



U.S. Fish & Wildlife Service

# Wildlife Biologue

## Northern sea otter in Alaska (*Enhydra lutris kenyoni*)

Northern Sea Otter Stocks in Alaska



Randall Davis

### Description

Sea otters are a member of the weasel family (Mustelidae) and live in the near-shore waters along the North Pacific ocean. Sea otters are the smallest marine mammal and are most closely related to river otters. Sea otters are suited to their marine environment by adaptations of dentition, skeletal structure, and pelage. Sea otter dentition is adapted for crushing hard-shelled invertebrates such as clams, urchins, and crabs. The skeletal structure of the sea otter is loosely articulated and lacks a clavicle which allows for increased flexibility in swimming and grooming.



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The forelimbs are used primarily for grooming and foraging rather than swimming. The hind feet are flattened and flipper-like with an extension of the fifth digit which allows the animal to more efficiently swim on it's back on the surface of the water. Sea otters do not have a blubber layer as other marine mammals do, instead they depend upon a dense, water-resistant fur to provide insulation against cold. Sea otter fur is very dense and has a greater number of hair follicles per inch than any other mammal. Adult sea otters can reach lengths of up to 6 feet (1.8 m) but average about 4.5 feet (1.4 m). Adult male otters weigh from 70 - 90 pounds (32-41 kg) with some males reaching up to 100 pounds (46 kg). Adult female otters average 40 - 60 pounds (18-27 kg).

### Life History

Sea otters' average life span is approximately 15 - 20 years. Female sea otters do not begin to breed until age 2 - 3 years and may breed annually up until age 20. Males become sexually mature at 4- 5 years but may not hold breeding territories until several years later.

Mating occurs at all times of the year, and young may be born in any season. In Alaska, most pups are born in late spring. Sea otters generally have a single pup during each breeding cycle and the gestation period can be highly variable due to delayed implantation of the fertilized egg. A pup will weigh from 3 to 5 pounds (1.4 - 2.3 kg) at birth and stay with its mother from 3 - 6 months.

### Range and Population Levels

Historically, sea otters occurred in near shore waters around the North Pacific rim from Hokkaido, Japan through the marine coastal areas of the Russian Far East and the Pacific coastal areas in the United States as far south as Baja California. The world-wide sea otter population, thought to number between 150,000 to 300,000 was drastically reduced to just a few hundred animals between 1742 - 1911, due to commercial harvest by the Russian and Russian/American fur trades. Three population stocks of sea otters exist in Alaska today (see map). The statewide population is believed to number around 100,000 animals (see stock assessments).



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### Food Habits

Sea otters dive to gather food from the ocean floor in relatively shallow water in areas with both rocky substrates and soft bottom sediments. A loose pouch of skin at the axilla (arm pit) of each forelimb is used to store and transport food to the surface. Sea otters eat a wide variety of benthic invertebrates including: clams, crabs, sea urchins, snails, octopus, and occasionally fish and sea birds. Diving depth of sea otters is highly variable and ranges from 5 - 250 feet (2 - 75 m) depending on the prey species. Large food items are cracked by the flattened molars or pounded open with a rock and eaten individually while the sea otter floats on its back. Small prey items are often consumed whole. Foraging dives average 1-1½ minutes but sea otters are known to remain under water for up to 4 minutes at a time. Sea otters compensate for having a small body size and no blubber layer by having an increased metabolism which helps them keep warm in the cold water. Sea otters in captivity will consume up to 25% of their body weight per day.

### Management and Protection

In the United States, the northern sea otter is protected from hunting and harassment by the Marine Mammal Protection Act of 1972 (Act). The U.S. Fish and Wildlife Service (Service) is the federal agency responsible for maintaining healthy populations of sea otters. In Alaska, biologists from the Service and the Alaska Science Center, U.S. Geological Survey, monitor the population health and status. The primary threats to the sea otter are generally human-related, and include: competition for shellfish, mariculture, oil and gas transport, logging activities in coastal areas, and commercial fishing. Coastal Alaska Natives are allowed to harvest sea otters for subsistence and handicraft purposes under the Act.

In 2005 the Service listed sea otters in southwest Alaska as threatened under the Endangered Species Act (ESA). As a result of this ESA listing, the Service has developed a recovery plan to identify the cause of the decline, monitor population trends, and help recover the sea otter population in southwest Alaska.

In 2009 the Service finalized the designation of critical habitat for the threatened northern sea otter in southwest Alaska. Critical habitat areas contain habitat that is essential to the conservation and recovery of a threatened or endangered species.

More information on critical habitat designation can be found at <http://www.fws.gov/alaska/fisheries/mmm/seaotters/criticalhabitat.htm>



Randall Davis

U.S. Fish & Wildlife Service  
1 800/344 WILD  
<http://www.fws.gov>

U.S. Fish & Wildlife Service  
Marine Mammals Management Office  
1011 East Tudor Road  
Anchorage, AK 99503

Visit the Marine Mammals home page:  
<http://alaska.fws.gov/fisheries/mmm/index.htm>

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