EVOSTC ANNUAL PROJECT REPORT

Project Number: G-050670

Project Title: Monitoring dynamics of the Alaska coastal current and development of applications for management of Cook Inlet salmon

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Time Period Covered by Report: October 1, 2005 – September 30, 2006

Date of Report: September 30, 2006

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1. **Work Performed:** In July 2006, fisheries and oceanographic sampling was conducted on board an ADF&G test fishing vessel each day along a transect running from Anchor Point to the Red River Delta in Cook Inlet. Test fishing was conducted at six stations along the transect to estimate the size of the sockeye salmon run entering upper Cook Inlet (UCI). The vertical distributions of temperature and salinity were measured at each station using a conductivity-temperature-depth profiler (CTD). Subsurface temperatures were colder and salinities were higher in 2006 compared with the previous two years, perhaps explaining the later than normal sockeye salmon run timing observed this year. We are currently in the process of analyzing data collected during the three years of the project, and we are conducting retrospective analyses of our historical test fishing and environmental data to evaluate methods for improving forecast accuracy.

2. **Future Work:** We do not anticipate any changes to the work proposed in our study plan for the upcoming year.

3. **Coordination/Collaboration:** We have worked with Jennifer Ewald of NOAA to coordinate our ADCP measurements with her sub-surface current measurements. We have also worked with the Cook Inlet Regional Citizen's Advisory Council, University of Alaska, and Minerals Management Service to build a sampling program around the physical measurements made during the OTF cruises. The new sampling includes seasonal hydrographic measurements along the OTF line, Shelikof Strait, and at Kennedy and Stevenson Entrances. We are working with Edward Cokelett of NOAA/PMEL to utilize the data from the EVOS funded marine highway sampling project

4. **Community Involvement/TEK & Resource Management Applications:** The test fishing data collected during this project was used to project the size of the sockeye salmon run entering UCI. The sockeye salmon run timing in 2006 was the latest ever observed, perhaps due to the cold ocean temperatures and high salinities observed in Cook Inlet. As our models corrected for the late run timing, inseason projections of the size of the sockeye salmon run increased as the season progressed in 2006. The final inseason projection of the sockeye salmon

run size was greater than the preseason forecast resulting in a change to the management tier applied in the Kenai River Late-Run Sockeye Salmon Management Plan. Independent estimates of sockeye salmon run timing would improve the accuracy of inseason salmon run size projections. Future analyses of oceanographic data collected during this project will focus on how oceanographic data may improve the accuracy of these projections.

5. **Information Transfer:** The project principal investigators will present a poster at the annual EVOS symposium to be held in Anchorage this winter.

6. **Budget:** Expenditures to date and those anticipated through project completion remain within allocated budget.