

SEA OTTER (*Enhydra lutris kenyoni*): Washington Stock

STOCK DEFINITION AND GEOGRAPHIC RANGE

Sea otters breed and give birth year-round (Riedman and Estes 1990). The peak pupping period for the Washington population is not defined; however, breeding and pupping seasons peak about 2-3 months later in Alaska than in California. The Washington population ranges from Neah Bay south to Destruction Island.

Enhydra lutris kenyoni historically ranged throughout the Aleutian Islands, originally as far north as the Pribilof Islands and in the eastern Pacific Ocean from the Alaskan Peninsula south along the coast to Oregon (Wilson et al. 1991). This subspecies was extirpated from most of its range during the 1700's and 1800's as the species was exploited for its fur. In 1969 and 1970, a total of 59 sea otters captured at Amchitka Island, Alaska were released in Washington (Jameson et al. 1982). The estimated carrying capacity in Washington has not been determined.

For management purposes pursuant to the Marine Mammal Protection Act of 1972, the range of this stock currently is being considered as within the borders of the state of Washington.

POPULATION SIZE

The reintroduced population was not surveyed between 1970 and 1977. In 1977, the U.S. Fish and Wildlife Service surveyed the coast and counted only 19 sea otters. The population was surveyed again in 1978. Between 1981 and 1989 the population was surveyed every other year. Since 1989, data on size and distribution of the Washington sea otter population have been gathered annually using combined aerial and ground counts.

Minimum Population Estimate

Based on the 1994 spring survey (actual count), the minimum population size is 360. Survey conditions during 1994 were less than optimal and the Service believes that the population is probably slightly larger than this count.

Current Population Trend

Based on count totals from 1977 to the present, the Washington sea otter population is continuing to increase. Since 1989 (when the current survey method was initiated) through 1994, the population has grown at an average rate of 12 percent per year (R. Jameson, National Biological Service, pers. comm.).

CURRENT AND MAXIMUM NET PRODUCTIVITY RATES

The maximum growth rate (r_{\max}) for sea otter populations is about 20 percent. Except for California and Washington sea otter populations, all increasing populations for which data are available have grown at about this rate (Estes 1990). In Washington, the r_{\max} appears to be 12 percent.

ANNUAL HUMAN-CAUSED MORTALITY

Incidental drowning of sea otters in gill and trammel entangling nets has been a significant source of mortality for southern sea otters (Wendell et al. 1985). In 1992, a dead sea otter was recovered by a California Department of Fish and Game warden in a crab pot located in 30 to 60 feet of water off Point Santa Cruz. The level of take of southern sea otters in lobster and crab fisheries in California is unknown. Reports from Alaska further substantiate the incidental take of sea otters in traps fisheries.

Sea otters are susceptible to drowning in gill nets in Washington's coastal gill net fisheries, but documented incidental takes are rare. In Washington, one sea otter was killed in a tribal chinook salmon set-net in the vicinity of the mouth of the Ozette River on the north Washington coast. However, as the sea otter population expands, mortality in crab pot and tribal set-net fisheries may increase.

Other sources of human-caused mortality affecting the Washington population of sea otters are not well documented. Documented sources of human-caused mortality for the southern sea otter include shooting, boat strikes, capture and relocation efforts, oil spills and possibly elevated levels of polychlorinated biphenyls (PCBs) and other toxic contaminants. In Washington, an uncertain number of sea otters may have been killed in recent years by small oil spills.

Native Americans of the Pacific northwest have Tribal Rights to wildlife resources. These resources are claimed by the tribes to include sea otters. Currently there is no harvest of sea otters by the Native Americans; however, there is an interest to develop such a program.

FISHERIES INFORMATION

At present, there has been only one recorded otter-fishery interaction in Washington. Set gill nets are used by Native Americans to catch salmon along the north coast of Washington and the Strait of Juan de Fuca. This fishery operates out of Neah Bay. As the Washington sea otter population moves north, or if the fishery moves south, the probability of fisheries-related incidental take will increase.

As sea otters expand their range north or south, they will encounter several sport and commercial shellfish fisheries (urchins, razor clams, Dungeness crabs) along the coast. Evidence from California and Alaska suggests that incidental take of sea otter in crab traps may occur.

STATUS OF STOCK

The Washington sea otter has no formal Federal designation. It is legally designated as endangered by the State of Washington (Washington Administrative Code 232-12-014). The Washington sea otter population is below its Optimum Sustainable Population level.

POTENTIAL BIOLOGICAL REMOVAL

The Potential Biological Removal (PBR) for the Washington stock is 11 animals. PBR is the product of three elements: the minimum population estimate (N_{min}); half the maximum net productivity rate ($0.5 R_{max}$); and a recovery factor (F_r). For the Washington sea otter stock, $N_{min}=360$; $R_{max}=12$ percent; and $F_r=0.5$.

REFERENCES

- Estes, J. A. 1990. Growth and equilibrium in sea otter populations. *J. Anim. Ecol.* 59:358-401.
- Jameson, R. J., K. W. Kenyon, A. M. Johnson, and H. M. Wight. 1982. History and status of translocated sea otter populations in North America. *Wildl. Soc. Bull.* 10:100-107.
- Riedman, M. L., and J. A. Estes. 1990. The sea otter (*Enhydra lutris*): behavior, ecology, and natural history. U.S. Fish and Wildlife Service, Washington, D.C., Biological Report 90(14). 126 pp.
- Wendell, F. E., R. A. Hardy, and J. A. Ames. 1985. Assessment of the accidental take of sea otters, *Enhydra lutris*, in gill and trammel nets. Mar. Res. Branch, Calif. Dep. Fish Game. Unpubl. rep. 30 pp.
- Wilson, D. E., M. A. Bogan, R. L. Brownell, Jr., A. M. Burdin, and M. K. Maminov. 1991. Geographic variation in sea otters, *Enhydra lutris*. *J. Mammal.* 72(1):22-36.