

# Nature for Niagara's Future -we really tried!!



# Natural Areas Inventory 2006-2009





# NAI ELC Community Series Fabric

- Aerial photo interpretation by MNR for wetlands
- Aerial photo interpretation by NPCA of upland communities from wetland lines

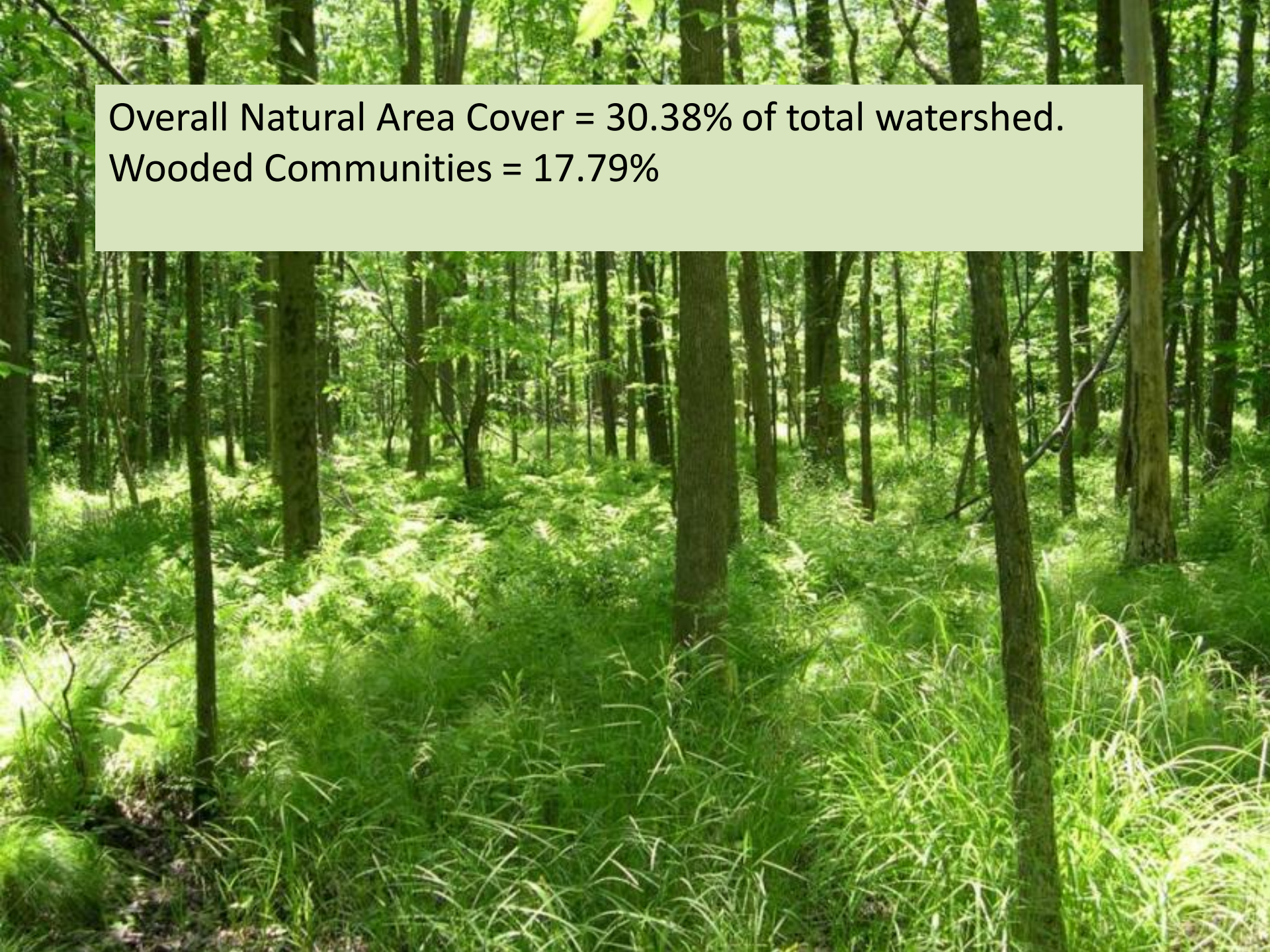
Note: 2006 colour air photos with 10 cm resolution, digitally flown, infrared capabilities



