

EVOS ANNUAL PROJECT REPORT

Project Number: G-030670

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

PI Name: T.M. Willette and W.S. Pegau

Time Period Covered by Report: April 1 – September 30, 2003

Date of Report: October 9, 2003

1. ***Work Performed:*** In July, 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). A side-looking fisheries acoustic system, an acoustic doppler current profiler (ADCP), and a conductivity temperature depth recorder (CTD) were mounted on a 2-m aluminum sled and towed along side the vessel between stations. CTD casts were also conducted at each station. During this first year of the project, we determined that oceanographic sampling can be conducted on board the test fishing vessel without unduly interfering with existing test fishing operations. However, we encountered difficulties in maintaining the proper aim of the side-looking acoustic system at the relatively high speeds needed to run between stations during periods of high tidal currents. We also found that the manufacturer's cable system provided with the ADCP could not withstand the physical strain encountered during periods of rough weather. In 2004, we will test a longer boom system on board the vessel as a means to reduce the problem of maintaining the aim of the side-looking acoustic system. We will also custom build a conducting cable for the ADCP, which can withstand the strain encountered during rough weather. These system modifications will be tested during May and June well before the beginning of routine test fishing operations in July. We have completed preliminary analyses of our side-looking acoustic data and are currently in the process of archiving and properly documenting the oceanographic data collected last summer.

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 Karen Grissom of NOAA to coordinate our ADCP measurements with her CODAR surface current measurements. The CODAR unit was in place for the month of July and our sampling line was along the northern edge of the CODAR sampling area. We also worked with Mark Johnson's CMI funded drifter study by retrieving and deploying a drifter along the track plus deploying additional drifters that remained in our study area. The chlorophyll measurements collected during our sampling will be incorporated into the GEM funded remote sensing validation work of Pegau. Lastly we have worked with the Cook Inlet Regional Advisory Council to build a sampling program around the physical measurements made during the OTF cruises. The new sampling will include seasonal

hydrographic measurements along the OTF line, Shelikof Strait, and at Kennedy and Stevenson Entrances.

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. Future analyses of oceanographic data collected during the project will focus on how to improve these projections.

5. **Information Transfer:** We are currently in the process of archiving and properly documenting the oceanographic data collected last summer.

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

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Project Web Site Address: n/a _____

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