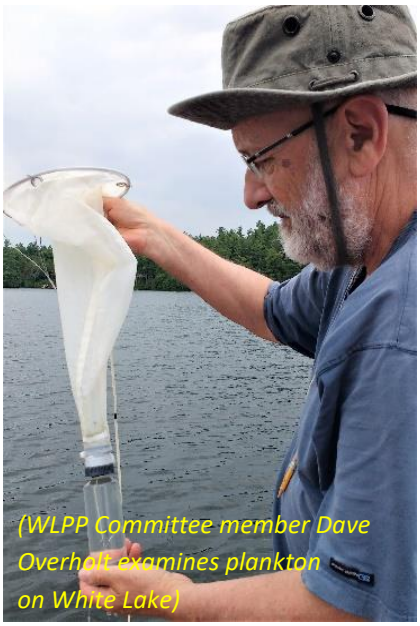
WHITE LAKE PRESERVATION PROJECT

Winter Newsletter: 2014-2019 in Review

Water Quality Studies & Environmental Outreach Programs on White Lake

The White Lake Preservation Project (WLPP) and the White Lake Property Owners Association (WLPOA) have just announced that we now share one group of volunteers to carry out our water quality programs. Starting in 2019/2020 Dr. Conrad Grégoire and Dave Overholt will be responsible for the joint program. There will be one water quality report each year. We will also be looking into jointly planning Environmental Science and Outreach programs. Described below are those offered to date by the WLPP.

Water Quality Programs



(WLPP Committee member Dave Overholt examines plankton on White Lake)

Water Sampling and Analysis

Going forward starting in 2020, there will be one comprehensive water sampling program carried out jointly by the WLPP and the WLPOA under the auspices of the *Lake Partner Program of the Ministry of the Environment, Conservation and Parks (MECP).*

This is a continuation of the joint WLPP/Ontario government program and includes: monthly sampling during ice-free months for total phosphorous, calcium, and chloride. With the agreement of MECP, sampling has been expanded to 7 standard locations. There are also readings twice a month of Secchi depth and lake water temperature in a total of 9 sites. The monthly program of sampling for total phosphorous, designed and approved by MECP, is specific to off-shield lakes like White Lake.

In 2015 and 2016, the Mississippi Valley Conservation Authority *(MVCA*) partnered with the WLPP to facilitate additional lake monitoring focusing on depth profiling studies of dissolved oxygen, temperature, conductivity and chlorophyll-a. Reports were published by MVCA as a part of the Watershed Watch program. In 2017 *Watersheds Canada*

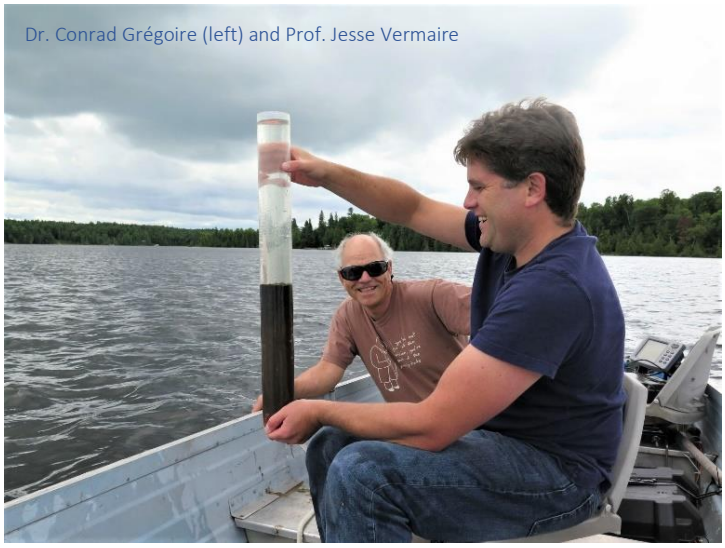
carried on the work of the MVCA, partnering with WLPP to measure the same parameters. On-lake studies on the calibration of environmental monitoring equipment was carried out with Water Rangers Ottawa, and a detailed survey and mapping of wild rice occurrences was completed in collaboration with Plenty Canada.

