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Wild Pink Salmon Crash Blamed on BC Fish Farm Lice

By Gordon Young

VANCOUVER, British Columbia, Canada, November 25, 2002 (ENS) - The environmental impacts of commercial salmon fish farms on the west coast likely caused the collapse of one set of wild salmon stocks, according to a fisheries council report issued today.

The Canadian government funded council urged precautionary measures to prevent further destruction of Pacific wild salmon in British Columbia waters, where a wild salmon fishery has been crucial to the economy for more than a century.

The Pacific Fisheries Resource Conservation Council (PFRCC) identifies sea lice escaping from open net salmon farming pens as the probable cause of a collapse last summer of wild pink salmon stocks in the Broughton Archipelago on northern Vancouver Island.

Former Speaker of the House of Commons and federal fisheries minister, John Fraser now chairs the Pacific Fisheries Resource Conservation Council. (Photo courtesy Government of British Columbia)

In a 12 page advisory letter, PFRCC chair John Fraser, a former federal minister of fisheries, explained that the Council's primary concern is "to protect and provide safe passage for the 2002 pink salmon brood year on their seaward migration through the Broughton Archipelago."

"In numerical terms, the number of pink salmon spawners in the Broughton Archipelago decreased from 3.615 million fish to 147,000 fish," Fraser wrote in the letter to federal Fisheries and Oceans Minister Robert Thibault and provincial Agriculture, Food, and Fisheries minister John van Dongen. Neither minister immediately commented on the report.

Pinks, the smallest of the five Pacific salmon species, return to their home rivers in rigid two year cycles. Leaving their native rivers as tiny smolts, they swim out to the open ocean to feed and grow, returning to their native rivers as two to four pound adults ready to spawn.

Fraser said, “Spawner declines were virtually confined to the Broughton Archipelago, leading us to conclude that the decrease was specific to conditions in the Broughton and was related to conditions within the Broughton Archipelago."

"There is evidence that the Broughton pink juveniles were infested with sea lice, a condition essentially unreported for juvenile pink salmon in the natural environment elsewhere,” he wrote.

Sea lice are naturally occuring parasites on adult salmon, and they seem to do the larger fish little harm. The 21 commercial fish farms in the Broughton Archipelago use imported Atlantic salmon as their stock, which, though they have proven better suited to domestic production than Pacific salmon species, are also better hosts for sea lice.

Pink salmon smolts infected with sea lice (Photo courtesy Alexandra Morton)

Environmentalists believe that massive outbreaks of sea lice in the commercial pens boosted local lice populations to plague levels. The sea lice then attacked juvenile pink salmon migrating out to sea in April 2001, killing off that brood year, and this attack led to the lack of adult pink spawners last summer.

Though levels of pink salmon populations do fluctuate widely on their own, scientific data analysis has ruled this crash is too big to be natural. In some rivers, pink salmon levels are so low it will take years for the stocks to recover.

Sea lice on salmon skin (Watershed Watch Salmon Society)

The alarm was first sounded in 2001 when marine biologist Alexandra Morton, who lives on an island in the archipelago, noticed sea lice infesting juvenile pink salmon. She estimated that 78 percent of her 700 smolt sample were lethally infected, and warned the two levels of government of possible dire consequences. “The fish farms are providing a breeding ground for the lice,” Morton said.

In Alaska, where fish farms are banned, sea lice are not found to prey on juvenile pink salmon.

The aquaculture problems in Canada’s Broughton Archipelago echo those in Norway, Ireland, and Scotland, where the environmental impacts of fish farming have led to large scale collapses of wild salmon populations.

Salmon aquaculture was first introduced in British Columbia in the 1970s, when the warning examples in Europe were not yet obvious. Growing through the 1980s and 1990s, salmon farming has been viewed as a lucrative alternative to a troubled wild salmon fishing industry.

The British Columbia Liberal Government led by Premier Gordon Campbell lifted a five year moratorium on new fish farm licenses in September, over the concerns of environmentalists about the effects of open net enclosures used in salmon aquaculture.

Fish farm in the Broughton Archipelago (Photo courtesy BC Salmon Farmers Association)

The Pacific Fisheries Resource Conservation Council report recommends two possible strategies for

managing the risk to this year's pinks. Fraser said, “Where there is a risk of serious or irreversible harm, the precautionary approach calls for action based on the best evidence available. In this case the absence of any evidence of some other causes other than sea lice justifies action.”

