

# How Will the Recovery of Sea Otters Impact BC's Coastal Resources?

Graham Brownlee (@GrahamBrownlee)

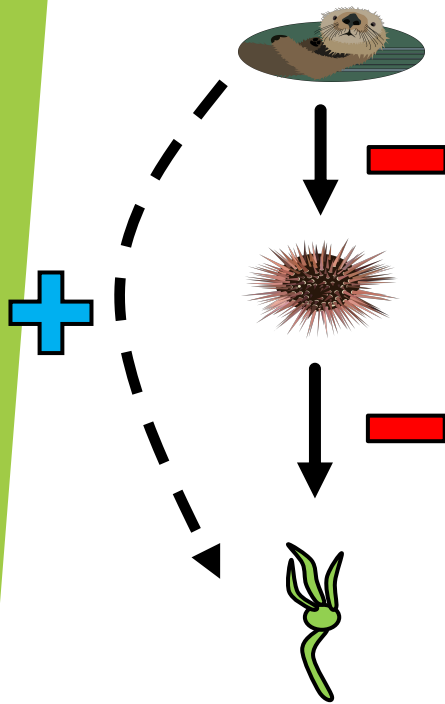


## Sea Otters in British Columbia: a Lost link in the Coastal Food Chain

Sea otters are an iconic species on the West Coast of Canada that play a key role in regulating BC's biodiversity and the health of our coastal ecosystems.

A large part of a sea otter's diet consists of sea urchins, which has an important regulating effect for our marine communities. Urchins are voracious herbivores that like to feed the kelp that create forest-like habitats that countless species, from rockfish to seals, depend on for food and shelter from predators. These kelps also supply coastal ecosystems with an influx of nutrients that benefit a wide range of plant and animal species. Sea otters, therefore, indirectly support kelp forests by preying on and reducing the abundances of their primary threat.

Prior to 1911, the fur trade on the West Coast left sea otter populations largely extinct across North America, with less than 2000 individuals remaining in the most remote parts of its range. With this key member of the food chain absent from BC waters, urchins were able to thrive and decimate kelp forests. Forests across the coast were subsequently converted to a different ecosystem state— an urchin barren— where urchins, abalone and other invertebrates dominate the landscape and rockfish and other kelp-dependent species are forced into the few remaining forests.

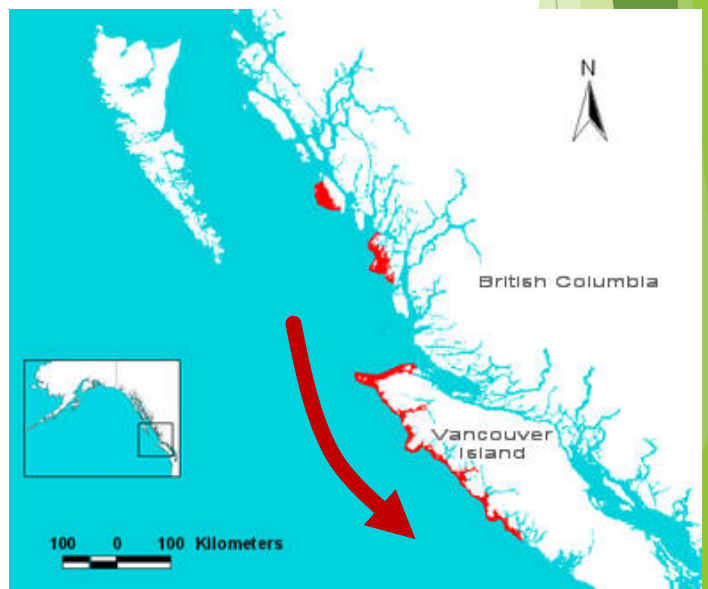


A diagram representing the otter-urchin-kelp food chain. The solid arrows and red minus-signs represent consumption via herbivory or predation, while the dashed line and blue plus-sign represents the indirect benefit kelps receive from otters consuming sea urchins.

## Sea Otter Recovery and Resource Conflicts

From 1911 onward, a ban on the sea otter hunt was put in place and a small population of 89 otters from Alaska were reintroduced on Vancouver Island in the early 1970s. Since then, populations have slowly rebounded, and otters have begun to reoccupy their historic ranges further South.

