

**Georgian Bay Land Trust and
Georgian Bay Geopark.
Proposal for Collaboration.**

Oct. 18/2021

Georgian Bay Land Trust and the UNESCO Georgian Bay Geopark initiative.

The following outlines a proposal to the GBLT to collaborate on two related initiatives.

Proposal. #1

Collaboration on fund raising and research design to support a MITACS Grant for a two year post doctoral research initiative in Georgian Bay.

Proposal #2.

Collaboration on fund raising and drafting of a UNESCO Geopark Development Plan for Georgian Bay.

The Ask.

Short term funding is needed for the matching MITACS funds (\$60,000) and the drafting of the development plan (\$60,000). We are proposing that we raise these funds under the auspices of the GBLT. The Geopark working group would be responsible for the proposals and making the fund raising calls. The initiatives would be positioned as collaborations with GBLT with funds flowing through the GBLT organization. We also propose that the GBLT participates in aspects of the MITACS research site selection as well providing input on the development plan in order to reflect the GBLT's perspective and position the organization to best benefit from the emergence of the Geopark across Georgian Bay.

Please refer to the appendices for further background on the Georgian Bay Geopark initiative.

The UNESCO Georgian Bay Geopark. Overview.

The problem and opportunity.

Georgian Bay is a global jewel. Its ancient geology has shaped a land and water scape unlike any other in the world and has driven a long, rich and important history of human habitation and culture. See appendices for a full summary.

Anyone who lives on The Bay or has experienced it, is moved by its beauty and spirit. And yet, for all its importance, and in the face of climate change and development pressures, the Bay is not well positioned for the future. Research, conservation and development efforts are disconnected, incomplete and fragmented. There are many voices up and down it's shores but not enough cohesion and harmony in our efforts to insure a vibrant and sustainable future for Georgian Bay.

The Bay, in short, needs help. It needs a framework that can encompass all of Georgian Bay and help create greater cohesion and coordination of effort among hundreds of stakeholders including researchers, conservation groups and communities. It needs a platform that all communities can use and benefit from including First Nations. It needs an umbrella to build

public awareness for the wonders of the Bay and promote and enhance responsible Geotourism and sustainable development for generations to come.

A UNESCO Global Geopark for all of Georgian Bay can provide this framework.

What is a Geopark?

The purpose of the UNESCO Global Geopark initiative is to highlight outstanding locations around the planet that illustrate significant chapters or distinct events in Earth's long history. Their purpose is to promote further geological research, to promote public outreach and literacy in geology and Earth science, highlight different cultural uses of landscapes and geological settings in the course of human history, and to develop ecologically-sustainable geotourism and sustainable development for the benefit of local communities.

Why Georgian Bay?

Georgian Bay exceeds all the criteria for designation as a UNESCO Global Geopark and would be Canada's largest (more than 15,000 km²). Its landscapes, ecosystems and culture are unique in Canada and helped shape a distinct Canadian identity. These factors among others led to the swift designation of Georgian Bay as an "Aspiring Geopark" by the UNESCO Canada Geopark Network.

The vision and plan for the UNESCO Georgian Bay Geopark.

Our vision is to establish one of the world's great UNESCO Global Geoparks with an operating framework that:

- Fosters long term conservation for all Georgian Bay.
- Promotes Geo tourism and local, sustainable, economic development.
- Leverages advanced technology to:
 - o insure the inclusion of multiple Geo sites and destinations from every corner of Georgian Bay.
 - o builds effective engagement, support and collaboration among all the communities of Georgian Bay including Townships, First Nations and Metis Organizations, Parks, Businesses and Tour Operators, UNESCO Biospheres, Educators, Museums, Conservation and Community Groups and others.

The key next steps in this process are twofold:

- Secure a MITACS grant that can jump start Geo site research and content development.
- Complete a Geopark development and launch plan for purposes of major fund raising and to guide the preparations and opening of the Geopark.

Proposal # 1. MITACS Grant.

The Research.