**Layers**

- Social Political Constraints 'ConstrvLayers'
- NPCA ADMINISTRATIVE BOUNDARY
- CONSERVATION AREAS
- HISTORICAL AERIAL PHOTOGRAPHY INDICES
- PLACES OF INTEREST
- GOVERNMENT FACILITIES
- MONITORING POINTS
- DRAINAGE AREAS
- NPCA PLANNING SERVICES SCREENING PRODUCTS
- GENERIC REGULATIONS HAZARD INVENTORIES
- ROADS
- PARCELS / LAND REFERENCE
- FISHERIES POLICY
- MEMBER MUNICIPALITIES
- NEXRAD RADAR SERVICE - QUANTITATIVE PRECIP ESTIMA
- CORE NATURAL HERITAGE MAP - REGIONAL ENV POLICIES
- HYDROLOGY
- PROVINCIAL PLANNING POLICY
- HAMILTON ESAS
- BRADY CANDIDATE ESA REPORT 1980
- NPCA STEWARDSHIP PROJECTS
- SURVEY CONTROL
- TRAILS
- BUILDING FOOTPRINTS
- URBAN AREA/ BUILT BOUNDARIES
- NATURAL AREAS / ELC CS FABRIC
  - ELC Community Class
    - 'Community Class'
    - To Be Determined
    - Open Rock/Shrub Rock Barren
    - Bluff
    - Shoreline
    - Open Water
    - Wetland
    - Bog
    - Swamp
    - Marsh
    - Meadow
    - Thicket
    - Savanna
    - Woodland
    - Forest
    - Treed Agriculture
    - Hedgerow
- Natural Community Types
- ELC Community Fabric
- Natural Areas
  - NAI Blocks Hamilton - Placeholder
  - Natural Areas

Overall Natural Area Cover = 30.38% of total watershed.  
Wooded Communities = 17.79%



Wetland Communities = 12.39%  
Deciduous Swamp = 10.14%



Successional Communities = 6.73%



Unique Communities = 0.80%





Nature for Niagara's Future is an assessment of the natural features on the landscape for their contribution to overall targets for ecological health of the ecosystem.

