

Alaska Sustainable Salmon Fund Statement of Work

I. Project Title: Instream Flow Protection: Southeast – Phase 6

II. Project Number: 45326 (800) **PCSRF Objective:** HP&R

III. Principal Investigator:

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IV. Project Period: 9/15/09 – 3/31/12

V. Project Description

1. Introduction

The rivers and lakes of Southeast Alaska (SE AK) support some of North America’s most viable and productive salmon fisheries. Salmon migration, spawning, rearing, and ultimately production in these waterbodies are dependent on sufficient quantities of water. Alaskans are faced with the challenge of maintaining salmon production while satisfying the growing demands for water for municipal, industrial, agricultural, mineral, oil and gas, aquaculture, fish processing, artificial snowmaking, water export, and other purposes. These water uses have the potential to alter the free-flowing condition of Alaska’s waterways. These alterations can degrade habitat quality and reduce salmon production, resulting in lost economic, social, and other resource values.

The purpose of this project is to quantify and protect instream flows needed to sustain salmon habitat and production in rivers and lakes of 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). 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 (AS 46.15), or the “instream flow law,” provides the opportunity for the private sector and government agencies to legally acquire water rights (called reservations of water, formerly called instream flow reservations) under Alaska law (AS 46.15.035, .037 and .145) and regulation (11 AAC 93.970) 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.

2. Project Summary

The main goal of this project is to quantify and reserve instream flows for priority salmon-producing waterbodies in SE AK. Priority waterbodies were identified during the *AKSSF project 45040 (Instream Flow Needs)* and will be updated by this project. Preparing reservation of water applications will be the primary tool used to protect instream flows needed to sustain salmon production. *Related AKSSF projects: 45040, 45107, 45213, 45766, 45822, 45979, 44552, 44563, 44567, 44915.*

3. AKSSF Objective

Southeast: 1A-2

VI. Objectives

1. Project Objectives

- a. Update and maintain the regional prioritization of instream flow needs for salmon-producing waterbodies in SE AK developed during *AKSSF project 45040*.
- b. Retrieve, analyze, and summarize existing biological data needed to document the composition, distribution, and life-phase periodicity (e.g., seasonal use of habitat for migration, spawning, incubation, and rearing) of salmon.
- c. Retrieve, analyze, and summarize existing hydrologic data needed to quantify the long-term intra- and inter-annual variability in stream flows (or lake levels/volumes).
- d. Augment existing biological and hydrologic data with site-specific field investigations when needed (e.g., stream gaging equipment may be installed and maintained to develop hydrologic records in unengaged water bodies) or obtain contractual services to augment these data.
- e. Retrieve, analyze, and summarize any other instream flow information required by state or federal laws following scientific standards and guidelines for quantifying and reserving instream flows to sustain salmon production.
- f. Evaluate methods to identify and reserve channel maintenance flows.
- g. Evaluate methods to estimate hydrologic characteristics of unengaged watersheds.
- h. Use the biological, hydrologic, and other information to quantify instream flow requirements and prepare reservation of water applications to protect salmon habitat and sustain salmon production.
- i. Assist in adjudicating reservation of water applications in accordance with the June 2002 (amended in December 2002) Memorandum of Understanding (MOU) between ADF&G and the Alaska Department of Natural Resources (DNR).

2. Justification

- a. Updating and maintaining the regional prioritization of instream flow needs for salmon-producing waterbodies in SE AK is needed to ensure efficient use of project resources.
- b. Biological data are needed to develop and support the requested instream flows and must be included in reservation of water applications.
- c. Hydrologic data are needed to develop and support the requested instream flows and must be included in reservation of water applications.

