

EVOSTC ANNUAL PROJECT REPORT

Project Number:..... 050749

PI Name: Anne Hoover-Miller, Shannon Atkinson, PhD

Time period covered by report:..... October 1, 2006 – September 30, 2007

Date of Report:..... August 31, 2007

Report prepared by: Anne Hoover-Miller

Project website address (if applicable): ... <http://www.oceanalaska.org/research/sealrvm.htm>

Work Performed: Summarize work performed during the reporting period, including any results available to date and their relationship to the original project objectives. Explain deviations from the original project objectives, procedural or statistical methods, study area or schedule. Also describe any known problems or unusual developments, and whether and how they have been or can be overcome. Include any other significant information pertinent to the project.

FY06 Project Tasks

FY 07, 1st quarter (October 1, 2005-December 31, 2006)

October 15	Winterize system for dormancy; begin data analysis
November 30	Test still camera system in Seward to identify operating constraints and ensure winter operations.
December 31	Submit manuscript for publication

FY 06, 2nd quarter (January 1, 2007-March 31, 2007)

January 12-16 (tentative):	Annual Marine Science in Alaska Symposium
March 2005	Renew Maintenance Contract with SeeMore Wildlife.
March 31	Submit manuscript for publication

FY 07, 3rd quarter (April 1, 2007-June 30, 2007)

April 30	Begin preparing video cameras system for summer operation
May 15	System fully functional, begin recording data

FY 07, 4th quarter (July 1, 2007-September 30, 2007)

Sept 1	Camera observations ongoing
Sept 1	Annual Report prepared

Objective 1. Aialik Bay Video Monitoring System

Aialik Bay Video Monitoring

In spring, 2007, the 2007 maintenance contract with SeeMore Wildlife was continued. The Aialik Bay camera system was refurbished on May 8, 2007 after a cold winter and spring. Observations are ongoing and expected to continue through mid-October, 2007.

Aialik Glacier was more robust and near the center, the glacier had advanced more than seen at any time during this study.

About 300 seals, including at least 42 pups were present during pupping. Ice in Pedersen Lake also was more abundant and persistent than in previous years. The lake remained frozen late into the spring and recession of the glacier produced abundant large bergs that persisted throughout the summer. Seals did not pup in Pedersen Lake. More than 600 seals were counted during the molting period. During the molt, as many as 500 seals hauled out at Pedersen Glacier; only about 100 seals were counted at Aialik Glacier. Numbers remained high throughout August.

Objective 2. Day Harbor Monitoring

Testing of Timelapse Digital Cameras

A field digital video recorder was purchased and installed in Day Harbor in late June 2006. The DVR was operated in time-lapse mode to provide an overview of the haulout area; digital cameras were used to supplement observations by providing detailed images of selected rock haulouts for shorter periods of time (approximately 1-2 months). Field testing was not conducted during the winter because of power limitations. The VCR was restarted in June 2007. Damage from salt and moisture compromised operations and produced unreliable recordings. Neither technology suitably accommodated effective monitoring in rocky habitats with pocket beaches without extensive use of small still cameras.

The digital cameras provided the greatest potential for monitoring seals, despite some unreliability. In steep pocket-beach and rock habitats, such as used by seals in Day Harbor, mounting still cameras in locations that provided sufficient, unobscured, wide-angle views, of haulouts was not possible in most locations. This technology has better potential for use in open beach habitats. At the distance used, the video recorder did not provide sufficient detail to provide reliable counts. In addition its power requirements were too great to use outside the summer season. The video system's sensitivity to salt further precludes use near the water during harsh winters with high velocity winds.

Overall Progress. The remotely controlled video camera system in Aialik Bay operated well throughout the summer and provided a 6th year of information about seals using glacial ice and dynamics of glacial ice environments. Still camera and video technologies were tested with mixed success. Neither technology proved to be a good solution for the numerous pocket haulouts. The simple technology of the Coolpix camera systems has potential for other applications, providing sufficient oversight is available to detect operation failures.

