

Valuing Ecosystem Services in Protected Areas: Example of Georgian Bay Islands National Park



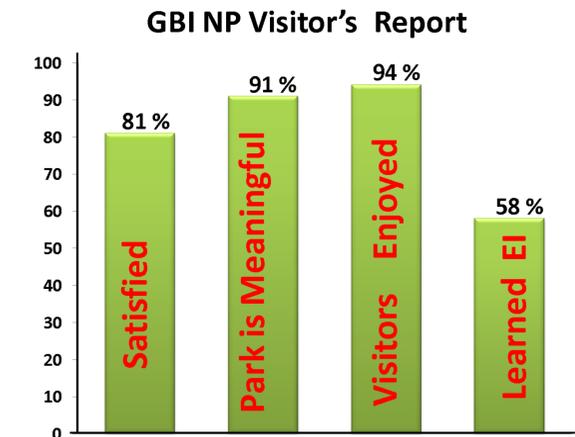
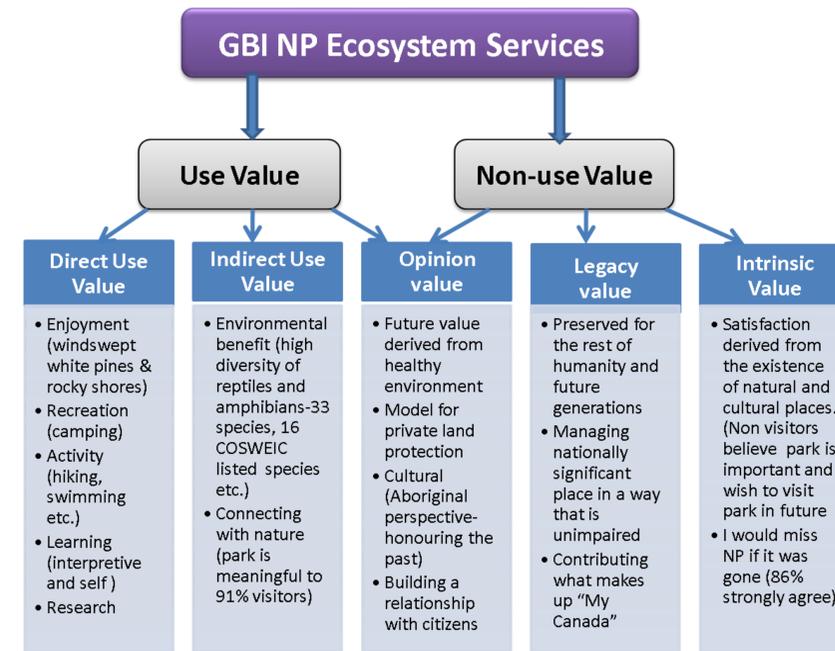
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Introduction

- Location:** South-eastern Georgian Bay in the heart of Ontario's cottage country, just 150 kms north from the GTA.
- National significance:** Representative of two natural regions: Central Great Lakes-St. Lawrence Precambrian and West St. Lawrence Lowlands regions.
- Ecological significance:** Georgian Bay Biosphere Reserve.
- Total no. islands:** 63 dispersed different sizes islands totalling 14 km².
- Key Island:** Beausoleil Island (11 km²).
- Ecological systems:** Forest 79%, Island Lake 1%, Wetland 1% and Coastal shoreline 19%.
- Physical diversity:** The southern two-thirds of Beausoleil island have well-drained sands and gravel while the northern section of the island is characterized by exposed rock.
- Species At Risk:** Total 16 (COSEWIC 2010), 11 of them are reptiles (5 SC, 4 THR & 2 END).
- Species diversity:** High diversity of reptiles and amphibians (33 Species).



