Kelp, Sea Urchins, and Sea Otters

In nature, all living things are in some way connected. And at the core of individual ecosystems is a creature, or in some cases a plant, known as a keystone species.

This species operates much like a true keystone, which is the stone at the top of an arch that supports the other stones and keeps the whole arch from falling down. When a keystone species is taken out of its environment, the whole system could collapse.

In California's Monterey Bay National Marine Sanctuary the sea otter is a keystone species in the kelp forest ecosystem. One of the sea otter's favorite delicacies is the sea urchin who in turn loves kelp.

When present in healthy numbers, sea otters keep sea urchin populations in check. But when sea otters decline, urchin numbers explode and grab onto kelp like flies on honey. The urchins chew off the anchors that keep the kelp in place, causing them to die and setting off a chain reaction that depletes the food supply for other marine animals causing their numbers to decline.

By the early 20th century when sea otters were nearly hunted out of existence for their fur, kelp beds disappeared and so did the marine life that depended on kelp. Conservationists moved some remaining otters from Big Sur to Central California. Gradually, their numbers grew, sea urchin numbers declined, and the kelp began to grow again.