

THE INVESTIGATION

The serene seashore where you're sharing a family moment, gazing out at the horizon. The blue Pacific waters where lazy estuaries and craggy gulches mix with the cool currents of the deep.

This is the world of the **nearshore ecosystem**. It's scene that can be found from the California coast to Washington, British Columbia and north through Alaska.

But how are these nearshore ecosystems and resources reacting to the ever-growing roster of threats to its function and health? Scientists need new clues and tools to assess the health of our nearshore waters.

The answer starts with sea otters.



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INDICATOR SPECIES

Sea otters are the perfect **indicator species** to help us investigate our nearshore conditions. They live their entire lives within nearshore waters, dependent on its kelp forests and other habitats for food and shelter and rarely straying into the open sea. But this dependence also means that a sea otter will be constantly exposed to whatever contamination or **stressors** are in its local environment. If a nearshore ecosystem is facing new challenges, sea otters likely will be our first indication of trouble.

And the signs are there. Sea otters have been protected from hunting since the fur trade bans a century ago. Some populations are now abundant and stable, while others are either declining or struggling to reach healthy numbers. Can these differences be explained by ocean influences, or by human impacts to adjacent landscapes? What do these trends say about the quality of the otters' marine habitat -- the same habitat which supports our fisheries and our recreational waters?

So that's the mystery, and the 3,000-mile coastline from California to the Gulf of Alaska is our scene of investigation. Scientists from government agencies, aquariums and universities are working together as detectives to study the health of our Pacific nearshore waters.