Ocean Futures

Jean-Michel Cousteau - Keiko

JEAN-MICHEL COUSTEAU DISPATCH

An Ocean Futures Society E-newsletter
July 2001

JEAN-MICHEL COUSTEAU DISPATCH:

High Tech Help For Vanished Sea Otter

Sea otters are cute, cuddly and are entertaining to watch in their natural environment. Though the southern sea otter is now protected in the wild, both it and its northern cousins are a popular attraction at aquaria that feature animals rescued from disasters such as oil spills.

But sea otters are also keystone predators and architects of healthy marine ecosystems. These facts are driving a new effort to understand sea otter biology, and perhaps to reintroduce the animal to the Oregon coast, where it has been extinct for nearly a century. In this fascinating experiment, native wisdom and modern technology are working together to piece together the past, and blaze a trail into the future.

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. *Photo credit: Kip Evans. Photo courtesy of Center for Biological Diversity*

The Oregon sea otter, or "elakha," has a rich and storied past. It once thrived in the cool, kelp-laden waters of the state's rugged coastline. Native peoples relied on the otter for pelts, which became a form of currency. When the pelts of the elakha and the other sea otter subspecies found their way to Europe in the late 1700's, their popularity generated a mass market. Fur hunters from Russia, England, Spain, and the U.S. invaded the coast, decimating the populations of sea otters and the indigenous peoples who depended upon them. Settlers followed the hunters, and by 1906, when the last sea otter pelt in Oregon was sold for $900, the region had become a populous part of a burgeoning new nation.

International protection for the sea otter came in 1911, when only a handful of the animals remained in the wild, and none in Oregon. As the sea otter declined, so did the kelp ecosystem on which they depended. We now know that the kelp depends just as much on the otter.

The kelp forests of the U.S. and Canadian Pacific coasts are truly one of the wonders of the undersea world. However, they are also vulnerable to destruction by sea urchins. Sea otters feed on the urchins, as well as other invertebrates, and thus keep the system in balance. Without keystone predators like the sea otter, kelp forests are quickly overrun.

Enter David Hatch, an engineer with the City of Portland, Oregon, and a member of the Confederated Tribe

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Action Alert: KEIKO NEEDS YOUR HELP!

Ocean Futures has received a $1 million matching grant to continue Keiko's reintroduction. We will receive this grant if we can match it with additional donations. CLICK HERE TO HELP TODAY!

FROM THE GALLERY:

Click on the photo below to view a larger version.

Aerial photo of wild orcas off the South end of the island.

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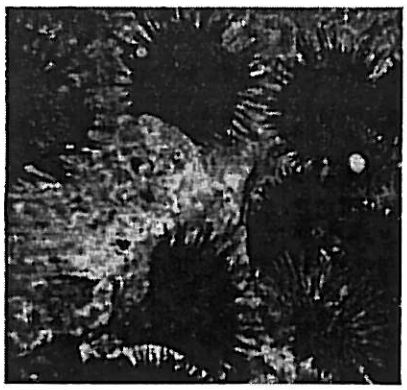
HELP STOP LFA!

A message from Jean-Michel Cousteau, James Taylor & Pierce Brosnan.

member of the Confederated Tribe of the Siletz Indians. Several years ago, Hatch became interested in the history of the elakha, and its complex relationship with his ancestors along the coast. He recognized that the fates of the two were intimately connected. With this in mind, Hatch has become a tireless advocate for reestablishing the elakha, both in the minds of Oregonians, and in reality.



Sea otters prey on sea urchins, keeping their populations in balance. *Photo courtesy of Center for Biological Diversity*

He served on the committee that named the new Oregon State University research vessel after the elakha. He then helped to found the Elakha Alliance, a nonprofit group that represents a collaboration between the Oregon Zoo, the Oregon Coast Aquarium, tribal councils, state wildlife officers, university scientists, and northwest environmental groups such as Ecotrust.

Hatch's goal is to restore elakha populations along the Oregon coast. But his concerns reach far beyond that. A healthy ecosystem is the foundation not only for the rebirth of the sea otter. It is also the key to renewing the rich legacy of coastal Indian culture.

In this quest, the Elakha Alliance has inspired innovative interdisciplinary research at Portland State University and Oregon State University. The latter houses an archive of middens from nearly 4,000 years of human habitation along the coast. Using bones and teeth from these archives, Portland State biologists are analyzing mitochondrial DNA from the extinct elakha. By comparing these samples with DNA from the existing southern and northern subspecies, the scientists are hoping to determine the elakha's genetic lineage.

In purely scientific terms, the work should help reconstruct the history of the elakha over time and space. Given the richness of available specimens, the researchers may be able to trace genetic variation before the great sea otter hunts of the 18th century, helping us understand how the species evolved.

The research will also inform attempts to restore sea otters to the Oregon coast. The elakha is gone forever, but the DNA studies may identify which subspecies may be close enough genetically to be suitable for colonization.

Though optimistic, those involved in the project know that nothing takes place in a vacuum. The fate of Alaska's sea otters offers a chilling example of how global trends can affect local ecology. There, the international dynamic of fisheries decline may have threatened the viability of the sea otter. In a 1998 article in the journal, *Science,* University of California biologist James Estes documented a troubling trend in the Aleutian archipelago: orcas were attacking sea otters.

Estes believed that over-fishing by humans had caused a decline in the numbers of seals and sea lions, the orcas' main food source. So the resourceful killer whales may have turned to sea otters. As of today, some 80 percent of Aleutian sea otters have disappeared in the last decade. As a result, urchins have flourished, greatly reducing the kelp forests, and thus undermining near-shore productivity.

Brosnan.

OCEAN NEWS:

Successes Seen as Summer Season Reintroduction Efforst Continue for Keiko

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