

# Why is the Sea Otter important?



[Dan](#)

Sea otters are a keystone species in the kelp forest ecosystem, eating sea urchins, clams, snails, sea stars, squid, octopuses and abalone. When present in healthy numbers, they keep sea urchin populations in check. When sea otters decline, however, urchin numbers explode—as does their grazing pressure on bull kelp. The urchins chew off the attachments keeping bull kelp in place, causing them to die and float away. This decimates kelp beds and sets off a chain reaction that depletes the food supply for other marine animals and in turn causes their decline.

## Source(s):

<http://www.edjameson.com/Endangered%20An...>



[Cal King](#)

Although they were hunted to near extinction for their pelts, and they were persecuted by fishermen for eating shellfish, sea otters are very important to their ecosystem. They are about the only animals that eat sea urchins. Sea urchins feed on kelp, and they destroy kelp forests in areas in which sea otter have become extinct. The kelp forest provides hiding places and suitable microhabitats for a large number of animals, which cannot live without the kelp forests.

## A beautiful animal...

**Sea otters are members of the weasel family, with large eyes and thick, dark brown fur. Their rich pelt has up to a million hairs per square inch which substitutes for blubber to keep them warm in cold water.** Among the very few marine mammals known to use tools, they break open clams and abalone with stones to get at the meat inside. These intelligent animals live in shallow water and prefer kelp forests, sometimes anchoring themselves in one place by wrapping strands of kelp around their bodies while they rest.

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## ...nearly hunted to extinction

Ironically, the thick fur that sustained sea otters for hundreds of thousands of years nearly brought them to extinction when European



Urchin Bed - Sea otters prey on sea urchins, keeping their populations in balance.

trappers discovered their value in the 18th and 19th centuries. Before 1741, when Russian explorers discovered and began to hunt otters on islands off the Alaskan coast—using enslaved native peoples like the Aleuts to help with the slaughter—there were between 150,000 and 300,000 otters living between Alaska and Baja California. During peak hunt years, 500 to 600 otters were killed every week in San Francisco Bay alone. By 1911, when the International Fur Seal Treaty was signed, giving otters some protection, there were only 1,000 to 2,000 animals left alive throughout the entire range. Today, sea otters are extinct in virtually the entire coast of North America south of Alaska. Only one small population remains in the vicinity of Big Sur, California.

## **Saving the Alaskan Sea Otter**

***Declining Species and Ecosystems.*** There are two populations of Northern sea otters: *E. lutris lutris* (the Russian sea otter) and *E. lutris kenyoni* (the Alaskan sea otter). [Recent data](#) collected by both the Fish & Wildlife Service and the U.S. Geological Survey show that the Alaskan sea otter population in the Aleutians declined by 95% since the mid-1970s, when it numbered some 50,000 to 100,000 strong. From 1992 to 2000 it may have declined by 70%. Today, as few as 6,000 otters may remain in the entire Aleutian chain.

The decline may be due to increased predation by killer whales. Killer whales normally don't eat sea otters because they are too small. The whale's usual food source, Steller sea lions and harbor seals, have declined drastically in recent years, however, causing the whales to shift to sea otters. Steller sea lions are already listed as "endangered" species under the [U.S. Endangered Species Act](#). The unraveling of the marine food chain, from Steller sea lions to killer whales to sea otters to urchins to the kelp beds themselves, is a grave sign of ecosystem stress beginning to take its toll.

***Protective Petition Filed, But A Lawsuit May Be Necessary.*** On October 25, 2000, the Center for Biological Diversity formally petitioned the U.S. Fish & Wildlife Service to list the Western Alaska/Aleutian Islands population of the sea otter as "Endangered" under the Endangered Species Act (ESA). The [petition](#) was based on the agency's own biological data and called for immediate listing and protection to save the population from extinction.

