

## **EVOS ANNUAL PROGRESS REPORT**

**Project Number:** 10100804

**Project Title:** SIGNIFICANCE OF WHALE PREDATION ON NATURAL MORTALITY RATE OF PACIFIC HERRING IN PRINCE WILLIAM SOUND.

**PI Name:** Dr. Stanley Rice

**Time Period Covered by Report:** September 1, 2009 - September 1, 2010.

**Date of Report:** September 1, 2010.

### **Work Performed:**

1. Completed data analyses of acoustic data and whale numbers.
2. Completed analyses of energetic data (calories per fish with numbers of fish available), and calculate energy demands by whales.
3. Completed modeled whale numbers, and calculated consumption through the winters for each PWS, Lynn Canal, and Sitka Sound.
4. Compared results across years and regions.
5. Drafted reports and manuscripts currently in “in-house” review.

### **Future Work:**

No significant changes are proposed to the FY10 study plan. Work on manuscripts and reports will continue and be finalized and compiled in the final report by the April 15, 2011 due date.

**Coordination/Collaboration:** Prince William Sound Science Center seabird observers were present during all ship-based surveys in PWS (EVOS Project 090814). Craig Matkin (EVOS Project 090742) was onboard during our March survey in PWS. Killer whale photographs and vocalizations were collected during all surveys in support of 090742. Herring samples and chemistry were combined with data collected from EVOS Project 090806. Herring Biomass data from PWS was obtained through the ADF&G in Cordova. Whale observations from this project will be included in an updated fluke catalog authored by Olga von Ziegesar. Whale observations from Southeast Alaska are entered in to a collaborative data base with the University of Alaska Southeast and the National Park Service. Kevin Boswell (Louisiana State University) is collaborating with this project to develop new technique for assessing herring biomass.

### **Community Involvement/TEK & Resource Management Applications:**

Kate and Andy McLaughlin (Chenega Bay, AK) were contracted to report on humpback whale abundance and activity in the waters around Sawmill Bay. Olga von Ziegesar (Eye of the Whale, Homer, AK).

This project assisted in the mentoring young women scientists (Heather Riley Alison Stimpert, Ellen Chenoweth, and Suzie Teerlink).

Outreach concerning whale-herring interactions:

Developed curriculum activity for grade 1-6 “*How much do whales eat?*”

*Naturalist Training at the Auke Bay Laboratories in Juneau, AK.*

*Article in Delta Sound Connections, Summer 2010.*

Media contacts:

Dan Joling, Associated Press in Anchorage

Ellen Lockyer, KSKA, Anchorage.

Erik Wander, KCHU News Director 770 AM Public Radio, Valdez.

Abby Lowell, Juneau Empire.

Ted Land, KTUU-DT Juneau Bureau Reporter, Anchorage.

Megha Rajagopalan and Steve Coll, New America Foundation

**Information Transfer:**

Alaska Marine Science Symposium Anchorage, AK:

Moran, Straley, Heintz, Rice, and Teerlink. *Humpback whale predation on herring Part 2: How many whales are feeding on herring?*

Straley, Moran, Heinz, Schaufler, McLaughlin, Rice. *Humpback whale predation on Pacific herring Part 3: What do humpback whales eat during the fall and winter in Prince William Sound?*

Heintz. *Humpback Whale Predation on Herring Part 4: A review of models to predict whale ingestion rates.*

Heintz, Moran, Vollenweider, Straley, Quinn, and Rice. *Humpback whale Predation on Herring Part 5: Impacts of whale foraging on three herring populations in Alaska.*

Eighth Biennial Symposium of the Comparative Nutrition Society, Tucson AZ:

Heintz, *A comparison of the over winter biomass loss from herring stocks with estimates of humpback whale consumption.*

**Signature of PI:** \_\_\_\_\_

**Project Web Site Address:** \_\_\_\_\_