

GROUND FISH: Will Barrow become the next Dutch Harbor?

The planet is warming. Why? It's debatable. And how it will change life remains to be seen.

Most biologists are unwilling to go on record about how climate change may affect the fisheries.

But one thing scientists generally agree on is that *something* will happen.

But what?

Try cod ... in the Arctic Ocean.

As the northern waters warm and year-round ice disappears, the Arctic Ocean and Beaufort Sea may soon resemble the waters near the Aleutian Islands.

Because the ice reflects sunlight, the less ice that exists, the less Earth can protect itself from solar heat. The more heat, the less ice. A vicious cycle. Eventually, ice may not form at all.

Recent studies by NASA show that the Arctic ice pack shrank 14 percent between 2004 and 2005. At that rate, ships will sail around the world over the Arctic Ocean within the next 10 to 20 years.

Even before then, the melting ice pack will provide access to virgin fishing areas. Territorial disputes among nations aside, there's gold in them thar waters. Who will be the first to strike it rich?

Consider this: Might the fishing grounds off Barrow be the foundation of new fisheries and new money? It's a definite possibility, though most scientists — being scientists — are not willing to go on record as saying so.

Warming episodes such as El Niño affect fish migration, predators, food sources, reproduction, fish size, and spe-

cies population. Warming also affects groundswells, ocean currents, and other factors. Sea ice can either destroy life or nurture it.

Many variables are involved when predicting the outcome for fish species, and that's what makes biologists unwilling to shake the Magic 8-Ball.

Some facts are inescapable. In the last five years, the Bering Sea has lost its reputation for dramatic weather fluctuations. Increasing temperatures are the new trend, and they've chipped away at the once-permanent ice pack. According to NASA, the highest temperature increases on the planet over the last few years have

Traditionally, this fish was rarely found outside the Mackenzie Delta. These saffron cod offshore are larger than their cousins too.

In Barrow, chums and pinks have increased in number and king salmon are now appearing regularly.

Are these signs of things to come?

It's not a stretch to imagine that as the Arctic ice melts, the Bering and Beaufort Seas may eventually resemble the Barents Sea, with its rich bounty of ocean species.

While the Barents Sea continental shelf is expansive, stretching from the Norwegian/Russian coast past Svalbard and



Arctic cod migrating close to shore north of Alaska can be seen in dark schools. The white creatures are whales.



occurred in Siberia, Alaska, and the Antarctic Peninsula. All signs point to temperature increases continuing indefinitely.

Another fact: Stocks of Pacific cod in areas of the Bering Sea and Aleutian Islands are sustainable, and experts believe they will remain so into the future.

Warming periods following the year 2000 also affected fish species. Gray whales began appearing north of the Bering Strait.

Lately, Inuvialuit fishermen in Tuktoyaktuk are reporting saffron cod offshore.

Franz Josef Land island groups, the shelf of the Beaufort Sea is relatively narrow.

However, the Beaufort shelf is hundreds of miles wide in places, equaling the breadth of some of the best fishing grounds to the west and south of Alaska.

The Arctic Ocean and Beaufort Sea are wide open for commercial fishing and as yet, there's no sheriff in town.

"Legally speaking, there's nothing set up in the western part of the Beaufort Sea right now for commercial fishing," explains Andries Blouw, communications representative from Fisheries and Oceans Canada.

If bountiful numbers of cod or other species are discovered, harvesting them

**Arctic free of ice
— but a free for all?**

The Northwest Passage runs from the Bering Strait across the top of the world to Baffin Bay.

As the Arctic ice melts, areas are exposed that have been previously inaccessible to shipping. Shipping highways will develop. The Northwest Passage and its natural resources will increase in value economically as well as militarily.

The U.S. Navy estimates that any time before 2011, the Northwest Passage will be ice-free for at least one month of the year. In other words, the Arctic is poised to become prime real estate.

The United States, Russia, the European Union, Japan, Denmark, and Norway do not agree with Canada's claim to the Northwest Passage as its territorial waters. Their argument is that the Northwest Passage is an international strait and, therefore, fishing and other rights should be accessible to every country.

Disputes among these nations over Arctic sovereignty are on the increase, and it will likely get worse as more of the polar ice cap melts.

The United States has long patrolled the northern waters using nuclear submarines. For the most part, they've gone unchallenged. However, an incident between Canada and the U.S. occurred in 1985 when a U.S. Coast Guard ice-breaker traveled the Northwest Passage without Canada's permission.

In 1988, the two countries agreed that the U.S. Coast Guard could use the passage if it first notified Canada. Tension between the two countries over Arctic sovereignty remains intense.

Denmark and Canada have both claimed uninhabited Hans Island as their own. The island is located between Denmark's Greenland and Canada's Ellesmere Island. Many experts agree that Hans Island may precipitate a domino effect of political and possibly military struggles among several nations over Arctic sovereignty.



CLAIMING THE NORTH:

To emphasize its sovereign claims to the Northwest Passage, the Canadian government sent

the *St. Roch* through the Northwest Passage from 1929 to 1942 above. Manned by a Royal Canadian Mounted Police Force, the ship sent constables on patrols with dog sleds when the sea froze within the polar ice. Canada's continued assertion of Arctic sovereignty is now being called into question by other countries. The *St. Roch* is on display at the Vancouver Maritime Museum, at left. (*Vancouver Maritime Museum photo*)

may become a free-for-all. The next challenge would be to get them to market.

The northern waters are not completely without infrastructure. Thanks to the Trans-Alaska pipeline, the Dalton Highway is an all-weather road that runs from Fairbanks, Alaska, to the Arctic Ocean and Prudhoe Bay oil fields. Transportation for future commercial fisheries would presumably be available over land and by sea.

Though much of the Arctic's future remains conjecture for the time being, enterprising commercial fleet captains

can test these theories for themselves.

In lieu of using gold pans and metal detectors, a freezer-trawler owner might consider sending a ship to the Beaufort Sea during the off-season to prospect for Arctic cod.

If it happens — or has happened — you can count on not hearing about it. Whether it be a new mother lode or new cod grounds, that kind of information is best kept secret. ■

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