farmed and dangerous

Coastal Alliance for Aquaculture Reform

Backgrounder #2 **Sept.28 2005**

Science Summary: Facts About Sea Lice, Fish Farms and Wild Salmon

- Every time pink and chum salmon go to sea through salmon feedlots in the Broughton, very few survive to return. In the one year the primary migration route in the Broughton was largely fallowed, wild salmon returned in robust numbers The fallowing of open net cage salmon farms during spring juvenile salmon migrations can be an effective conservation and management tool to protect wild salmon. (Temporal patterns of sea lice infestation on wild pacific salmon in relation to fallowing of Atlantic salmon farms. Morton, Routledge and Williams 2005 North American Journal of Fisheries Management vol. 25 issue 3 August 2005).

- Occurrences of sea-lice on juvenile pink salmon in close proximity to active open net cage salmon farms are significantly higher than juvenile pink salmon found distant from active farms. The farther the migration route from the farm the less occurrence of sea-lice on juvenile salmon. (Morton & Williams 2003 Canadian Field and Naturalist, Morton et al Canadian Journal of Fisheries and Aquatic Science 2004, Krkosek et al 2005)

- Impacts from sea-lice infestations of one single farm on a salmon migration route affects juvenile salmon for distances up to 30 kilometres from the farm. (Martin Krkosek, John Volpe, Mark Lewis-March 30, 2005 Proceedings of the Royal Society B)

- A study initiated to determine levels of sea lice infestation in juvenile salmon in the near-pristine areas of British Columbia's North Coast, where salmon farms have yet to locate, concluded that sea lice levels in these farm-free areas were miniscule in comparison to infestation rates in the Broughton Archipelago. In total, six sea lice were found on 566 juvenile salmonids on the north coast compared to an infestation rate that was 1,410 times higher in the Broughton**.** (Prepared by Dave Rolston, BSc., and Bart Proctor, BSc of North Coast Resource Management 2002).

- Two kinds of sea lice are found on the coast of BC, but only one is considered a problem for wild salmon. It is called *Lepeophtheirus salmonis*, commonly referred to as sea lice or salmon lice. (Personal communications Dorothy Keiser, DFO) (Pike and Wadsworth 1999)

David Suzuki Foundation (DSF)

Friends of Clayoquot Sound (FOCS)

Georgia Strait Alliance (GSA)

Living Oceans Society (LOS)

Musgamagw Tsawataineuk Tribal Council (MTTC)

Raincoast Conservation Society (RCS)

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Watershed Watch Salmon Society (WWSS)

- Outbreaks of sea lice on salmon farms are common and are known to cause high mortality rates in the farms. (Brandal and Egidius 1979; Wooten et al. 1982; Pike 1989).

- Sea lice are commonly found on adult wild salmon, but in general they are present in low numbers and responsible for only minor abrasions. (Wooten et al. 1982, Nagasawa 1987).

- European research reports salmon can survive one sea louse for every gram of fish weight (Grimnes, A., and P. J. Jakobsen. 1996). This suggests that juvenile pink and chum salmon cannot survive any sea lice as these fish weigh less than half of one gram (0.37g) when they pass the Broughton salmon farms.

- A study in Ireland found "significantly higher infestations of sea lice in bays that contained lice-infested farmed salmon." (O. Tully, P. Gargan, W. R. Poole and K. F. Whelan, 1989)

- Dr. Patrick Gargan, Senior Research Officer, Central Fisheries Board, Dublin presented the following findings at a conference at Simon Fraser University in July 2000-

    - Variations on lice infestation levels on [wild] sea trout were higher in the vicinity of salmon farms;
    - Levels of sea lice [on wild trout] were always correlated to lice levels in adjacent farms;
    - Sea lice are one of the most serious problems facing the salmon farming industry world-wide and new developments are underway in an attempt to eradicate the parasite;
    - The local impact of parasite infestation on wild stocks can have very serious consequences and can be greater than biological or genetic threats.

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