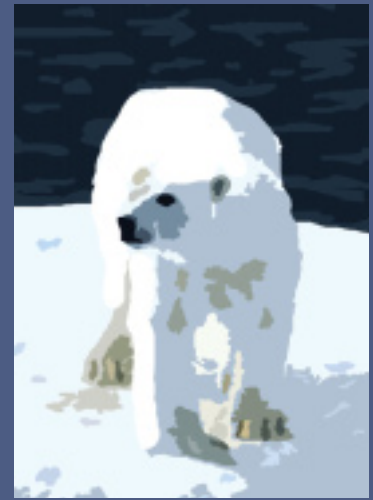


UNFROZEN SEA: SAILING THE NORTHWEST PASSAGE

Michael Byers

In late October 2006, Michael Byers travelled through Bellot Strait in the Canadian North, on the first ship ever to do so in October. "We were 700 kilometres north of the Arctic Circle" he writes, "but there was no ice." The shrinking sea of Canada's Arctic region poses challenges both for the ecosystem and for animals such as the polar bear, as well as for Canada's claims of Arctic sovereignty over disputed waters such as the Northwest Passage. Where explorers once died in search of the "Arctic Grail," a northern route from Europe to Asia, the Northwest Passage is now open water in the summer. "In March 2006," writes Byers, "the area covered during the winter by sea-ice was at an all-time low: 300,000 square kilometres less than the previous year. At this rate the Arctic could lose all its sea-ice by 2030."

Fin octobre 2006, Michael Byers s'est rendu dans le Nord canadien par le détroit de Bellot, à bord du premier bateau à faire cette traversée en octobre. « Nous étions à 700 kilomètres au nord du cercle arctique et il n'y avait pas de glace », écrit-il. Le retrait de la mer dans la région arctique du Canada constitue un défi pour l'écosystème et les populations animales, notamment les ours polaires, mais aussi pour la souveraineté revendiquée par notre pays sur des eaux contestées comme celles du passage du Nord-Ouest. Là où sont morts des explorateurs en quête du « Graal arctique » — une route du Nord entre l'Europe et l'Asie —, ce passage est devenu en été une étendue d'eau libre. « En mars 2006, observe l'auteur, la zone de glace marine était plus réduite que jamais pour la période hivernale : 300 000 kilomètres carrés de moins que l'année précédente. À ce rythme, il n'y aura plus de glace marine en Arctique dès 2030. »



Where has all the ice gone?" Joe Immaroitok asked. It was October 24, 2006, and he was starting at Foxe Basin. A shallow expanse of ocean the size of Lake Superior, the basin usually freezes over by early October, enabling the Inuit to travel across to Baffin Island to hunt caribou. This winter, the local council in Igloodik was considering chartering a plane to take the hunters across the unfrozen sea.

A few hours before I spoke with Immaroitok, I'd sailed through Fury and Hecla Strait on board the *CCGS Amundsen*, Canada's research icebreaker. All we saw were a few chunks of thick, aquamarine "multiyear" ice — formed when ice survives one summer or more, and new ice accretes to it — which had floated down from higher latitudes and were easily avoided. The previous day, we'd passed through Bellot Strait — the first ship ever to do so in October. We were 700 kilometres north of the Arctic Circle, but there was no ice.

The two straits are part of the Northwest Passage, the so-called Arctic Grail. From Martin Frobisher in 1576 to John Franklin in 1845, generations of European explorers searched for a navigable route through the Arctic islands to Asia. Many of them — including Franklin and his men — died in the

attempt. Their greatest challenge was sea-ice, which has almost always filled the straits, even in summer. William Parry spent the summers of 1821 and 1822 waiting for the ice to clear from Fury and Hecla Strait. But though the strait is named after his ships, he never made it through. Leopold McClintock, despatched by Lady Franklin to search for her husband on King William Island, tried six times to penetrate Bellot Strait during the summer of 1858 before continuing his journey by dog-sled. It took Roald Amundsen three years — including two winters lodged in the ice — to complete the first full transit of the Northwest Passage in 1906.

In 2004, the Arctic Climate Impact Assessment reported that the average extent of sea-ice cover in summer had declined by 15-20 percent over the previous 30 years. The remaining ice was 10-15 percent thinner overall and 40 percent thinner in the middle of the Arctic Ocean. These trends are expected to accelerate, so that by the end of the 21st century, there might be no sea-ice at all in the summer. Recent satellite measurements analysed by the US National Snow and Ice Data Center are even more alarming. In March 2006 the area covered during the winter by sea-ice was at an all-time low: 300,000

square kilometres less than the previous year. At this rate, the Arctic could lose all of its sea-ice by 2030.

