



New Research Shows Sea Lice Harming More Wild Salmon Stocks

Claims that sea lice infestations plaguing juvenile pink and chum salmon around salmon farms in the Broughton Archipelago are not occurring in other fish farming regions have been refuted by new research completed in the Discovery Islands region off the east coast of Vancouver Island.

During spring 2007, sea lice research initiated in 2005 by Alexandra Morton continued in the Discovery Islands, an area south of the Broughton Archipelago containing roughly 27 salmon farms in various stages of operation. Of over 2,500 juvenile salmon collected from locations either exposed to farms or peripheral to them, wild salmon from sites immediately exposed to salmon farms showed higher louse prevalence rates (55%) compared to peripheral sites (30%).

Groundbreaking new data came from the collection of 362 juvenile sockeye; sockeye have not previously been assessed for lice levels (partly because there are very few sockeye systems in the Broughton or Discovery Islands areas). **Sockeye were the most heavily infested with lice** (62% overall), and this number rises sharply to 91% adjacent to salmon farms.



There is rising concern on two fronts: sea lice infestations on juvenile salmon are not restricted to the Broughton Archipelago; and juvenile sockeye are equally vulnerable to lice infection near salmon farms.

It is believed that roughly 30% of juvenile sockeye originating from the Fraser River travel north along the east coast of Vancouver Island during their outward migration. Upon reaching the Discovery Islands, juveniles are forced through the high-density farm area, and may be subjected to sea lice infestations occurring there.

Sockeye are BC's most culturally and commercially important salmon species

PHOTO: National Geographic

Although these findings are preliminary, this begs the question, what will DFO and BC's provincial government do about this potentially significant risk? All the First Nations communities situated along the Fraser River must now be concerned about the risk that salmon farms (operating up to 1,000 kms away), pose to the salmon stocks they depend on for food, cultural and traditional purposes. **It is clear that the impact of salmon farms spreads far wider than adjacent ecosystems.** [Read coverage of this research in the Vancouver Sun](#)

Get involved - Join a salmon research team in the Broughton Archipelago! *Volunteer opportunities, April - June 08*

There are now opportunities available to work with the research team that has brought the impact of sea lice on BC wild salmon to the fore of public and academic attention. The research, started in 2003, follows the outmigration of young chum and pink fry as they wind their way through the

inlets towards the sea and monitors the levels of sea lice parasitizing them. Numerous studies have been published from this work, including the most recent paper published in Science.

After years of work documenting the impact on individual wild salmon, "[t]his study is the first time we've been able to quantify what the impact of sea lice is on the wild population," says Martin Krkošek, the paper's lead author.

The project is continuing in order to follow up on the population and volunteers can join the sampling team.

Volunteers will assist researchers in conducting live-samples of juvenile wild pink and chum salmon along migration corridors in Tribune Channel and Knight Inlet close to salmon farms. There is a minimum of a 2-week volunteer period, food and accommodation will be covered, and volunteers will live with the researchers at the Salmon Coast Field Station in remote Echo Bay.



Cutting edge research in action
PHOTO: Katrina Assonitis

For more information contact Scott Rogers, Field Station Manager at info@salmoncoast.org

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## **Closed Containment: More Companies Testing the Waters**

A Virginia company will soon be growing salmon in land-based closed containment systems using re-circulation technology. Building on their success growing Arctic Char, Blue Ridge Aquaculture plans to change their production to grow antibiotic free farmed salmon that avoids the impacts open net-cages have on local ecosystems.

Re-circulation techniques are designed to allow the company to tightly control water quality and temperature, to maximize water utilization, and prevent foreign substances (like disease and parasites) from entering the process. As a result, the company guarantees antibiotic and chemical free products.

Meanwhile, the Middle Bay Aquaculture Institute's solid wall ocean-based system destined for a site north of Campbell River on Vancouver Island is under construction at a plant in Surrey, BC. Sections of the tank will be transported by truck to Middle Bay for final assembly and then launched into the bay for anchoring. Pump systems, waste removal and other equipment will be installed and tested in May.

Further south, in Florida, Neptune Industries has recently completed a successful grow-out of hybrid striped bass in their unique Aquasphere™ floating closed containment facility.



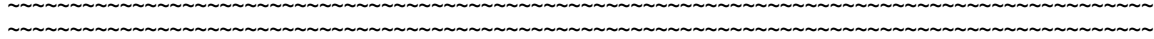
**Closed tank re-circulation system in W. Virginia**  
PHOTO: Blue Ridge Aquaculture

They are confident that the technology could easily be adapted for use in BC to grow Atlantic Salmon and in 2007, founded Aqua Biologics of Canada, Ltd. as a Canadian based subsidiary.

The facility, which was designed to include innovative systems to recover solid waste, absorb wind and water impacts and use alternative energy power, will be featured on the **Discovery Channel's "What's that**

about - Fisheries", a six part series on the status of fisheries. It will be aired February 22, check your local listings for details.

*Want to see more closed containment in BC? Encourage the BC government to include a fund for closed containment in their next budget - [send a fax here.](#)*



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