Inventory -Assess- Manage



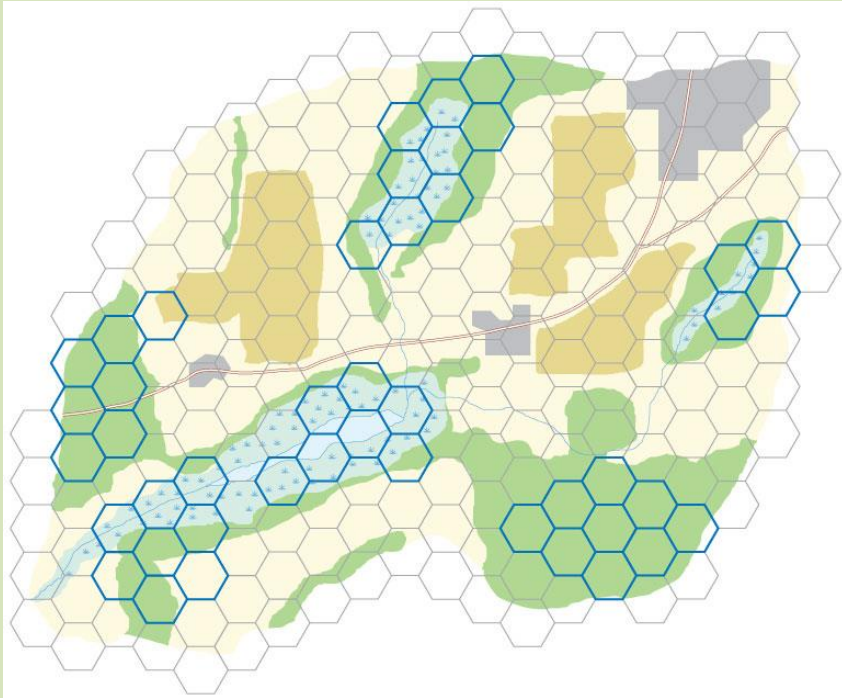


# Vision Statement

*“Through a consensus-based process create a natural heritage system for the Niagara watershed that embodies our shared vision for a sustainable natural environment in balance with socio-political, economic and cultural interests, and values.”*

