

Natural Heritage System and Restoration Strategy

Board of Directors

June 22, 2018

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Lake Simcoe Region
conservation authority

Context and Background

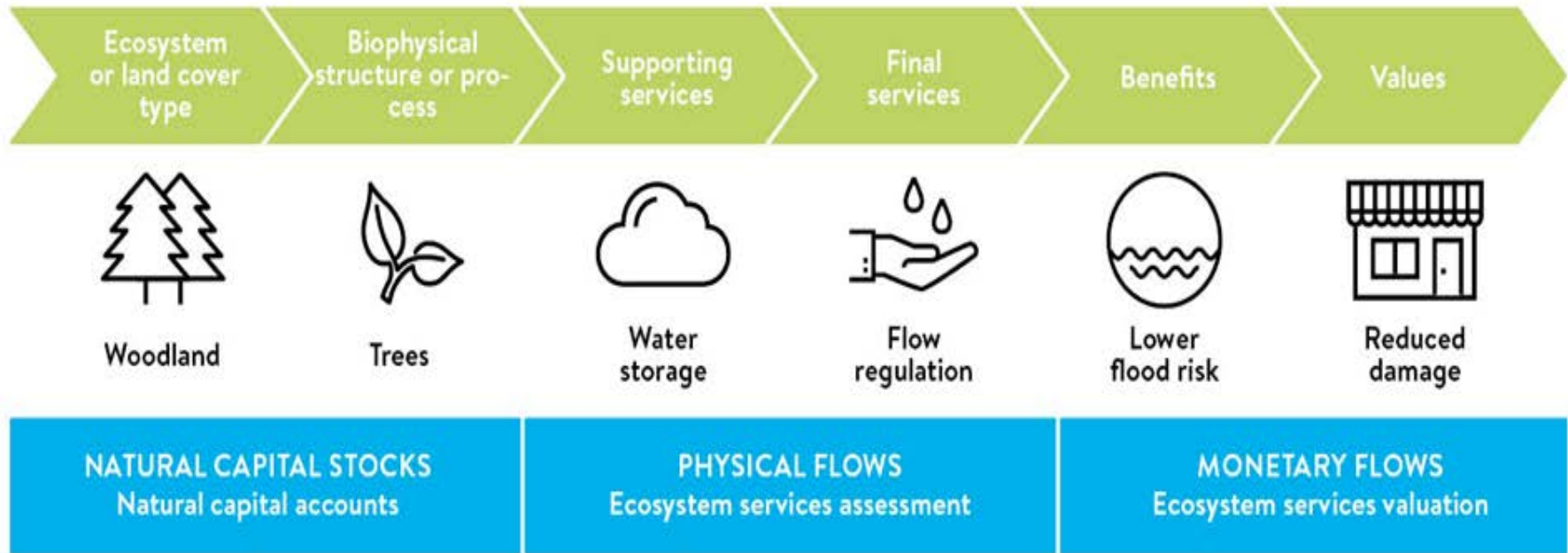
LSRCA Strategic Plan - Goal 1 Priority Action to develop and begin implementing a Natural Heritage System Restoration Strategy in two years.

Replaces 2007 Natural Heritage System Strategy Phase 1 (BOD approved).

Vision Statement - *A sustainable and resilient natural heritage system that supports natural heritage features and functions while providing services vital to human well-being.*

Natural Capital Report 2018

NATURAL CAPITAL IN ACTION



- Partnered with Green Analytics to update 2008 report.
- Concept of Natural Capital that recognizes social and economic systems depends on the natural environment.
- Focuses on stocks that provide a physical flow of ecosystem services, which in turn produce measureable benefits that are translated into economic value.

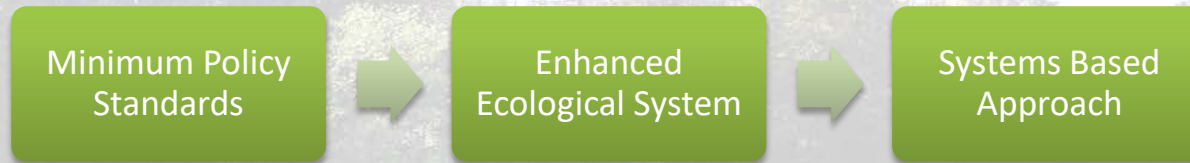
Key Ecosystem Service Values for the Lake Simcoe Watershed

Ecosystem Service	Measured Benefit	Sum of Lake Simcoe Watershed Values (\$ Millions)
Recreation	Value of recreational activity	487.4
Water supply	Value of water usage	157.0
Pollination	Value of agricultural productivity provided by pollinators	45.4
Gas regulation (clean air)	Value of avoided human health care costs from pollution	5
Disturbance regulation	Value of avoided flood damage costs	169.3
Carbon sequestration	Value of avoided social costs of climate change	35.9
Habitat and refugia	Value people place on knowing natural areas exist	22.7
Total Value		922.7

The annual value of the watershed's key ecosystem services is estimated to be \$922.7 million.

