





University of Waterloo opens research facility to study effects of climate change on fish stress

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\$4.2 million research facility to 'bridge the gap between lab and fieldwork'

With fish species under threat from global warming, the University of Waterloo in Ontario, Canada, has opened a new research facility to study the effects of climate change on fish stress. The Waterloo Aquatic Threats in Environmental Research (WATER) facility aims to "simulate and research aquatic stressors and threats" to better prepare to address and prevent current and future problems. A two-year, CAD \$5.2 million (U.S. \$4.2 million) project undertaken by the Faculty of Science, the facility is now ready to undertake research.

"Many environmental changes are impacting both wild and aquaculture fish," said Paul Craig, a professor in the Department of Biology and one of the lead researchers in the new WATER facility. "Our new multi-million-dollar facility will allow researchers to bridge the gap between lab and fieldwork by studying the impact of climate-related stressors in a controlled environment."

As one of the largest aquatic test facilities in Ontario, the facility has the capability of studying a wide range of aquatic organisms: from Canadian cold-water fish to tropical fish and amphibians. The facility



Professor Paul Craig at the new Waterloo Aquatic Threats in Environmental Research (WATER) facility at the University of Waterloo. Photo credit: University of Waterloo.

is also equipped to trace the multi-generational effects that different environmental stresses could have on aquatic life over multiple lifespans.

New technologies, including a pathogen challenge area, will allow researchers to study the impact of disease agents and contaminants of concern on aquaculture, expose populations to controlled climate-related stressors like water temperature and oxygen saturation levels and measure the effects of human-centric pollution such as wastewater on aquatic ecosystems.



(http://info.globalseafood.org/goal-2022-save-the-date)

"With the opening of the WATER facility, we are looking to expand our research areas and expertise, and invite researchers across Canada in areas water research and aquatic conservation to collaborate with us to carry out new and innovative research," Craig said.

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As part of its commitment to sustainability, the WATER facility is reducing water usage by 90 percent compared to the groundwater flow-through system that was previously used in aquatic research at Waterloo.

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