



Earth Day Shoreline Clean-up & BBQ St. Christopher's Beach, Goderich



Date: Saturday, April 22nd, 2023 Time: 10:00am - 1:00pm Location: St. Christopher's Beach, Goderich

Looking for a way to support your local environment this Earth Day? We've got you covered! Join us for a fun, family-friendly beach clean-up to help keep Lake Huron free of plastic pollution, protect wildlife, and make our communities a better place for everyone. Also enjoy a beach BBQ courtesy of Zehrs Goderich after the clean-up!

Last year, 133 volunteers removed 200 pounds of litter from the Goderich shoreline. Help make this year another success. RSVP Below!

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Geoff Peach Memorial Scholarship 2023 Recipients

Congratulations to this year's recipients of the Geoff Peach Memorial Scholarship! This scholarship was created to continue Geoff's work of protecting Lake Huron through science-based conservation action. It is available to university graduate students with Great Lake conservation and environmental research interests. Serim and Ben are helping us better understand Lake Huron through their research on eco-friendly habitats and coastal erosion. They shared with us some of the highlights of their research.

Integration of Eco-friendly Habitats into Rubble Mound Breakwaters

Serim Dogac Sayar

The diversity of aquatic habitats is vital for the sustainability of ocean ecosystems, which contain living resources and are therefore crucial to meeting the economic, environmental, and health demands of billions of people. Nonetheless, human activities are having an impact on the biodiversity of marine environments.

The habitat requirements of marine creatures can occasionally be accommodated by coastal structures such as seawalls and breakwaters that use durable, rigid, and solid materials to protect coasts. However, artificial coastal defense



systems, frequently host less varied populations than natural environments, with higher concentrations of invasive species. Furthermore, the quantity, biomass, and size of macroinvertebrates, as well as the species diversity and abundance of shorebirds, may significantly fall as a result of coastal structure constructions.

Over the last few decades, there has been a significant increase in interest in the idea of integrating ecologic enhancements and ecosystem services into coastal protection. Therefore, as a Ph.D. student, my research aim is to examine the approaches for incorporating natural habitats into both new and existing coastal structures, as well as approaches for coupling habitat restoration with flood and erosion protection, with the ultimate goal of developing design guidelines. Thus, physical and numerical experiments will be conducted as a collaboration between the University of Ottawa and the National Research Council (NRC) within the scope of this study. By the use of eco-enhancing breakwater armor units, the physical experiments will examine how to incorporate ecologically friendly habitats into coastal structures. Furthermore, their resilience and durability will be evaluated, as well as their effectiveness in dampening wave energy under a variety of site-specific wave and water level conditions. Whereas, numerical modeling of the breakwater will be conducted to more accurately investigate the effect of several ecofriendly armor unit placements and configurations on the hydraulic performance of the designed eco-friendly breakwater.

Geophysical Characteristics of Coastal Bluffs and Erosion

Ben Woodward

My name is Ben Woodward, and I am double majoring in Geography and Earth Sciences at the University of Waterloo. I am a fellow of the Royal Canadian Geographical Society, and I represented Canada at the International Geography Olympiad in 2018 and 2019. I grew up in London and I have been a summer/weekend resident of Bayfield for much of the past decade.

As part of my degree, I am starting a year-long honours thesis under the supervision of Dr. Quinn Lewis. This project will focus on the cohesive bluffs along the Lake Huron shoreline between Grand Bend and Goderich. Our objectives are to quantify rates and patterns of erosion of different sections of the bluff and evaluate which subaerial processes are most significant for causing bluff erosion along this section of coastline. To quantify



erosion, we will use a drone to create several high-resolution digital elevation models of our bluff study sites to compare them over time. We will also analyze recently measured high-resolution topographic data, historical digital elevation models, air photos, historical maps, and other documents to create a longer-term chronology of coastal change for this section of coastline. To understand processes, we will conduct several field visits to our study sites to analyze the vegetation on each bluff using our high-resolution drone imagery, evaluate key variables like wind speed and wave height, install non-intrusive groundwater monitoring equipment where possible, and collect and analyze sediment samples from the bluff.

Outside of this research, I enjoy programming websites to promote projects I am interested in. These include www.geoworkshops.ca, a collaboration with Canadian Geographic Education to promote geography and geomatics in high schools, and both www.bayfieldhistoricalwebmap.ca and atlas.digitalhistory.ca, two web atlases used to help map historical photographs and postcards from Huron County and beyond. When I am not working, I enjoy playing basketball and squash or taking in an OHL hockey game.

The Lake Huron Coastal Centre is a registered charity founded in 1998 with the goals of protecting and restoring Lake Huron's coastal environment. We are the voice for Lake Huron.



www.lakehuron.ca

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