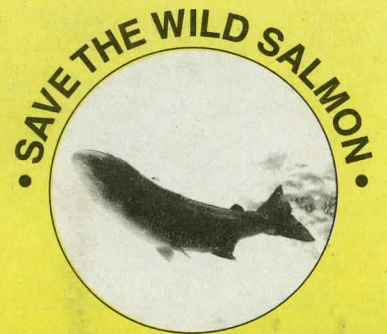




DON'T LET FISH FARMS DESTROY BRITISH COLUMBIA'S WILD SALMON MIRACLE



A proposed sixfold expansion of B.C.'s industrial netcage salmon farms, if permitted by government, will be disastrous for B.C.'s sport and commercial salmon fisheries and for the coast's lucrative and expanding wilderness tourism industry. Fish farms threaten to drive wild salmon into extinction. Don't let it happen!

Special to WCWC by Tony Eberts

A provincial government desperately seeking ways to bolster the sagging economy may be poised to strike a devastating blow against our wild Pacific salmon.

If the Glen Clark administration approves a massive expansion of fish farming as practised on the B.C. coast (from about 100 existing farms to 600 farms) it could leave our rivers lifeless and our commercial and sports fisheries in ruins.

With vast financial and political power behind them and the lure of big profits in front of them, the international corporations that control salmon netcage farming refuse to recognize the industry's horrifying world record. But that record, and the inevitability of threats to wild salmon stocks--the spreading of disease, genetic degradation and filth in our waters--cannot be denied, no matter how well funded their propaganda campaign may be. And what about the food quality of those drug-fed, penned-up farm fish?

Industry spin doctors employ the common techniques of denial, obfuscation, ridicule and smear against industry critics. Despite the documented evidence of environmental and economic damage associated with netcage fish farming here and in other parts of the world, they insist there is no solid evidence that it could happen.

