

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: River Otters in Southwest Alaska Network, A Plan to Estimate Distribution, Relative Abundance, and Minimum Population Size Based on Coastal Latrine Site Surveys and Microsatellites in Katmai, Lake Clark and Kenai Fjords NPs. Funded in FY 04, 05 and 06

Discipline: Natural
Type of Project: Research
Funding Agency: National Park Service
Other Partners/Cooperators: University of Wyoming
Effective Dates: 3/1/2004 - 12/31/2007
Funding Amount: \$102,695

Investigators and Agency Representative:

NPS Contact: Michael Shephard, Inventory & Monitoring Coordinator, Southwest Alaska Network, National Park Service, 240 West 5th Ave., Anchorage, AK 99501, Phone: 907-644-3681, Michael_shephard@nps.gov

Investigator: Merav Ben-David, Department of Zoology and Physiology, P. O. Box 3166, University of Wyoming, Laramie, WY 82071, Tel: 307 766-5307, Fax: 307 766-5625, BenDavid@uwyo.edu

Project Abstract:

This project has been funded for three fiscal years by the Southwest Alaska Inventory and Monitoring Network (SWAN) to improve the knowledge of the occurrence, distribution, relative abundance, and minimum population of river otters throughout the coastal portions of the Kenai Fjords National Park (KEFJ), Lake Clark National Park and Preserve (LACL), and Katmai National Park and Preserve (KATM) for the Southwest Alaska Network (SWAN) Inventory and Monitoring Program.

In the aftermath of the Exxon Valdez oil spill (EVOS), studies of coastal river otters (*Lontra canadensis*) in Prince William Sound indicated they are a keystone species for the land-margin ecosystem and a sentinel species for monitoring levels of environmental contamination. Because of their role as keystone species for the land-margin, river otters have been identified as an indicator species in the Southwest Alaska Inventory and Monitoring Network. The Alaska Department of Fish and Game and the University of Wyoming are working with SWAN parks; Kenai Fjords, Katmai, and Lake Clark, to establish baseline estimates of river otter distribution, relative abundance, and minimum number alive within park boundaries and to compare these estimates with similar ones from Prince William Sound and Kachemak Bay.

The objectives of this study are:

- Estimate coastal river otter density in KEFJ; conduct a survey of random sites in KEFJ for development of habitat selection models to extrapolate population estimates from fecal DNA analyses to the entire shoreline of the park.
- Establish a baseline estimate of coastal river otter distribution, relative abundance, and minimum number alive within KATM boundaries.
- Test and evaluate a protocol for estimating coastal river otter population densities using DNA from fecal samples collected at latrine sites.
- Establish a baseline estimate of coastal river otter distribution, relative abundance, and minimum number alive within LACL boundaries; obtain minimum number alive estimates for LACL
- Develop monitoring protocols for all 3 parks based on latrine density, fecal DNA analyses and success of hair snaring.

Outcomes with Completion Dates:

All data, reports, products, and deliverables will adhere to SWAN guidelines provided at: http://www1.nature.nps.gov/im/units/swan/index.cfm?theme=info_guidelines

1. A field report due September 30, 2006.
2. A draft annual report due November 30, 2006.
3. Review of annual report completed by December 31, 2006.
4. A final annual report due January 31, 2007.
5. Archived data on sampling protocols and location of sampling points due April 30, 2007.
6. Draft monitoring protocols due April 30, 2007.
7. Review of monitoring protocols due August 31, 2007
8. Final monitoring protocols due September 30, 2007.
9. A draft final report due September 30, 2007.
10. A draft GIS database containing sampling points, critical areas for species management concern, a layer linked to species abundance, and a layer linked to habitat due September 30, 2007.
11. Review of final report and GIS database due November 30, 2007.
12. A final report and GIS database due December 31, 2007.
13. Publication in peer reviewed journals and oral presentation to the network or forums such as the Wildlife Society Annual Meeting.

Keywords: river otter, distribution, relative abundance, genetic analysis, latrine sites, Kenai Fjords National Park, University of Wyoming, Katmai National Park and Preserve, Lake Clark National Park and Preserve, Southwest Alaska I&M Network