

February 25, 2022 for Island Biodiversity Working Group

Proposed Biodiversity Principles for Toronto Islands

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Island Biodiversity Working Group

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Toronto Islands: What's at stake

Toronto Islands are a treasured place where people and nature can meet. Sculpted by storms and currents, this former sand spit offers us ever-shifting beaches, dunes, and acres of quiet parkland. For Indigenous people, the Toronto Islands are traditional places of healing. Today more than ever, the islands are a vital restorative escape from the noise and heat of the big city. Over 1.5 million visitors a year already depend on that escape, knowing that a few hours in nature can do wonders for our mental and physical health. Island nature is fragile, however. Ensuring that Island nature can survive to restore the spirits of future generations of Torontonians will require enlightened and well-informed planning. It will require investment and commitment, too.



Who we are

Our Island Biodiversity Working Group represents both Island residents and local organizations with expertise in natural heritage and biodiversity. We care about nature and people, recognizing that the two depend completely on each other. We recommend a sustainable approach that will both safeguard a beloved getaway for Torontonians and will also preserve the remarkable biodiversity that persists on Toronto Islands today. We recommend that the City of Toronto commit to a green and sustainable master plan for the Toronto Islands.

Fringed Gentian; Ward's Island (photo: Jenny Bull)

What are the pressures

The Islands' biodiversity faces intense pressure, because the destination is much beloved by locals and tourists alike. Nearly 1.5 million visitors/year visit the Toronto Islands - more visitors annually than the ROM. To accommodate these visitors, most of the parkland area has been converted to lawns, picnic areas, formal gardens and entertainments such as amusement rides. In fact, only about 40 hectares, or **12% of the islands remain in a natural state** today.

The remarkable biodiversity of the Toronto Islands

Formed from one of Lake Ontario's largest sandspits, the Toronto Islands are an archipelago of 14 islands, some 325 hectares in size. About 230 hectares of the Islands are maintained as public parkland by Toronto Parks, Forestry & Recreation. The Toronto Islands represent one of the most remarkable biodiversity hotspots along the north shore of Lake Ontario. The unique natural heritage of the site has been authoritatively documented by government agencies and naturalist bodies in a string of reports and studies stretching back over decades. Notable among these are reports by the Toronto Region Conservation Authority, the e-Bird databases, annual butterfly counts and Christmas bird counts, among others. A list of resources that document the value of this landscape is attached as an appendix.



Piping Plover Chick (Photo: Mark Peck)

Birds offer a helpful lens to illustrate the biodiversity of Toronto Islands. The bird diversity of the Toronto Islands is especially impressive, showing among the highest species diversity in the region. A bird checklist for Point Pelee – an internationally renowned migratory bird hotspot – comes to ~390 species. Many would be surprised to learn that the number of bird species documented at Toronto Islands is not far behind, at about 350 species (Glenn Coady, Norm Murr). A bird banding station on Mugg's Island recorded over 100 species of migrating songbirds alone (TRCA, 2008). In fact, 28% of Toronto's migrant bird records are from the Toronto Islands. (ESAs in Toronto, 2012)

Historical data show that 105 bird species have nested on Toronto Island, with about 75 of those species breeding regularly (Glenn Coady). The Piping Plover is a species at risk that needs sand dune beaches to raise its young, and has recently begun nesting at Hanlan's Point. Piping Plovers were actually extirpated in Ontario between 1977 and 2007, but the province now has somewhere between 7 and 15 pairs of birds. To the delight of the conservation community, Piping Plovers had two nesting seasons on the dune beaches of Hanlan's Point in 2018 and 2020, with four nests in total. That success was featured in several *Globe and Mail* articles, and showed how commitment to habitat protection by agencies and volunteers can help bring back vulnerable species.

