

Collection and Genetic Analysis of Chum and Sockeye Salmon Tissues in Western Alaska

FY2010 Request: \$1,500,000
Reference No: 42050

AP/AL: Appropriation

Project Type: Research / Studies / Planning

Category: Natural Resources

Location: Bristol Bay Borough

Contact: John Hilsinger

House District: Bristol Bay/Aleutians (HD 37)

Contact Phone: (907)267-2324

Estimated Project Dates: 07/01/2009 - 06/30/2014

Brief Summary and Statement of Need:

This project proposes to continue the use of genetic stock identification to identify the stock composition of western Alaska fisheries for chum and sockeye salmon collected in FY10. Upon completion, ADF&G and the stakeholders will have unprecedented information on the numbers and distribution in space and time of the various stocks of AYK salmon to allow improved estimation of productivity and fishery impacts on a stock-specific basis.

Funding:	<u>FY2010</u>	<u>FY2011</u>	<u>FY2012</u>	<u>FY2013</u>	<u>FY2014</u>	<u>FY2015</u>	<u>Total</u>
Gen Fund	\$1,500,000						\$1,500,000
Total:	\$1,500,000	\$0	\$0	\$0	\$0	\$0	\$1,500,000

<input type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input checked="" 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
One-Time Startup:	0	
Totals:	0	0

Additional Information / Prior Funding History:

FY07 - \$400.0; FY08 - \$1,542.5 reappropriated to AR # 43616; FY09 - \$2,375.0

Project Description/Justification:

This project proposes to continue and improve the use of genetic stock identification to determine the stock composition of western Alaska chum and sockeye salmon fisheries' harvests from 2006 to 2009. Upon completion, ADF&G and stakeholders will have unprecedented information on numbers and distribution in space and time of the various stocks of Western Alaska salmon to allow improved estimation of productivity and fishery impacts on a stock-specific basis. There is a strong commitment by stakeholders all the way from Chignik to Norton Sound to obtain the data and scientific analyses necessary to inform the Board of Fisheries, Department of Fish and Game, and public and help Alaskans generate solutions to reduce conflict and assure the sustainability of the stocks and the fisheries that depend upon them. The debate over effects of fisheries on the various stocks of chum and sockeye salmon in western Alaska has been going on for several decades and the information provided by this project is critical to helping resolve it.

Stock composition studies are conducted by 1) developing baseline DNA data for all of the stocks potentially present in the fisheries, 2) sampling the fisheries comprehensively through space and time, and 3) analyzing fishery samples for the same DNA markers in the baseline so that standard mathematical procedures can allocate catch to stock of origin. Baseline DNA data are routinely updated through the addition of collections and genetic markers as a part of the learning and proofing

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process in DNA studies. Comprehensive sets of samples have been collected from the fishery harvests in 2006, 2007, and 2008 and laboratory analysis has begun. However, deficiencies in the first year of chum salmon sampling require that an additional year of samples be taken to meet the Western Alaska Salmon Stock Identification Project (WASSIP) Advisory Panel prerequisite that three years of complete harvest samples be available before the analysis can proceed. In addition, in order to provide the greatest stock resolution possible in these analyses, it has become clear that additions of both genetic markers and baseline populations for each species are warranted. The WASSIP Advisory Panel, in consultation with their independent Technical Committee, supports this approach to provide the greatest possible benefit from these analyses.

Improvements to the chum salmon baseline have already been funded and are proceeding according to schedule. Improvements to the sockeye baseline will be funded through this request and will involve the development of more than 48 additional genetic markers and the addition of these markers to the current coastwide baseline, which includes more than 30,000 individuals. Additions of baselines and genetic markers should significantly improve the accuracy and precision of our stock composition estimates. This effort will also have benefits for other Alaska fisheries where genetic stock identification is applied to fisheries (e.g., sockeye salmon fisheries in Upper Cook Inlet and Southeast Alaska). The inclusion of one additional year of sampling and analysis will also provide greater understanding of the variability in stock composition in these fisheries.