-The Steering Committee

# The MARXAN model



- 5 hectare hexagons
- various datasets
- decision support tool
- many near-optimal solutions or learning scenarios

“Meet all targets within constraints in the smallest area”.



# Project Deliverables

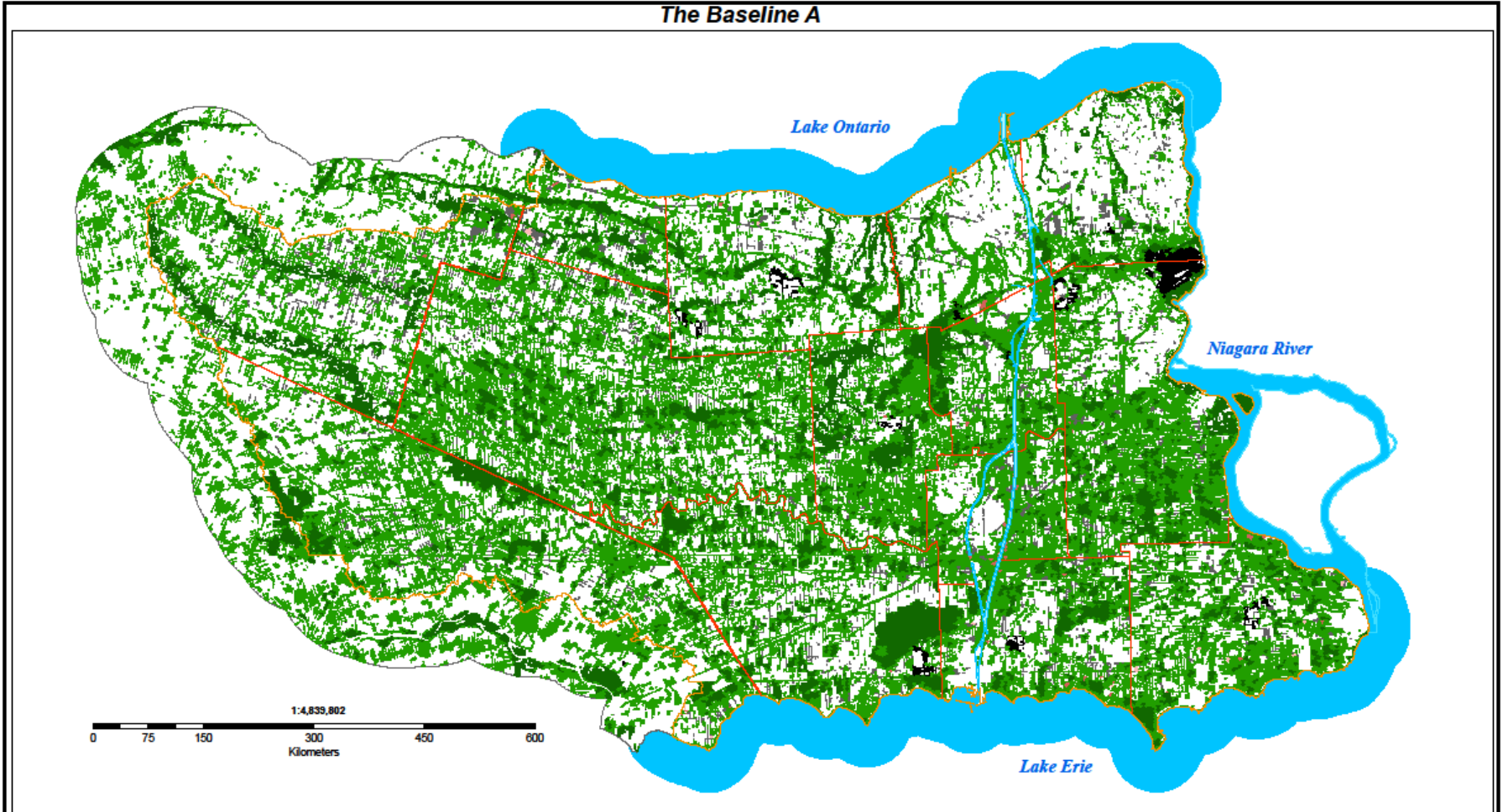
***Information*** that can be used to support:

- Priorities for voluntary stewardship projects;
- Support land use planning;
- Conservation land acquisitions;
- Priorities for inventory programs and research projects.

The deliverables are an *information product* that supports integration of efforts around a common vision, not an official policy piece.

# Baseline Scenario

The Baseline A



**Legend**

**Scenario Status**

- |                               |                             |                   |                              |
|-------------------------------|-----------------------------|-------------------|------------------------------|
| Included                      | Selection Frequency 1 to 79 | Waterbodies       | Municipal Boundary           |
| Contains Target at 100        | Not Selected                | NPCA Jurisdiction | Extended Context Area Buffer |
| Selection Frequency 80 to 100 | Excluded                    |                   |                              |



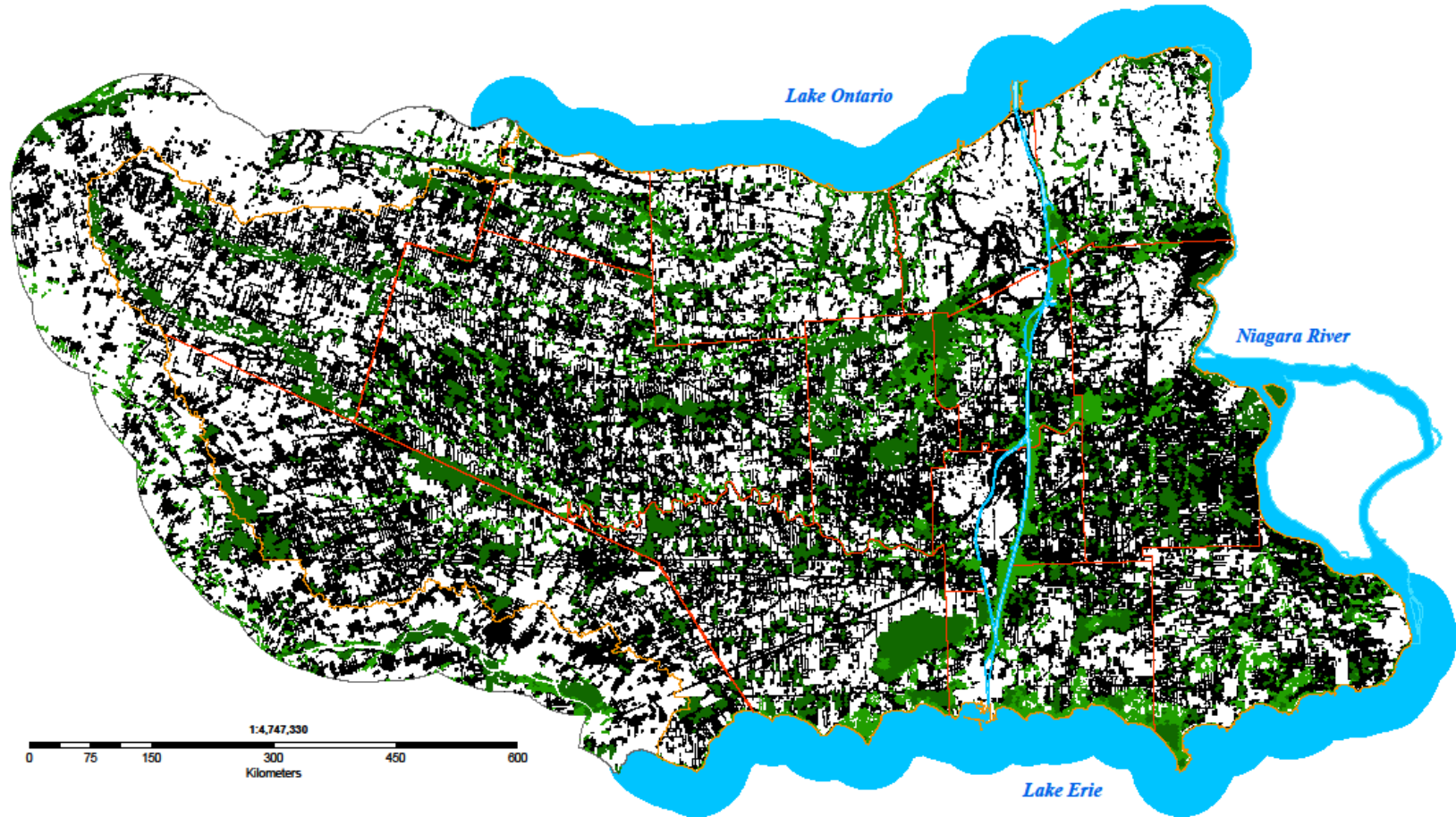
**NIAGARA PENINSULA  
CONSERVATION  
AUTHORITY**