The importance of bird habitat on the islands extends beyond the breeding and migration seasons. Over the last 10 years, the annual Toronto Christmas Bird Count has regularly documented around 50 species on the one-day count (Gavin Platt). Historical eBird data indicates that 93 species have been observed in the month of January. In the 40-year history of the Mid-Winter Waterfowl Inventory, a total of 36 species of waterfowl have been found in the waters immediately surrounding the islands. Some species have been counted in the thousands.

Today, about 40 hectares of the Toronto Islands remain in a natural state, and feature unique landforms, unusual vegetation communities and productive aquatic habitats. These areas support rare plants, a thriving fishery, and many species of birds, mammals, reptiles, amphibians and invertebrates. For example, the sand dune plant communities of Toronto Islands are found nowhere else along the western shoreline of Lake Ontario. Toronto Islands also harbour a provincially significant wetland complex and a candidate provincial Life Science Area of Natural and Scientific Interest. As a TRCA study notes, Toronto Islands may have the highest concentration of rare plants in the City of Toronto. As well, 36 species of butterflies live on the sand dunes, meadows and woodlands of the Toronto Islands. (TRCA, 2008). Aquatic life also abounds. The 2012 publication *Fishes of Toronto* notes that “the Toronto Islands provide a refuge of relatively undisturbed fish habitat and support fishes such as the rare American Eel. Within the Islands, there are areas that have been restored or constructed to provide excellent aquatic habitat.”



How is Biodiversity protected on the Toronto Islands?

The City of Toronto's Official Plan has mapped out 86 Environmentally Significant Areas or ESAs, distributed across the expansive landscape of the municipality. Toronto's ESAs are of course clustered where the biodiversity is highest, and it is telling that six ESAs (Centre Island Meadow/ Wildlife Sanctuary, Hanlan's Beach, Mugg's Island, Snake Island, Ward's Island, West Algonquin Island) are crammed onto the comparatively tiny footprint of the Toronto Islands.

These six ESAs were designated in the 2015 City of Toronto Official Plan as Environmentally Significant Areas based on four criteria: A) Presence of rare species or rare vegetation communities, B) Presence of significant landforms, C) Significant size and high levels of biodiversity, and D) Ecological function, particularly providing stopover habitat for migratory songbirds. The City's Official Plan states that "Activities will be limited to those that are compatible with the preservation of the natural features and ecological functions attributed to the areas".

We propose that the vision encapsulated by the following principles be incorporated into the Toronto Islands Master Plan in order to protect the Island's unique natural habitats while enhancing opportunities for visitors to learn about and appreciate the Island's remarkable biodiversity. The principles could also be incorporated into the management plans for the Island ESAs, and into the day-to-day management practices of maintaining the park.

Principles for Managing the Biodiversity of Toronto Island Park – for incorporating into the Toronto Island Master Plan

- 1. Indigenous knowledge and understanding of the lands, waters and creatures of the Toronto Islands will be a key lens for guiding the long-term stewardship of the landscape.*
- 2. On Toronto Island Environmentally Significant Areas (ESAs) and adjacent areas, Toronto Official Plan requirements will be respected, ensuring that "**Activities will be limited to those that are compatible with the preservation of the natural features and ecological functions attributed to the areas**" (bolded text is taken from 2015 Official Plan, City of Toronto, applying to ESAs)*
- 3. Public education and outreach on Island biodiversity will be among the core tools for guiding visitor behaviour, especially around the more vulnerable habitats, such as ESAs.*
- 4. Where critical biodiversity areas of land or water are shown to be vulnerable within the Island ecosystem, managers will include protected area set-asides and seasonal access restrictions as legitimate and appropriate options in their management tool-kits.*
- 5. Recreational uses of the Toronto Islands – especially near ESAs and other areas of vulnerable habitat - will be periodically evaluated and use levels will be adjusted to remain compatible with the carrying capacity of the biodiversity of the Island.*
- 6. Toronto Island horticultural practices and routine park maintenance will emphasize restoring native flora and fauna, especially the unique bird biodiversity and sand dune ecosystems, and will work to reduce impacts of invasive species*

7. *The City will consult the public on an ongoing basis on management activities, policy developments, and site-specific projects, especially those impacting vulnerable habitats and species. The City will also engage the public as volunteers, to help steward natural areas.*

8. *Pets on Toronto Islands will be managed to minimize impacts on bird biodiversity and the Islands' ESAs.*

Actions or Targets that could follow from principles above

Principle #1: Indigenous knowledge and understanding of the lands, waters and creatures of the Toronto Islands will be a key lens for guiding the long-term stewardship of the landscape.

