Otter Kelp Research 7:35min

Narrator
Some people have trouble figuring out where the Central Coast is. The people who live and work up here know exactly where it is. It's that stretch of exposed coastline between the northern end of Vancouver Island and the southern tip of Haida Gwaii. And it's an amazing part of Planet Earth.

The Central Coast has traditionally been a hard place to do science because there's nothing up here in the way of infrastructure to support the work. But that's all changed now. We've established a research station at Hakai on Calvert Island right in the middle of the Central Coast.

We now have several established science programs at Hakai. But until now we've had nothing on the rugged outer shores. On that landscape of archipelagoes, reefs, channels, bays, and beaches that stretches north from Hakai. It's the world of rocky shores, kelp forests, sea otters.

So, I'm thrilled to be starting work for the Salomon Lab this summer, embarking on a major initiative on the landscape that so epitomizes the Central Coast we know so well and love so much.

Dr. ANNE SALOMON Marine Ecologist, Simon Fraser University
MaPP Marine Advisory Committee
Kelp forests are one of the most productive ecosystems on the planet. Home to a remarkable diversity of marine life. These liquid forests provide a plethora of resources and drive ecosystems processes that coastal people have relied on for millennia. Yet these underwater forests are highly susceptible to overgrazing by sea urchins -- universally the most important temperate reef herbivore capable of controlling the distribution, diversity, and productivity of entire kelp forest ecosystems. Any force that alters their numbers can bring these rich ecosystems to tipping points that when crossed can fundamentally restructure marine processes and resources.

For example, sea urchin numbers are heavily influenced by the presence of sea otters. So when the historic fur trade eliminated these predators from most of North America's high latitude coastlines, this caused a cascade of effect that rippled across ecosystems, driving rocky reefs to switch from kelp forests to urchin barrens.

Today, along the outer shores of BC's Central Coast, sea otters are recovering and expanding their range. What remains unclear is when, how, and to what degree these kelp forest tipping points will occur.

This summer we have begun to explore these questions, establishing study sites from the McMullen Island group all the way down to the south Calvert Island. At these sites we're measuring the variation in sea otter foraging behavior, rocky reef fish assemblages, and sub tidal invertebrates and kelp communities.

There's so much to explore and this is just the beginning!