Approach to the NHS

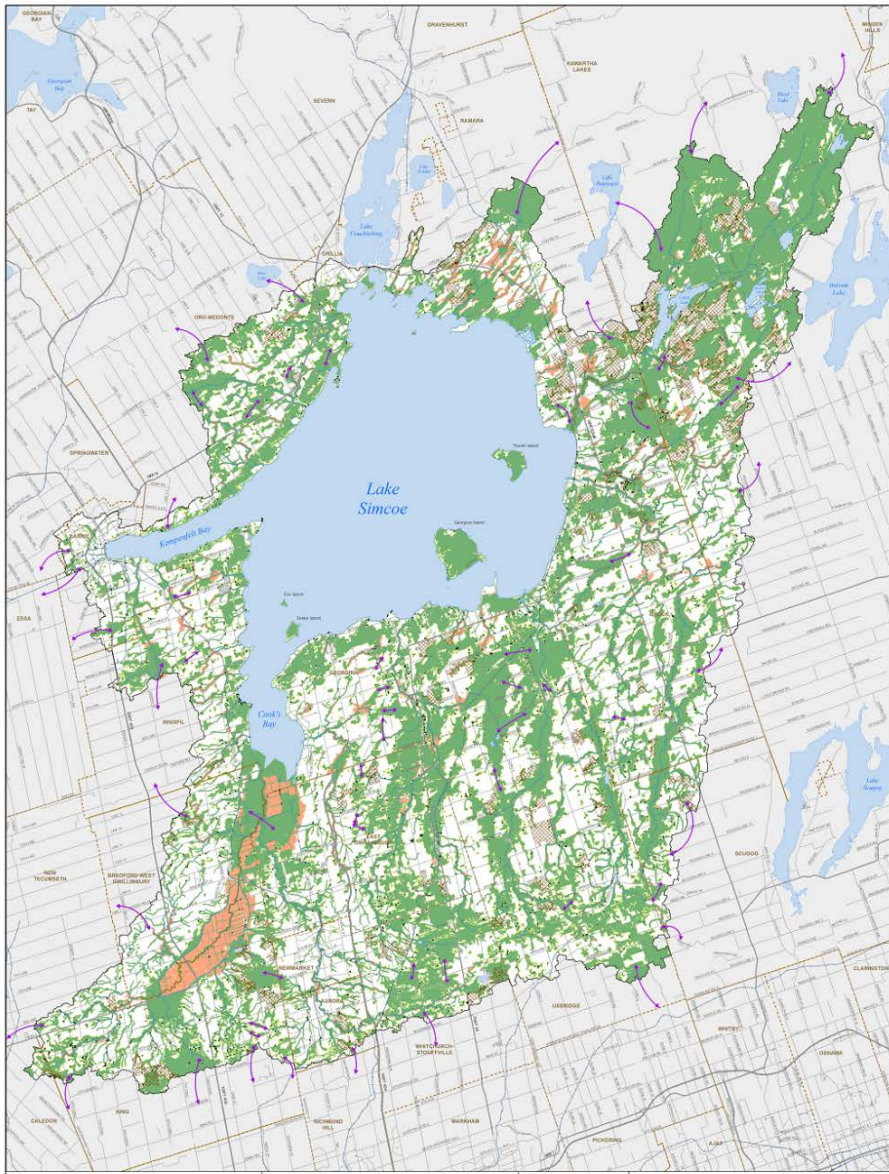
- Defining the NHS was a 3 step process:



- A combination of landscape and species spatial analysis that uses planning and science rationale to be:
 - defensible
 - flexible
 - measurable
 - repeatable
- Most important is recognizing that the responsibility of implementation is watershed wide and engaging our watershed partners to implement the strategy as leading experts in environmental practices and industry standards.