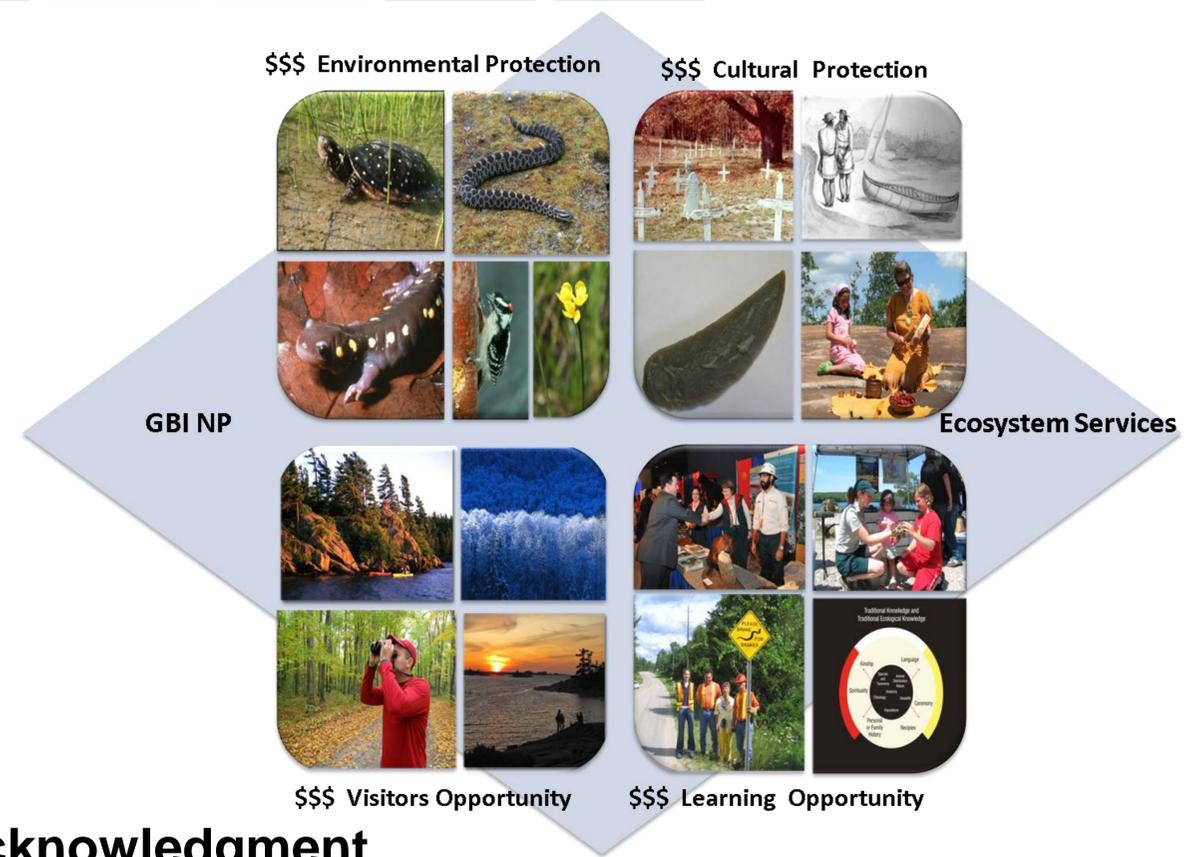
Valuing Ecosystem Services



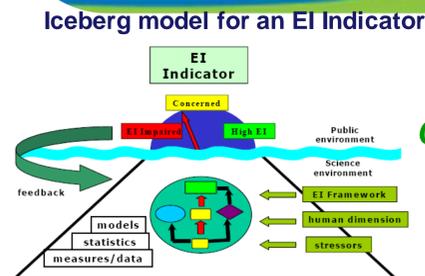
GBI NP Visitor's Opportunity & Ecological Integrity

- PC Mandate:** On behalf of the people of Canada, we protect and present nationally significant examples of Canada's natural and cultural heritage, and foster public understanding, appreciation and enjoyment in ways that ensure their ecological and commemorative integrity for present and future generations.
- GBI NP Vision:** Known as a place for
 - Special opportunity to *experience* the natural characteristics of the largest freshwater island group in the world: Windswept White Pines & Rocky Shores.
 - Where clean water and air, natural habitats, plant and animal diversity, rare species and human heritage are *protected*.
 - Where people have opportunity to *learn* about the Georgian Bay ecosystem where lush hardwood forests contrast with the distinctly rugged Precambrian Shield
- Ecological Integrity (EI):** A condition that is determined to be characteristic of its natural region and likely to persist.
- GBI EI Indicators:** Forest, Coast, Lake

Measure	Current Status	Significant Difference?
Forest Indicator Status is Good		
Downed Woody Debris	Poor	No (p<0.6283)
Decay Rates	Good	No 0.8828
Crown Condition	Good	Yes (p=0.0001)
Stem Defects	Good	Yes (p=0.0091)
Regeneration	Good	No 0.1286
Annual Tree Growth	Good	No 0.2925
Plethodontid Abundance	Good	Yes (p<0.0001)
Forest Bird Abundance	Fair	Yes 0.0043
Coast Indicator Status is Good		
Water Quality Index	Good	More data needed
Frog and Toad Abundance	Poor	Yes (p<0.0001)
Aquatic Exotic Invasive Plants	Good	Yes (p=0.0163)
Lake Indicator Status is Good		
Benthic Invertebrates	Good	No (P=0.0256)



Georgian Bay Islands National Park
State of Ecological Integrity is GOOD



Acknowledgment

We are grateful to our visitor's for their support of the resource conservation program. Many thanks to our collaborators, partners and park staff whose contribution made possible to present current state of our natural resources.