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The purpose of the Mitacs grant is to allow the collection and processing of existing high resolution LiDAR (Light Imaging and Ranging) and other imagery data, and to fill any gaps in coverage using a new drone with LIDAR camera and multi-sensors recently purchased by U of T. The work is focused on the entirety of Georgian Bay and much of its watershed (> 15,000 km²) making it one of the largest such studies undertaken in Canada. The intent is to map the geology and landforms on the Shield along the eastern and northern margins of the Georgian Bay, and the limestone plains of the Bruce Peninsula and Manitoulin Island. The same data can be used to map vegetation types, wetlands, and changing shoreline configuration, created by lake level changes etc., allowing the spatial relationships between physical substrates such as changing geology, and ecological characteristics to be determined as part of a comprehensive ecosystem mapping.

Potential benefits to GBLT.

This research can be done for all current GBLT sites, and around the entire Bay. The collaborative work with GBLT would establish baseline data for assessment of future climate change and land use impacts over the coming decades and could be used to identify areas/sites of especial scientific interest that could be the focus of targeted acquisition campaigns by GBLT. The proposed collaboration would place the operations of GBLT on a firm scientific basis and establish GBLT as a leader in conservation efforts and ecological mapping around the Bay enhancing its ability to attract donors and funding.

Proposal #2. Geopark Development Plan.

The Development Plan will serve as a detailed road map for the launch of a world leading Geopark for all Georgian Bay. It will include the development, in collaboration with key stakeholders, of a Georgian Bay Geopark vision and creative expression to guide communications, marketing and fund raising. It will also include, under UNESCO guidelines, a plan and approach for meaningful indigenous collaboration as well as a detailed Management, Governance, Marketing and Operations plan.

The Plan will expand on four key strategic priorities:

- 1) The Georgian Bay Geopark will be developed and launched initially as a 'Virtual/Digital Geopark' online that is representative of all Georgian Bay. A Virtual Georgian Bay Geopark website and app will make it possible to showcase and promote understanding and engagement with Georgian Bay's extraordinary story - Geological, geo cultural and ecological - to the communities across the Bay, to the broader public, to students and educators, Governments and funders in Canada and globally from the very outset. Each site will be presented with a robust and interactive module including multilayered virtual field trips, on site guides and App based audio tours. The website will also provide a platform for collaboration and integration merging Geoscience with the

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region's ecology, indigenous and settler history, culture, community stories, tourism services and assets.

- 2) The Geopark will be underpinned with Geopark sites/modules showcasing geological, historical, ecological and cultural narratives from across the Bay. (see MITACS sections)
- 3) For local implementation the Virtual Georgian Bay Geopark will be promoted to and be adopted by regional partners over time. (Towns, First Nations, Parks, Museums, Businesses, Educators, Conservation and Community Groups etc). The Geopark Website will provide tool kits from the Geopark network outlining planning, marketing, management, governance and operational best practice as well as links to other Geopark staff to inform the process for local Geopark implementation.
- 4) The Geopark will also include a Georgian Bay Geopark Centre - both a website and a facility – that will serve as a source and showcase for Geopark content, a platform for research, a hub for collaboration with all communities including indigenous peoples and a destination for tourists, schools and researchers. Affiliated with the Centre and to further advance interdisciplinary research opportunities, the group will be seeking a UNESCO Chair at the University of Toronto.

The potential benefits/opportunities for GBLT include:

- Helping advance and strengthen GBLT's stated vision and mission; strategic conservation planning, land securement, stewardship, research, education
- Additional funding streams for interdisciplinary research between geologists and ecologists
- Participation in and leveraging of the Geopark plan and vision
- Enhanced GBLT leadership profile and brand awareness across Georgian Bay
- New donor and funding opportunities
- Leveraging the technology to enhance GBLT's communications/marketing
- New or strengthened relationships with key stakeholders including indigenous groups

Appendices.

Background.

A feasibility study – commissioned by the Town of Midland - investigating the potential for a Geopark in Georgian Bay was completed and unanimously approved by council in September 2021. The Working Group behind the report has been endorsed by the Town to proceed in mapping out a path to the opening of a Geopark that would encompass all of Georgian Bay. In the course of the study, the Georgian Bay Geopark was recognized by the Canadian Geopark Network which is affiliated with UNESCO Canada, as an “Aspiring Geopark”. The group also partnered with the Midland Cultural Centre and U of T to apply for a MITACS grant that would fund a post doctoral fellow to do site research for two years starting in January 2022.

The Georgian Bay Geopark Working Group has identified two immediate next steps; raising matching funds for the MITACS grant and drafting a detailed plan for the development and launch of the Georgian Bay Geopark. Both steps are essential to guide the development of the Geopark as well as providing the foundation for significant fund raising.

