



INDICATOR OUTLINE: MONITORING AND REPORTING ON ONTARIO'S BIODIVERSITY

STRATEGIC DIRECTION: Improve Knowledge

TARGET: 15. By 2015, a long-term monitoring and reporting system for assessing the state of Ontario's biodiversity is established and operating.

THEME: All

Background Information:

Implementing a monitoring and reporting system to regularly assess the state of the province's biodiversity, identify threats and track the success of conservation actions is critical to ensure Ontario's efforts are making a difference for biodiversity. Well-designed monitoring activities provide the foundation for effective indicators of biodiversity patterns and changes. Reporting on biodiversity provides important information to support decision making, including prioritization of actions for biodiversity conservation.

A full suite of indicators to assess the state of Ontario's biodiversity was developed for the State of Ontario's Biodiversity 2010 Report. Through this exercise, the absence of standardized, province-wide monitoring for many aspects of biodiversity, the lack of comprehensive analysis of some existing data sets, the currency of existing data and the identification of suitable indicators to assess some portions of Ontario's biodiversity were identified as obstacles. Although there are many monitoring and research projects that contribute to knowledge about Ontario's biodiversity and its effective management, these projects are often not at the appropriate geographic or time scale to support reporting at the provincial level.

This indicator presents a review of monitoring programs, datasets, and the reporting system currently used to assess the state of Ontario's biodiversity. This indicator also presents observations about the strengths and weaknesses of Ontario's biodiversity information and its availability for assessing and reporting on the state of the province's biodiversity.

Data Analysis:

Data for this indicator were collected through a comprehensive review of monitoring programs, data sets and the reporting system currently used by the Ontario Biodiversity Council to assess the state of Ontario's biodiversity. Additional research was also completed to gather information on monitoring programs and data sets that may be used in future assessments of Ontario's biodiversity. It is important to note that the focus of this list is provincial-scale monitoring programs and that this list does not include the many monitoring and reporting programs that are done at the local, regional and watershed scale.

Results:

Trend: Baseline **Data Confidence:** Medium **Geographic Extent:** Provincial



Table 1. Monitoring programs and data sets used to assess the state of Ontario’s biodiversity in 2015.

Surveys
Ontario Biodiversity Council Biodiversity Awareness Survey; conducted every 2 years
National Survey of Recreational Fishing; conducted every 5 years
Ontario Public Service Biodiversity Network Survey of Biodiversity Programs and Policies; conducted every 5 years
Ontario Invasive Plant Council Survey of Invasive Species Plans; updated every 5 years
Canadian Survey of Household Spending; updated annually
Ongoing Monitoring Programs
Canada’s National Inventory Report on Emissions; updated annually
National Oceanic and Atmospheric Administration Great Lakes Environmental Research Database; updated regularly
Canadian Ice Services Seasonal Summaries of Great Lakes Ice Cover; reported seasonally
Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS); updated regularly
Ontario Ministry of Natural Resources and Forestry Broad-scale Monitoring Program of Lakes; monitoring cycle completed every 5 years
Provincial Water Quality Monitoring Network; updated regularly
Provincial Air Quality Monitoring Program, updated regularly
Ontario Ministry of Natural Resources and Forestry Natural Heritage Information Centre Database (species ranks and rare ecosystems element occurrences); updated regularly
National General Status of Wild Species Report; updated every 5 years
Ontario Ministry of Municipal Affairs and Housing Provincial Policy Statement, 2005: Performance Monitoring Framework and Indicator Results Report; updated every 5 years
Conservation Areas Tracking and Reporting System (CARTS); updated regularly
HYDAT Regional Stream Flow Monitoring Database; ongoing remote monitoring, regularly updated
State of the Great Lakes Technical Report (SOLEC); updated every 2 years
Committee on the Status of Species at Risk in Ontario (COSSARO) Reports; new assessments annually, reports updates every 5 years
Individual Program Area Data Sets
Ontario Ministry of Natural Resources and Forestry Conservation Land Tax Incentive Program Database; updated annually
Ontario Ministry of Natural Resources and Forestry Managed Forest Tax Incentive Program Database; updated annually
Ontario Ministry of Agriculture, Food and Rural Affairs Canada-Ontario Environmental Farm Plan Database; updated annually
Ontario Ministry of Finance Annual Provincial Expenditure data; updated annually
Biodiversity stewardship data from individual organizations (i.e., Ducks Unlimited Canada, Conservation Ontario, Nature Conservancy of Canada, Ontario Federation of Anglers and Hunters, Ontario Power Generation and Ontario Ministry of Natural Resources Stewardship Program) ; updated regularly
Biodiversity volunteer data from individual organizations (i.e., Nature Conservancy of Canada, Ducks Unlimited Canada, Conservation Ontario, Ontario Nature, Ontario Federation of Anglers and Hunters, and Ontario Stewardship) ; updated regularly
Specific Research Projects
Ontario Land Cover Data (SOLRIS, Far North, AOU)
Analysis of Normalized Difference Vegetation Index (NDVI) data set
Assessment of Polar Bear populations and their characteristics
Assessment of current knowledge about the genetic diversity of Ontario species
Assessment of the integration of biodiversity into elementary, secondary and post-secondary curricula
Assessment of the integration of biodiversity into business
Analysis of terrestrial representation in protected areas using GapTool and land cover data