Possible actions and/or targets:

Projects, teams and workshops on Island biodiversity would invite, encourage and support Indigenous knowledge circles, with goals to understand and integrate Indigenous knowledge in everyday stewardship.

Principle #2: On Toronto Island ESAs and adjacent areas, Toronto Official Plan requirements will be respected, ensuring that "**Activities will be limited to those that are compatible with the preservation of the natural features and ecological functions attributed to the areas**"

Possible actions and/or targets:

City planning staff would give Toronto Island ESAs high priority for preparing management plans, with public input, including input from this biodiversity working group; the management plans would include attention to natural connections and corridors between ESA sites.

City parks staff would train their seasonal Island staff annually on the location, importance and best maintenance practices for ESAs and adjacent areas, using tools such as online training modules and walk-through tours. This training would begin even before management plans are finalized, and would integrate management plan directions once they are finalized.

The Island residents community would prepare "good neighbour practices" for living near ESAs (including best practices for landscaping and pets), and share them within their community through workshops, guided walks and other approaches.

Principle #3: Public education and outreach on Island biodiversity will be among the core tools for guiding visitor behaviour, especially around the more vulnerable habitats, such as ESAs.

Possible actions and/or targets:

City could add a Sand Dunes Story to Franklin's Children's Garden, to showcase the Island's rare species like the Piping Plover, the Common Buckeye butterfly and Bushy Cinquefoil

City could expand and enhance interpretative panels at Hanlan's Point

City/TRCA could add signs to Wards dune area and Gibraltar Point dune restoration

City/TRCA could create a display near the Ferry docks showcasing nature being restored on the Islands, like the TRCA's near-shore [fish reef at Gibraltar Point?](#)

Toronto Island Nature School's Nature programming could find new partners and new energy

City could name a beach Plover Beach to recognize the nesting [Piping Plovers](#) – a species at risk in Ontario

City could set a plaque to remember the bird observatory on Muggs Island (1978 to 2003) Muggs Island not currently accessible to public. Plaque could be beside road on Hanlan's across lagoon from Muggs.

Principle #4: *Where critical biodiversity areas of land or water are shown to be vulnerable within the Island ecosystem, managers will include protected area set-asides and seasonal access restrictions as legitimate and appropriate options in their management tool-kits.*

Possible actions and/or targets:

City could set aside a percentage of land and near-shore waters at the Islands for biodiversity enhancement, with exclusion zones, and/or seasonal access restrictions, and with guidance from the Convention on Biological Diversity.

Principle #5: *Recreational uses of the Toronto Islands – especially near ESAs and other areas of vulnerable habitat - will be periodically evaluated and use levels will be adjusted to remain compatible with the carrying capacity of the biodiversity of the Island.*

Possible actions and/or targets:

City parks staff could close vulnerable high-traffic areas (such as trampled dune sites) for a season or for a year ("nature sabbatical"), with signage to explain that restoration is needed. City has used this approach in other parks, such as Queen's Park and certain ravine areas like the base of Milkman's Lane.

City parks staff could reduce trampling by installing more bike racks, especially outside washrooms, change rooms, beaches, etc., so bikes are not dragged through fragile plantings; offering rented beach umbrellas and deck chairs would also give beach visitors shade without trampling dune vegetation.

City parks staff could channel high-impact visitor activities towards safer areas (far from key habitat zones) by designating areas for group picnics, off-leash dogs, firepits, etc.

City parks staff could monitor impacts of new watercraft use by the public within lagoon system.