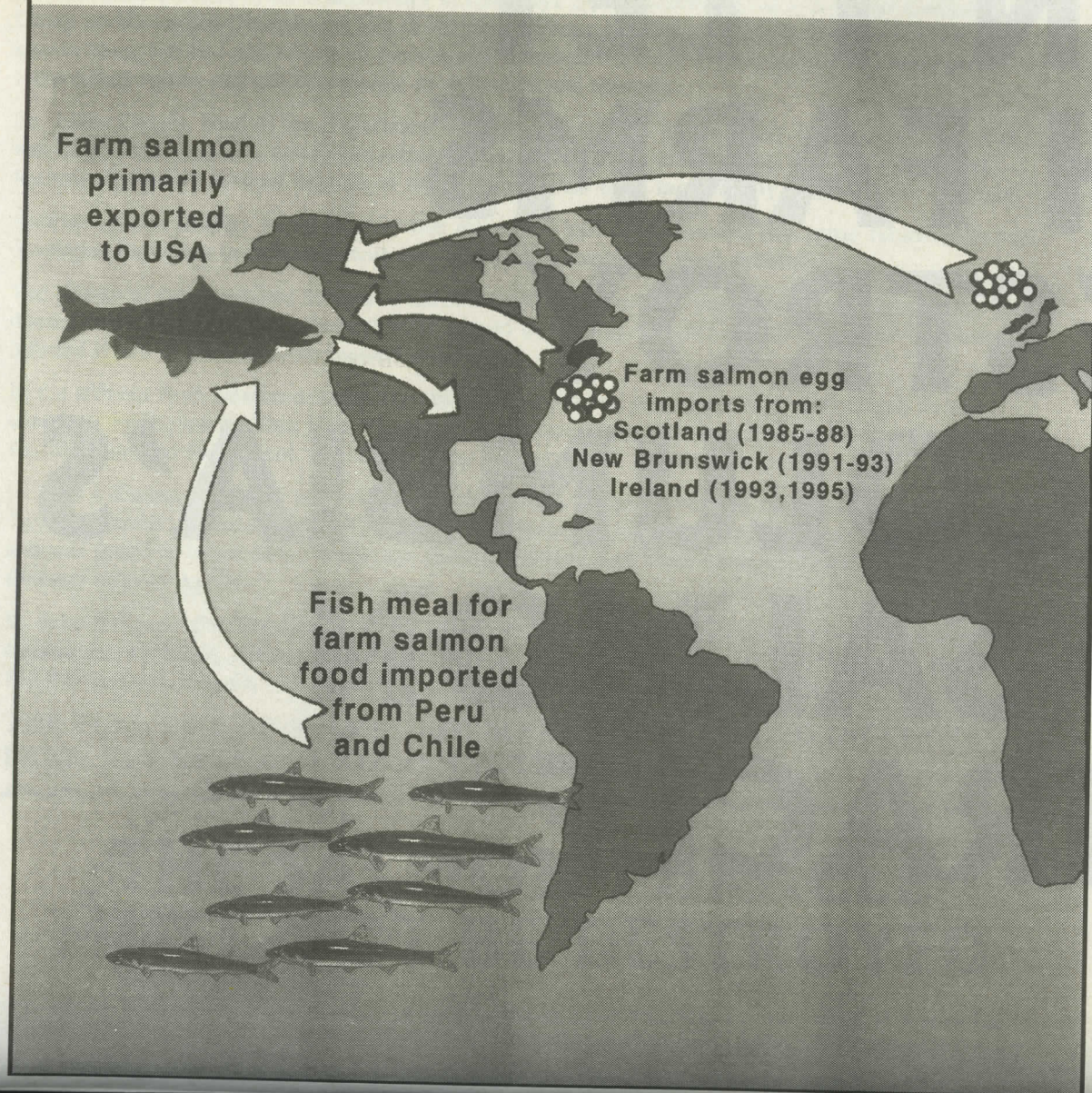
But it is not up to the industry's critics to prove the perils posed by the netcage operations. The onus is on the industry to prove beyond all doubt that it will cause no significant harm. Considering that many of our wild salmon stocks already are in crisis from resource mismanagement, pollution and habitat destruction, the people of B.C. deserve nothing less.

Some hidden costs of netcage salmon farming noted in a 1996 study commissioned by the non-profit David Suzuki Foundation:

- **Risks of disease** transfer from netcage fish to wild stocks such as black cod, herring and salmon, and in particular to large numbers of migrating Fraser River salmon.
- **Risks of introducing exotic diseases** from the continued importation of Atlantic salmon farm stock.
- **Pollution from fish sewage**, roughly equal to that from a city of about half a million people, with associated disease risks, contamination of shellfish and loss of habitat.
- **Death, wounding and harassment of mammal and bird populations** from shootings, net entanglements and underwater noisemaking devices.
- **Loss of access to traditional fisheries** for First Nations people, with increased risks to their health from exposure to drug residues in food collected near netcage operations.
- **Competition for spawning beds** and genetic interaction between wild and escaped salmon in both salt and fresh water.
- **Lost access to anchorages and pristine scenery** for the sportfishing, recreation and tourism industries; some sportfishing resorts have already been forced out of business by fish farm operations.
- **Loss of revenue for commercial fishermen** due to lower salmon prices, and risks to future revenue for commercial and sportfisheries because of potential declines in wild stocks.

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B.C.'s netcage feedlot-reared salmon: source of eggs and feed and destination of the farm fish product.



Broughton Archipelago A Paradise Poisoned for Profit

Personal observations of the ecological damage caused by a large industrial netcage salmon farm established on the pristine wilderness coast of B.C.

Alexandra Morton, a scientist who has studied the whales and other sea animals of the Broughton Archipelago, located near Vancouver Island's Robson Bight, for some 14 years, watched in despair as fish farms spread ruin through a once lovely marine wilderness. Years ago, she and the few other residents of the area welcomed the first small netcage operation--even taking jobs there.