Produced using information provided by the Ministry of Natural Resources, Copyright © Queen's Printer, 2011.  
Produced using information under License with the Regional Municipality of Niagara © Regional Municipality of Niagara, 2011.

# Most Constrained Scenario

*The Most Constrained: B*



**Legend**

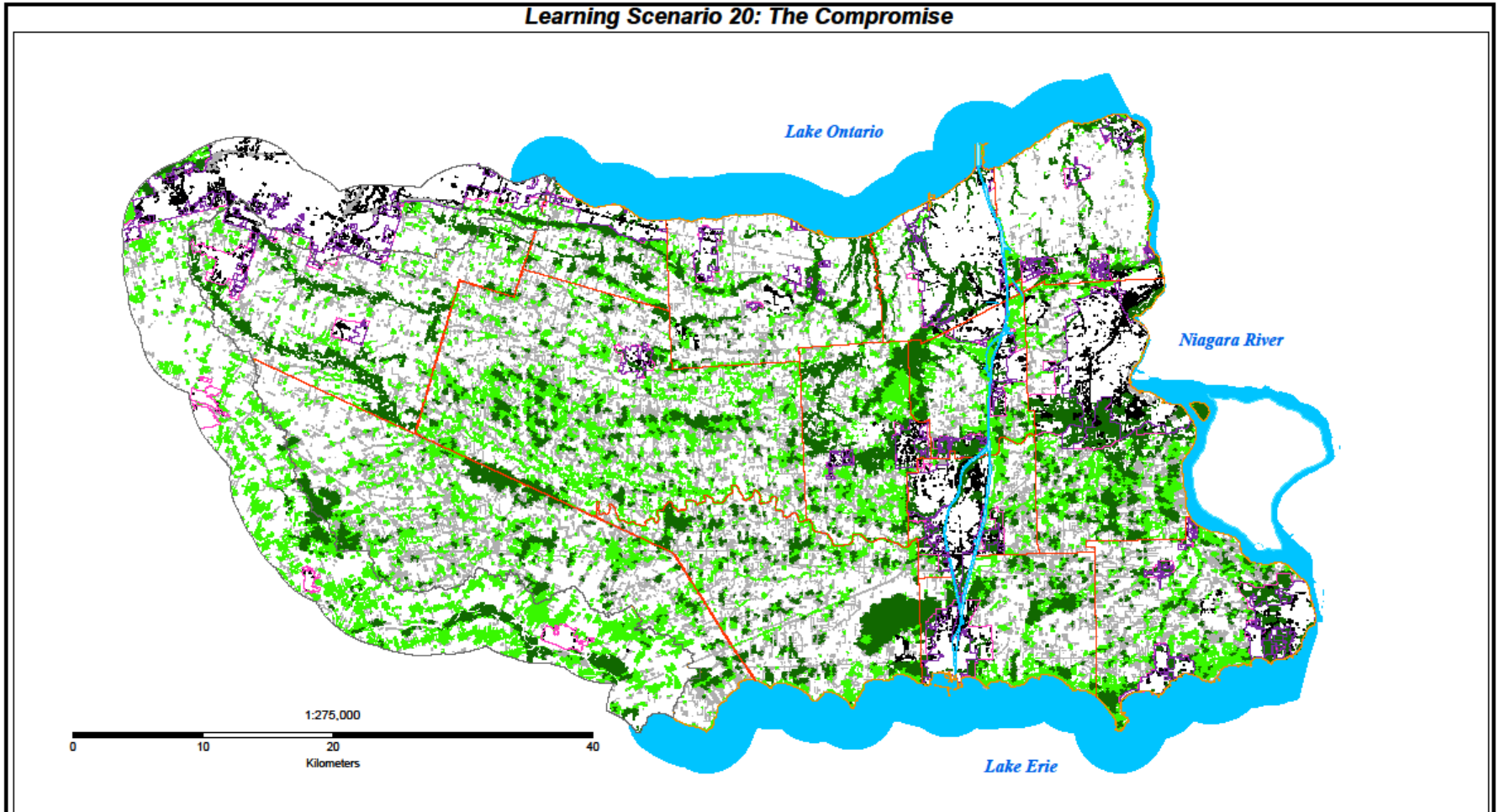
**Scenario Status**

- Included
- Contains Target at 100
- Not Selected
- Excluded
- Waterbodies
- Municipal Boundary
- NPCA Jurisdiction
- Extended Context Area Buffer



