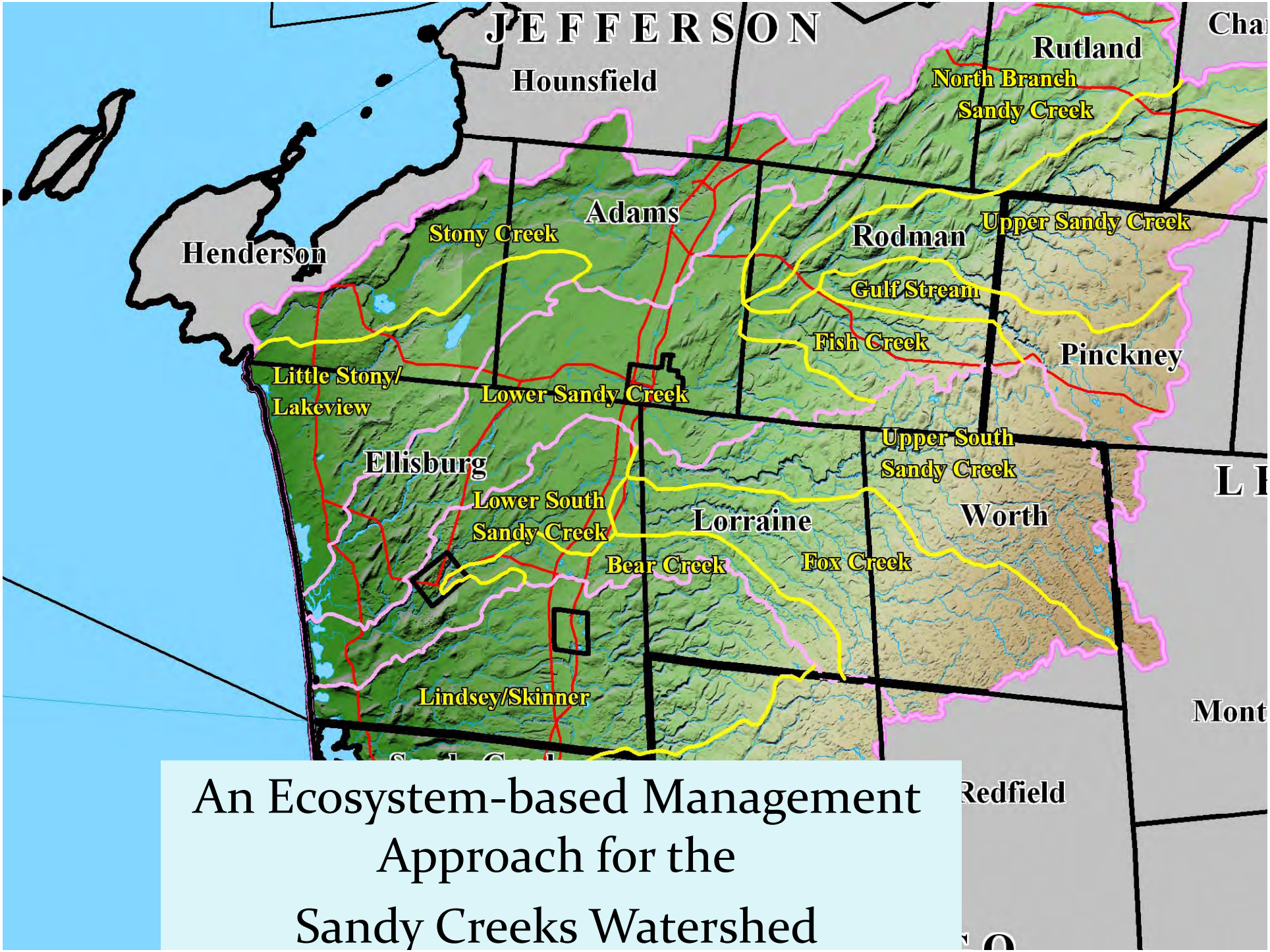


An Ecosystem-based Management Approach for the Sandy Creeks Watershed

Ecosystem-based Management

- Where do I fit in?
- What does this mean?
- Why we are here tonight?
  - Origins of this initiative
  - The Council
- Tonight is two-fold: 1) a catch-up on what has happened and 2) an introduction to next steps
- Informal; a dialogue and conversation

Ecosystem-based Management

- Considers entire ecosystem – including humans
- Working to create innovative, human-centered solutions for community concerns
- Goal is to maintain/restore healthy, productive ecosystems than can deliver services humans want and need
- Integrated (inter-disciplinary, inter-agency, inter-jurisdictional) approach to managing human activities and addressing ecosystem health

NY Ocean and Great Lakes Ecosystem Conservation Act (The Act)

- Signed into law August 9, 2006
- Unanimously passed both houses of Legislature
- New York is the **ONLY** state with comprehensive ecosystem-based management called for in statute
- Requires report to Governor and Legislature
- Encourages inter-agency collaboration
- Establishes Ocean and Great Lakes Ecosystem Conservation Council (Council)
- Delineates responsibilities of the Council

The Act

- Two demonstration projects:

  "demonstrate improvements that can be accomplished in the eastern Lake Ontario and the Long Island Great South Bay coastal ecosystems through ecosystem-based management in cooperation with resource managers, local governments, industry, conservation and community-based organizations, and academic and research institutions."

