

Susitna Sockeye Escapement Estimation**FY2007 Request: \$1,000,000****Reference No: 41446****AP/AL:** Appropriation**Project Type:** Planning**Category:** Natural Resources**Location:** Matanuska Susitna Borough**Contact:** Tom Lawson**House District:** Matsu Areawide (HD 13-16)**Contact Phone:** (907)465-5999**Estimated Project Dates:** 07/01/2006 - 06/30/2009**Brief Summary and Statement of Need:**

This project provides funding necessary to identify spawning areas and estimate inriver abundance and escapement of sockeye salmon in the Susitna River drainage of northern Cook Inlet. A mark-recapture population estimation project is needed to assess sockeye salmon abundance in the Susitna River. Currently the only information available comes from a sonar project in the Yentna River, a tributary of the Susitna. Verification of the sonar indices is needed because of the uncertainty of target detection and tracking that affects the accuracy of these estimates. Further, multiple species are observed by sonar and species apportionment of the sonar counts is likely biased.

Funding:	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>	<u>FY2011</u>	<u>FY2012</u>	<u>Total</u>
Gen Fund	\$1,000,000						\$1,000,000
Total:	\$1,000,000	\$0	\$0	\$0	\$0	\$0	\$1,000,000

<input type="checkbox"/> State Match Required	<input checked="" type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input type="checkbox"/> On-Going
0% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

Operating & Maintenance Costs:

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
<u>One-Time Startup:</u>	0	
Totals:	0	0

Additional Information / Prior Funding History:

Information from this project is needed to properly manage major commercial, sport, and subsistence fisheries and ensure the sustainability of this important resource. This is the first year of the project.

Project Description/Justification:

Drift nets and fish wheels will be used in the lower Susitna River to capture and mark sockeye salmon. Some fish would be radio tagged, released, and subsequently tracked to document distribution within the drainage. The remainder would be tagged with conventional tags and released. The marked to unmarked fraction of the population would be documented through sampling in conjunction with the ongoing work in the Yentna River and with the Cook Inlet Aquaculture Association Larson Lake weir programs. Sampling in other tributaries would be used to obtain additional samples to document the marked fraction of the population. This work would be on-going for a minimum of three years.

The sonar-based data provide a time series of escapement indices over a period of about 25 years. The primary question is if and how we can scientifically take this data set and expand it to total annual escapement estimates. Are the Yentna sonar counts reasonably stable portions of total Susitna escapement from year to year such that the historic set of estimates can be scientifically converted into total estimates?

The benefits to the users would be improved escapement enumeration, which provides primary support to the escapement-based fishery management regimes in Upper Cook Inlet. The need is both short term and long term; short term application is for seasonal fishery management, long term needs include issues such as developing appropriate

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escapement goals. Accurate escapement estimates are also needed to improve forecasts. Forecasts are used early in the season for management decision-making as well as by processors and fishers to help make financial and recreational decisions.