

**Statement of Work**  
**Southeast Sustainable Salmon Fund**

*Revision #1: Increasing funding*

**I. Project Title**

Instream Flow Protection: Southeast - Phase 3

**II. Project Manager/Principle Investigator**

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**III. Project Period:** 7/1/06 – 6/30/07

**IV. Project Description**

**1. Introduction**

Sufficient amounts of water are required within lotic (flowing) and lentic (lakes) water bodies supporting salmon fisheries to sustain productivity, habitat characteristics, and waterway access to these fishery resources. Protection of these water flow rates and volumes within rivers and lakes are generally referred to as reservations of water under AS 46.15.035, .037 and .145 of the Alaska Water Use Act. Other uses of reservations of water include protection of wildlife production/habitat, water quality/sanitary purposes, navigation, and recreation/aesthetics. This project is limited to reservations of water for salmon. By definition, the term instream flow is typically used to describe the rate or volume of flow needed within lotic waters. However, when Alaska adopted its “instream flow” provisions under state law as amendments to the Alaska Water Use Act in 1980, it included protection for both rivers and lakes. Therefore, the term instream flow for purposes of this project is used to represent reservations of water in both lentic and lotic waters. Industrial, agricultural, and urban developments, and various other land uses and uses of water, all affect water volume and characteristics such as water depth and surface area covered. In flowing waters, changes in water volume also affect water velocities. Predominant uses of water in Southeast Alaska include municipal water supplies, hydropower generation, water export, fish processing and forestry.

More than 5000 salmon producing water bodies in Southeast Alaska are candidates for quantification and protection of sufficient water flow or volume to sustain fish productivity. Of these water bodies, approximately 400 are lakes. This is the third Sustainable Salmon project to be funded related to instream flow protection for salmon in Southeast Alaska. The first instream flow related Sustainable Salmon

project is currently in progress and, when completed, will prioritize water bodies in Southeast Alaska that sustain salmon production requiring instream flow protection. The second project will collect and analyze information to quantify instream flow requirements for salmon based on the water body prioritization produced by the first project. Instream flow will be protected using applicable state and federal laws. We estimate instream flow requirements for 80 water body segments will be quantified annually during the second project. This third project extends the second project an additional year to quantify instream flow requirements and protect instream flows and for an additional estimated 80 water body segments.

## 2. **Project Summary**

The goal of this Instream Flow Reservations project is to quantify and protect instream flow requirements for an estimated 80 water body segments and hence continue the efforts of the second instream flow project one year. Protocols for the second project will be used for this third project regarding water body prioritization, methods and analyses used, and protection tools used. *Related AKSSF projects: 45040, 45107, 45766, 45822, 45326 (800), 45979, 44552, 44563, 44567, 44915.*

## V. **Objectives**

### 1. **Project objectives –**

- i. Establish work plans based on the first and second instream flow projects and relevant updated information.
- ii. Retrieve, summarize and analyze existing hydrologic and biologic data for gaged sites for priority water body segments identified by the first project that were not addressed by the second project.
- iii. Install and maintain instrumentation to quantify streamflow and develop hydrologic records for ungaged water bodies of highest priority.
- iv. Collect and analyze seasonal fish species life phase composition, distribution and timing to support rankings, accurately delineate fish distributions within priority water bodies and for use in biologic components of instream flow analyses.
- v. Summarize relevant data results for submittal with interim reports and integration with other georeferenced data in the Annual Habitat Assessment project database.
- vi. Continue to train staff in field methods in preparation for field validation and compilation of application materials.

### 2. **Justification –**

- i. Existing and future salmon production in Southeast Alaska depends in part on quantifying and protecting sufficient water volumes and rates of flow in salmon producing water bodies in Southeast Alaska. This project provides the opportunity to add one more year of effort, similar to that expended for the second instream flow project, to quantify and protect instream flow in priority water body segments and locations. This additional year will result in the quantification and protection of an additional estimated 80 of the 5000 or more water body segments in the region requiring instream flow protection for salmon production.
- ii. State and federal legal mechanisms to protect sufficient amounts of water needed to sustain salmon in rivers and lakes require sufficient amounts of the best

available credible information in order to support scientifically justified outcomes.

- iii. Actions to quantify and protect instream flow requirements for salmon must follow a uniform prioritization scheme and adhere to relevant federal, state, and scientific standards for these analyses in order to apply agency resources efficiently and effectively and comply with state and federal laws.
- iv. Water bodies requiring the most immediate protection will be appropriately targeted.
- v. Existing hydrologic and biologic data will be augmented with site-specific field investigations when needed.
- vi. Updated prioritization information and the number of water body segments quantified and protected are the components of required reporting most pertinent to effectiveness evaluation.
- vii. Information collected to validate water body characterization will be compatible with data protocols and metadata structure and will complement information systems established for other SSSF projects.