"Today," she wrote recently, "residents are so disgusted by farm practices that only three remain employed on fish farms, and there are very few whales to report. I am thankful I arrived before the farms and experienced this wilderness, because I am now reluctantly recording its death..."

Morton presents a litany of small but frightening disasters. In 1991, IBEC, a U.S.-based company, brought Scottish Atlantic salmon to its Broughton netcages. They were infected with a disease called furunculosis, and that year the provincial coho hatchery at nearby Scott Cove--disease free for nine years--lost 28 per cent of its brood stock to the same sickness.

A coincidence, said the Federal Department of Fisheries and Oceans (DFO), but refused to tell Morton if the same strain of the virus had caused both fish kills.

In 1993, Scanmar, a Scandinavian-owned fishfarming company, introduced Atlantic salmon carrying a particularly virulent strain of furunculosis, and it spread within days to B.C. Packers' farms. "Wild chinook stocks feeding between the two farms vanished and haven't been seen since," says Morton. "Thriving fishing lodges that brought employment have closed. The hatchery coho returned to their streams infected with (the disease)."

Coincidence, said DFO. B.C. Packers bought up Scanmar's operations. The list of disease outbreaks, toxic algal blooms

New tough rules needed to make B.C.'s salmon farming less harmful

Editor's note: *Western Canada Wilderness Committee believe that only self-contained salmon fish farm feedlots situated on dry land should be allowed.*

The David Suzuki Foundation believes that the combination of public subsidies, human health issues, pollution, threats to native stocks from disease and habitat damage and other factors, show that the salmon netcage industry in B.C. is not sustainable.

The Foundation recommends these policy changes to make salmon farms less damaging to the environment:

- **Replace open cages** with totally closed containment systems.
- **Eliminate discharge of fish sewage** into the surrounding environment.
- **Fully monitor drug use** and spread of drug-resistant diseases.
- **Require systematic testing by communities for diseases** among farmed and wild fish, to be fully funded by industry.
- **Institute mandatory insurance** for operators to cover full ecological restoration costs of disease epidemics, escapes, genetic pollution and other catastrophic events.
- **Require industry-developed and funded site reclamation plans.**
- **Bring in a resource-use rent** or royalty for salmon farmers.
- **Introduce single-window access to public funds**, which will be audited and made public.
- **Develop and use a process for gaining the agreement** of coastal communities and First Nations regarding the siting of all existing or proposed fish farms.
- **Prohibit the use of firearms and acoustic deterrent devices** that harass marine mammals, and require the use of technologies that safely separate local wildlife from salmon farming operations.
- **Eliminate the use of fish that could be used as human food** as the primary feed for farmed salmon.

away at seals and other possible predators, night lights drew wild fish into the pens as feed and underwater noise devices drove whales and porpoises away from their traditional feeding grounds.

"In despair over the situation," Morton wrote, "I mailed out approximately 10,000 pages of letters to governments, scientists and others worldwide who were watching places they love die because of salmon farming."

"Some people have told me those letters prompted the provincial salmon aquaculture review that's presently winding up, and that should make me feel hopeful. However, draft recommendations produced by that review are deeply disturbing."