Rather than act on our petition, however, the Fish & Wildlife Service placed the population in administrative purgatory. On November 9, 2000, it designated the sea otter in the Aleutian Islands a "Candidate" species under the Act—a designation without protective status. In the agency's own words, "Candidate Species status does not restrict any activities of any kind." The agency says it does not plan to actually list the species as endangered until 2002—by which time the otter population may have suffered further critical decline.

In response, on November 15, 2000, the Center filed a formal [60-day notice](#) of its intent to sue the U.S. Fish & Wildlife Service for its failure to immediately propose listing and protection. The lawsuit argues that the "candidate" designation is an illegal delay tactic that could result in the extinction of the population. Federal policy allows species to be designated as "candidates" for protection when it is in danger of extinction but the agency is too busy with more imperiled species to take immediate action. In this case, the designation is clearly an unlawful dodge. No other species in Alaska is currently being processed by the Fish and Wildlife Service for Endangered Species Act listing.

## Gill Netting Shut Down to Protect California Sea Otter

***A Roller Coaster of Decline and Recovery.*** Having been hunted to extinction along virtually the entire coast south of Alaska, 38 southern (or "California") sea otters managed to survive in a small population near Big Sur,

California. By the 1970s, the population had increased to 1,800 individuals. It then began to nosedive due to gill netting as otters got entangled in the near-shore nets and drowned. With the passage of the Marine Mammal Protection Act in 1972, and the transfer of gill nets farther offshore, the population began to recover and was at 2,377 by 1995. Plans were made to declare it "recovered" and remove it from the Endangered Species list.

Between 1996 and 1999, however, the population experienced a sudden downturn. In 1999, only 2,090 were found. A spring 2000 survey counted a total of 2,317 otters, but government biologists do not know whether the apparent upward trend will continue.

Threats to the population are not fully understood but are thought to include by-catch in commercial fisheries and oil spill pollution. In 1998, the National Marine Fisheries Service (NMFS) estimated that the set gillnet fisheries in Monterey Bay alone had killed 7, 28 and 41 sea otters in 1995, 1996 and 1997 respectively.



Sea otters have been called the "old men of the sea" by sailors and fishermen because of their white whiskers and expressive faces.

Otters often anchor themselves in one place by wrapping strands of kelp around their bodies while they rest.

### ***Protecting the Ecosystem to Protect Otters.***

To end by-catch kill, the Center for Biological

Diversity and the Turtle Island Restoration Network filed a formal 60-day notice of intent to sue the California Department of Fish and Game for violating the ESA by allowing the killing of California sea otters in the state-managed halibut fishery in the Monterey Bay area.

In response, the state shut down the Monterey Bay set-gillnet fishery for halibut and angel shark on September 11, 2000. The order bans gillnetting in waters less than 60 fathoms from Pt. Reyes to

Yankee Point, and thus effectively bans gillnet fishing in most of the Monterey Bay National Marine Sanctuary. Since the fishery also kills 120 harbor porpoises, 5,200 common murrelets, elephant seals, and California sea lions annually, the victory is important for the entire ecosystem. Common murrelets have declined from one million to about 100,000 on the Farallon Islands in the past two centuries.



Steller Sea Lions - by Gerald and Buff Corsi

Steller sea lions, once a main food source of killer whales, have become very rare, forcing the whales to eat Aleutian sea otters instead.

[Steller sea lion was emergency-listed as an endangered species in 1990.](#)

In issuing the 120-day emergency closure, DFG admitted otter and murre populations could be jeopardized by the fishery. The closure also shuts down a portion of Santa Barbara County to gillnet fishing. In total, the closure will protect 150 miles of California's coast.