Council Responsibilities

- *Encourage scientific research and information sharing that will inform ecosystem-based management decisions and enhance ecosystem management capabilities*

- *Ensure community needs and aspirations are accommodated, recognizing the inter-dependent goals of community well-being, environmental quality and economic vitality*

- *Facilitate regional coordination and cooperation to address complex coastal resource issues which cross political and jurisdictional boundaries*

Council Responsibilities

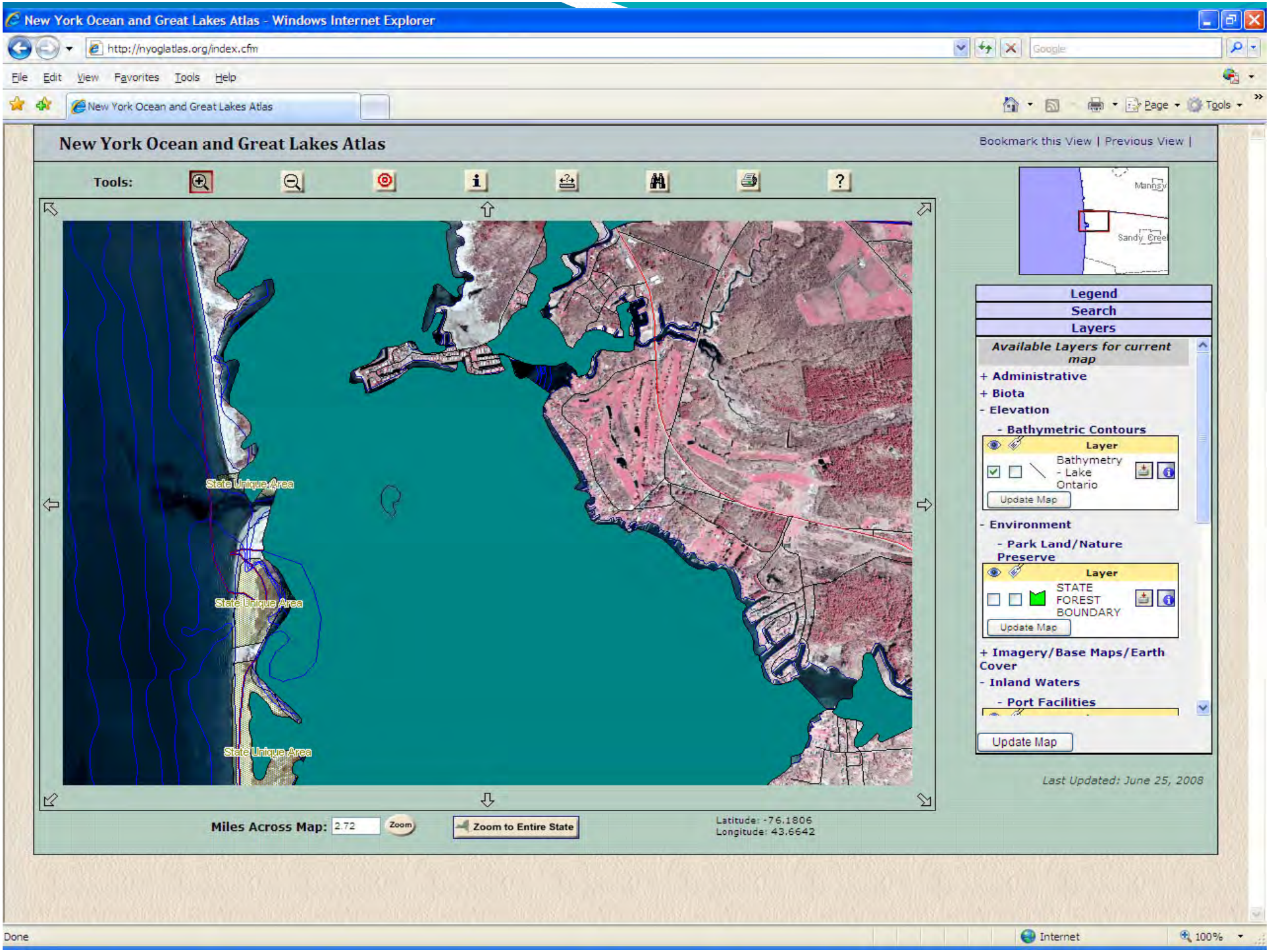
- *Define and implement an adaptive approach, building upon existing laws and programs, to advance activities that affect coastal ecosystems in order to ensure the coexistence of healthy ecosystems with human activities*