- d. Existing biological and hydrologic data needed to prepare reservation applications are often lacking, necessitating the need to conduct site-specific field investigations or obtain contractual services to augment these data.
 - e. Biological, hydrologic, and other information needed to quantify and protect instream flows for salmon production must adhere to state and federal laws and scientific standards and guidelines.
 - f. Channel maintenance flows are responsible for creating and maintaining the stream channel habitat conditions upon which salmon are dependent and therefore should be reserved.
 - g. Most watersheds in SE AK are ungaged; therefore, other methods will need to be used to estimate hydrologic characteristics.
 - h. Quantifying and reserving instream flows for priority salmon-producing water bodies will help protect salmon habitat and ensure sustainable salmon production in SE AK.
 - i. Assisting with the adjudication of reservation applications will help clear up the backlog of applications previously submitted by ADF&G and help keep up with the applications currently being submitted by ADF&G.
3. Project Outcomes
- a. Reservation of water applications for priority waterbodies will be completed following applicable laws and protocols and will be ready to submit to the DNR for adjudication. (Applications will be submitted at the discretion of the ADF&G Commissioner.)
 - b. Reservation of water applications will be adjudicated, providing legal protection of instream flows needed to sustain salmon habitat and production.
 - c. The biological, hydrologic, and other information collected, analyzed, and summarized during this project will be available to pursue other state and federal mechanisms to protect instream flows and available for use by ADF&G staff for dealing with water development and management issues.
 - d. This project will be evaluated based on the number of reservation of water applications prepared, filed, and adjudicated.
4. Methods/Modeling
- a. The process for prioritizing waterbodies in SE AK for instream flow protection was developed during AKSSF project 45040. Project 45040 ranked all watersheds (6th level hydrologic units, watersheds draining to tidewater) in SE AK based on a broad-scale assessment of the resource values of (e.g., miles of anadromous stream reaches, sport fish effort, subsistence/personal use harvest) and risks to (e.g., road density, percent area timber harvested, percent area urbanized), salmon-producing waterbodies within each watershed. Comments were solicited from ADF&G staff and other resource agencies using this broad-scale watershed assessment to identify the salmon-producing waterbodies in their management area most in need of reservations of water.

The regional prioritization of instream flow needs for waterbodies in SE AK will be updated through consultation with staff from ADF&G and other resource agencies. Final selection of waterbodies will be based on the importance of a waterbody to salmon production, the likelihood for competing out-of-stream uses,

whether existing hydrologic and biologic data for a waterbody 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 Alaskan law.

- b. Fish distribution and periodicity data (e.g., seasonal use of habitat for migration, spawning, incubation, and rearing) by species and life stage will be compiled and summarized from scientific literature, the *Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes* and its associated Atlas, and interviews with biologists from ADF&G and other agencies.
- c. Streamflow data required for hydrologic characterization and quantifying instream flow needs 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 for high priority waterbodies, data will be collected by staff in accordance with standard sampling protocols developed by the USGS for as many waterbodies as time and resources will allow. Streamflow records may also be synthesized using various hydrologic models.
- d. Reservation of water applications will be prepared to comply with state law (AS 46.15.145) and regulations (11 AAC 93.141-146) and following protocols established by ADF&G's Statewide Aquatic Resources Coordination Unit.

Prior to commencement of project activity, PI will obtain ADF&G Fish Collection, Fish Resource, Fish Transport, and/or other required permits, as appropriate.

VII. Results/Deliverable Products

The main product of this project will be completed reservation of water applications for salmon-producing waterbodies in SE AK. The applications will be submitted to DNR for adjudication at the discretion of the Commissioner of ADF&G.

PI will submit semiannual, PCSRF performance metrics, and project completion reports according to the AKSSF schedule, as well as copies of any other report/product/deliverable produced with this funding.

VIII. Benefits to Salmon/Salmon Fisheries/Salmon Fishermen/Communities

The rivers and lakes of SE AK support and provide access to some of North America's most viable and productive salmon fisheries. Salmon production in these waterbodies is dependent on sufficient quantities of high quality water. This project will benefit salmon resources and users by using state and federal laws to protect sufficient quantities of water needed to sustain salmon production in priority waterbodies.

IX. Project Milestones and Timelines

Reservation of water applications (the primary milestone) will be prepared and completed throughout the duration of the project.

All invoices will be submitted for payment within 30 days of the project end date in accordance with the current AKSSF invoicing P&P.

X. Partners

Cooperative stream gaging projects with watershed councils will be continued and expanded if resources allow. Ongoing stream gaging projects include projects with the Takshanuk Watershed Council (Haines), Taiya Inlet Watershed Council (Skagway), and the Yakutat Salmon Board (Yakutat). An important goal of these projects is to collect sufficient hydrologic data to file for a reservation of water. Assistance has also been provided to the National Park Service with their gaging efforts on the Indian (Sitka) and Taiya (Skagway) rivers. This project has and will continue to work collaboratively with other ADF&G Sport Fish and Habitat Division projects (e.g., the Sitkoh Creek weir project and Steelhead habitat capability project).

