



News Release

Over \$1 million Funds for Collaborative Research towards a Responsible and Sustainable Aquaculture

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Over \$1 million is about to be invested in leading edge aquaculture R&D. AquaNet, Canada's research network in aquaculture, today announced funding for five R&D projects designed to improve responsible and sustainable Canadian aquaculture. Leading Canadian researchers are gearing up to work in close partnership with industry, government, First Nations, and NGOs. Collaborative teams will work to accelerate commercialization of new finfish species, develop standards for organic aquaculture, identify new feeds for aquaculture, reduce shellfish disease, and improve aquatic animal welfare. The projects have secured over \$3 million in co-funding and cash and in-kind contributions.

"The new projects reflect AquaNet's emphasis on responsible and sustainable aquaculture, for the sake of our environment and in response to public demand for responsibly produced aquaculture products," states Dr. R. Scott McKinley, Executive Scientific Director of AquaNet. "The projects integrate natural and social sciences, involve international experts and Canadian aquaculture sector partners and reflect the need for development and pre-commercialisation efforts. The research excellence of our scientists and effective coordination by AquaNet has resulted in new levels of shared funding involving multiple partners and streamlining limited resources. The significant sector contributions speak to the relevance of our research in policy development and culture operations."

Atlantic Canada's fish farmers are eager to produce in-demand halibut and cod, but their efforts have been slowed by difficulties in the production of commercial-scale numbers of young Atlantic halibut and cod in hatcheries. AquaNet-funded research and partnerships with federal and provincial governments will help the aquaculture sector to bring these commercially important species to full commercial production. "AquaNet's support has been crucial in securing additional funding to make this large-scale pre-commercialisation project a reality and advance marine finfish aquaculture in Canada," states AquaNet project leader Dr. Tillmann Benfey from the University of New Brunswick in Fredericton.

Other projects include development of standards for organic aquaculture production (Dr. Keith Culver, Director of the Centre for Social Innovation Research, University of New Brunswick), and an assessment of how salmon flesh quality is affected by salmon diets (Dr. David Higgs, Scientist – UBC/DFO Centre for Aquaculture & Environmental Research, in collaboration with the Government of Canada's Aquaculture Collaborative Research and Development Program). Other researchers will investigate ways to limit infections of the disease MSX in shellfish (Dr. Franck Berthe, Canada Research Chair, Aquatic Health Sciences: Mollusc Health and Associate Professor, Atlantic Veterinary College, University of Prince Edward Island), and ways to improve the welfare of fish during live transport (Dr. Tony Farrell, Chair in Sustainable Aquaculture, UBC/DFO Centre for Aquaculture & Environmental Research, University of British Columbia).

All research projects were evaluated through AquaNet's rigorous external peer review process and internal Research Management Committee review process. AquaNet is funded by the Networks of Centres of Excellence program as part of the Government of Canada's Innovation Strategy, to foster the sustainable development of Canada's aquaculture sector through research and education.

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Project Summaries

Title	Lead Investigator	Synopsis
Use of alternate dietary lipid and protein sources to reduce flesh organohalogen contaminant concentrations in farmed Atlantic salmon while concurrently maintaining EPA and DHA levels	Dr. David Higgs, Centre for Aquaculture & Environmental Research, The University of British Columbia / Department of Fisheries and Oceans	This project addresses an urgent need to allay a negative public perception of farmed salmon flesh quality. It investigates innovative cost-effective nutritional approaches to reduce the concentrations of organohalogen contaminants in the flesh of farmed salmon to within or below the range noted for these compounds in wild salmon species, while concurrently maintaining adequate flesh levels of n-3 highly unsaturated fatty acids (n-3 HUFAs, viz., EPA and DHA) for potential human health benefits.
Optimising Fish Welfare and Flesh Quality during Live-haul Transport of Fish	Dr. Anthony Farrell, Faculty of Land and Food Systems and Department of Zoology, The University of British Columbia Dr. Chris Wood, Department of Biology, McMaster University	This project addresses fish welfare during bulk transport of adult salmon. The project goals are to reduce financial losses due to mortalities and to ensure or improve flesh quality. Specifically, the research will determine threshold water quality conditions (i.e., oxygen, carbon dioxide, mucus, ammonia, temperature, pH, and salinity) that ensure the welfare and flesh quality of adult salmon during live-haul and thereby contribute to the sustainability of this industry.
Building Markets for Canadian Aquaculture: Understanding the Opportunity and Cost of Organic Aquaculture Production	Dr. Keith Culver, Department of Philosophy and Director of Centre for Social Innovation Research, University of New Brunswick (Fredericton)	The goal of this project is to assess the costs and benefits of organic aquaculture for Canadian consumers, retailers, producers and the general public. The project will assess i) the Canadian and international demand for organic aquaculture products, ii) gaps between Canadian conventional aquaculture practices and prevailing organic product standards in Canadian and export markets, and iii) the basis for selected key organic aquaculture requirements for use in discussions of organic standards with stakeholders.
Advancing marine finfish aquaculture in the Bay of Fundy	Dr. Tillmann Benfey, Department of Biology, University of New Brunswick (Fredericton)	This project will assess the grow-out potential of halibut and cod in sea cages through performance-based trials at industry sites. Research will focus on early maturation, growth, optimal stocking sizes, fish health, production efficiencies and marketing. This project will enable effective networking and partnerships within the aquaculture industry to share information/outcomes required to determine the long-term feasibility of non-salmonid marine fish species for commercialization.
Development of tools to assist risk based management of MSX disease in oysters in Eastern Canada	Dr. Franck C.J. Berthe, Canada Research Chair, Aquatic Health Sciences: Mollusc Health; and Associate Professor, Department of Pathology & Microbiology, Atlantic Veterinary College (AVC), University of Prince Edward Island	The goal of this project is to help control the parasite <i>Haplosporidium nelsoni</i> also called MSX for Multinucleated Spherical X in the Bras d'Or Lakes, through the development of fast and accurate diagnostic tools. A database of environmental factors presented on web-based maps in real-time and easily accessible formats will allow harvesters and regulators to assess risks to oyster stocks and aid in faster and more localized management of outbreaks and reduce the risk of spreading the disease.