- *Promote understanding, protection, restoration and enhancement of NY's ocean and Great Lakes ecosystems while promoting sustainable and competitive economic development and job creation*

- *Integrate and coordinate ecosystem-based management with existing laws and programs*

An Update on EBM and the Council's Work

- Atlas
  - It is now live: www.nyoglatlas.org
- Nine State Agencies
  - Guidelines for how each agency could build-on existing efforts and integrate EBM into day-to-day decision-making
- Science Advisory Group
  - Develop a Research and Monitoring Agenda
- Great Lakes Working Group
  - Develop a strategy with recommendations on how the Council can apply EBM in the Great Lakes
- Demonstration Areas
  - Recommendations for how to implement EBM, based on lessons learned at a smaller geographic scale
- Ocean Working Group
  - Strategy with recommendations


New York Ocean and Great Lakes Atlas - Windows Internet Explorer
http://nyoglatlas.org/index.cfm
File Edit View Favorites Tools Help
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Available Layers for current map
+ Administrative
+ Biota
- Elevation
- Bathymetric Contours
Layer
Bathymetry - Lake Ontario
Update Map
- Environment
- Park Land/Nature Preserve
Layer
STATE FOREST BOUNDARY
Update Map
+ Imagery/Base Maps/Earth Cover
- Inland Waters
- Port Facilities
Update Map
Last Updated: June 25, 2008
Miles Across Map: 2.72
Zoom
Zoom to Entire State
Latitude: -76.1806
Longitude: 43.6642
Done
Internet
100%

An Update on EBM and the Council's Work

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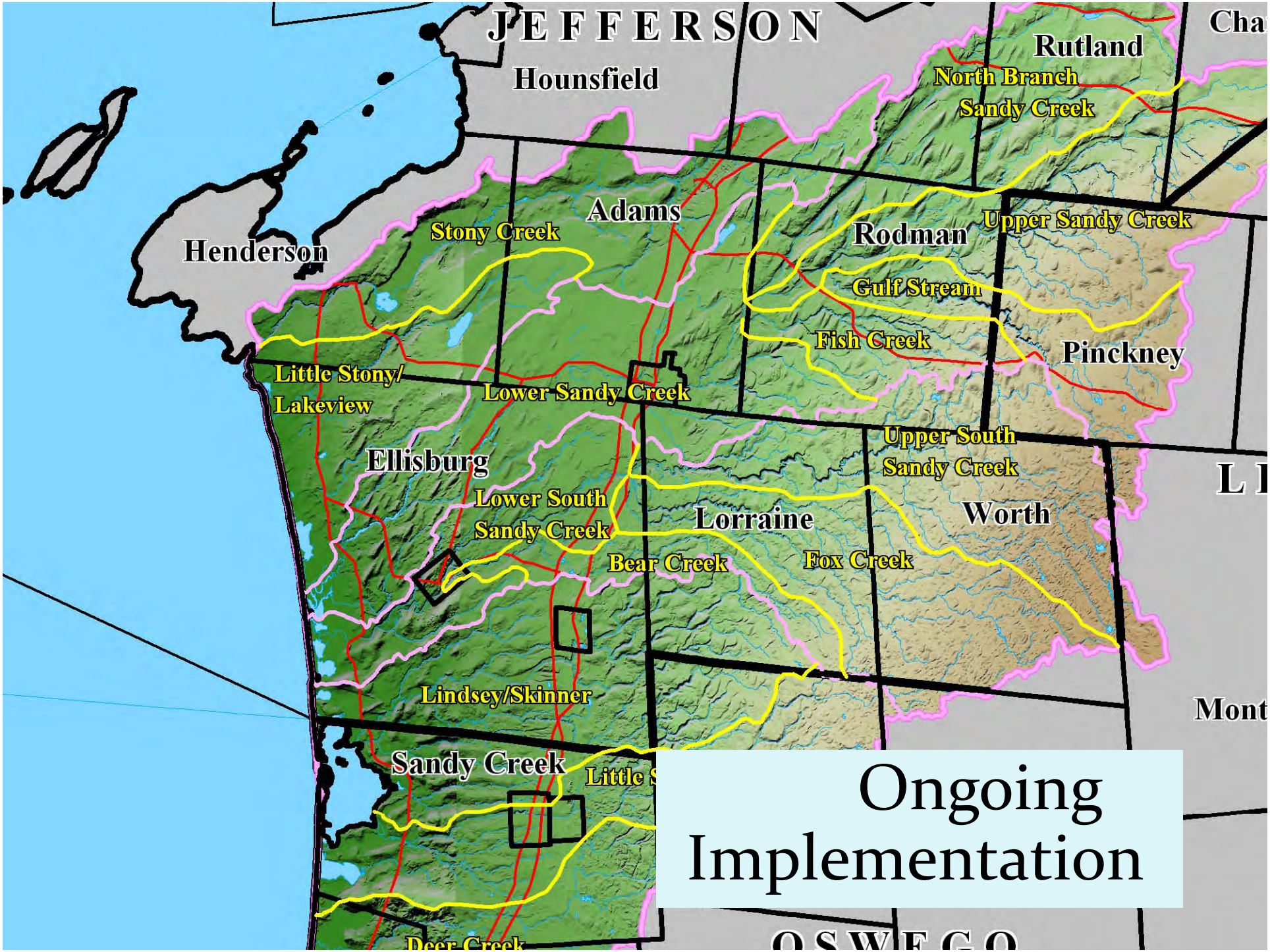
Report to the Governor and Legislature