Categorization of the NHS

- Core Features - critical to the NHS and include features like wetlands, watercourses, and woodlands, etc... that must be retained on the landscape through policy protection.
- Targeted Areas that Enhance the NHS – important to achieving a resilient NHS.
 - Includes corridor restoration, floodplain enhancement and grasslands.
- Buffers – protect and mitigate between natural features and land use activities



LEGEND

- Local Linkages
- Regional Linkages
- Watercourse
- Rail
- Major Road
- Waterbody
- Lower Tier Municipality
- NHS CORE
- 30 Metre Buffer
- Targeted Areas for NHS Enhancement
- Grassland
- Lake Simcoe Watershed (Including Durham House and adjacent lands)

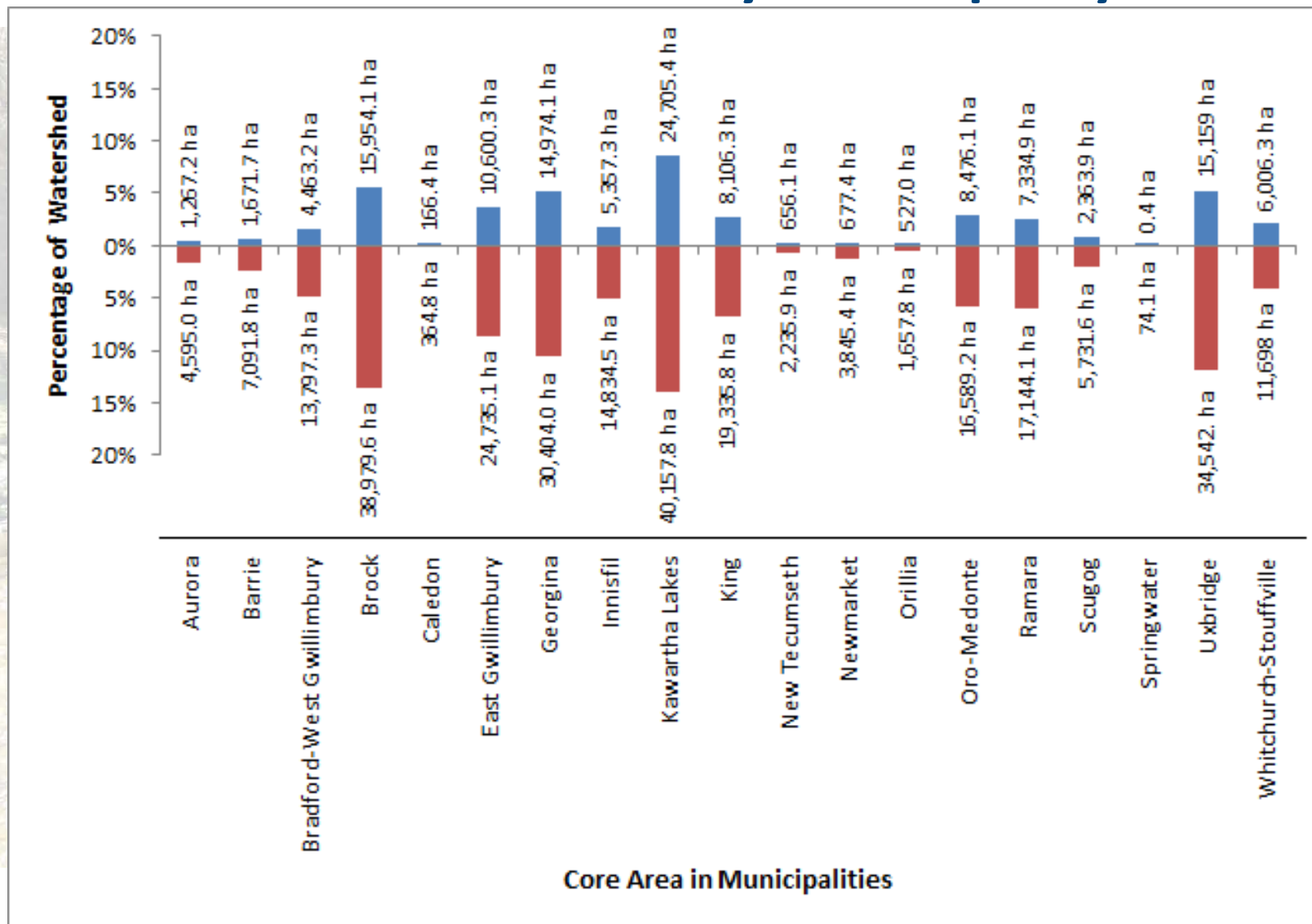
Figure 4.15 LSRCA Natural Heritage System

Lake Simcoe Region conservation authority

Core Features	Total Area in the Watershed (ha)	Total % of the Watershed**
Watercourses and Fish Habitat	38,415	13%
NAALS	7,027	2%
Shoreline	760	0.3%
Wetlands	50,831	18%
Woodlands	100,937	35%
Valleylands	8,918	3%
ANSI	17,425	6%