## **Why Sea Otters Are So Important (Part 1 of a 5-part series)**

by "[Olive](#)" the Oiled Otter on Thursday, November 19, 2009 at 12:28pm

By Dr. Dave Jessup, wildlife veterinarian with the California Department of Fish and Game  
[http://www.facebook.com/note.php?note\\_id=217820704987](http://www.facebook.com/note.php?note_id=217820704987)

Big Creek runs into the Pacific Ocean halfway north to south, down the Big Sur Coast. Its waters are clear and cold, and in the early November sun the boulders of California jade, some as big as cars, are many shades of light and medium green. Many are smoothed and rounded by the surf; some are muddied with deep maroon or shot through with veins of white quartz. Directly beneath the massive concrete ellipses of the Big Creek Bridge, we are gathered in a cluster of government green pickups, a white mobile veterinary lab and trailer and private cars, on a research and conservation mission aimed at discovering whether sea otters off the relatively pristine Big Sur are significantly healthier, longer-lived and more capable of producing surviving pups than those in Monterey Bay. This question is important and an appropriate one.

Our divers are out in boats trying to capture wild sea otters. They do this by using underwater scooters and rebreathers that don't give off bubbles, so they can get under the otters undetected and then swoop up from below with a net (called a Wilson trap). Once caught, the otters are put into dark, porous wooden crates, whisked to a very narrow rocky beach at Big Creek, brought ashore by Zodiac, wheeled over the rough beach on carts with six big balloon tires to our site. We then anesthetize them, weigh and measure them, give them a health check-up, take blood and fecal samples, nose swabs and a whisker, apply toe tags, take a biopsy, and for those who are not pregnant or don't already have one, we implant a temperature sensitive VHF radio. (More about all this later.)

A decade and a half of research has shown that the "threatened" southern sea otter population as a whole is not thriving. In fact, periodic declines, anemic growth in good years and none in others has resulted in stagnant growth. The central problem is that otherwise normal and apparently healthy adult sea otters die before their teeth are worn out, before they are starving and before they raise all the pups they could or should. There are many things that kill sea otters, but a large proportion, more than 50 percent, are dying of infectious diseases, parasites and intoxications. Many of these ailments appear to originate from land and are linked to human activities and appear to be relatively new, from an evolutionary perspective. They are sediments, nutrients, fertilizers, pesticides, fecal bacteria, protozoal pathogens and other parasites – essentially forms of pollution – and result from environmental degradation.

The biological and scientific purpose of our research is to compare the vital statistics and health of sea otters living in one of the least polluted areas of California to those of sea otters living in one of the most polluted areas. We informally refer to this research as "Big Sur vs. Monterey," and it has been funded through the California Coastal Conservancy with funds coming from the Sea Otter Tax checkoff fund (see [www.SaveSeaOtters.org](http://www.SaveSeaOtters.org)). If it proves that Big Sur sea otters are healthier than sea otters from other less clean areas, the social and political consequences may be to encourage, cajole, pressure and convince decision makers that the cost and inconvenience of cleaning up California's more populated embayment areas will help sea otter populations recover.

But it isn't just about sea otters – true they are a very loved species and people come to Monterey, Morro Bay, Big Sur and other locations to see them smash their prey with rocks, raise their young, and play in the ocean. People pay good money to go sea kayaking, on boat tours, walk picturesque trails and dine at restaurants at least, in part, because the ocean seems clean and the life in it healthy and abundant. But “seems” is the operant word, and not all is as it seems. One of the things sea otters do better than any other marine mammal, and possibly better than any other marine animal, is monitor the health of the nearshore marine ecosystem that supports them. They monitor, not only ecosystem health, but also diseases and intoxications that are harmful to human beings.

Given the choice and the necessity, it seems likely people will chose to clean up one of the most beautiful areas of the world, protect their livelihoods derived from it, and save an extremely appealing mammal that has many human characteristics. Even if people care too little about these benefits to pay the costs to improve infrastructure and restrict commercial environmental degradation, they may be inspired to protect their own health and that of their children. If our hypotheses are right, if the scientific findings gel, as they appear to be, we should be able to provide alternatives and practical solutions and hope. No small order, but certainly a job worth doing.