- Report to the Governor and Legislature will:
  - Compile all of the reports and research from the working groups, agencies, consultants, dialogues, and stakeholders
  - Provide recommendations on how EBM can be rolled out statewide
  - Put forth a plan, schedule, and funding options
  - Recommend actions
  - Establish a research agenda that identifies priority issues in need of further research to enhance EBM
- Upon release, there will be statewide public events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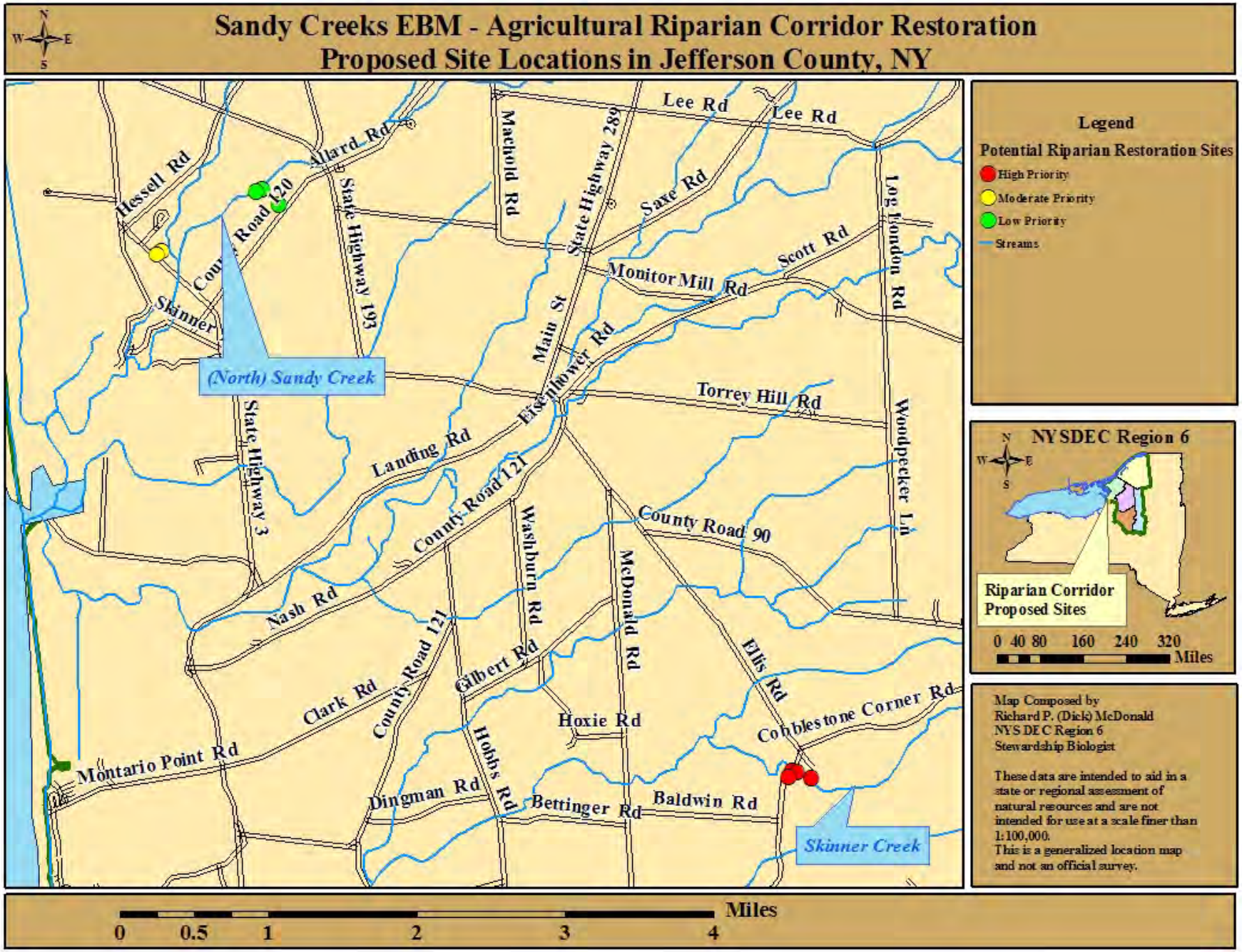
Henderson
Rodman
Upper Sandy Creek
Gulf Stream
Fish Creek
Pinckney
Little Stony/
Lakeview
Lower Sandy Creek
Upper South
Sandy Creek
Ellisburg
Lower South
Sandy Creek
Lorraine
Worth
Bear Creek
Fox Creek
Lindsey/Skinner
Sandy Creek
Ongoing
Implementation

