

Alaska Sustainable Salmon Fund Statement of Work

I. Project Title: Instream Flow Protection: Southeast – Phase 7

II. Project Number: 45979 **PCSRF Objective:** HP&R

III. Principal Investigator

Shawn Johnson, Fishery Biologist III
Statewide Aquatic Resources Coordination Unit (SARCU)
ADF&G, Sport Fish Division/RTS
PO Box 240020
Douglas, AK 99824-0020
Phone: (907) 465-4302
Email: shawn.johnson@alaska.gov

Co-Principal Investigator

Jarrold Sowa, Fishery Biologist III
Statewide Aquatic Resources Coordination Unit (SARCU)
ADF&G, Sport Fish Division/RTS
PO Box 240020
Douglas, AK 99824-0020
Phone: (907) 465-8493
Email: jarrod.sowa@alaska.gov

IV. Project Period: 4/1/12 – 11/30/12

V. Project Description

1. Synopsis

This project will quantify and protect instream flows needed to sustain salmon habitat and production for priority salmon-producing water bodies in Southeast Alaska (SEAK). Preparing and submitting reservation of water applications will be the primary tool used to protect instream flows. The existing prioritization of water bodies in SEAK will also be updated. *Related AKSSF projects 45040, 45107, 45213, 45766, 45822, 45326 (800), 44552, 44563, 44567, 44915.*

2. Introduction

The rivers and lakes of SEAK support some of North America's most viable and productive salmon fisheries. Salmon migration, spawning, rearing, and ultimately production in these water bodies are dependent 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 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 hydrological data needed to quantify the instream requirements of salmon and preparing reservation of water applications for submittal to the Alaska Department of Natural Resources (DNR). The biological, hydrologic, and other information collected, analyzed, and summarized in this project will be available for use by ADF&G staff dealing with water development and fisheries management issues.

AKSSF project 45040 developed a regional prioritization of instream flow needs for salmon-producing water bodies throughout SEAK. During the subsequent instream flow projects, reservation of water applications for 102 stream reaches within 30 watersheds (6th level hydrologic units) throughout SEAK were completed and successfully filed with DNR (accepted as complete and given a priority date). Applications for 21 stream reaches within 10 watersheds have been completed but not yet submitted to 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, 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. Priority for reservation applications is based on the date they are submitted to and accepted by DNR.

3. Location

Latitude: 57.030966 N Longitude: 134.269409 W

4. AKSSF Objective

Southeast: 1A-1

VI. Objectives

1. Project Objectives

- a) Update and maintain the regional prioritization of instream flow needs for salmon-producing water bodies in SEAK
- b) Obtain the biological, hydrological, and other information needed to quantify instream flow requirements of salmon in priority water bodies
- c) Prepare and file reservation of water applications to protect salmon habitat and sustain salmon production

2. Methods

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

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 scientific literature, the *Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes* and its associated Atlas, and input from biologists from ADF&G and other agencies.

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 stream flow data when available. 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 Water Resources Division (WRD) and through consultation with USGS WRD staff and other hydrologists as applicable.

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 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. Applications will be submitted to DNR at the discretion of the ADF&G Commissioner.

This project will be evaluated based on the number of reservation of water applications prepared and successfully filed with DNR.

VII. Benefits

The rivers and lakes of SEAK support some of North America's most viable and productive salmon fisheries. Salmon are dependent upon sufficient quantities of water to meet their spawning, rearing, incubation, overwintering, and migration habitat requirements. This project will benefit salmon fisheries, salmon fishermen, and communities throughout SEAK by legally reserving water needed to sustain salmon habitat and production.

VIII. Products, Milestones, and Timelines

- April 1 – November 30, 2012: Prepare and submit reservation of water applications; visit stream gage sites approximately every two months to take discharge measurements, survey transducer and staff gage elevations, and download transducer data
- May 1, 2012 to November 2012: Install and operate a stream gage at the Thorne River
- September 30, 2012: Complete five years of stream gage data collection at Cowee Creek and the Chilkoot River
- November 30, 2012: Complete working up gage records and finalize reservation applications for Cowee Creek and the Chilkoot River

IX. Partners

Cooperative stream gaging projects with watershed councils will be continued and expanded if resources allow. Ongoing projects include work with the Takshanuk Watershed Council (Haines), Taiya Inlet Watershed Council (Skagway), and the Yakutat Salmon Board (Yakutat).

X. Project Budget

	FY12	FY13	Total
100 Personnel	\$47,868	\$83,817	\$131,685
200 Travel	\$7,070	\$1,560	\$8,630
300 Contractual	\$2,734	\$223	\$2,957
400 Supplies	\$2,450	\$2,450	\$4,900
500 Equipment	\$0	\$0	\$0
Subtotal	\$60,122	\$88,050	\$148,172
ADF&G 3%			\$4,445
Total			\$152,617

Budget Narrative:

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

FY12											
Employee Tasks:											
	Jarrold Sowa	Prepare reservation of water applications and operate and maintain stream gages.									
	Jason Hass	Prepare reservation of water applications and operate and maintain stream gages.									
Line 100: Personnel											
	PCN	Title	Name	R S	Months	Sal and Bene/Month	OT				Total
	11-4344	FB III	Sowa	18 C	3	\$8,256	0				\$24,768
	11-4342	FB II	Hass	16 G	3	\$7,700	0				\$23,100
Subtotal											\$47,868
Line 200: Travel											
Title, Name	Days	# Trips	Purpose	Destination	Total Lodging	Airfare/trip	Total Airfare	Per diem/trip	Total Per diem	Total Ground Transportation	Total
FB III, Sowa	1	2	Maint/install stream gage	Jnu-Haines	\$100	\$250	\$500	\$50	\$100	\$160	\$860
	3	1	Training/project review	Jnu - Anc	\$250	\$425	\$425	\$180	\$180	\$200	\$1,055
	2	2	Thorne R. gage	Jnu-Hollis	\$410	\$500	\$1,000	\$120	\$240	\$300	\$1,950
FB II, Hass	1	2	Maint/install stream gage	Jnu-Haines	\$100	\$250	\$500	\$50	\$100	\$0	\$700
	3	1	Training/project review	Jnu - Anc	\$250	\$425	\$425	\$180	\$180	\$0	\$855
	2	2	Thorne R. gage	Jnu-Hollis	\$410	\$500	\$1,000	\$120	\$240	\$0	\$1,650
Subtotal											\$7,070
Line 300: Contractual											
	Item	Description	Total								
	WISKI hydrologic software	Annual software fee	\$1,000								
	SAS	Annual software fee	\$1,000								
	ArcGIS	Annual software fee	\$600								
	Minivan lease	3 months @ \$44.50/month	\$134								
Subtotal			\$2,734								
Line 400: Supplies											
	Item	Description	Total								
	Discharge equipment	Current meter, rod, headset	\$200								
	Transducers cable	In-situ type cable for transducer	\$375								
	Stream gaging supplies	Pipes, conduit, hardware	\$400								
	Personnel protection	Safety supplies, gloves, waders	\$375								
	Food for field	Two 3-day trips, 3 people, \$19.44 day/person	\$350								
	Data retrieval system	For downloading transducer data	\$250								
	Cases, dry bags	For transport of scientific equipment	\$250								
	Equipment repair	Repair and calibration of discharge equipment	\$250								
Subtotal			\$2,450								
TOTAL FY12											\$60,122

FY13												
Employee Tasks:												
	Jarrold Sowa	Prepare reservation of water applications and operate and maintain stream gages.										
	Jason Hass	Prepare reservation of water applications and operate and maintain stream gages.										
Line 100: Personnel												
	PCN	Title	Name	R S	Months	Sal and Bene/Month	OT				Total	
	11-4344	FBIII	Sowa	18 C	5	\$8,674	\$0				\$43,369	
	11-4342	FB II	Hass	16 G	5	\$8,090	\$0				\$40,448	
Subtotal											\$83,817	
Line 200: Travel												
Name	Days	# Trips	Purpose	Destination	Total lodging	Airfare/trip	Total airfare	Per diem/trip	Total per diem	Total ground transportation	Total	
FB III, Sowa	1	2	Maint/install stream gage	Jnu-Haines	\$100	\$250	\$500	\$50	\$100	\$160	\$860	
FB II, Hass	1	2	Maint/install stream gage	Jnu-Haines	\$100	\$250	\$500	\$50	\$100	\$0	\$700	
Subtotal											\$1,560	
Line 300: Contractual												
	Item	Description	Total									
	Minivan lease	5 months @ \$44.50/month	\$223									
Subtotal			\$223									
Line 400: Supplies												
	Item	Description	Total									
	Discharge equipment	Current meter, rod, headset	\$200									
	Transducers cable	In-situ type cable for transducer	\$375									
	Stream gaging supplies	Pipes, conduit, hardware	\$400									
	Personnel protection	Safety supplies, gloves, waders	\$375									
	Food for field	Two 3-day trips, 3 people, \$19.44 day/person	\$350									
	Data retrieval system	For downloading transducer data	\$250									
	Cases, dry bags	For transport of scientific equipment	\$250									
	Equipment repair	Repair and calibration of discharge equipment	\$250									
Subtotal			\$2,450									
TOTAL FY13			\$88,050									

XI. Match Budget

ADF&G (33%)	FY12	FY13	Total
100 Personnel	\$18,126	\$30,771	\$48,897
200 Travel	\$0	\$0	\$0
300 Contractual	\$0	\$0	\$0
400 Supplies	\$0	\$0	\$0
500 Equipment	\$0	\$0	\$0
Total	\$18,126	\$30,771	\$48,897

Match Budget Narrative:

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

Line 100: Personnel				
Employee tasks:				
	Shawn Johnson, PI	Implement and administer the project, prepare and review reservation of water applications, and assist with stream gaging projects.		
FY12				
Title	Name	Months	Salary and Benefits/Month	Total
FBIII	Shawn Johnson	1.5	\$8,692	\$13,038
FBIII	Shawn Johnson	0.56	\$9,017	\$5,088
Total				\$18,126
FY13				
Title	Name	Months	Salary and Bene/Month	Total
FBIII	Shawn Johnson	3.25	\$9,468	\$30,771
Total				\$30,771