Principle #6: Toronto Island horticultural practices and routine park maintenance will emphasize restoring native flora and fauna, especially the unique bird biodiversity and sand dune ecosystems, and reducing impacts of invasive species.

Possible actions and/or targets:

City Parks and Forestry staff could leave more snags (standing dead trees), logs and brush in wooded areas. Diversity of habitats = diversity of wildlife. Tiny wrens love twiggy brush. Big woodpeckers like tall snags.

City parks staff could establish “no mow” zones and/or mow-once-a-year zones in key areas where meadow habitats can benefit

City parks and urban forestry teams could partner with volunteer-powered groups like Toronto Nature Stewards, LEAF, Island residents groups, etc. to establish pollinator gardens and restore degraded sites, where invasive species have become dominant.

Toronto Island formal gardens could be the focus of a design charette to rethink the gardens as native plantings, with goals to support bird and pollinator habitats, to use drought tolerant designs and to showcase plantings that visitors could use in home gardens.

Principle #7: The City will consult the public on an ongoing basis on management activities, policy developments, and site-specific projects, especially those impacting vulnerable habitats and species. The City will also engage the public as volunteers, to help steward natural areas.

Possible actions and/or targets:

City Parks could establish an ongoing liaison group with park stakeholders and share plans with them on a quarterly basis, for feedback and partnering options

Principle #8: Pets on Toronto Islands will be managed to minimize impacts on bird biodiversity and the Islands’ ESAs.

Possible actions and/or targets:

City managers could designate certain highly vulnerable habitats as seasonal dog-free zones

The Island resident community could promote best practices to keep cats from roaming, especially at peak nesting seasons, etc.

Resources: (in progress)

“28% of Toronto’s migrant bird records are from the Toronto Islands”

Source: Environmentally Significant Areas (ESAs) In The City Of Toronto June 2012
Prepared For Toronto City Planning; North-South Environmental Inc.; Appendix 2

Steve Varga; Toronto Islands Plant Communities and Noteworthy Species; Published by Toronto Field Naturalists; 1987 (*we should offer a link to a scanned copy, if possible*)

TRCA Source: [Environmental Study Report](#): Toronto and Region Conservation Authority: Gibraltar Point Erosion Control Project: February 15, 2008; p. 31 and pages following

Video; Dec 2021: Missisakis: An Indigenous History of the Tkaronto Islands; [Youtube](#)
Commissioned by the Waterfront BIA; created by the Bawaadan Collective

TRCA Source: Innovation at the Islands: [Controlling Erosion at Gibraltar Point](#) Blogpost 09/10/2018

Norm Murr’s [Toronto Islands Birding and Site Guide.pdf](#) showcases the remarkable richness of Toronto Island Birds

Nature on the Toronto Islands by Joanna Kidd
https://torontoisland.org/wp-content/uploads/2020/12/TIExplorers_guide.pdf

Biodiversity of Toronto Islands is highlighted in City of Toronto Biodiversity booklets at <https://www.toronto.ca/explore-enjoy/parks-gardens-beaches/ravines-natural-parklands/biodiversity-in-the-city/>

Bees: p10

Birds: pp 59, 67

Butterflies: pp 6, 21-22, 33, 44, 51

Fishes: Part 1: pp 3, 8-9, 40; Part 2: 45, 53, 73

Mammals: pp 8, 23

Reptiles, Amphibians: pp 46, 52

Trees, Shrubs, Vines: pp 55, 68

Globe and Mail; Ivan Semeniuk;

In the shadow of Canada's biggest city, the piping plover struggles to survive; July 3, 2018

<https://www.theglobeandmail.com/canada/toronto/article-tough-as-nails-rare-piping-plovers-nesting-on-toronto-beach-for/>

Piping Plovers at Hanlan's Point – Globe and Mail 2021

MEGAN ROBINSON

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<https://www.theglobeandmail.com/canada/article-how-great-lakes-piping-plovers-are-adapting-to-the-climate-crisis/>