The first strategy, preferred by the council, is to allow all salmon farms in the Broughton Archipelago to lie fallow. A temporary removal of all farmed fish from their open net sea pens would have to be completed by the end of February 2003, six weeks before the tiny pink smolts hit the ocean, if the sea lice life cycle is to be broken.

A second strategy, not the preferred one, would be to implement sea lice control measures on the salmon farms, including application of chlorine based pesticides to kill the parasites.

Whatever choice is made, the council urged that consensus be reached as soon as possible, and that government should take action by mid-January 2003, as the next batch of new pinks will hatch and leave their rivers five months from now, and begin their journey through the Broughton Archipelago.

The BC Salmon Farmers Association and two of its members with farming operations in the area, Stolt Sea Farm and Heritage Salmon, have told PFRCC chair Fraser that they are committed to working with the council and other stakeholders to research the causes of the low return of pinks.

Dale Blackburn, vice president of Stolt's west coast operations, and Odd Grydeland, Heritage's strategic development manager, say their firms have committed to active monitoring of farm stocks for sea lice during the period of out-migration of pink salmon smolts.

Fish farm net cages (Photo courtesy BC Salmon Farmers Association)

Stressing that sea lice occur naturally in the wild, Blackburn and Grydeland said their companies will ensure that levels of sea lice on their individual farm sites are

as low as possible by establishing a standardized program and treatment prototcols for their farms in the Broughton.

"We genuinely believe that our farms and the wild population of salmon are compatible and environmentally sustainable," said Blackburn. "At the same time, we want to be part of any solution. So, we're committed to working with government, the PFRCC, First Nations and local communities to ensure the health and future of our wild salmon population."

The First Nations who have fished the Broughton Archipelago for centuries are fed up with the fish farms. In April, the Musgamagw Tsawataineuk Tribal Council rallied community members from throughout Northern Vancouver Island to serve a symbolic eviction notice to fish farms operating in their traditional territory.

A flotilla of boats led by five war canoes gathered at the edge of the Broughton Archipelago, a previously pristine group of islands that is both a B.C. Marine Park and a home to 26 fish farms. "This protest is our way of saying 'we've tried everything else - enough is enough,'" said Yvon Gesinghaus of the Musgamagw Tsawataineuk Tribal Council. "They can take their friggin fish farms and put them somewhere else."

"We've spent 14 years going through all the government processes to file objections to these fish farms in our territories, and have yet to receive any response from the Ministers in charge," said Gesinghaus. "The Broughton Archipelago is our grocery store; it's where all our foods come from. These fish farms are polluting our waters by breaking their own restrictions because they've been left to police themselves."

Dr. David Suzuki, known for his television series "The Nature of Things," and numerous books, founded the environmental group that bears his name. (Photo courtesy BC Government)

The Vancouver based David Suzuki Foundation, a longtime critic of open net pens, said today that the council's report supports their position. "All salmon farms that are located in prime wild salmon habitat, including their migratory routes from freshwater to the ocean, must be immediately moved," given the evidence of the council's report the foundation said in a statement.

Lynn Hunter, the foundation's aquaculture specialist, said, "This report vindicates what the David Suzuki Foundation, other conservation groups and independent scientists have been saying about this outbreak of sea lice, and we call for the immediate fallowing of all salmon farms in the Broughton Archipelago."

"Dire warnings regarding the developing sea-lice catastrophe in the Broughton Archipelago were first voiced two years ago," says Dr. John Volpe of the University of Alberta. "This report not only validates these warnings but exposes DFO's [Canada's Department of Fisheries and Oceans] gross misconduct when in December 2001 senior scientists at the Pacific Biological Station attempted to quash debate on the issue with shoddy science."

While funded by the federal Department of Fisheries and Oceans, the PFRCC's mandate is to be "an independent body that will provide strategic advice to Ministers and the public on the conservation and long term sustainable use of Pacific salmon stocks and their freshwater and ocean habitat in British Columbia." The Pacific Fisheries Resource Conservation Council is online at: http://www.fish.bc.ca/