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Gary Stern from the Canadian Department of Fisheries and Oceans, who was also on the ship, is studying mercury levels in Beluga whales, which have been rising far more steeply than can be explained solely by the contaminant being carried on the wind from industrial sources further south. One possible explanation is that, as the permafrost melts, naturally occurring mercury leaches out of the soil and into the sea, where it is carried up the food chain.

Climate change is having more immediately apparent effects on other Arctic mammals. In Queen Maud Gulf, we encountered the only “first-year” ice of our voyage — as well as our only polar bear. The bear was thin and, as he walked, his hind feet kept breaking through the ice. But he will have made it through the winter, since he is now able to catch ring seals. Further south, where

the ice-free season is even longer, other polar bears are less lucky. In Hudson Bay, the bears’ birth rate is plummeting as lengthening summers impose famine-like conditions on a species that has evolved to hunt seals on ice.

Off Cape Felix, near where Franklin died, the ship stopped alongside a multi-year ice floe the size of a hockey rink to extract an ice-core: a cylindrical cross-section cut out with a hand-powered

auger. The ice contains microbes able to withstand temperatures as low as -35°C . The way they do this, once it is fully understood and synthesised, could have important medical applications. As we arrived, an Arctic fox, snow-white and no bigger than a cat, scampered behind a small ridge. In previous years, the fox would not have been stranded, apparently without food, because first-year ice would already have formed across the surface of the ocean.

With the ice disappearing, the currents and narrow channels pose less of an impediment to navigation: an experienced sailor could now take a large tanker through the straits during the late summer and early autumn. Governments are gradually waking up to this new reality. In 2001, a report prepared for the US Navy predicted that “within five to ten years, the Northwest Passage will be open to non-ice-strengthened vessels for at least one month each summer.” A briefing given to the Canadian defence minister, Gordon O’Connor, in February 2006 was confident that “the Northwest Passage could be open to more regular

navigation by 2015” if “the current rate of ice thinning continues.”

Shipping companies are also watching closely. A navigable Northwest Passage offers a route between Asia and the Atlantic seaboard that is 7,000 kilometres shorter than the one through the Panama Canal — saving on time, fuel and transit fees. In the short term, uncertainties about the weather, the availability of search and rescue, and the movement of multiyear ice will — along with higher insurance premiums — dissuade reputable companies. But less reputable ones might take the risk. There are quite a few rusting tankers with Liberian flags and disgruntled creditors sailing on the world’s oceans.

International shipping in the Arctic carries with it serious environmental risks. An oil spill would cause catastrophic damage. Large ships emptying their ballast tanks as they entered these shallow waters could introduce destructive new species, such as fish parasites or poisonous algae.

These dangers are of great concern to the Inuit. When I asked Maria Kripanik, the deputy mayor of Igloodik, about the possibility of increased shipping through the Northwest Passage, her first thought was for “our animals.” The waters of Foxe Basin, she explained, are home to whales, seals and walrus, which the Inuit depend on for food. There are also security concerns. The police and military presence in the region is relatively light, which could make it attractive for ships carrying illicit cargoes. Smugglers, illegal migrants, even terrorist groups might see an ice-free Arctic as a back door to North America. Cruise ships are already frequent visitors. The *Kapitan Khlebnikov*, a Russian-flagged converted icebreaker, offers luxury trips through the Northwest Passage. The Canadian Coast Guard’s 2005 Arctic Traffic Summary lists another six cruise ships and eight pleasure-craft as visitors to the Canadian Arctic that year.



Courtesy Frédéric Lasserre

Open sea, north of the Arctic Circle, in October. "Where has all the sea-ice gone?"

The greatest incentive for future shipping, however, is the presence of substantial deposits of oil and gas. The US Geological Survey estimates that 25 percent of the world's undiscovered fossil fuels are located under the Arctic Ocean. Big Oil is already planning against the day when they are discovered: Shell has recently commissioned an analysis of the legal status of the passage, which is the subject of a long-standing international dispute.

Ownership of the islands along the passage is not at issue. They were assigned to Canada by Britain in 1880, and the resulting title has never been contested. As for the straits and channels between the islands, the nearly impenetrable ice meant that for decades the issue of ownership and control was never discussed. Only the

development of powerful icebreakers — and now climate change — has brought the issue to the fore.

