SEA OTTER CONSERVATION

Only three subspecies of sea otter are found in the world: the southern, or California, sea otter (***Enhydra lutris nereis***), the northern sea otter (***Enhydra lutris kenyoni***) and the Russian sea otter (***Enhydra lutris lutris***). Southern sea otters are found only in California. Northern sea otters are found in Washington, Alaska and Canada. Russian sea otters are found in Russia and there are a few in Japan.

The southern sea otter is the only sea otter subspecies listed under the federal Endangered Species Act (ESA). It was listed as "threatened" under the ESA in 1977. The southern sea otter also is classified as a "fully protected mammal" under California state law. All sea otters are given additional protection under the Marine Mammal Protection Act (MMPA).

The ESA was passed in 1973 to help preserve America's endangered and threatened species. It is a complex law that requires not only the listing of imperiled species but the development of plans for their recovery. The ESA also established rules about how existing populations of endangered and threatened animals must be treated. For instance, according to the ESA an endangered species cannot be killed, collected, wounded or harassed. The ESA also makes it illegal to buy, sell or possess any part of endangered species or items made from them. In addition, it also **mandates** that efforts must be made to recover the species, which means creating and implementing a plan for returning them to healthy population levels.

The Marine Mammal Protection Act of 1972 (MMPA) was enacted to protect marine mammals and establish a Marine Mammal Commission. The act acknowledges that: "Certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities"; and that "there is inadequate knowledge of the ecology and population dynamics of such marine mammals and of the factors which bear upon their ability to reproduce themselves successfully." To address these problems, the MMPA states that "negotiations should be undertaken immediately to encourage the development of international arrangements for research on, and conservation of, all marine mammals."

These and other findings and declarations of policy set forth in the MMPA serve as the guiding force for adopting the most effective conservation measures for all marine mammals in U.S. waters.

THE SOUTHERN SEA OTTER

The southern sea otter population has declined in numbers in six out of the last eight years. Finding a way to reverse the decline is difficult, because biologists cannot pinpoint the exact reason for this dip in population numbers. Scientists theorize that the decline is due to a combination of problems such as high incidence of disease, food limitations (not having enough food in some areas), entrapment in fisheries gear and

habitat **degradation**, but more research is needed.

Initial conservation efforts involved translocating otters from one place to another. Beginning in 1987, 140 sea otters were translocated from the **parent range** to San Nicolas Island in the Channel Islands. Conservationists were hopeful that establishing this second population would guard against the entire southern sea otter population being wiped out by an oil spill or other catastrophic event. The translocations were stopped when it became clear that sea otters were not remaining at San Nicolas Island and that the stress-related mortality rate was higher than expected when translocating sea otters. Some of the otters translocated to San Nicholas Island died, some swam back to the parent range. More than half of the translocated sea otters disappeared.

A management zone was also created in 1986 to reduce sea otter-fishery conflicts. The management zone is an area outside the parent range in which sea otters are not allowed. If sea otters move into the management zone, the U.S. Fish and Wildlife Service (FWS) is required by law to transport these otters back into the parent range.

In the past there has not been a significant migration of sea otters into the management zone, but since 1998, the number of sea otters moving into this zone has been increasing. There is seasonal movement of 100 to 200 sea otters into the management zone in late winter and early spring. The otters then move back into the parent range by late summer or early fall. Fishermen have asked FWS to uphold the law and move the otters back into the parent range. Conservationists argue that sea otters are simply returning to their historical areas of occupation and that this movement is necessary for the continued recovery of the southern sea otter. They also point out that transporting sea otters has resulted in high levels of mortality due to stress.

Various fisheries groups filed a lawsuit against FWS to require them to move the sea otters from the management zone back into the parent range. Several organizations including Defenders of Wildlife, Friends of the Sea Otter and The Ocean Conservancy were allowed to become a third party in the lawsuit, or intervene on behalf of FWS, to protect the sea otters. The lawsuit was dropped by the fisheries groups in July 2001.

