gaging operational plans and reports: 4.5 months @ \$11,800/month = \$53,100.

Jason Hass, HB II, will prepare and review reservation of water applications; install and maintain stream gages; and prepare and review gaging operational plans and reports: 4.19 months @ \$10,500/month = \$43,960.