Washington’s Otter Comeback

by Tim McNulty

Two bald eagles lift from a sea stack and flap off over seaweed-draped stones. Waves break against storm-battered rocks, and mist drifts into coastal spruces. It is a mild winter morning on Washington State ’s rugged outer coast, and I have followed biologist Mark Stafford ’s long strides through three miles of coastal forest for a glimpse of one of this coast ’s most appealing animal residents, the sea otter. Even before we reach the bluff that overlooks this run of wilderness coast, Stafford spots two of the small mammals bobbing lightly in the swells like a pair of furred buoys.

From the bluff, I get a closer look through Stafford ’s scope. The otters are dozing on their backs, their round furry heads and whiskered faces grizzled buff-gray. Their paws are folded lightly over their dark chests, and their webbed rear feet poke up jauntily like miniature sails. They resemble their terrestrial cousins, the river otters, which sometimes feed along this shoreline. But the sea otters, measuring three to four feet long plus another foot of tail and weighing 35 to 100 pounds, are easily more than twice the river otter ’s size.

As I watch them, Stafford angles a hand-held antenna over the waves, scanning for signals from any of the female otters that he and his fellow researchers have tagged with radio transmitters. It is the beginning of pupping season, and part of Stafford ’s work for the biological research division of the U.S. Geological Survey (U.S.G.S.) is to gather data on this population: reproductive rates, foraging habits, seasonal movements, range expansion.

No beeps come from Stafford ’s receiver, but a high call like the cry of a young gull carries above the ruckus of seabirds and breaking surf and catches the biologist ’s attention. Swinging his scope to the north, he spots a sea otter pup swimming in the lee of two dumpster-sized rocks. "They squeal like babies when their mothers stay down too long or surface any distance away," Stafford says, grinning into his scope. "Then, the second she pops up, the pup is all over her." Soon the mother surfaces with a large clam, cracks it open on a flat stone propped on her chest and feeds it to her insistent pup. Immediately she begins cleaning her fur, nibbling vigorously at her chest and belly and scrubbing her face with her catlike paws. She gives her pup the same treatment before diving again, lithely and without a splash.

After studying this population for two years, Stafford is still impressed with the devotion mother sea otters show their pups. "They ’re with them constantly," he tells me. "If they ’re not nursing or diving for food or feeding them, they’re cleaning their fur or floating with the pups asleep on their chests." Female sea otters begin to breed when three to five years old, and most breed every year for their ten to 15-year life-span, according to Ron Jameson, research biologist at the U.S.G.S. Western Ecological Resource Center in Corvallis, Oregon. The pups stay with their mothers for almost a year, and they learn the importance of cleaning their fur long before learning to forage. Lacking the fat layer that insulates other sea mammals, sea otters are meticulous in keeping their dense underfur spotless and dry.

The sea otter ’s thick, lustrous sable-colored fur is considered the finest of any mammal ’s on land or sea. It was prized first by Native American hunters and later by princes and Mandarin lords. In fact, it was nearly the species ’ undoing. The species ’ range once stretched along coastlines from Baja, California, north to Alaska ’s Prince William Sound, then west along the Aleutian, Pribilof and Commander islands to Russia ’s Kamchatka Peninsula and south along the Kuril Islands to Hokkaido. The otters may have numbered between 150,000 and 200,000. But by the middle of the 18th century, the tide began to change.

In 1724, Czar Peter the Great commissioned Vitus Bering to explore the coastline between Russia and North America with the intention of establishing a Russian presence in the New World. On his final voyage in 1741, Bering's ship, the Saint Peter, was wrecked on one of the remote Commander Islands in the Russian Far East. Bering survived long enough to marvel at the bobri morski, the "sea beavers" that flocked affectionately around the ragged survivors even as the sailors clubbed the animals to death. The sea beavers fed and clothed Bering 's men, and when the survivors returned to Siberia with 200 of the luxurious pelts, fur traders lost no time in mounting expeditions to exploit the newfound wealth. Thus began what one writer described as a 170-year reign of terror for the sea otter.

The year Russian hunters arrived in the Pribilof Islands north of the Aleutian chain, they slaughtered 5,000 of the animals. The following year their take dropped to a thousand. Six years later there was not an otter to be had in the Pribilofs. This rapacious pattern of exploitation repeated itself throughout the eastern Pacific. Heartless adventurer-hunters known as the promyshlenniki were among the first to venture after the sea otter. Threatening native Aleuts and their families with death, they coerced these skilled hunters into bringing in great numbers of sea otter pelts. Aleuts had hunted sea otters and fur seals for centuries, but under the callous hand of their Russian overlords they soon exhausted their islands ' furs.