Southern sea otters and other marine animals, have been harmed by gill nets. Gill nets accounted for approximately 1,000 sea otter deaths from 1973 to 1983. To reduce the number of deaths, legislation was enacted in the late 1980s to move gill nets farther offshore. However, the sea otter population continues to decline. Researchers now think that sea otters may reside farther offshore than was believed when the law to move gill nets was enacted. In September 2000, the California Department of Fish and Game (CDFG) enacted an emergency closure requiring the gill net fishery to move even farther offshore along portions of central California. In February 2001, the CDFG extended the emergency closure for 120 days to determine if permanent regulations are needed.

Other problems facing the southern sea otter include high incidence of disease and general degradation of their habitat through human activities. In addition, southern sea

otters may also become entrapped and drown in live fish traps.

THE NORTHERN SEA OTTER

The northern sea otter is not listed under the ESA, but conservationists are interested in having two subpopulations listed. One subpopulation is found in regions of the Aleutian Island chain, which have recently suffered dramatic declines of up to 90 percent in sea otter populations on some islands. The other subpopulation lives in Washington. This small population is **vulnerable** to state and tribal fishery activities, habitat degradation and threats from oil spills.

Alaska

The sea otter populations in Alaska have been in decline. The Aleutian sea otter population has declined by nearly 70 percent since 1992. Recent surveys also indicate a 40 percent decline in the Kodiak region. Some scientists think that the major reason for this decline is orca **predation**, although exactly why orcas are preying upon sea otters is not entirely understood. One theory attributes otter predation by these large whales to declines in the harbor seals and Steller's sea lions on which they typically feed. Scientists theorize that such declines in prey may be due to over fishing and/or changes in environmental conditions (**regime shifts**) or other unknown factors.

Washington

The small, vulnerable population of sea otters in the state of Washington grew out of sea otter **translocation** efforts in 1969-1970. Fifty-nine sea otters were moved from Amchitka Island in Alaska to Washington. Today there are about 500 sea otters in the state. As these otters migrate into new areas, conservationists are concerned that conflicts with state and tribal fisheries may arise. These conservationists would like to have this subpopulation of the northern sea otter protected by the ESA or listed as "depleted" under the MMPA.

Global

While Canada and Russia do not have the kind of sea otter issues that confront California, Alaska and Washington, the overall worldwide conservation strategy for the sea otter is united. Although sea otters once had extensive numbers throughout their range from northern Japan to Baja California, their range is now divided into subpopulations, some of which are experiencing severe problems. As we have seen in the United States, efforts to recover these sea otter populations will require cooperation and coordinated efforts among state and federal agencies, conservation groups, researchers, fisheries groups, zoos, aquariums and the public. Only then can there be any hope for recovering this remarkable keystone species.

VOCABULARY

mandate
a formal order from a superior court or official

degradation
decline to a low, destitute, or demoralized state

parent range
the main area, which includes the northern and southern boundaries, from which the population or subpopulation is found

vulnerable
open to attack or damage

predation
the capture of prey as a means for maintaining life

regime shift
a pronounced and prolonged change in the characteristic atmosphere-ocean climate of a region

translocation
a change of location

Check Your Reading Skills

Sea Otter Conservation

1) What sea otter subspecies is the only one protected under the Endangered Species Act?

2) Why has the Aleutian sea otter population declined since 1992?

3) Who are some of the key players in sea otter recovery?

4) In your own words, explain the Endangered Species Act.

5) Do you agree/disagree with the legally imposed management zone? Why/why not? Support your answer.

Reading Comprehension Check
Answers

1) The southern or California sea otter is the only subspecies protected under the ESA.

2) The predominant theory is that orca predation has caused a decline in the sea otter population.

3) State and federal agencies, conservation groups, researchers, fisheries groups, zoos, aquariums and the public are all key players in sea otter recovery.

4) An endangered species cannot be killed, collected, wounded or harassed. It is illegal to buy, sell or possess any part of an endangered species or items made from them. Efforts must be made to recover the species.

5) Answers will vary.