The Case for Georgian Bay.

Georgian Bay exceeds all the criteria for designation as a UNESCO Global Geopark and would be Canada’s largest (more than 15,000 km²). Its landscapes, ecosystems and culture are unique in Canada and help shaped a distinct Canadian identity as the young country learned to love its harsh uncompromising heartland; the Canadian Shield. On a world stage, Earth history is a like a book, and Georgian Bay is a major character in the story. Its highly deformed rocks, formed deep at the base of tectonic plates and now exposed at surface by erosion, inspired the Canadian father of plate tectonics, Jock Tuzo Wilson, and confirmed that continents drift, and oceans open and close in a never-ending cycle.

For the last 3 billion years, Georgian Bay has been a violent frontier, a collision zone between enormous tectonic plates that saw the growth of the North American continent. Both South America and Africa were once former neighbors locked together in the area that we now call Georgian Bay, imprisoned in giant supercontinents that broke apart leaving parts of these landmasses behind. Each collision built giant mountains, now levelled by erosion and whose deeply-eroded crystalline roots we call the Canadian Shield. As North America broke away from its neighbors and later drifted across the equator, warm inland seas encroached across the

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Shield leaving a legacy of fossil-rich limestones and ancient tropical reef rocks seen today on the western side of the Bay along the Bruce Peninsula and Niagara Escarpment.

The Bay itself is geologically recent, less than 2 million years old in fact, having been eroded into the Shield by giant ice sheets, like Antarctica's today, flowing from kilometre-thick snowfields in Quebec-Labrador, and now as the sixth Great Lake hosts more than 5% of the planet's freshwater and the world's most pristine. Glacial scouring of the Shield produced more than 30,000 islands, the largest freshwater archipelago anywhere in the world and a unique North American ecosystem reflecting the mixing of boreal species to the north with southern temperate species; what ecologists refer to as an 'ecotone' that collectively is more diverse than either. It's human history and cultures too, are among the most diverse in Canada. Humans appeared some 11, 000 years ago just as glacier ice finally disappeared from the Bay, when hardy Paleo-Indians followed caribou herds along the shores of an enlarged and much deeper lake geologists called Glacial Lake Algonquin that was then infested with icebergs from the retreating ice sheet. Later, indigenous migratory Ojibwe-Ottawa hunter-gatherers on the Shield traded furs for maize with densely-populated settled Huron (Wendat) communities on the rich farmland to the south. Indigenous Ojibwe legends tell of the Great Drying of the Spirit Lake when much of the floor of the Bay was exposed as climate warmed, now known to have been about 7000 years ago. Wyandot legends speak of the god Kitchikewana guarding the Bay's water, throwing clods of earth into its waters to form the 30,000 islands of its eastern shore.

Georgian Bay was the frontier between opposing American and English naval forces in the War of 1812, a stepping off point for Arctic explorers such as Franklin (1825) and the first systematic geological mapping in Canada was conducted along its shores by the newly formed Geological Survey of Canada (1842). After 1880, growing ports along the south shore of the Bay offered a last chance for impoverished settlers seeking a new homeland after having crossed the Atlantic for transshipment across to the upper Great Lakes and on to the rich farmlands of western Canada. The starkness of the Bay's rugged eastern shoreline conditioned early Canadians' perspectives on and economic use of the Shield often enduring great hardships in the process of 'farming rock' having been attracted by colonization roads that snaked up onto the Shield and the prospect of free land. As a result of its long cultural history the Bay is now a nexus of Metis, English and Indigenous cultures; a unique meeting place of different perspectives on the varied landscapes that surround the Bay and what it means to live on the edge of the Shield.

Today, the region is moving away from a dependence on natural resources, primarily fishing and lumber, to tourism and welcomes millions of domestic and international visitors each year from Canada's largest city (and airport) just 2 hours to the south drawn to the Bay's unique land- and waterscapes and habitats. For many it is their first introduction to the Canadian Shield and the heart of the Canadian experience; it is a unique place that appropriately deserves designation as a UNESCO Global Geopark which will accelerate understanding of the Bay's world class geologic record and the need for protection and conservation of its landscapes,

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waters and ecology, while offering new opportunities for environmentally sustainable economic activity and geotourism.