The Russians then pushed down the coast, leaving both sea otter populations and Native communities devastated. From their trading base in New Archangel (now Sitka, Alaska) they raided sea otter populations as far south as San Francisco Bay. Even further south, the Spanish traded furs from Native American hunters, by 1800 selling 10,000 for the lucrative China trade. Word of the fabulous prices the Chinese paid for the furs traveled by way of Captain James Cook to Boston sea captains and European traders. What animals the Russians missed, English, French, Portuguese and American traders chased down.

During the final years of the hunt, the animals were shot with buffalo rifles from towers built along the coast. The last recorded sea otter in Washington was killed in 1910. The following year Russia, Japan, England and the United States signed a treaty banning the taking of sea otters and fur seals. By that time the otters had been extirpated from nearly their entire range. A few remnant populations survived in remote locations on the Kamchatka coast, in the Aleutian and Commander islands and in Prince William Sound. Under protection of the treaty they began a comeback. Then, in 1938, a small band of otters was "discovered" off the Big Sur coast in California. Seemingly against all odds, these bright and tenacious little mammals held on.

Alaskan sea otter populations flourished over the next half-century, and in the 1960s the U.S. Fish and Wildlife Service (FWS), Alaska Department of Fish and Game and other state agencies mounted an effort to restore sea otters to more of their former range. Between 1965 and 1972 some 700 were captured at Amchitka and Prince William Sound and transported to other sites in Alaska as well as British Columbia, Washington and Oregon. The Oregon population, released in 1970 and 1971, declined quickly. Pup production was extremely low, and some otters may have moved northward. Ten years later, scientists counted only one sea otter on the Oregon coast. The first brought to Washington waters in 1969 experienced similar mortalities. Fortunately, those reintroduced in 1970 fared much better.

Karl Kenyon is widely considered to be the grandfather of sea otter research. His 1969 book, The Sea Otter in the Eastern Pacific Ocean, stands as the classic study of the species. The year his book was published, Kenyon was a federal biologist involved with returning sea otters to Washington 's waters. He recalls capturing some on Amchitka Island in the Aleutians and flying them south. Twenty-nine were released off the southern coast, but more than half died within two weeks. "The next year we released the otters in acclimation pens anchored off James Island on the north coast," Kenyon told me. "We fed them for a few days and allowed them to groom and aerate their fur. That made the difference." The reintroduced otters found Washington 's Olympic Peninsula coast to their liking. More than 50 miles of pristine shoreline are protected as part of Olympic National Park, and the coast 's offshore rocks and islands, protected coves and productive reefs are a sea otter 's heaven.

Sea otters like good rocky substrate," Ron Jameson told me during a break in a marine research conference in nearby Seattle. Jameson monitors sea otter populations from the Aleutian Islands to California. "It takes a productive system to support a mammal with such a high metabolism," he explained — otters typically consume up to a quarter of their body weight each day. "And if Washington 's north coast is anything, it 's productive," he added.

The otter population expanded slowly at first. Three years after the Washington release, only two new pups were spotted. In 1977, when Jameson began regular surveys of the coast, he found 19 otters. But their numbers doubled over the next four years and nearly doubled again by four years later. Since the late 1980s the otters have thrived. Last summer's census showed the population at just over 500 and occupying a range from Destruction Island, a shiplike chunk of rock off the mouth of the Hoh River, 100 miles north to Cape Flattery, the northwestern tip of the conterminous U.S. Over the last few years a number of enterprising otters have pushed east around the cape into the Strait of Juan de Fuca. As they colonize new areas, otters tie into kelp forests to ride out swells and surges. And they feast on one of their favorite foods found there, the brightly colored, porcupine- quilled denizens of the rocky substrate called sea urchins.

During the otters ' half-century absence from the Northwest 's coast, sea urchins multiplied. Urchins feed voraciously on kelp, chewing through the long, trunklike stipes and holdfasts as effectively as beavers. Left unchecked, urchins can wipe out entire kelp forests. When otters were absent from the California coast, much of the offshore kelp forest — and the abundant communities of invertebrates, fish, seabirds and mammals this specialized habitat supported — disappeared. Studies in Alaska and British Columbia as well as California have shown that predation by sea otters dramatically reduces the abundance of sea urchins. This in turn favors development of kelp forest.

Researcher Pat Iampietro of California State University has filmed a number of Washington 's kelp beds, multi-layered underwater forests with leafy canopies filtering sunlight to rocky gardens of shade-tolerant red algae. "It's one of the richest subtidal areas I've seen on the West Coast," he says. "There 's an incredible species diversity in kelp forests, and they 're a rich nursery for fish and birds." In contrast, he describes coastal areas unfrequented by sea otters and dominated by sea urchins and low crusty growths of coralline algae as "urchin barrens." "Once you've explored their habitats, there 's no question sea otters are a classic keystone species," he told me. "Their predation on urchins and other mollusks drives the productivity of the coastal ecosystem."

