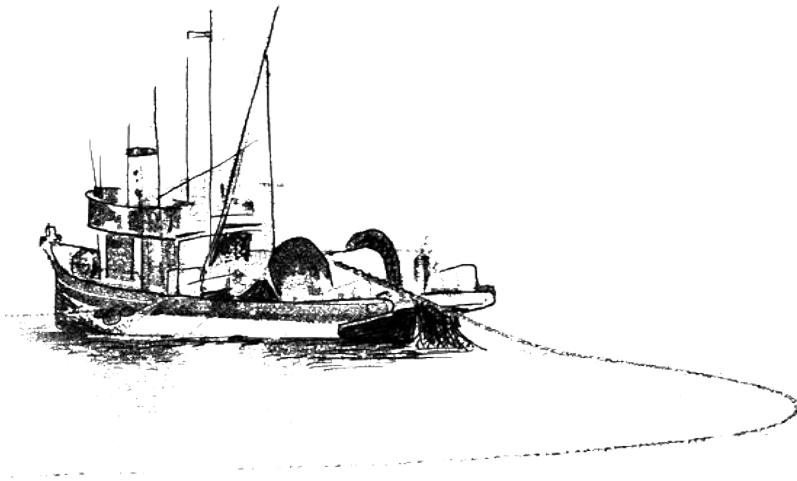


# OCEAN NEWS

A Newsletter from the Public Education Program of the Bamfield Marine Sciences Centre

## Issue 6: Sustainable Fisheries



The oceans supply much of the food that we need to survive. The big question we explore in this issue of Ocean News is: How do we ensure that our oceans are healthy and plentiful enough to feed us in the future?

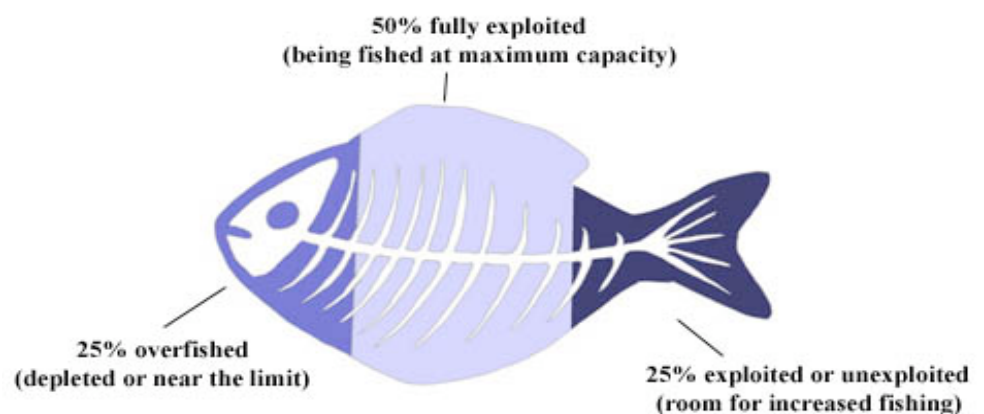
Already, we take more food than the oceans have to give. In order to fulfill the demand of our increasing population, our efficient harvesting methods put an incredible amount of pressure on the oceans' resources. Eventually, if we take out more resources than the ocean has to offer, the ocean will no longer be able to sustain itself. Sustainable fisheries would allow the ocean to keep on making enough to replace what we take. Sustainability means more than not taking too much fish. Sustainability also means protecting critical habitat, reducing pollution and keeping ocean ecosystems working. In other words, sustainable fisheries means both preventing over fishing and reducing the harm we do to the oceans.

The words fishery and fishing don't just mean fish. They can also include shrimp, squid, sea turtles and even whales. Really, a fishery can be for any sea critter that humans use. Fishing is an important source of food, jobs, fun and culture. Not only is fishing important to the health of the planet but also to the global economy. World wide, fisheries make about 150 billion Canadian dollars and employ about 200 million people each year. According to the United Nations' Food and Agriculture (FAO), people who keep statistics on fisheries, about 95 million metric tons of fish were caught in 2000 alone. This would be about the same as filling 37,000 Olympic sized swimming pools with fish.