XI. Budget

	FY10	FY11	FY12	Total
100 Personnel	\$108,180	\$153,628	\$132,188	\$393,996
200 Travel	\$18,045	\$18,947	\$16,433	\$53,425
300 Contractual	\$18,020	\$18,921	\$16,367	\$53,308
400 Supplies	\$5,938	\$7,957	\$4,900	\$18,795
500 Equipment	\$0	\$0	\$0	\$0
Total Direct Costs	\$150,183	\$199,453	\$169,888	\$519,524
ADF&G 3%				\$15,586
Project Total				\$535,110

Budget Narrative:

**Instream Flow Quantification and Protection
FY 10**

Salaries:

PCN	Title	Name	R S	Months	Sal and Bene/Month	OT	Total Sal+Bene
11-4344	FBIII	Sowa	18 A	8.5	6748	0	57,358
11-4342	FB II	Hass	16A	8.5	5979	0	50,822
							\$108,180

Employee Tasks:

Sowa Prepare reservation of water applications. Operate and maintain stream gages.
Hass Prepare reservation of water applications. Operate and maintain stream gages.

Travel:

Name	Days	# Trips FY10	Purpose	Dest	Total Lodging	Airfare/trip	Total Airfare	Per diem/trip	Total Per diem	Total Ground Transportation	Total
FB III, Sowa	2	6	Maint Streamgage	Jnu - Yakutat	0	375	2250	120	720	0	2970
	1	6	Maint Streamgage	Jnu-Haines	0	250	1500	0	0	480	1980
	3	1	Training/Project Revw	Jnu - Anc	250	375	375	180	180	200	1005
FB II, Hass	5	1	Conference	Jnu-?	600	700	700	300	300	300	1900
	2	6	Maint Streamgage	Jnu - Yakutat	0	375	2250	120	720	920	3890
	1	6	Maint Streamgage	Jnu-Haines	0	250	1500	0	0	0	1500
	3	1	Training/Project Revw	Jnu - Anc	250	375	375	180	180	0	805
FBIII, Johnson	5	1	Conference	Jnu-?	600	700	700	300	300	0	1600
	2	1	Project Revw/Coord	Jnu - Anc	100	375	375	120	120	120	715
	2	2	Project Revw/Coord	Jnu - area offices	200	500	1000	120	240	240	1680
											\$18,045

Contracts:

Item	Cost	
Air Charter	15000	15 hrs @ \$1000/hr
WISKI Hydrologic Software	1000	Annual software fee
SAS	500	Annual software fee
ArcGIS	600	Annual software fee
USFS Cabin Rentals	420	12 nights @ \$35/night
Minivan Lease	500	12 months @ \$41.66/month
		\$18,020

Supplies:

Item	Cost	
Discharge Equipment	500	Current meter,rod,headset
Transducers cable	1000	In-Situ type cable for transducer
Stream gaging supplies	1200	pipes, conduit, hardware
Personnel protection	1000	safety supplies, gloves, waders
Food for field	378	Two 3-day trips, 3 people, \$16day/person
Data Retrieval System	750	for downloading transducer data
Cases, dry bags	610	for transport of scientific equip
Equipment repair	500	Repair and calibration of discharge equipment
		\$5,938

TOTAL \$150,183

FY 11

PCN	Title	Name	R S	Months	Sal and Bene/Month	OT	Total Sal+Bene
11-4345	FBIII	Johnson	18F	1	8031		8,031
11-4344	FBIII	Sowa	18 B	11	7018	0	77,197
11-4342	FB II	Hass	16B	11	6218	0	68,400
							\$153,628

Employee Tasks:

Sowa Prepare reservation of water applications. Operate and maintain stream gages.
 Hass Prepare reservation of water applications. Operate and maintain stream gages.

Travel:

Name	Days	# Trips FY11	Purpose	Dest	Total Lodging	Airfare/trip	Total Airfare	Per diem/trip	Total Per diem	Total Ground Transportation	Total
FB III, Sowa	2	6	Maint Streamgage	Jnu - Yakutat	0	400	2400	120	720	0	3120
	1	6	Maint Streamgage	Jnu-Haines	0	275	1650	0	0	480	2130
	3	1	Training/Project Revw	Jnu - Anc	250	400	400	180	180	200	1030
	5	1	Conference	Jnu-?	600	750	750	300	300	300	1950
FB II, Hass	2	6	Maint Streamgage	Jnu - Yakutat	0	400	2400	120	720	1018	4138
	1	6	Maint Streamgage	Jnu-Haines	0	275	1650	0	0	0	1650
	3	1	Training/Project Revw	Jnu - Anc	250	400	400	180	180	0	830
	5	1	Conference	Jnu-?	600	750	750	300	300	0	1650
FBIII, Johnson	2	1	Project Revw/Coord	Jnu - Anc	125	375	375	120	120	120	740
	2	2	Project Revw/Coord	Jnu - area offices	125	552	1104	120	240	240	1709
											\$18,947

