



# NORTH PACIFIC UNIVERSITIES MARINE MAMMAL RESEARCH CONSORTIUM

photo by V. von Biela



## **Reproductive Parameters of Alaskan Sea Otter in Regions of Population Increase and Decline**

*Reproductive parameters of currently declining sea otter populations in western Alaska, will be estimated and compared to those in increasing populations in the late 1960s.*

Populations of marine apex predators have declined dramatically within western Alaska over the past two decades. One hypothesis for the ongoing decline is increased predation; in this scenario, life history theory predicts a younger age at first reproduction and increased reproductive rates.

### **What Researchers hope to learn:**

A careful examination of reproductive tracts of sea otters collected in different regions and time periods provides an excellent opportunity to explore how reproductive parameters interact with population trajectories and may shed light on why sea otters and other apex predators declined.

### **Project Outline:**

The study will estimate current fecundity rates, age at first reproduction, and fetal sex ratios in sea otters in increasing (Southeast Alaska), stable (Southcentral Alaska) and declining (Western Alaska) populations. Reproductive parameters will be compared to those determined in the late 1960s and early 1970s when populations were increasing to test the hypothesis that reproductive parameters have changed in conjunction with shifts in population trajectories.

The study will rely on carcasses sent by native hunters to the US Fish and Wildlife Service (USFWS) or The Alaska Sea Otter and Sea Lion Commission (TASSC) for biosampling. All reproductive tracts (uteri and ovaries) are collected and preserved as part of this program. These samples archive the recent reproductive history of a large number of female sea otters, and can be used to assess reproductive status of otters from different areas of Alaska. In addition, samples collected by wildlife biologists in the late 1960s and early 1970s, when the populations were increasing in many areas, exist and can be used for comparative purposes.

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### **Collaborating Investigators:**

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