

Jumping fish to save the salmon industry millions of dollars: new study

December 5 2011

(PhysOrg.com) -- Scientists have shown for the first time that salmon can be artificially stimulated to leap through water, opening the door to effective sea lice treatment, an infection that costs the global industry more than \$500 million each year.

Dr Tim Dempster from the University of Melbourne and researchers from the Institute of Marine Research in Norway have demonstrated that by keeping [salmon](#) away from the water's surface with a net barrier for a day, more than 90% of salmon would jump several times through the surface in the two hours following the barrier's removal.

In the 1990s, scientists trailed a de-lousing method where a thin layer of oil containing a sea-lice treatment chemical was added to the water's surface in the hope that salmon would jump through and coat themselves in the treatment. However trails revealed that salmon didn't jump frequently enough and the chemical would break down in the sunlight, rendering the method ineffective.

"In response to this problem, our study has demonstrated a way to induce salmon jumping behavior so that it is frequent and predictable, therefore ensuring the surface treatment method is effective in de-lousing salmon," Dr Dempster said.

"Such treatment is valuable to the industry as sea lice are one of the most significant problems for the world's salmon farmers because they cling to the skin of salmon, feeding on mucous and blood and cause painful

lesions, which lead to infections and poor growth,” he said.

Sea lice populations can use farmed salmon as a breeding ground and larvae can be released into coastal waters, infecting wild salmon and trout, a process which has led to the decline of wild fish populations.

“This innovative method that is efficient and targeted can enhance the sustainability of salmon farming worldwide. As well as being cost-effective for farmers, the method also reduces chemical pollution into the ocean and maximizes [fish](#) welfare by minimising human intervention.”

The research is published in the latest edition of the *Journal of Animal Science*.

Provided by University of Melbourne

Citation: Jumping fish to save the salmon industry millions of dollars: new study (2011, December 5) retrieved 19 September 2024 from <https://phys.org/news/2011-12-fish-salmon-industry-millions-dollars.html>

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