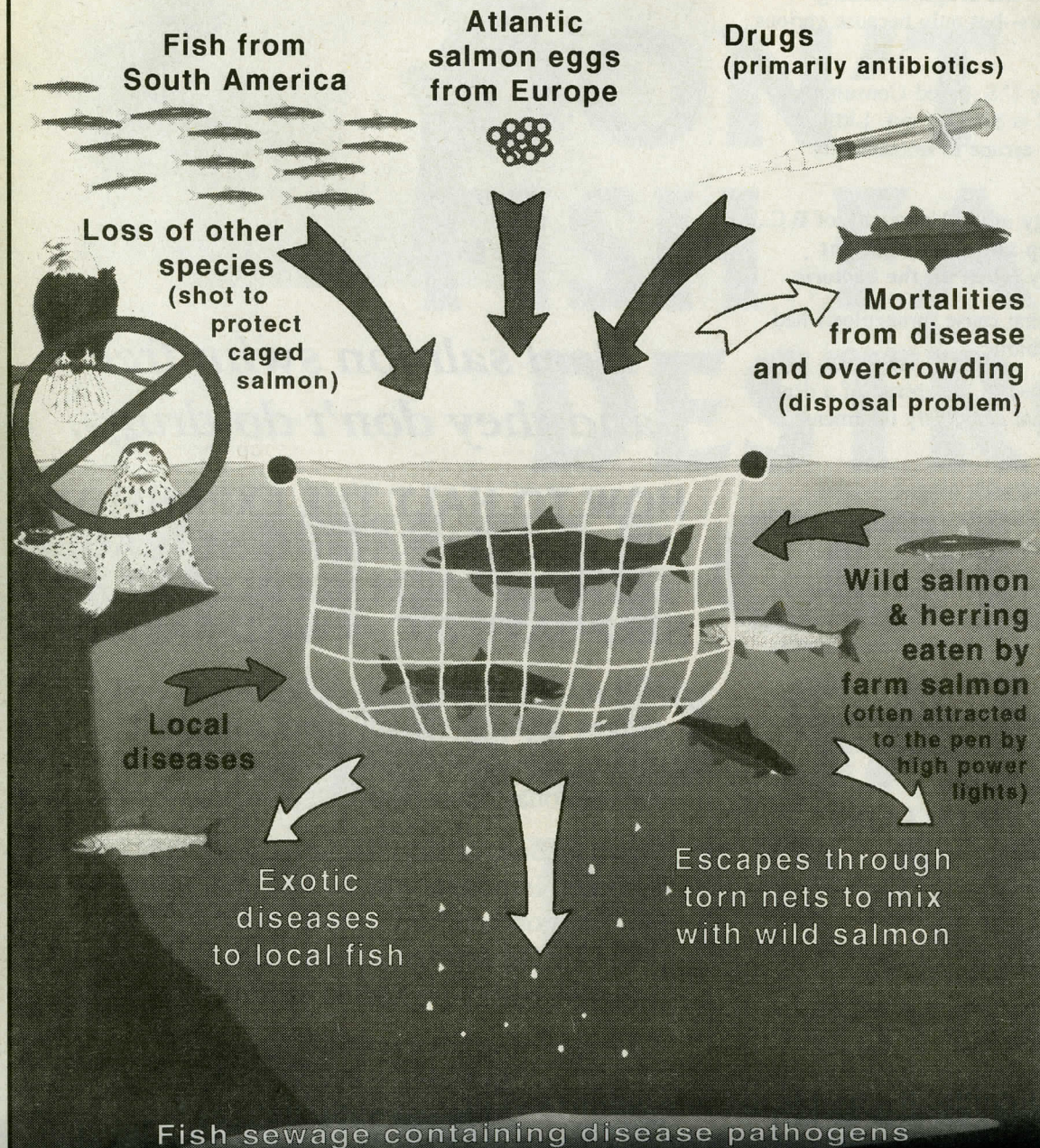
"Despite then-DFO director (Pat) Chamut's admission that bringing Atlantic salmon into B.C. 'guarantees' introduction of exotic pathogens, the review recommends that the imports continue. It also recommends that some Pacific stocks be domesticated and farmed, which, unfortunately, is equally as damaging as bringing in Atlantics. Bred to tolerate drugs, pesticides, flesh colorants (farm-salmon flesh is grey; the pink you see is a chemical additive) and an overcrowded, stationary existence, domestic salmon are genetically different from their wild counterparts."

"When they escape and interbreed with wild stocks, essential wild genes disappear. Norwegian fish geneticist Kjetil Hindar warns that this type of damage is irreversible and is today destroying Norway's wild stocks."