Water Quality Monitoring Program and Research Activities Reports

Since 2014, the White Lake Preservation Project has published over 400 pages of scientific reports and bulletins. These reports contain data and data analysis of a number of key water quality parameters including total phosphorus, water clarity, pH, conductivity, temperature, dissolved oxygen and eight chemical elements. These reports document algal blooms, loon and cormorant populations, zebra mussel propagation and effects, fisheries, plankton activity, aquatic plants such as wild rice and tape grass, and invasive species. Water levels are also monitored.

Paleolimnology

Paleolimnology is the study of sediments to track changes in lake conditions over time. The first study of White Lake was completed in collaboration with WLPP scientists in 2014 by Prof. Jesse Vermaire of Carleton University. The study found that nutrient levels in White Lake have been increasing in recent decades. The second collaborative study, completed in 2019, assessed water quality changes in White Lake over the past 130 years and documented the recent history of poor water quality due to water level changes, nutrient loading and invasive species.

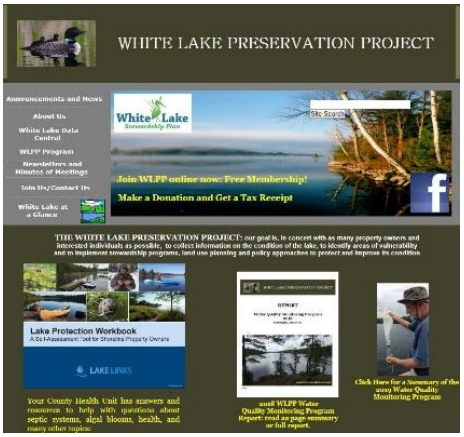


Dr. Conrad Grégoire (left) and Prof. Jesse Vermaire

A paper (co-authored by C. Grégoire with M. Murphy and J. Vermaire) entitled “Ecological response of a shallow mesotrophic lake to multiple environmental stressors: a paleolimnological assessment of White Lake Ontario” will be published in the *Journal of Lake and Reservoir Management*.

Initiatives in Environmental Science and Outreach

In addition to the activities described above, the broader membership of the WLPP has initiated programs and environment-related activities focusing on outreach and participation of lake residents, businesses and visitors. Going forward, WLPOA and WLPP will jointly plan these kinds of activities*. The programs described below have been fully or partially funded by lake volunteers and the Gottlieb Foundation.*

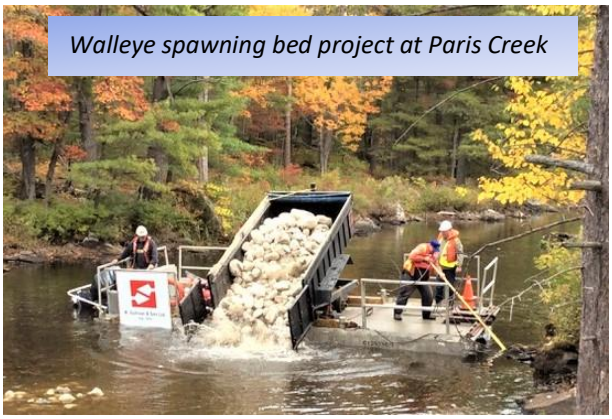


The White Lake Preservation Project website: **Conrad Grégoire**

The website www.WLPP.ca is a comprehensive site containing all documents and information available on White Lake. Published works dating from the 1950s to the present are referenced and archived. It is the only website that brings together published scientific work from both Federal and Provincial agencies as well as academia.

The site also contains information on the physical, chemical and biological aspects of the lake including the geological setting, fisheries, algal blooms, loon populations, endangered and invasive species, the White Lake Fen and conservation areas.