Future Work: Summarize work to be performed during the upcoming year, if different from the original proposal. Describe any proposed changes in objectives, procedural or statistical methods, study area or schedule. *NOTE: Significant changes in a project's objectives, methods, schedule or budget require submittal of a new proposal subject to the standard process of proposal submittal, technical review and Trustee Council approval.*

Video cameras will be winterized in October and final reports will be prepared for April submission. Funding is being sought for continued operation in 2008.

Coordination/Collaboration: Describe efforts undertaken during the reporting period to achieve the coordination and collaboration provisions of the proposal, if applicable.

Strong collaborations with the Ocean Alaska Science and Learning Center, National Park Service, and Port Graham Corporation have continued throughout the year.

Community Involvement/TEK & Resource Management Applications: Describe efforts undertaken during the reporting period to achieve the community involvement/TEK and resource management application provisions of the proposal, if applicable.

During 2007, community involvement has included multiple public presentations to acquaint vessel operators (including kayakers) in Anchorage and Seward with our observations systems in Aialik Bay, information we have learned using the cameras, and recommendations for responsible vessel operation. Special attention has been given to the kayak industry. A workshop was held at the Alaska SeaLife Center and at a Seward Kayak Guide workshop for local kayak guides where information was provided on our camera system, harbor seals in ice environments, and responses of seal to vessels, including kayaks. Valuable discussions yielded insight from kayak guides pertaining to their observations and experiences in minimizing their impact on wildlife. In addition C. Jezierski has maintained contact with kayak guides that continue dialogue and sharing of information with people interacting with the public. The ASLC/OASLC also provides daily public presentations throughout the summer on harbor seals in Aialik Bay and the video monitoring system.

Information Transfer: List (a) publications produced during the reporting period, (b) conference and workshop presentations and attendance during the reporting period, and (c) data and/or information products developed during the reporting period.

NOTE: *Lack of compliance with the Trustee Council's data policy and/or the project's data management plan will result in withholding of additional project funds, cancellation of the project, or denial of funding for future projects.*

(a) Publications produced during the reporting period

Hoover-Miller, A., C. Jezierski, S. Conlon and S. Atkinson. 2007. Harbor seal population dynamics and responses to visitors in Aialik Bay, Alaska. 2006 Report to the Ocean Alaska Science and Learning Center and the National Park Service. Alaska SeaLife Center. April 2007. 46p.

(b) Conference and workshop presentations and attendance during the reporting period

Presented at 2007 Marine Science in Alaska SeaLife Center

- A. Hoover-Miller, S. Atkinson, P. Armato, and J. Maniscalco: Functioning in the Fjords: What does ice have to offer?
- Caroline Jezierski Brenda Norcross and A. Hoover-Miller: Impact of ecotourism on harbor seal behavior in Pedersen Lake, Kenai Fjords National Park (oral)
- L. Polasek and A. Hoover-Miller Growth and Condition of Captive Harbor Seals on a Low Lipid Diet

Kayaker Outreach: Participated in two workshops with local kayak guides May 16-17, 2007 to discuss natural history of harbor seals on glacial ice, the camera system, and effects of kayaks on harbor seals. Presented talk on Marine Mammals of the Kenai Fjords at the 2007 Seward Sea Kayaking Symposium May 19th.

Participated in a Teacher to Teacher workshop held August 10, 2007 Anchorage

(c) Data and/or information products developed during the reporting period

Databases associated with remote monitoring.

- Standard Database: includes counts of seals and sea otters, timelapse video tape log, standard VHS video log, weather at surveys times (observations and measurements from weather equipment on Squab Island (wind direction, velocity, temperature, pressure, humidity).
- Vessel Interaction database.
- Video library of time-lapse tape and real-time VHS tapes from Aialik Bay remote video cameras.
- Still image library. Still pictures taken from the video cameras that document events, ice distribution, and glacier movements.

Budget: Explain any differences and/or problems between actual and budgeted expenditures, including any substantial changes in the allocation of funds among line items on the budget form. Also provide any new information regarding matching funds or funds from non-EVOS sources for the project.

NOTE: *Any request for an increased or supplemental budget must be submitted as a new proposal that will be subject to the standard process of proposal submittal, technical review, and Trustee Council approval.*