"Why have so many politicians, and bureaucrats with DFO and various provincial ministries, defended such an unprecedented

"There is no evidence, anywhere in the world, that wild and farmed salmonid stocks can co-exist."

Schematic diagram showing some adverse environmental impacts of netcage salmon farming



--continued from page 1

- **Potential health problems for fish farm workers** from handling drugs.
- **Losses in quality of environment for foreshore residents** and other foreshore users because of odors, visual pollution and danger from gunfire.
- **Costs to taxpayers of government regulatory costs** and an array of cash subsidies to the industry.
- **Losses of wild fish such as herring and juvenile salmon**, consumed by netcage fish.
- **Endangered public health from eating fish with antibiotics** and other drugs that have already led to the spread of fish diseases that are fully resistant to three types of antibiotics.
- **Net loss to the world of food**, because more than four pounds of fish protein are consumed for every pound of netcage salmon produced here.

And what do the people of B.C. get in compensation for paying these high costs?

Extra salmon that could much more safely be supplied by healthy commercial, sports and native fisheries...and fewer jobs because the new jobs produced by the mushrooming fish farms will not match those that this industry will kill.

B.C. Salmon Farmers Association says: salmon farms all right; critics all wrong

In response to the Ellis report for the David Suzuki Foundation, which raises alarm bells about the environmental impacts of fish farms, the B.C. Salmon Farmers Association (BCSFA) commissioned their own report. Not surprisingly it condemned Ellis' *Net Loss: The Salmon Netcage Industry in British Columbia* report.

The BCSFA denies that its operations have any "negative impact" on the environment or on any other fish, denies the need for further monitoring of its activities, and defends the shooting of seals. In brief, the BCSFA opposes any significant changes in current procedures. It also denies that it refused to provide information to Ellis and refused to give him access to fish farming operations.

threat to the beloved wild salmon of this coast? Wild salmon head out to sea as babies, returning to feed us with the richness of the North Pacific stored in their flesh. What more could we want from a fish?"

"How about their habitat?"

"If people could be weaned off wild salmon and taught to accept farm salmon, salmon-rearing watersheds could be clearcut, massive water diversions could be permitted, mining tailings could be dumped in rivers, oil exploration could flourish unimpeded, and so on."

"If B.C. wants wild and farmed salmon, the farms simply need to be moved into tanks on dry land, as other countries are pressuring their farmers to do."