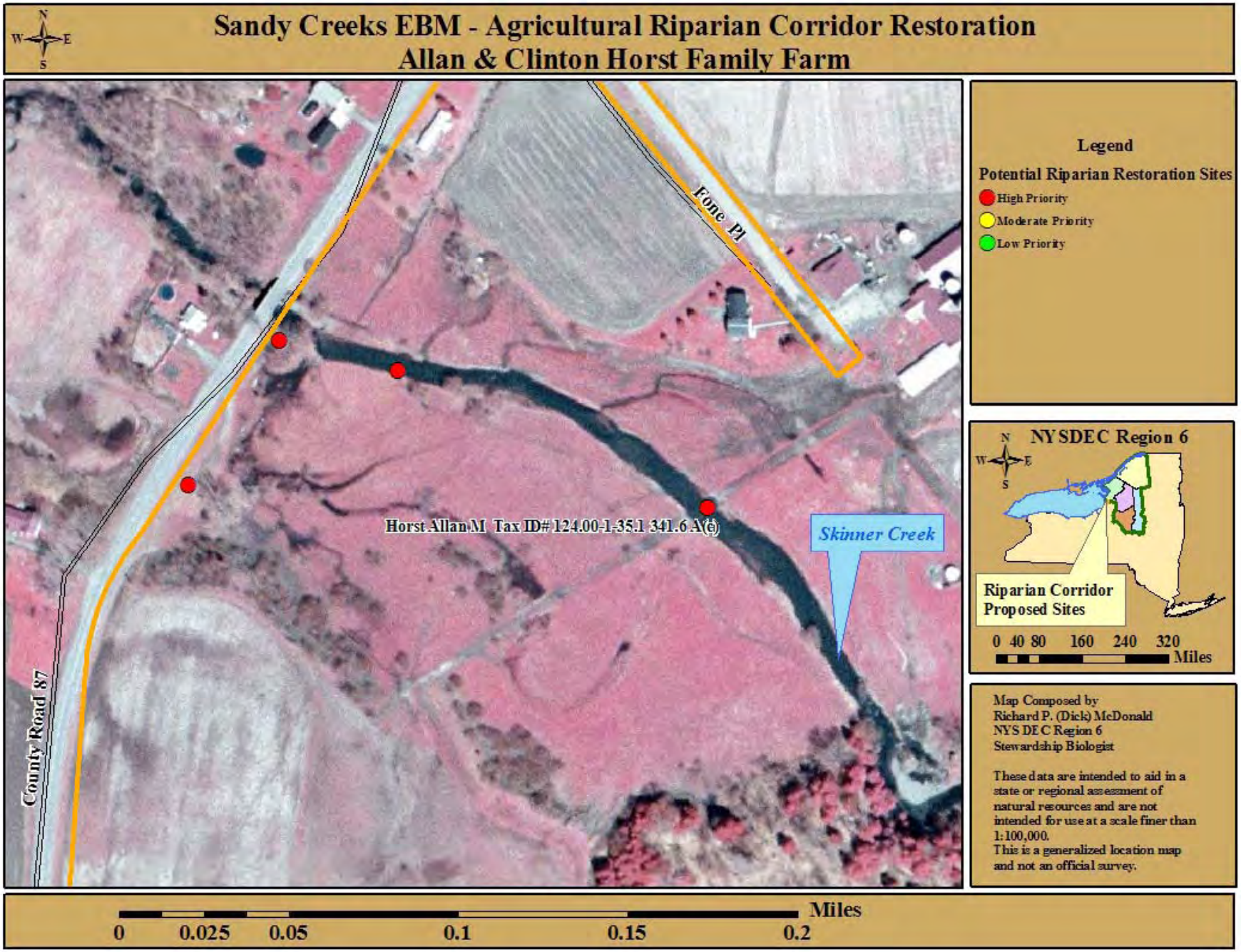
Riparian Buffer Restoration

- Must be on land with public access (PFR's, Conservation Easement, … etc.)
- Field investigations were conducted in 2007 to develop a list of potential sites.
- The list of potential sites was ranked and prioritized.
  - Skinner Creek upstream of County Route 87 completed in 2008.
  - Sandy (North Sandy) Creek upstream of NYS Rte 3 scheduled for 2009.

