Warming oceans a boon to Canadian sardine fishery

Fishery helps keep Ucluelet plant operating when hake is slow

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Sardines have returned to the B.C. coast in schools "thick enough to walk on" - a phenomenon that doesn't surprise experts who say it can be attributed to changing migration patterns in warming oceans.

Fishing fleets in resource-dependent communities like Ucluelet, Zeballos and Port Hardy harvested 22,000 tonnes of sardines last year, a tiny fraction of the schools that observers say can be hundreds of metres long as they move into the Island's bays and inlets.

"I've seen them on the west coast of Vancouver Island thick enough to walk on," Barron Carswell, senior manager of marine fisheries and seafood policy for the provincial agriculture ministry, said in an interview with the Vancouver Sun.

"It's incredible. They are all over the place. You can go into little bays and the surface of the water is all sardines."

Sardines, also called pilchards, were at one time a major B.C. fishery, but they mysteriously disappeared in the 1940s.

Overfishing along their migration route from California to Alaska is believed to be a prime cause.

Their return is being attributed to changes in ocean conditions, and according to the Department of Fisheries and Oceans, sardines are most frequently encountered off the west coast of Vancouver Island during years when warm El Ni?o waters are prevalent.

"The population is swapping back and forth with the temperature," said Daniel Pauly, professor at UBC's fisheries centre and zoology department and principal investigator of the Sea Around Us, a project devoted to studying, documenting and promoting policies to mitigate the impact of fisheries on the world's marine ecosystems.

He says more sardines are being found in the north Pacific partly due to warming oceans in the south.

"Fish that occur in the south and move north in the summer are penetrating deeper into the cold water and further north in the summer."

"Additionally if the population of fish increases, a wider range is occupied. The sardine is doing so well it reinvades areas that it previously occupied when it was abundant, and B.C. is part of that range."

The news bodes well with plant manager Tim Tilghman of Ucluelet Harbour Seafoods, who says the plant plans to process an estimated 4.5 million kg (10 million lbs) this year.

That number tends to fluctuate -- the plant processed approximately 6.4 million kg (14 million lbs) of sardines in 2010 but only 273,000 kg (600,000 lbs) three years prior -- but Tilghman says it's enough to keep hake fishermen busy on days when their target fish are not found.

"We kind of have a back up with the sardines. It's a great filler."

Now that they are back, the new fishery is being managed cautiously to ensure it will be sustainable, said Carswell.

Seine boats all have a fisheries observer aboard and an observer on the dock when they unload their catch to ensure quotas are not exceeded.

The fishery also has a strong First Nations component. The federal department of fisheries issues 25 commercial and 25 communal First Nations licences annually.

Seine crews and unloading station workers are mostly recruited from local First Nations.

The overall B.C. sardine quota is 22,000 tonnes but estimates on the size of the sardine population run as high as one million tonnes.

The first fishery was held in 2007, when the wholesale value of the catch was \$1.4 million. Early estimates show the wholesale value of the 2010 catch at \$41 million.

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