Note: links to data sets used in the development of indicators are provided on individual indicator pages.



Table 2. Monitoring programs and data sets that may be used in future assessments of Ontario's biodiversity.

Biodiversity Monitoring Programs and Data Sets
Conservation Authority Watershed Report Cards
Early Detection and Distribution Mapping System for Invasive Species in Ontario (EDDMapS)
Ontario Ministry of Natural Resources and Forestry Species at Risk Targeted Monitoring
Ontario Ministry of Natural Resources and Forestry Far North Biodiversity Project
Ontario Ministry of Natural Resources and Forestry Multi-species Monitoring Program
Ontario Parks Inventory and Monitoring Program
Binational Cooperative Science Monitoring Initiative
Ontario Ministry of Natural Resources and Forestry and Canadian Forest Service Forest Health Monitoring
Ontario Ministry of Natural Resources and Forestry Great Lakes Fish Community Monitoring
Canadian Wildlife Service Ontario Forest Bird Monitoring Program
Bird Studies Canada Migration Monitoring Program
Bird Studies Canada Shorebird Survey Ontario
Canadian Wildlife Service and U.S. Fish and Wildlife Service Great Lakes Colonial Waterbird Survey
Great Lakes Commission Great Lakes Coastal Wetland Monitoring Program
Canadian Wildlife Service and U.S. Fish and Wildlife Service Waterfowl Breeding Population and Habitat Survey
Canadian Wildlife Service Southern Ontario Waterfowl Ground Survey
eBird Canada
eButterfly
Ontario Benthos Biomonitoring Network
Ontario Stream Assessment Protocol Monitoring and Flowing Waters Information System
Ontario Ministry of the Environment and Climate Change Lake Partner Program

Status:

- A comprehensive and mature suite of indicators has been developed to assess the state of Ontario's biodiversity (OBC 2010, 2015) and progress on targets in Ontario's Biodiversity Strategy, 2011. These indicators are communicated through a web-based reporting framework which is updated as new information becomes available.
- Efforts to assess Ontario's biodiversity currently rely on several independent environmental monitoring programs, individual program area data sets and specific research projects. State of Ontario's biodiversity reporting is an opportunity to regularly review, synthesize and share monitoring information and trends.
- There have been some improvements in monitoring since the 2010 report. For example, data from the first cycle of the Broad-scale Monitoring of Lakes Program was used to develop three indicators for this report.
- The further development of a standardized broad-scale monitoring program to assess status and trends of Ontario's species and ecosystems is essential for the effective conservation of biodiversity. Of particular importance is regularly updated land cover data for Ontario.



Links:

Related Targets: N/A

Related Themes: N/A

References:

Ontario Biodiversity Council. 2010. State of Ontario`s biodiversity 2010. A Report of the Ontario Biodiversity Council, Peterborough, ON. [Available at: <http://viewer.zmags.com/publication/6aa599ac>].

Ontario Biodiversity Council. 2015. State of Ontario`s biodiversity 2015. A Report of the Ontario Biodiversity Council, Peterborough, ON. [Available at: <http://www.sobr.ca>]

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Ontario Biodiversity Council. 2015. State of Ontario's Biodiversity [web application]. Ontario Biodiversity Council, Peterborough, Ontario. [Available at: <http://ontariobiodiversitycouncil.ca/sobr> (Date Accessed: May 19, 2015)].