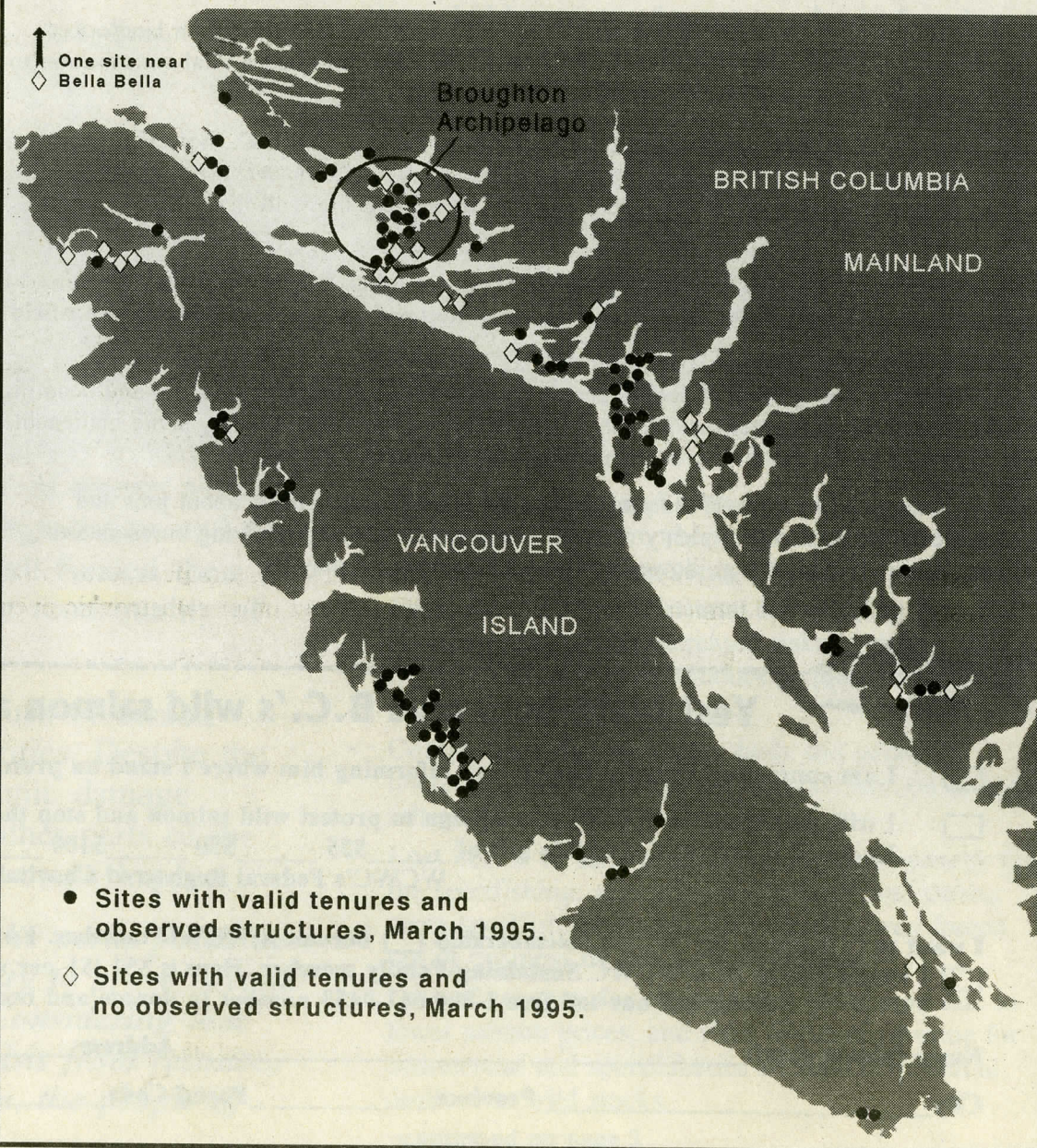
"Perhaps wild salmon require more than politicians can afford to give them. If B.C. wants wild *and* farmed salmon, the farms simply need to be moved into tanks on dry land, as other countries are pressuring their farmers to do."

"There is no evidence, anywhere in the world, that wild and (net cage) farmed salmonid stocks can co-exist. This is not surprising: most nearby wildlife dies in the presence of corporate farming practices..."

"I feel an enormous sense of failure as I look on the vast wilderness I first encountered so many years ago. Despite my efforts, despite so many people's efforts, it is dying."

"We are poisoning our health and the health of our coast with a food we grow and eat. Choose wild fish and help preserve them both," concluded Morton.

Location of the nearly 100 existing netcage salmon farms in B.C. 400-600 more are proposed, mostly for the mid-coast (the Great Bear Rainforest) north of region shown below



TROUBLES PLAGUE THE SALMON FARM FEEDLOTS

To combat the diseases and parasites that commonly prosper in the crowded, unnatural conditions of netcages, salmon farmers rely heavily on mind-boggling arrays of chemicals and drugs, including antibiotics. The total tonnage of chemical dosage has declined in recent years--but only because various vaccines are now incorporated (along with flesh colorants) in the feeds.

At least three-quarters of most antibiotics in feed, says a 1997 report for the U.S.-based Consultative Group on Biological Diversity, is lost to the environment, whether the feed is eaten or not. Little is known about the fate and effects of these drugs, although it's clear they do escape to immediately surrounding waters and can accumulate in sediments and animals.

