

# THE HEAT IS ON

Species feeling the effects of climate change



## Northern Sea Otter

*Enhydra lutris kenyoni*

### Region:

Alaska

### Area affected:

Kachemak Bay

### Climatic change:

Warming oceans

### Impact:

Mortality

### ABOUT THIS SPECIES

Sea otters, members of the weasel family, lack the thick layer of blubber that keeps most other marine mammals warm in cold ocean waters. Instead, these otters rely on their fur, the thickest in the animal kingdom with over 250,000 hairs per square inch. This plush coat was almost their undoing—by the end of the 1800s, fur traders had hunted sea otters nearly to extinction. Although populations have recovered somewhat, they remain vulnerable to the effects of oil spills and other pollution, disease, harmful algal blooms and conflicts with the fishing industry and are listed as “threatened” under the Endangered Species Act. Sea otters can dive as deep as 330 feet to forage and consume up to one-quarter of their weight per day in sea urchins, snails, abalone, mussels, clams and other invertebrates. By feeding so voraciously, they keep these invertebrates from overgrazing important near-shore kelp forest habitats.

### DESCRIPTION OF IMPACT

In summer 2015, **304 dead or dying otters washed ashore in the Kachemak Bay area of Alaska, five times as many as usual.** Many showed no signs of starvation or prolonged illness, indicating that they may have died suddenly. An unusual climate event that affected marine life all along the Pacific coast may have played a role. From 2013 to 2015, persistent high pressure weakened the winds that normally drive the upwelling of cold water. Sea surface temperatures across 3.5 million square miles of the Pacific Ocean increased, creating a vast “blob” of exceptionally warm water. In the Kachemak area, this likely triggered a toxic brew of damaging organisms. Some of the otters that washed ashore tested positive for a potent neurotoxin produced by *Pseudo-nitzschia*, a harmful alga that had a massive bloom that year. Others were infected with viruses and bacteria related to the ones that cause strep and gastrointestinal diseases in humans. The fact that many otters were stricken with more than one pathogen may account for the high mortality.

### References

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