Riparian Buffer Restoration Activities

- Stream bank Stabilization includes:
  - Physical grading and material removal/replacement,
  - Planting strongly rooted species,
  - and Fencing where applicable


Sandy Creeks EBM - Agricultural Riparian Corridor Restoration
Proposed Site Locations in Jefferson County, NY
N
W
E
S
Lee Rd
Lee Rd
Allard Rd
Machold Rd
State Highway 289
Saxe Rd
Log London Rd
Hessell Rd
County Road 120
State Highway 193
Monitor Mill Rd
Scott Rd
Skinner
Main St
Eisenhower Rd
(North) Sandy Creek
Torrey Hill Rd
Woodpecker Ln
State Highway 3
Landing Rd
County Road 121
County Road 90
Washburn Rd
McDonald Rd
Nash Rd
Ellis Rd
Clark Rd
County Road 121
Gilbert Rd
Cobblestone Corner Rd
Hoxie Rd
Montario Point Rd
Hobbs Rd
Dingman Rd
Bettinger Rd
Baldwin Rd
Skinner Creek
Legend
Potential Riparian Restoration Sites
High Priority
Moderate Priority
Low Priority
Streams
NYSDEC Region 6
Riparian Corridor
Proposed Sites
0 40 80 160 240 320
Miles
Map Composed by
Richard P. (Dick) McDonald
NYS DEC Region 6
Stewardship Biologist
These data are intended to aid in a state or regional assessment of natural resources and are not intended for use at a scale finer than 1:100,000.
This is a generalized location map and not an official survey.
Miles
0 0.5 1 2 3 4


Sandy Creeks EBM - Agricultural Riparian Corridor Restoration
Allan & Clinton Horst Family Farm
N
W
E
S
Fone Pl
Horst Allan M Tax ID# 124.00-1-35.1 341.6 A(±)
Skinner Creek
County Road 87
Legend
Potential Riparian Restoration Sites
High Priority
Moderate Priority
Low Priority
NYSDEC Region 6
Riparian Corridor
Proposed Sites
0 40 80 160 240 320
Miles
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This is a generalized location map and not an official survey.
Miles
0 0.025 0.05 0.1 0.15 0.2

Before Riparian Restoration on Skinner Creek
Project cooperators: Jefferson County SWCD, TNC and DEC

After Riparian Restoration on Skinner Creek

Project cooperators: Jefferson County SWCD, TNC and DEC

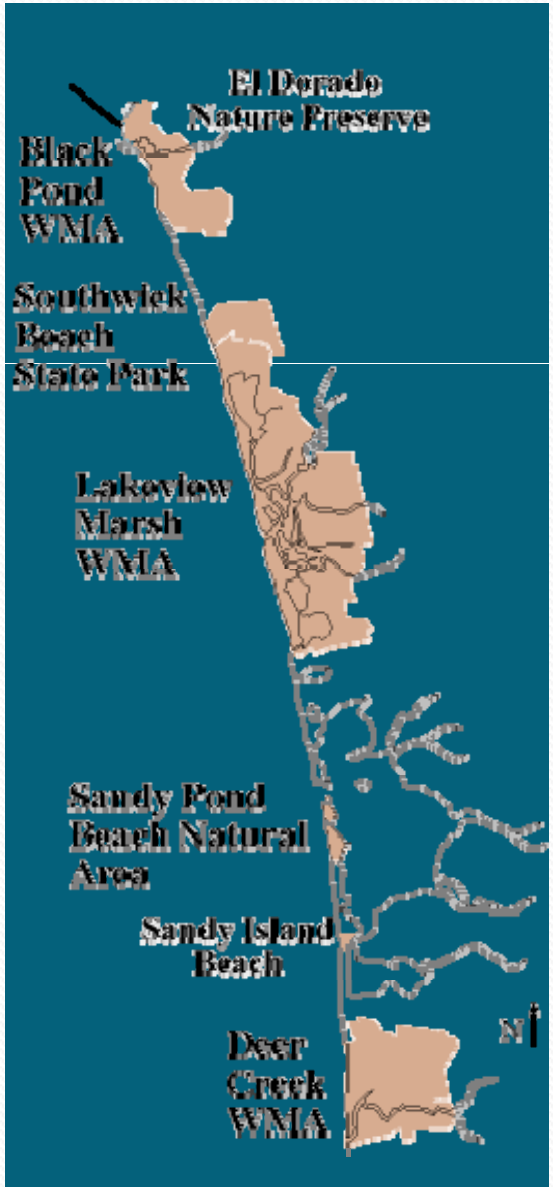
Logger, Forester, and Landowner Workshops