Many kelp forests that have been converted to urchin barrens in the absence of sea otters will likely return to kelps with the otters' recovery. The return of sea otters isn't an entirely welcome one, however. First Nations and coastal communities have adapted to the new world of coastal resources available in an otter-less British Columbia. Harvesting valuable invertebrates like urchins and abalone and aquaculture operations has become more common since 1911, and many are concerned about what the return of sea otters may mean for their ways of life and livelihoods



A map of the distribution of sea otters in British Columbia as of 2013. Red regions represent areas that otters currently occupy, and the red arrow the general direction populations are recovering in.

"How can sea otters be protected from trappers and aquariums, but at the same time we do not protect the shellfish? What is the balance? . . . What's the cost of recovering sea otters and where's the balance to it? Man is part of the ecosystem too. The aboriginals of Hesquiaht are part of the ecosystem and also have rights."

~ Paul Lucas, *Hesquiaht Fisheries Technician*, 2003. Reprinted from *Dovetail*, 2003.



Photo of Coastal First Nations fishermen (1915 and 1916) spearfishing and collecting shellfish from the shore.

## Finding a Balance: Implications and Recommendations

Ensuring that ecological sustainability, cultural practices and economic viability are all maintained on a BC coast with a restored otter population will depend on policymakers implementing management strategies that work together with the communities that rely on these resources. Implementing community-based management that provides opportunities for the management of otter populations and supports invertebrate harvesting, kelp forest recovery and rockfish populations where desired is crucial for ensuring sustainable practices. Urchin barrens and kelp forests are natural states of our coastal ecosystems and important services and benefits are received from both; it is our responsibility to ensure that our marine ecosystems are managed in a way that ecology is put first while still supporting the ways of life of BC communities.

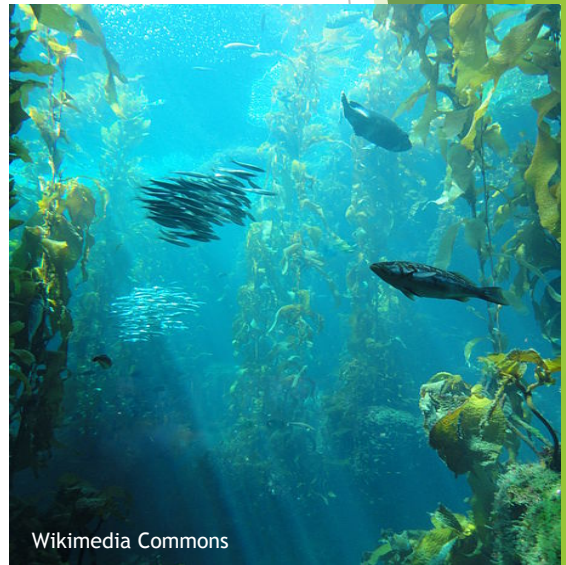
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## First Nations, Fishers and Sea Otters

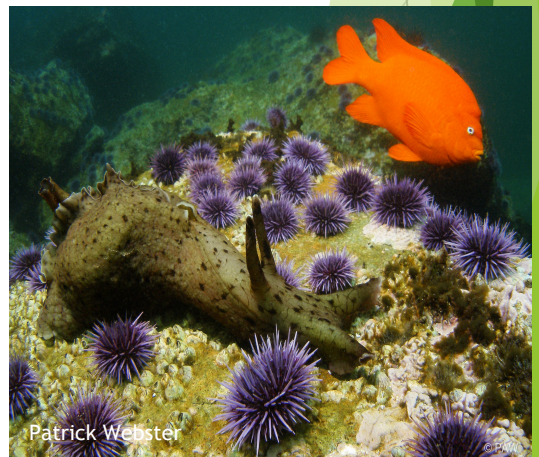
Many Coastal First Nations across Vancouver Island have adapted to the resources offered by an abundance of urchins in the recently-abundant barrens. Harvesting invertebrates from barrens has become an important part of the economic and cultural practices of these communities, and many who rely on these resources are concerned that the government-facilitated reintroduction of the still-protected otters may again force communities to conform to this new ecological paradigm.

Having more otters and more kelp forests comes with other benefits, however. An increase in forest habitat will support larger populations of recreationally and commercial important rockfish species, and eco-tourism companies are excited about the possibility of sea otters returning to nearby waters. Reconciling the needs of these groups while supporting rebounding sea otter populations will therefore require careful management and policy-development that involves key stakeholder groups and keeping their interests at the forefront.



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Photo of a giant kelp forest.



Patrick Webster

Photo of a sea urchin barren.