Targeted Areas that Enhance the NHS	Coverage in the Watershed
Grasslands	12,661 ha
Corridor Restoration	3,944 ha
Restoration in the Floodplain	9,113 ha
Local Linkages	1,657 connections
Regional Linkages	59 connections

Core Feature distribution by Municipality



Feature Type	Target for the Watershed	Existing Conditions in NHS	Opportunity in the NHS	NHS Implementation Potential
All Core Features	<ul style="list-style-type: none"> No net loss of features Pursue a net gain of features 	Ecological Offsetting Plan (EOP) substantiates the net gain associated with any loss of features across the watershed	The NHS will support implementation of the EOP	A net gain to the NHS in quality and quantity
Wetlands	<ul style="list-style-type: none"> 40% of historic watershed wetland coverage Minimum 20% of watershed 	<ul style="list-style-type: none"> Historic wetland habitat remaining is 20-25% Watershed wetland habitat is 18% 	Approximately 9,113 ha of floodplain restoration	Wetland habitat could increase to 20.5% of the watershed
Watercourses and Fish Habitat	<ul style="list-style-type: none"> 75% of stream length should be naturally vegetated with minimum 30 m vegetation protection zone 	Watershed riparian vegetation is 62% of the 30 m vegetation protection zone	Approximately 11,985 ha of restoration area	Watershed riparian vegetation habitat could increase to 92% of the 30 m vegetation protection zone
Woodlands	<ul style="list-style-type: none"> 40% forest at a watershed scale 130 forest patches >200 ha Interior forest should account for a minimum 10% of watershed 	<ul style="list-style-type: none"> Watershed woodland cover is 34.9%. There are 110 forest patches >200 ha and 22 patches within 25 ha of 200 ha Interior forest cover is 12.5% of watershed. 	Approximately 3,944 ha of restoration area within the corridor restoration and 9,113 ha of floodplain restoration	<ul style="list-style-type: none"> Watershed woodland cover could increase to 39.5%. Forest patches >200 ha could increase to 132 Interior forest cover could increase to 14%
Lake Simcoe Shoreline	<ul style="list-style-type: none"> Minimum 30 m vegetated protection zone along shoreline 	Shoreline natural vegetation coverage is 27% of the shoreline	Approximately 11,985 ha of restoration area	Shoreline natural area could increase to 52% of the total area
Corridors	<ul style="list-style-type: none"> 100 m in width for main stem watercourse corridors 	Total area in corridor widths is 15,363 ha	Approximately 3,944 ha of corridor restoration	Corridor restoration area could increase the overall NHS by 1%

Consultation

All Member Municipalities

- ✓ Regional, single and local tiers

Conservation Authorities

- ✓ Majority of GTA CAs

Non-government Organizations

- ✓ Ducks Unlimited Canada
- ✓ Nature Conservancy Canada
- ✓ Ontario Nature
- ✓ Couchiching Conservancy

Chippewas of Georgina Island First Nation

General Public – available for review on LSRCA's website for a two-month period.

Ontario Federation of Agriculture

- ✓ Simcoe County Federation of Agriculture
- ✓ York Region Federation of Agriculture
- ✓ Durham Region Federation of Agriculture

Building Industry and Land Development Association

Implementation

- A series of 39 actions were recommended to support management of the natural heritage system (NHS)

Implementation Action #1:

Implement the NHSRS through review and comment of land development applications under the *Planning Act, Environmental Assessment Act and Conservation Authorities Act*

Implementation Action #2

Incorporate the NHSRS and recommendations into Provincial Plans and regional and local Official Plans

Implementation Action #10

Incorporate the NHS into the Land Management Acquisition Strategy prioritizing areas for acquisition, restoration and creation

Implementation Action #36

Develop or modify education materials to engage school and community programs and build appreciation and recognition of the NHS

Monitoring and Tracking

Reporting on the performance of the NSHRS and its progress will occur on a five year basis to document any quantitative and qualitative gains.

- It is important that these results are measureable and produce tangible outcomes.

Strategy evaluation will include the following:

- Complete QA/QC of the NHS mapping boundaries
- Develop a monitoring plan to evaluate the effectiveness of the NHSRS, including targets, key performance measures and feasibility
- Review NHS criteria, mapping and policy strategies at five year intervals to incorporate existing and emerging science, technology and trend responses to stressors on the watershed
- Assess cumulative success of the NHS and recommend actions for protection, creation, restoration and mitigation at five year review intervals

Acknowledgements

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