All current studies done on the lake by the WLPP as well as those completed in collaboration with the provincial government, the Mississippi Valley Conservation Authority, Watersheds Canada and Carleton University are posted on the site. WLPP Water Quality Monitoring Reports from 2014 to 2018, newsletters and bulletins are also posted on the website along with announcements of upcoming events. Additionally, there is a sign-up opportunity for those wishing to stay current with activities or to volunteer to help.



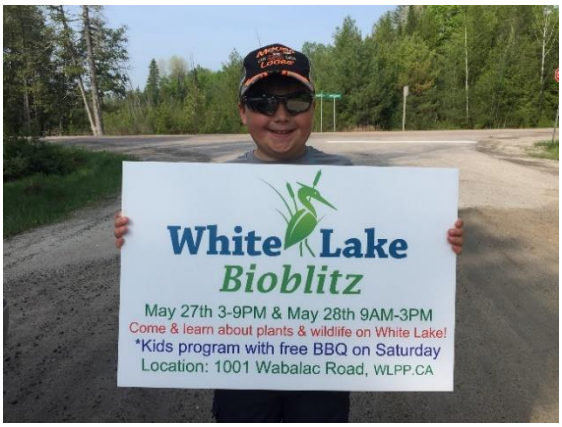
Walleye spawning bed project at Paris Creek

2015: White Lake Spawning Bed Project

Watersheds Canada, Melissa Dakers, Janet Taylor, Adam Pugh, Conrad Grégoire

This project was a true community effort. It was led by Watersheds Canada and the Lanark County Stewardship Council, with active participation of the WLPP and the Lanark & District Fish & Game Conservation Club.

The program received funding from Fisheries and Oceans Canada. Two local contractors (Lou Laventure Construction Ltd, M. Sullivan & Son Ltd) provided the heavy equipment and crew members necessary to deliver the rock to the spawning sites. Volunteers helped place brush bundles to act as shelter for fry at certain underwater sites on the Lake.



2016: BioBlitz *Janet Taylor, Melissa Dakers, Watersheds Canada, Canadian Wildlife Federation*
The WLPP in partnership with Watersheds Canada and the Canadian Wildlife Federation (CWF) ran a 2-day **BioBlitz** on May 27th-28th, 2016 on the North shore of White Lake. A BioBlitz is an intense period of biological surveying in an attempt to record all living species within a designated area. Scientists, naturalists and volunteers conducted the study continuously for 24 hours during which 518 different species and over 723 observations were logged into the CWF's iNaturalist website.
The public was invited to join walking tours of the site with experts who provided information on the species inhabiting the surroundings. A special program was provided for children. Species at risk (SARs) observed during the BioBlitz included snapping turtle, Eastern whip-poor-will, and Eastern wood-pewee. These sightings were reported to the Ministry of Natural Resources and Forestry.


Invasive species in White Lake - Eurasian Watermilfoil

2017: Invasive Species Presentation:
Doug Smith, Brook Schryer
At the invitation of the WLPP the Ontario Federation of Anglers and Hunters (OFAH) made a sobering presentation with examples and photographs describing the invasive species currently in, and with potential to arrive in, White Lake and surrounding lakes and wetlands. Turnout for this presentation was excellent and a good indication of how important this topic is to lake residents.

2018: Create a Native Species Lakefront Garden *Doug Smith, and Watersheds Canada*
A pilot program was offered to a limited number of people to try out a new app being developed by Watersheds Canada. The app is being designed to assist waterfront property owners who plan a shoreline restoration on their own property using native plants best suited to the area. Native plants help attract native species of wildlife, provide food and shelter and also help prevent storm water run-off which can be very damaging to a lake. For more details on the app and release data, please contact Watersheds Canada.

September, 2019: Lake Protection Workshop *Doug Smith*

This workshop was organized by the WLPP to introduce the recently published Lake Protection Workbook. Invited speakers covered the following topics: 1) The myths and gritty realities of septic systems with Eric Kohlsmith; 2) Updates on the aquatic and terrestrial invasive species in White Lake and area with Dave Overholt and J.P. Thonney; 3) The importance of natural shorelines to species diversity with Leora Berman of The Land Between, who made a passionate presentation on the importance of biodiversity in preserving natural shorelines; and 4) Chloe Lajoie of the Natural Edge Program who provided pointers on how to restore affected areas.