Canada claims that the passage constitutes Canadian internal waters. In 1986, it drew "straight baselines" around its Arctic islands. Under international law, straight baselines may be used to link the outer headlands of an archipelago or fragmented coastline. Provided the lines are of a reasonable length, the straits and channels within them are then subject to the full force of the coastal state's domestic laws. Canada argues that its baselines are consolidated by historic usage, including the occupation of the sea-ice by the Inuit.

The United States insists that the passage is an "international strait": a waterway connecting two expanses of high seas that is used for international

navigation. The coastal state retains title to the waters, but foreign vessels have a right of "transit passage," much like walkers on a footpath through British farmland. Since straight baselines cannot be used to close off an existing international strait, the crux of the dispute concerns the requirement that the strait be used for international navigation. In the past century, only two vessels have openly passed through the Northwest Passage without asking Canada's permission: a US-owned ice-strengthened tanker in 1969 and a US Coast Guard icebreaker in 1985. Some submarine voyages have almost certainly taken place but the passage of a submarine, because it is covert, can't create a new right under international law.

Ottawa argues that two transits cannot create an international strait. Washington points to a judgment of the

International Court of Justice, in a case concerning the Corfu channel, which suggests that the volume of traffic is irrelevant. The US position has received some support from the European Commission, which in 1986 joined the State Department in protesting against Canada's drawing of straight baselines. More unauthorized transits would seriously undermine Canada's claim. Yet Canada is poorly equipped to prevent them. The bulk of its military presence is provided by the Canadian Rangers, 1,400 part-time volunteers, many of them Inuit, who live in 59 hamlets stretching from Baffin Island to the Alaskan frontier. They are not trained or equipped to stop ocean-going vessels.

The Canadian Coast Guard's small fleet of icebreakers is incapable of operating in the Northwest Passage in winter, and is redeployed to the Gulf of St. Lawrence each autumn. The ships are also growing old: the largest, the *Louis St. Laurent*, was built in 1969; the *Amundsen* is just a decade younger. If Canada is to control the passage, it will need ships that can go anywhere, at any time.

Before being elected prime minister in January 2006, Stephen Harper promised "three new armed naval heavy icebreakers." Now he is hesitating. The icebreakers were not mentioned in his first budget, and did not feature in a \$17.1 billion defence procurement package announced last June. Perhaps he has realized that it would be better if the new vessels were supplied to the Coast Guard, which uses its icebreakers to clear paths for other ships, provide search and rescue, support research scientists and help in the enforcement of fishing and environmental regulations as well as customs and criminal law. With the addition of light armaments and a few police or military personnel, they could also play an enhanced security role.

Harper's indecisiveness is all the more unfortunate, because US interests have changed. During the Cold War, the United States was focused on maintaining open access for its navy, and especially its submarines. Under the law of the sea, submarines may pass through an international strait without surfacing or otherwise alerting the adjacent coastal state or states, something not permitted in internal waters. From Washington's perspective, the Canadian claim threatened to create an inconvenient precedent for straits and channels elsewhere.

Today, Washington is more concerned about terrorists sneaking into North America, or rogue states using the oceans to transport WMD. And these challenges would best be addressed through a domestic legal system's criminal, customs and immigration laws, rather than the much looser constraints of international law. The Canadian system is the only domestic legal system that could plausibly be applied in the Northwest Passage. In the circumstances, it doesn't benefit the United States — or most other countries — to have foreign vessels shielded from reasonable regulations and scrutiny by maintaining that the passage is an international strait.

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tions and scrutiny by maintaining that the passage is an international strait.

Access to the waterway is not really in question, since Canada would be very unlikely to deny entry to one of its allies, or indeed to a reputable shipping company. As Pierre Trudeau said in 1969, "to close off those waters and to deny passage to all foreign vessels in the name of Canadian sovereignty... would be as senseless as placing barriers across the entrances of Halifax and Vancouver harbours." Washington's concern about an inconvenient precedent is also misplaced. It can plausibly be argued that the near absence of international navigation to date has created a situation where the passage can be distinguished from the other waterways that the US argues are international straits.

In March 2005, then-US ambassador Paul Cellucci revealed that he had asked the State Department to take a "serious look at our longstanding policy" on the Northwest Passage. This has created an opportunity to resolve the dispute. The Canadian government should seize the initiative by offering to provide open access for all US government vessels, facilitate shipping by reputable companies, and invest in the equipment necessary to police the passage on a year-round basis — in return for the United States recognizing Canada's claim. Having seen almost no ice in late October, it's clear to me that we've no time to waste.

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