Despite obvious benefits to other marine wildlife, the return of the sea otter has not met universal enthusiasm, and its viability on the West Coast is anything but secure. In California, where recovering sea otters reached a population of 2,400 in 1994, they have come into conflict with commercial abalone and sea urchin fishermen. A truce of sorts was achieved when the California Department of Fish and Game established special management zones for commercial fisheries on some of the Channel Islands. Sea otters ranging into these zones can be trapped and relocated to their original range. But relocating them is both tricky and expensive. Funds are short, and the program has been less than successful.

More worrisome to biologists is the current status of California 's population. It showed steady growth following its discovery in the 1930s, and sea otters now breed and forage from Morro Bay north to Santa Cruz. The rate of growth slowed in the 1970s with the development of a net fishery just off the kelp beds but resumed after the fishery was moved to deeper water. Since 1994, however, California sea otter numbers have been declining. Mortalities are on the rise across all age groups, according to Steve Shimek, science director of Friends of the Sea Otter. Shimek believes one cause may be a new rock cod fishery that uses otter-sized traps baited with squid. But necropsies on a number of otters washed ashore show a variety of diseases and parasites, suggesting a lowered immune response. "The scary thing is we don 't know what's causing the decline," Shimek says.

Because of the sea otter 's acute vulnerability to oil spills, FWS listed California 's otters as threatened under the Endangered Species Act in 1977. The service is preparing a recovery plan. But some scientists and conservationists are concerned that the plan may not reflect current research. "The recovery plan focuses on the very real threat of an oil spill," Shimek told me, "but what's killing these otters is probably not oil. We want to make sure the recovery plan addresses all the threats to this population before there is any talk of delisting."

The plight of California 's sea otters is one reason Ron Jameson and other sea mammal biologists are so interested in Washington 's otters. "The Washington population is growing at a rate near the maximum for the species," Jameson says. "By studying the population biology of these otters and comparing them with the California and

Alaska populations, we hope to understand the forces at work on the different populations." Although Jameson considers the Washington reintroduction successful, he is concerned about long-term viability. "Five hundred otters stretched out along a hundred miles of coastline is a small population of any animal," he told me. "Biologically speaking, that's nothing. One oil spill could easily wipe out the entire population."

Jameson points to the more than 700 miles of Alaskan coastline affected by the Exxon Valdez spill in 1989. More than 1,000 sea otters died of hypothermia, drowned or were poisoned while trying to clean the oil from their fur. Even a small spot of oil allows cold seawater to penetrate an otter's vital insulating underfur. At least three oil spills have affected Washington's outer coast in the last few decades. Fortunately, none approached the magnitude of the Exxon Valdez spill. But because of otter vulnerability to spilled oil, the Washington Department of Fish and Wildlife has put the species on the state's endangered list.

Sea mammal biologist Ed Bowlby agrees with Jameson's assessment. A catastrophic oil spill, he says, would be devastating to Washington's sea otters. Bowlby is research coordinator for the Olympic Coast National Marine Sanctuary. The sanctuary, one of 12 in the nation, was established in 1994 largely to protect Washington's northern coastal waters from offshore oil and gas drilling and to steer oil tankers and ships bearing hazardous cargo well away from fragile coastal ecosystems. Ten years ago, while Bowlby was studying sea otters for the Washington Department of Fish and Wildlife, he advocated federal endangered listing for the Washington population. The otters then numbered fewer than 200. "Because these otters were relocated from a healthy population in Alaska, the Fish and Wildlife Service wouldn't consider them an endangered population," Bowlby explains. "But these otters are still quite vulnerable, and their range expansion, particularly into the Strait of Juan de Fuca, is likely to bring them into conflict with commercial shellfish operations," he told me.

One of those shellfish operations is the Makah tribe's commercial sea urchin fishery. Sea urchin eggs were a traditional food of the Makahs, and they are considered a delicacy in Japan. Japanese importers pay top dollar for them. As sea otters and Makah urchin divers compete for the same food items, controversial management issues are sure to arise. Limited tribal subsistence hunting is allowed in Alaska. It may be proposed in Washington State.

It is mid-afternoon. Mark Stafford has pulled his truck off the winding coast road east of the Makah reservation and stands on the narrow shoulder scanning Juan de Fuca Strait with his binoculars. "The gulls usually lead me to them," he says and gestures to the northeast. There, bobbing in a kelp forest by a rock islet crowded with cormorants, a raft of some 30 otters snoozes in the swells. A few are strung out in the nearshore waters, foraging and grooming. Seagulls hungry for scraps flock around them like beggars. "Every year they push a little farther east," Stafford remarks. "First the males, like those rafting up out there, then a few females and their young." It's as if they are testing these waters, which have not harbored their kind in nearly a century. And if the evidence at hand is any indication, they are finding it to their liking.

Tim McNulty, who lives in Sequim, Washington, wrote "Olympic Park's Missing Predator" in Defenders, Summer 1997.