



RESEARCH: Connecting Science to Communities in the Lake Champlain Basin

Lake Champlain Sea Grant supports research that informs land and water management practices and policy decisions to benefit ecosystem health and sustainable economies in the Lake Champlain basin.

Our research program consists of research projects, typically two years in duration and chosen through a competitive, peer-reviewed process, and annual fellowships for current and recent students.

Researchers collaborate with a wide variety of partners in the region and throughout the Great Lakes-St. Lawrence ecosystem.

We welcome diverse research and stakeholder perspectives and are committed to extending knowledge and resources to all people in the basin.

We share scientific results and related management implications with citizens, communities, resource managers, and governments.

Vision

Lake Champlain Sea Grant envisions a future in which communities anticipate and enable change for long-term ecosystem health and sustainable economic development.

Mission

Lake Champlain Sea Grant develops and shares science-based knowledge to benefit the environment and economies of the Lake Champlain basin. Our audience comprises business, state, and local leaders and the communities they serve.

Past Research

2016-2018

[Microplastics in the food chain](#),
Danielle Garneau, SUNY
Plattsburgh

[Meteorology buoy to monitor Lake Champlain](#), Eric Leibensperger,
SUNY Plattsburgh

2012-2016

[Low impact bioretention systems for stormwater management](#),
Stephanie Hurley & Carol Adair,
UVM

2009-2011

[Cover cropping and water quality](#),
Heather Darby, UVM

[Non-native and native fish interactions](#), Donna Parrish, UVM

[Invasive species in the Champlain Canal](#), Ellen Marsden, UVM

Projects prior to 2009

[Sustainable recreational boating](#),
Robert Manning, UVM

[Trapping efficiency of sea lamprey](#), Ellen Marsden, UVM

[Management of water chestnut](#),
Meiyin Wu, SUNY Plattsburgh

[Lampricide effects on macroinvertebrates](#), Tim Mihuc,
SUNY Plattsburgh

[Double-crested cormorants in Lake Champlain](#), David Capen,
UVM

uvm.edu/seagrant

2019-2021 Research Projects

[Application of Drinking Water Treatment Residuals in Green Stormwater Infrastructure for Enhanced Phosphorus Removal](#)

Stephanie Hurley, Eric Roy, Michael Ament
University of Vermont

Test the use of water treatment residuals to reduce phosphorus in stormwater runoff

[A Food Web Modeling Approach to Evaluate and Predict Impacts of Lake Champlain Fish Population Changes](#)

Jason Stockwell, Ellen Marsden, Rosalie Bruel
University of Vermont

Develop food web models that integrate environmental change to aid fisheries managers

[Improving Our Understanding of Interactions Between Best Management Practices, Tile Drainage, and Phosphorus Losses in Subsurface and Surface Runoff](#)

Joshua Faulkner, Don Ross, Kirsten Workman
University of Vermont

Assess methods to reduce phosphorus and sediment runoff from tile drains on farms

[A Project to Evaluate the Efficacy of a Woodchip Bioreactor for Denitrification of Tertiary Effluent from the Bolton Wastewater Treatment Plant \(Lake George, Warren County, New York\)](#)

Jim Sutherland

The FUND for Lake George

Evaluate the effectiveness of a woodchip bioreactor at improving wastewater quality

[Upwelling in South Main Lake - Identifying Events and Assessing Impacts](#)

Eric Leibensperger, Tom Manley
SUNY Plattsburgh, Middlebury College

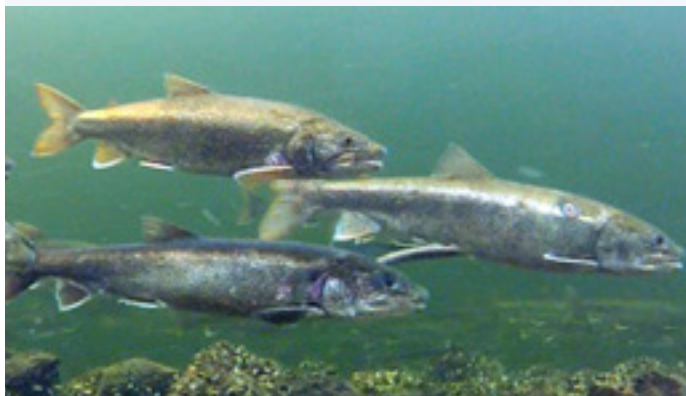
Model nutrient movement caused by upwelling to inform lake nutrient management under a changing climate

[Visualization Tools to Communicate Riverine Erosion Hazards and Improve Flood Resiliency in Headwater Communities of the Lake Champlain Basin](#)

Kristen Underwood, Mike Kline, Beverley Wemple, Donna Rizzo
University of Vermont

Identify management strategies for communities to reduce river erosion in headwater streams

2020-2022 Research Projects



[Assessing Winter Mercury Patterns in Lake Champlain Basins](#)

Roxanne Karimi, Andrew Schroth
Stony Brook University, University of Vermont

Determine bioavailability and bioaccumulation of mercury in fish during winter months to inform fish monitoring plans and consumption advisories

[An Environmental Monitoring Program to Evaluate the New York State Department of Transportation Road Salt Reduction Pilot Program in the Lake George Drainage Basin](#)

Jim Sutherland, Chris Navitsky
The FUND for Lake George, The Lake George Waterkeeper

Evaluate a multi-year road salt reduction program for its effectiveness in reducing chloride and sodium loading to Lake George

[Stormwater Subsurface Gravel Wetlands in Vermont](#)

Andres Torizzo, Eric Roy, Donna Rizzo
Watershed Consulting Associates, University of Vermont

Assess performance of permitted subsurface gravel wetlands for flow reduction and phosphorus capture and test potential improvements

[Three-Dimensional Habitat Occupancy of Wild Juvenile and Stocked Adult Lake Trout in Lake Champlain](#)

Ellen Marsden, Matthew Futia
University of Vermont

Identify and describe spawning locations and habitats of wild and stocked lake trout to inform lake trout conservation efforts in Lake Champlain