



BILL CURTSINGER

INTEGRATED AQUACULTURE

OCEANS

WITH THOUSANDS of identical fish crammed into underwater cages, many of Canada's monoculture fish farms are breeding grounds for disease and parasites and nutrient pollution. A marine biologist at the University of New Brunswick, however, has a plan to clean up the industry's mess by planting a new kind of farm in the swelling waters of the Bay of Fundy.

Combining salmon, seaweed and

shellfish, Thierry Chopin's integrated aquaculture operation transforms problems into profit. Food wasted in the salmon's feeding frenzy does not collect on the bottom. Instead, it is filtered by

Chopin and his colleagues are currently running a pilot project using 14 industrial-sized fish cages sunk in the waters of Bocabec Bay, approximately 20 kilometres north of St. Andrews, N.B. They want to match the scale of current aquaculture practices to show fish farmers that this integrated system works effectively, and that a healthier aquatic farm in sync with the natural environment is a bonus rather than a cost.

Chopin also wants to demonstrate that by diversifying, farmers can continue to feed the demand for Atlantic salmon while gaining trade in both Atlantic shellfish and the seaweed that goes into sushi, miso and food supplements.

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thousands of mussels clinging to underwater rafts. Similarly, waste excreted by the salmon and mussels becomes fertilizer absorbed by kelp forests, which in turn breathe oxygen back into the water column.

"We still have to convince salmon aquaculture that it can do more than just salmon," says Chopin. "After all, you don't want to put all your fish eggs in one basket."

Michael Bhardwaj

ARCTIC ONLINE

EXPLORATION

BETWEEN 1818 AND 1878, the British government dispatched dozens of expeditions (RIGHT) into what are now the Northwest Territories, Nunavut and the Yukon. While none ever located the fabled Northwest Passage, those Royal Navy explorers wrote the early history of Europeans in the North. Now, thanks to the University of Manitoba, historians can read those dispatches online, along with thousands of other British parliamentary papers associated with the dozens of Arctic expeditions sponsored by the Crown.

The 4,903 pages chronicle everything from relations with aboriginal people and living conditions on ships to meteorological observations, the status of com-

mercial whaling and botanical discoveries.

They record that explorer John Ross was wounded in the naval service 13 times (including a bayonet through his body) and that chilies, along with suet, were worked into the menu of the explorers.

The mundane is interleaved with high drama; the pages contain Sir Edward Belcher's explanation for abandoning four perfectly good ships in 1854 and Dr. Alexander Armstrong's indictment of Captain Robert McClure for reducing the rations of the sick and infirm aboard the *Investigator* (1850-54).

The Blue Books even include letters written by Lady Franklin, wife of Sir John Franklin, charging that the British



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Admiralty's decision to call off the seven-year search for her missing husband was a "sentence of death."

William Barr, research associate at the Arctic Institute of North America, describes the original Blue Books as "an absolutely essential resource." Now researchers anywhere can find them at www.umanitoba.ca/libraries/units/archives/arcticbb/index.shtml.

Ed Struzik