The White Lake Preservation Project Volunteers

Dr. Conrad Grégoire holds a Ph.D. in Chemistry. He was the Head of the Analytical Chemistry Research Laboratories at the Geological Survey of Canada before retirement where he conducted research in analytical and environmental chemistry. He has authored over 200 scientific papers and other works published in international journals. He was also an Adjunct Professor of Graduate Studies at Carleton University and currently collaborates with Carleton University scientists on White Lake studies. For over 20 years he was a Senior Assessor at the Standards Council of Canada, certifying commercial and government labs for ISO (International Standards Organization) compliance. Conrad is interested in studying the chemistry and biology of White Lake and establishing base line values for water quality parameters. He is the Web Manager of the White Lake Preservation Project website.

Dave Overholt is an avid citizen scientist and has, through his own study and research, become knowledgeable in a variety of areas, such as aquatic macrophytes and microorganisms and introduced species. He spends a great deal of time documenting species inhabiting the lake and following the population levels. He is involved in education about introduced species and has motivated and inspired lake residents to become involved in phragmites eradication programs.

Adam Pugh's family has owned and operated Cedar Cove Resort on White Lake for over 10 years. Adam has spent a good portion of his life on the lake, and has developed a passion for the conservation and biology of local fisheries and wildlife. He completed the advanced diploma program in Fish and Wildlife Technology and Sir Sandford Fleming College in Lindsay and now owns his own business providing guided fishing and hunting trips on White Lake and the

surrounding area. Adam has been awarded the Youth Entrepreneur Award from the Township of Lanark Highlands as a result of the success he achieved with his ice hut rental business.

Shirley Roy-Schertzer is a property owner on White Lake with several years of marketing and communication experience. She connected with the White Lake Preservation Project to get a better understanding of how lake water quality may be changing, the science behind it and how she could do her part as a property owner to help preserve the lake.

Beate Schiffer-Graham has a Masters in Public Affairs, and a Masters in Political Science and has over 20 years experience in performance measurement, evaluation, review and consulting engagements with a focus on organizational improvement and learning, based on evidence. Beate enjoys the challenge that each new project brings and thrives on working in a multi-disciplinary team.

Dr. Doug Smith completed 4 years of basic science prior to his degree in Dentistry. He had an Ottawa based private practice for 38 years, after which he was invited to join the staff of the Civic Hospital where he treated medically compromised and "at risk" patients for a further 10 years. He brings to the team considerable experience on the functioning of local, provincial and national organizations. Having served on the board of a professional regulatory agency, Doug understands how Provincial policy is applied to lower tier organizations.

Janet Taylor has a BSc in microbiology and an MSc in biochemistry. She spent 30 years with the federal government in pesticide regulation, working in chemistry, toxicology and environmental sciences. She work-shared with scientists/regulators of the US Environmental Protection Agency, and with the United Nations Food and Agriculture Organization and the World Health Organization on international standards for pesticides, and in training pesticide regulators in developing countries.

Jean-Pierre (JP) Thonney earned an MSc in Fisheries Science and Aquaculture from the Institute of Aquaculture at the University of Stirling, Scotland. He holds a BSc Honours in Fisheries Ecology from Memorial University and a D.E.C. in Fish and Wildlife Management from Vanier College. His 30 years of international work experience includes environmental assessment and mitigation, fisheries management, aquaculture, and sustainable development. He is currently working at the Ecosystem and Biodiversity Science Division at Fisheries and Oceans Canada in Ottawa as a Science Advisor. JP has been involved with the WLPP providing diving and other field work regarding recent biodiversity assessments of the lake. He has also reported on the presence of microplastics in White Lake.