Contracts:

Item	Cost	
Air Charter	16000	16 hrs @ \$1000/hr
WISKI Hydrologic Software	1000	Annual software fee
SAS	500	Annual software fee
ArcGIS	600	Annual software fee
USFS Cabin Rentals	315	9 nights @ \$35/night
Minivan Lease	506	12 months @ \$42.16/month
		\$18,921

Supplies:

Item	Cost	
Discharge Equipment	500	Current meter, rod, headset
Transducers cable	1000	In-Situ type cable for transducer
Stream gaging supplies	1497	pipes, conduit, hardware
laptop	1722	
Personnel protection	1000	safety supplies, gloves, waders
Food for field	378	Two 3-day trips, 3 people, \$16/day/person
Data Retrieval System	750	for downloading transducer data
Cases, dry bags	610	for transport of scientific equip
Equipment repair	500	Repair and calibration of discharge equipment
		\$7,957

TOTAL \$199,453

**Instream Flow Quantification and Protection
FY 12**

Salaries:

PCN	Title	Name	R S	Months	Sal and Bene/Month	OT	Total Sal+Bene
11-4345	FB III	Johnson	18J	1	8298		8,298
11-4344	FBIII	Sowa	18 C	9	7299	0	65,688
11-4342	FB II	Hass	16 C	9	6467	0	58,202
							\$132,188

Employee Tasks:

Sowa Prepare reservation of water applications. Operate and maintain stream gages.

Hass Prepare reservation of water applications. Operate and maintain stream gages.

Travel:

Name	Days	# Trips FY12	Purpose	Dest	Total Lodging	Airfare/trip	Total Airfare	Per diem/trip	Total Per diem	Total Ground Transportation	Total
FB III, Sowa	2	4	Maint Streamgage	Jnu - Yakutat	0	425	1700	120	480	0	2180
	1	4	Maint Streamgage	Jnu-Haines	0	300	1200	0	200	320	1720
	3	1	Training/Project Revw	Jnu - Anc	250	425	425	180	180	200	1055
FB II, Hass	5	1	Conference	Jnu-?	600	750	750	300	300	300	1950
	2	4	Maint Streamgage	Jnu - Yakutat	0	425	1700	120	480	873	3053
	1	4	Maint Streamgage	Jnu-Haines	0	300	1200	0	200	0	1400
	3	1	Training/Project Revw	Jnu - Anc	250	425	425	180	180	0	855
FBIII, Johnson	5	1	Conference	Jnu-?	600	750	750	300	300	0	1650
	2	1	Project Revw/Coord	Jnu - Anc	125	400	400	120	120	120	765
	2	2	Project Revw/Coord	Jnu - area offices	125	600	1200	120	240	240	1805
											\$16,433

Contracts:

Item	Cost	
Air Charter	14000	14 hrs @ \$1000/hr
WISKI Hydrologic Software	1000	Annual software fee
SAS	500	Annual software fee
ArcGIS	600	Annual software fee
Minivan Lease	267	6 months @ \$44.50/month
		\$16,367

Supplies:

Item	Cost	
Discharge Equipment	400	Current meter, rod, headset
Transducers cable	750	In-Situ type cable for transducer
Stream gaging supplies	800	pipes, conduit, hardware
Personnel protection	750	safety supplies, gloves, waders
Food for field	700	Two 3-day trips, 3 people, \$16/day/person
Data Retrieval System	500	for downloading transducer data
Cases, dry bags	500	for transport of scientific equip
Equipment repair	500	Repair and calibration of discharge equipment
		\$4,900

TOTAL \$169,888

Budget adjustments between line items are allowed for amounts equal to or less than 10% of the total award without prior AKSSF approval; any amount above 10% requires prior AKSSF approval. All costs in lines 100-50 represent actual cash expenditures.

All invoices shall be adequately documented with both documentation of expense and proof of payment. Examples of expense documentation include copies of invoices, pay stubs, receipts, etc. Documentation of proof of payment includes copies of checks, check numbers, credit card receipts, etc.

All invoices will be submitted for payment within 30 days of the project end date in accordance with the current AKSSF invoicing P&P. Invoices submitted after that deadline will not be reimbursed. Invoices for expenses incurred after the project end date will not be reimbursed.