

## EDGEWISE

There are 37 species of rockfish in BC's waters. Yelloweye rockfish can live to be 120 years old, and start having young at about 20 years of age. Older females are the most productive breeders, but the large fish are also the ones targeted by recreational fisheries.

Want to help BC's rockfish populations recover? Don't eat them. Be aware that rockfish usually show up on our dinner plates under another name, such as red snapper, rock cod or Pacific snapper. The next time you're in a restaurant or grocery store and see "snapper" ask if it's BC rockfish.

The federal government aims to have marine protected areas (MPAs) in place for five per cent of Canada's oceans by the end of this year, and a further five per cent by 2020. This is a good start, says Ban, but percentage alone doesn't equate to meaningful protection. She recommends the inclusion of different ecosystems within MPAs and extensive stakeholder consultation.

Ban's research is funded through the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council, and the Marine Environmental Observation, Prediction and Response Network.

UVic is an international leader in ocean science and technology, focusing on a wide range of themes including coastal resilience, where our researchers partner with coastal communities, government scientists and policymakers on topics related to the sustainable management of marine ecosystems, and food security.

Watch Natalie Ban talk about her work at [bit.ly/uvic-natalie-ban](http://bit.ly/uvic-natalie-ban)



Rockfish. PHOTO: SCOTT STEVENSON

HEALTHY OCEAN =

HEALTHY COMMUNITIES

Ban. UVIC PHOTO SERVICES

## Engaging BC's coastal communities in marine conservation is the path to a sustainable future

by Jody Paterson

In the villages where University of Victoria biologist Natalie Ban works on BC's central coast, Indigenous Elders tell stories of the 80 cm-long yelloweye rockfish they once caught routinely. These days, the fish are half that size.

The stories are indicators of a species in serious decline, says Ban. But federal fisheries managers can't base decisions solely on anecdotal information. So, Ban and her research team partnered with First Nations to take those stories and transform them into the kind of data Fisheries and Oceans Canada (DFO) can use.

Further south in the Salish Sea, yelloweye and other rockfish species are already off limits to commercial fisheries. But recreational fishing continues. Research by one of Ban's students has fueled community initiatives to raise awareness among anglers of extensive Rockfish Conservation Areas around the Gulf Islands.

Community engagement is a hallmark of Ban's research method, and a critical element for ensuring that the ocean's diversity and bounty will be there for future generations of British Columbians to enjoy.

"My interest is in the future of the ocean and

the people who rely on its resources—the coastal communities," says Ban. "It's the intersection of biodiversity conservation and the health of human communities that interests me the most."

Ban's partnership with the Central Coast Indigenous Research Alliance has helped four coastal First Nations translate what they already know from their Elders' stories into statistics that federal authorities can recognize as data.

The research focused on the dwindling size of rockfish over time, and reduced availability of Dungeness crab. "The interview data showed declines in size and catches," says Ban of the project. "These data have opened the door to more discussions between the First Nations and DFO. The project succeeded because the research partnered with the people who live there. It helped to empower their knowledge."

The research project in the Salish Sea began in 2013, when one of Ban's master's students set out to measure the compliance of recreational anglers with federal rockfish conservation efforts in place around the Gulf Islands for almost a decade. After interviews with 300 fishers, it was clear that many had no idea that yelloweye rockfish were threatened or that they were fishing inside federally protected Rockfish

Conservation Areas.

"Rockfish are in bad shape in the Salish Sea," says Ban. "You're not allowed to use hook-and-line gear in the Rockfish Conservation Areas. But lots of fishermen just don't know."

While catch-and-release is common in recreational fisheries, rockfish are deep-water fish lacking the adjustable swim bladder that other species have. When they're pulled up from the depths, the impact on their swim bladder is often fatal.

The research in the Salish Sea involved partnerships with the Galiano Conservancy Association and Valdes Island Conservancy. When the extent of lack of information became apparent, they jumped into action to educate people. Maps of the conservation areas and information on rockfish are now posted at 44 boat launches in the southern Gulf Islands, Lower Mainland and southern Vancouver Island. Monitoring of fishing activity for research purposes continues.

"While the species we studied are in decline," says Ban, "the future is promising because First Nations and community organizations are actively involved in promoting sustainable fisheries and conservation."