Dr. Julian Davies, head of the Department of Microbiology and Immunology at the University of B.C., was quoted last year in a newspaper article saying that **humans can pick up antibiotic-resistant bacteria by eating farmed salmon or other species that have incidentally taken up the bacteria.**

Scottish salmon farmers found recently that more than half of the bacteria that cause furunculosis had developed resistance to treatment with oxolinic acid, a commonly used antibiotic.

The release of captive-raised salmon to enhance wild runs has been implicated in the spread of a deadly disease called Gyrodactylus salaris to wild salmon in Norway. Despite radical and costly treatment, infected rivers in Norway have become re-infected.

In the effluent from salmon netcage operations in our waters, you might find such tongue-twister chemicals as Oxytetracycline, Trimethoprim-sulfadiazine, ormethoprim-sulfadimethoxine, Erythromycin, Enrofloxacin and Florfenicol. See if you enjoy putting THAT on the barbecue.

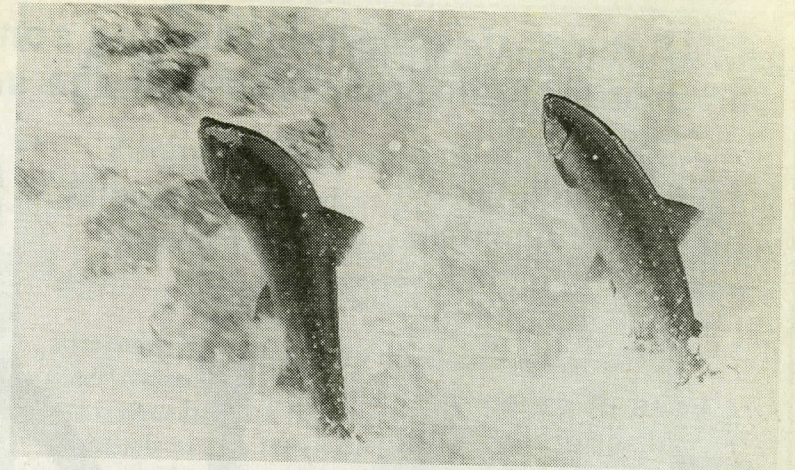
In 1989 a disease caused by a previously unknown strain of the Rickettsian bacterium broke out among farmed chinook salmon in Chile. The disease has caused up to 90 percent losses among the farmed fish, and was found to infect both Pacific and Atlantic salmon. And some kinds of Rickettsia cause human illnesses such as typhus.

In June last year the Washington State Pollution Control Hearings Board ruled that Atlantic salmon are a "living pollutant" when they escape from salmon pens. Since 1991, more than 500,000 farmed Atlantic salmon have escaped into the waters of Puget Sound.

THE FULL LIST OF SCARY TROUBLES IS TOO LONG TO INCLUDE HERE, BUT REST ASSURED IT'S GETTING LONGER.

THE SALMON MIRACLE MUST NOT BE DESTROYED

For untold centuries, silvery hordes of wild salmon have returned to our rivers in a moving miracle of life, death and rebirth. People, bears and birds have depended upon them for food for all those centuries, and they have never failed to keep their appointments with death and life. But in this century of progress and man's ruthless conquest of Nature we are on the edge



*Real salmon swim free
and they don't do drugs.*

HOW TO HALT THE EXPANSION OF ECO-DAMAGING NETCAGE SALMON FARM FEEDLOTS AND HELP SAVE B.C.'s WILD SALMON

- Ask if the salmon you are buying is wild-caught or farm-raised. Don't buy it if it is farm salmon that was produced in conventional open-ocean netpens.
- Write, phone, or fax Premier Glen Clark. Tell him how important you believe it is to protect wild salmon and how you feel about the threat posed by the netcage salmon farming industry. Ask him where he stands on this vital issue.