Over fishing and the collapse of many fish populations is cause for alarm. Currently half of the world's fisheries are being fished at the maximum level while only 25 percent hold possible room for increased fishing. The remaining 25 percent of the stocks are over-fished. Change is urgently needed. Unless we change the way we do things, more fish stocks will become over-fished.

There is much that can be done to have a positive impact on fisheries. In this issue of Ocean News you will read about scientists, projects, and ideas that are all focusing on making a difference. We can all make a difference to rebuilding fish stocks but we will have to work together. We can work with scientists, elders, governments, markets and the fishing industry to find common solutions and move towards more sustainable fisheries.

## Status of the world's fisheries



# Killer Spikes

## Attack of the Killer Spike on Floundering Fisheries

History can help us learn from our mistakes, so let's look at a little fishing history, to help us understand sustainable fisheries. Between 1800 and 1950, ocean fish catches (landings) grew from 6 million to 19 million tonnes, world wide. In the last 50 years landings grew from 19 to 100 million tonnes. That sharp increase in catch, over a short period of time, is called the "killer spike."

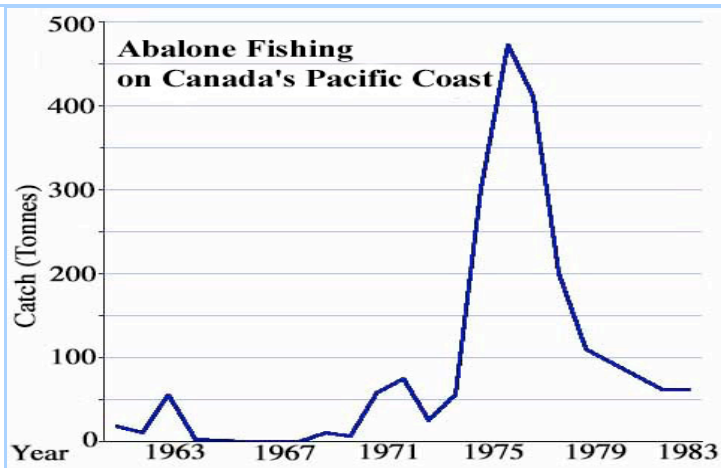
Most of the increased catch since 1960 has come from "newly discovered" stocks. The history of these gold rush fisheries has been, discover, exploit and destroy. Quite often the "newly discovered" stocks are not really new and have been fished sustainably for a long time on a small scale. It is often an improvement in technology and either not caring about the future of the fishery or not knowing any better that make it a gold rush fishery.

Off Canada's Atlantic coast the Northern Cod fishery was sustainable for centuries but was eventually attacked by the killer spike when technology to fish was better than the ability of the ocean to produce. The cod has not come back. We now know that species will not always bounce back even if we stop fishing after the spike. Hind sight is great, but what does this mean for the future?

It means that we have to be more cautious (the precautionary principle). We have to realize that we don't know it all (the uncertainty principle) and we have to be flexible enough to avoid the killer spike (adaptive management).

Check out the graph showing the modern history of the abalone fishery in British Columbia and you will see the "killer spike". Abalone is a marine snail that had been fished for thousands of years by people on the coast but by the 1970's diving technology and increased demand resulted in the killer spike. Abalone fishing has been closed to everyone in BC since 1990. In spite of this closure, abalone numbers kept dropping and the abalone was listed as a "threatened species" in 1999. That means it is sliding down the slippery slope to becoming an endangered species.

The killer spike can be seen in the history of many different fisheries but is especially lethal with species that are long lived and slow to reproduce. New fisheries for deep sea species are often spiked. Quite often scientists do not even understand the biology and ecology of the species being spiked until after the fishery is over. The rules applied to "manage" these gold rush fisheries are often too little, too late.



### Graphic Graph It Activity.

Make a rough graph of the history of fish landings from 1800 to 2000. First build your axes. The x axis (horizontal) will be time, in years. Start with 1800 and mark every 50 years, to 2000. Put landings on the y-axis (0 to 100 million tonnes)..

Year Landings (millions of tonnes)  
1800 6  
1950 19  
2000 100

Can you see the killer spike on your graph?

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