Swallow-wort

Swallow-wort Fireline Project

- Landowners contacted: **58**
- Landowners permission: **37**
- Landowner no permission: **1**
- Landowner no response: **20**
- Properties surveyed: **24**
- Properties sprayed: **18**
- Approximate acreage surveyed (via truck & walking) : **5821**
- Approximate acreage searched: **664**
- Approximate acreage sprayed: **400**

Eastern Lake Ontario Invasives Mapping

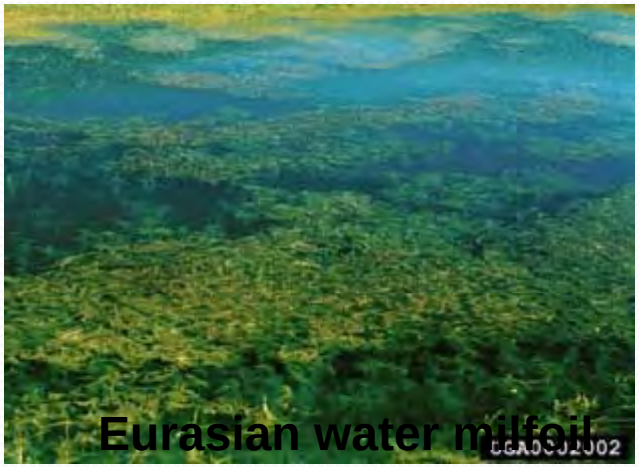


Miles surveyed on foot: **>30**

Miles surveyed by boat: **>40**