**3. Project Impacts/Outcomes/Evaluation of Project Objectives –**

- i. Staff will continue to prepare applications for Reservations of Water for submittal to the Alaska Department of Natural Resources based on priorities established under the Instream Flow Needs phase of this project and initiated by the Instream Flow Reservations project.
- ii. The instream flow needs assessment database will be accessible to departmental managers for investigations, analyses, and as reference for regulatory actions. The database should provide a comprehensive listing of identified water bodies in Southeast Alaska supporting anadromous fish communities.
- iii. Program reports will include listings of all applications for Reservations of Water submitted during reporting periods along with all pertinent methodology, and summaries of analyses and data tabulations regarding basin and water body information used for evaluation and reservation parameters.
- iv. Staff will be certified to conduct field flow measurements following quality control/assurance protocols that comply with standards established by the U.S. Geological Survey.
- v. Staff will be trained in USDA Forest Service Alaska Region Fish and Aquatic Stream Habitat Survey protocols.

**4. Methods/Modeling –**

Results of the first Sustainable Salmon Project will be used to prioritize water body segments and locations to quantify and protect instream flows. Applications will be prepared to comply with state, federal or other laws and relevant regulations using protocols, methods, analyses and standards previously established and reported by the Statewide Aquatic Resources Coordination Unit. For example, when needed, investigations will be conducted on water bodies with insufficient site-specific information available to prepare applications. Information regarding fish populations, habitat characteristics and basin hydrology will be collected following sampling protocols which allow definitive characterization of seasonal fish species and life

stage distribution and habitat use, channel type inventory, and basic basin hydrologic parameters required to develop basin-area estimation of seasonal water body flow regimes. Instrumentation to monitor intermediate term (five years), continuous flow or stage will be installed and maintained, in water bodies requiring validation of seasonal flow regime estimates. Instrumentation and site ratings, where applied, will follow operational protocols reviewed and approved by the U.S. Geological Survey Water Resources Division.

Concurrence with managers, Sustainable Salmon partners, and Stakeholder and Science Panel members will be sought by providing opportunities to review summary rankings of water bodies for prioritizing water bodies targeted for quantification and protection by this project.

**VI. Results/Deliverable products**

The main product of this third Instream Flow project will be quantification and protection of instream flows for an estimate 80 salmon producing waters. One of the primary protection mechanisms to be used will be preparation of applications for Reservations of Water for submittal to the Alaska Department of Natural Resources for adjudication. Progress reports will list reservation water bodies along with summary information regarding water body and regional resource information describing the extent of habitats and fisheries provided legal protection, methodology applied and recommendations for further action required to quantify and verify site-specific instream flow needs for future continued efforts.

**VII. Benefits to salmon/salmon fisheries/salmon fishers**

Salmon production is dependent on sufficient quantities of water of high quality. The project will benefit salmon resources and users by insuring that sufficient water in water bodies or portions of water bodies that sustain valuable salmon most in need of protection or recovery are given necessary protection provided under state and or federal laws. Staff will be prepared to implement field verification of instream flow needs.

**VIII. Milestones/Project Timelines**

Funding for this project is projected to become available in late 2002, or early 2003 but will not be expended until the period July 1, 2006 to June 30, 2007. Senior staff will participate in overall administrative functions to assist staff hired to execute this project. Staff training and project refinement will continue through the term of the project. Data collection and synthesis, matrix evaluation, and rating and ranking of water bodies will be updated as needed. Inter-project coordination is envisioned during the entire project as staff provide support and training to other projects as required.

**IX. Stakeholder support**

The project was reviewed by the Stakeholder Advisory Panel and received approval as a component to the Salmon Habitat and Waterways Project.

**X. Partners**

Custodial agencies maintaining information systems containing resource data needed for the project will be asked to assist in facilitating access to databases, or otherwise provide pertinent data required to validate site specific information, and to assist with field logistics and data collection.

**XI. Budget**

	FY07	Total
Line 100	\$177,711	\$177,711
Line 200	\$3,400	\$3,400
Line 300	\$28,700	\$28,700
Line 400	\$25,100	\$25,100
Line 500	\$0	\$0
Total Project Costs	\$234,911	\$234,911

Line 100 expenditures are for one FBII at 12 months and two FBI's at 11 months each (all three of these positions are currently on staff), Line 200 expenditures include instate travel for meetings, training, and conferences (5 trips at roughly \$700/trip – primarily to anchorage), Line 3 expenditures are mainly for travel (aircraft charters) to our stream gage sites to service the gages (4 gage sites, 6 visits per site = 24 trips at \$1,000 each trip = \$24,000), and Line 400 expenditures include \$20,000 for gaging equipment and \$3,000 for a laptop.

**XII. Project Number: 45213; NOAA Category: P&A; AKSSF Goal: Southeast: 1A-2**