

# Sea Otter- diet

## Vital Signs Monitoring- Southwest Alaska Network



### Importance / Issues

Sea otters were selected as a SWAN vital sign because they are a textbook example of a "keystone" carnivore. By consuming 'grazers,' the animals that feed on kelp, Sea otters dramatically change the structure and complexity of their ecological community. Sea otters tend to be relatively sedentary in comparison to other marine mammals; eat large amounts of food; have an incidence of disease that is correlated with contaminants; and have broad appeal to the public. In September 2005, the Western Alaska Stock of sea otter were federally listed on as threatened.



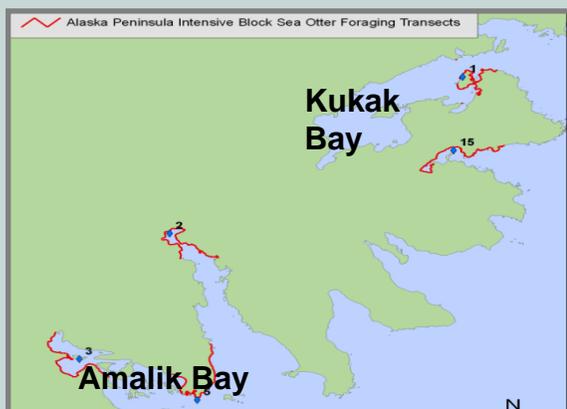
*USGS biologists observing foraging sea otters with high resolution telescopes to determine foraging success, composition and size of prey, and number of prey items recovered, KATM 2006.*

### Sampling Design

The purpose of collecting data on sea otter diet is to quantify foraging success and intensity as well as the types, number, and relative sizes of prey being eaten by sea otters. A stratified random sampling design will be used to evaluate foraging data and to examine differences in foraging and prey species recovered between regions, years, and the interaction between regions and years. These data provide information on the status of sea otter populations (amount and types of food obtained per unit effort) as well as the relative abundance of prey items (as measured indirectly by sea otter foraging success and prey selection).

### Current and Future Monitoring

In 2006, sea otter foraging data was collected on 3 of the 5 rocky intertidal intensive monitoring sites along the KATM coast. Two observers spent about 21 hours (42 observer hours) acquiring feeding data from 65 forage bouts (1.5/hr) and about 500 dives (12/hr). At Kukak Bay, biologists observed 20 forage bouts that included 146 dives over 2 days. Diet was numerically dominated by bivalves, primarily clams. In Amalik Bay (Mink Is.) 45 bouts were observed that included 358 dives over 2 days. Diet was again dominated numerically by clams but included a diverse array of other invertebrates including, stars, urchins, crabs, chitons, snails and 7 bouts consisting of large octopus. This sampling protocol was successfully implemented. Data collection will be constrained to sites where sea otters are present in relatively high densities and to where visual access to feeding animals is possible. In 2007 monitoring will continue at KATM and be implemented at KEFJ.



*Sea otter foraging transects along a portion of the Katmai National Park and Preserve-Shelikof Strait coastline, 2006.*

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