# Compromise Scenario

Learning Scenario 20: The Compromise



**Legend**

**FinalStatus**

- Included
- Selected
- Not Selected
- Excluded

- Waterbodies
- Urban Boundary
- Urban Greenfields

- Municipal Boundary
- NPCA Jurisdiction
- Extended Context Area Buffer



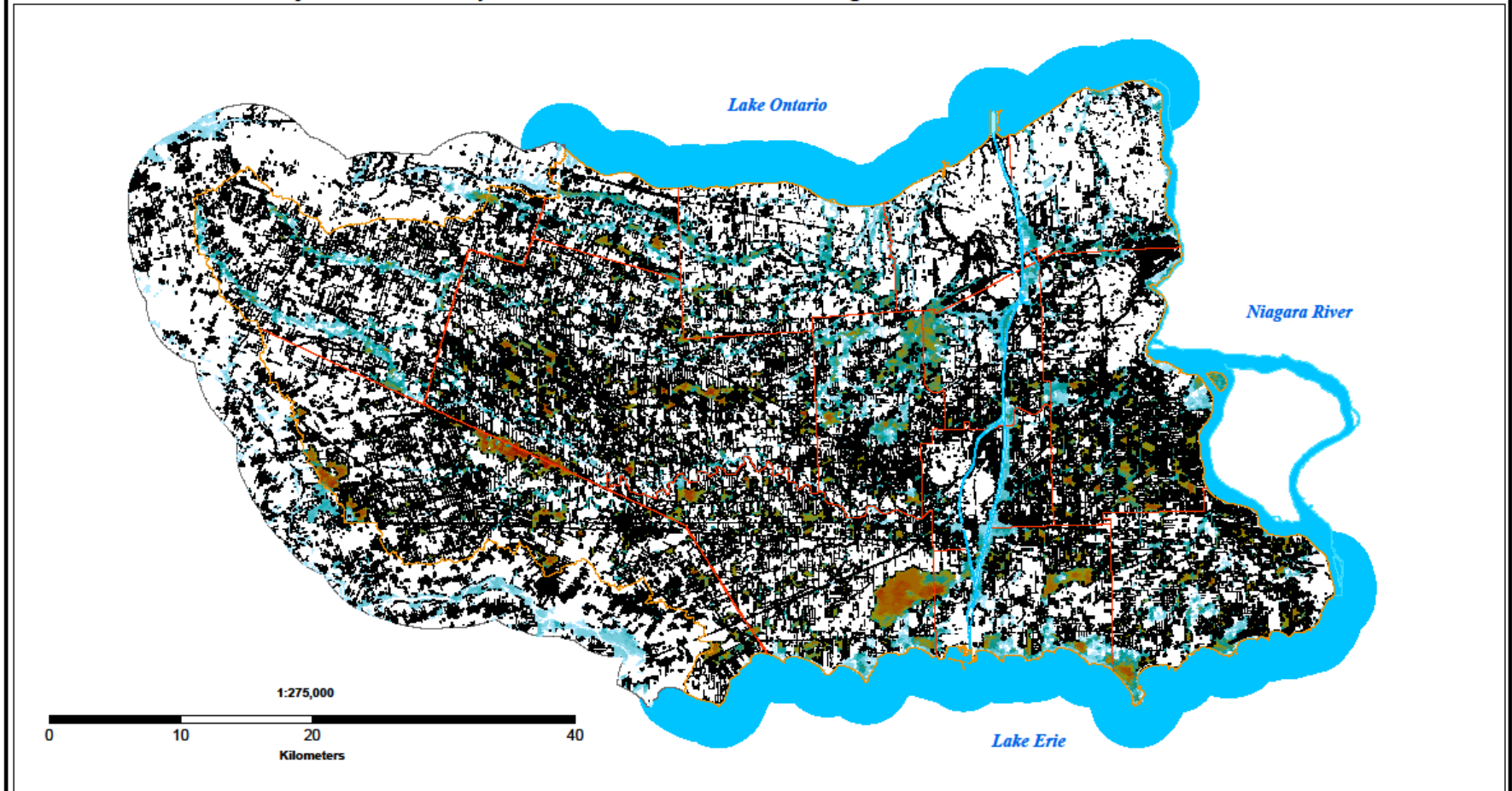
**NIAGARA PENINSULA  
CONSERVATION  
AUTHORITY**



Produced using information provided by the Ministry of Natural Resources, Copyright © Queen's Printer, 2011. Produced using information under license with the Regional Municipality of Niagara © Regional Municipality of Niagara, 2011.

# Cumulative Abundance Map

Ancillary Information Map 2: Cumulative Abundance of Target Values with Baseline One Exclusions



## Legend

- Baseline One Excluded
- Waterbodies
- Municipal Boundary
- NPCA Jurisdiction
- Extended Context Area Buffer

## Values Abundance





# What have we learned about our forested communities?

- 30% of study area is currently in some form of natural cover
- 18% forest cover across study area, which is 60% of all natural cover
- 56% of all forest cover is swamp (wetland)
- We can say with confidence the relative value of each forest patch to the overall ecological health of the system



Questions?

Deanna Lindblad  
Restoration Project Lead  
Niagara Peninsula Conservation Authority  
905-788-3135 x 237  
dlindblad@npca.ca  
www.npca.ca