Address: Legislative Buildings
Victoria, BC V8V 1X4

Phone: 1-250-387-1715

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of smothering the miracle of the salmon migrations before we have even begun to understand the mysteries that make them happen.

There is something obscene about profit-obsessed corporations twisting the God-given phenomenon of the wild salmon runs into a thing of degraded fish crowded into potentially poisonous netpens--fish-factories that are as natural and wholesome as cages of rats in a laboratory.

The great majority of the world's fish farms produce vegetarian fish species in landlocked, self-contained facilities. They do not consume other fish, and represent a vital contribution to global protein supplies.

The salmon farms of Norway, Scotland, Ireland, Chile, the U.S. and B.C., however, produce carnivorous fish in netcages open to the surrounding salt water bays and inlets. There is nothing to stop the flows of toxic effluent from the cages into the wild fish habitat around them.

Because it takes some four pounds of feed made from other fish to produce one pound of caged salmon, farm production actually reduces the total protein available to the world.

The late Roderick Haig Brown, dean of Canadian fishing authors and pioneering conservationist, once wrote that people unable to preserve something as splendid and beautiful as wild salmon runs may not survive much longer themselves. "Has industry some inalienable right to invade public lands wherever found and destroy them?" he asked.

It seems, today, as if it does. If the profiteers make enough empty noise about jobs and money, we can expect to find plenty of weak-kneed politicians and toadying bureaucrats to welcome resource exploitation, however vile and destructive it may be.



Yes! I will help save B.C.'s wild salmon and oppose netcage fish farms!

- I am contacting Premier Glen Clark informing him where I stand on protecting wild salmon.
- I will contribute to WCWC's campaign to protect wild salmon and stop the proliferation of netcage feedlot salmon farms. Enclosed is my tax-deductible gift of \$25 \$50 \$100 \$500 other to help you win this campaign. WCWC's Federal Registered Charitable Tax Number is 0587113-21-28

I want to renew my WCWC membership become a WCWC member. Enclosed is my \$30 annual membership fee.
 I would like to be a WCWC Sustaining-Family member. Here is \$52 (\$1 per week for wilderness preservation).
Note: call our toll free 1-800-661-9453 number to donate and become a WCWC member and save time and trees!

Name (please print) _____ Address _____
City _____ Province _____ Postal Code _____ Phone _____



Please clip and send to the Western Canada Wilderness Committee (WCWC), 20 Water Street, Vancouver, BC V6B 1A4.

- **Support organizations** such as Western Canada Wilderness Committee, the Steelhead Society, the David Suzuki Foundation, the Wild Salmon Foundation and other environment groups in their efforts to protect and enhance B.C.'s endangered runs of salmon and trout.

CREDITS

Published by Western Canada Wilderness Committee (WCWC), 20 Water Street, Vancouver, BC V6B 1A4. Phone 604-683-8220.

WCWC is a non-profit charitable society dedicated to promoting, through research and education, sustainable resource use and wild ecosystem preservation.

Writing: Tony Eberts, based primarily on *NET LOSS: The Salmon Netcage Industry in British Columbia*, a report by David W. Ellis and Associates for the David Suzuki Foundation; and *FISH FARMING PROMPTS DESPAIR OVER FATE OF SALMON*, by Alexandra Morton, an article in *The Georgia Straight*.

Editing: Paul George and Adriane Carr Design and Layout: Sue Fox Graphics: From Ellis' *NET LOSS* report are used courtesy of the Suzuki Foundation. They have been slightly modified by WCWC's Chris Player.

Photo: Wild salmon migrating to spawn by Ian McAllister from *The Great Bear Rainforest - Canada's forgotten coast* published 1997 by Harbour Publishing.

Western Canada Wilderness Committee Educational Report Vol. 17 - No. 2 Spring/Summer 1998. Posted in Vancouver. Press run--50,000 copies. Printed in Canada. Copyrighted WCWC 1998. Material may be freely used provided credit is given.