Eastern Lake Ontario Invasives

13 total species found



Black Pond WMA - 2005

From NYSG website: Eastern Lake Ontario Dunes Photomonitoring Project

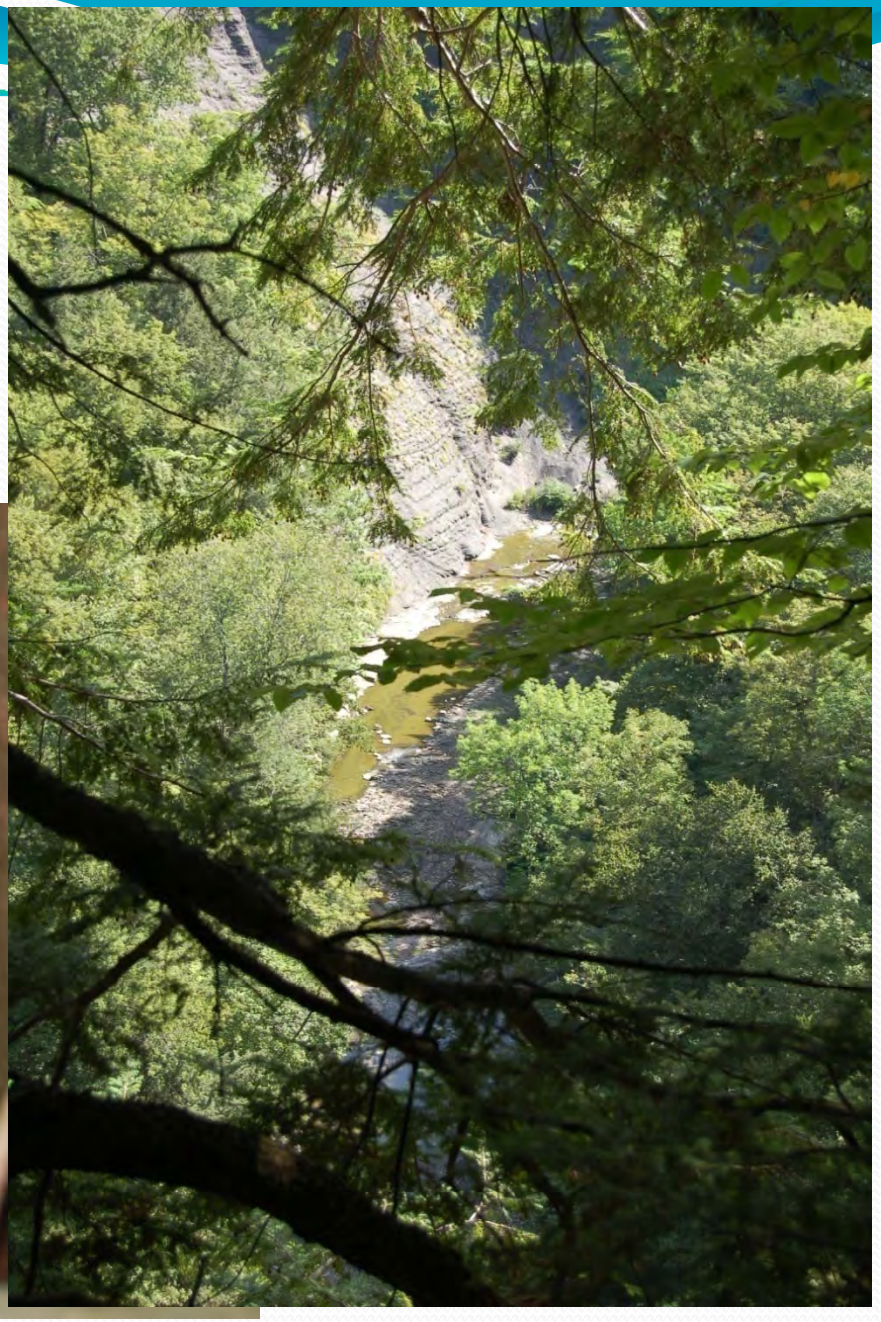
Inman Gulf and ATV Issues

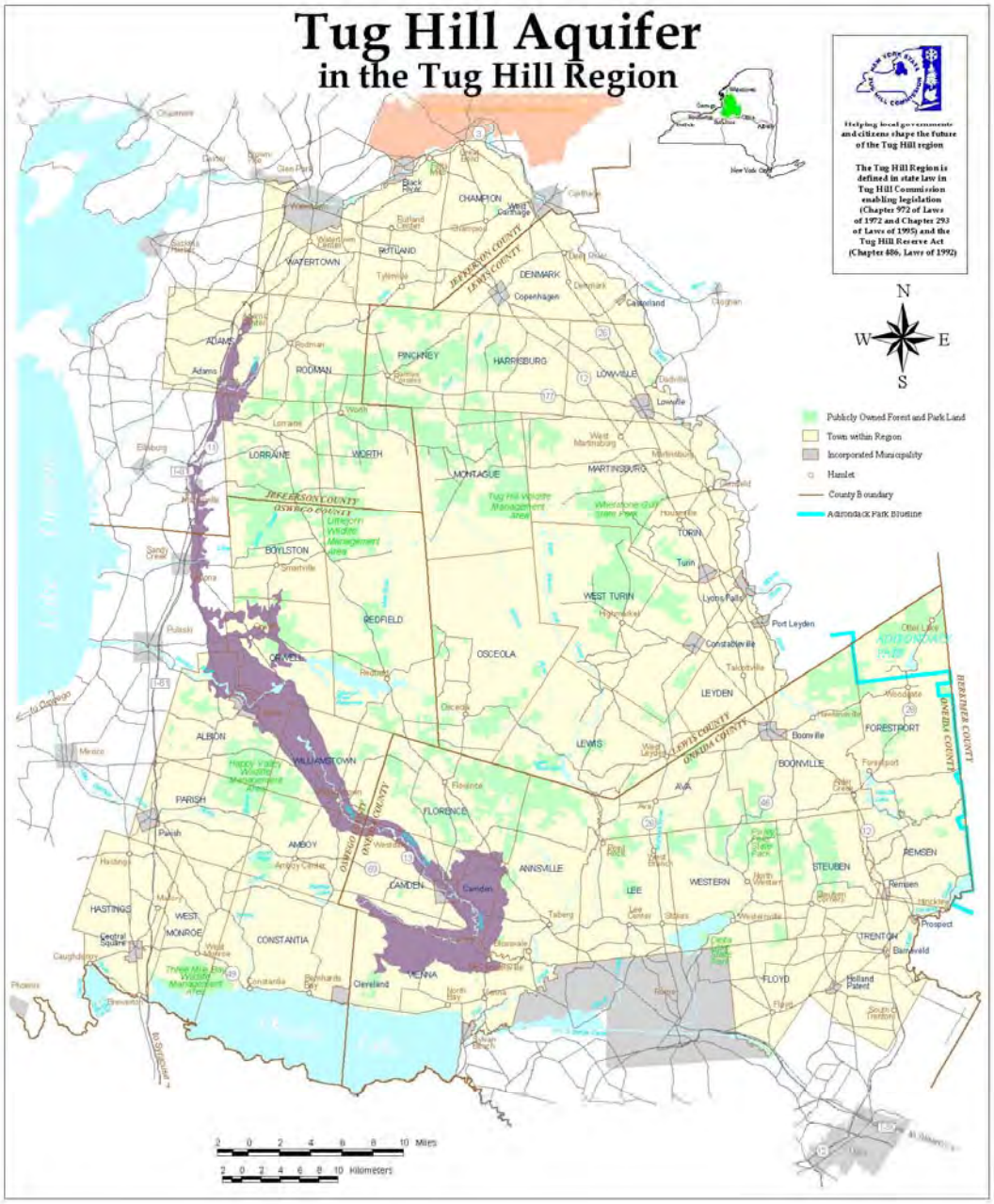
- Inman Gulf is an environmentally sensitive area in the upper watershed that provides unique habitat for plants and animals
- ATV users have been gaining illegal access to the gulf, which threatens water quality
- THC will work with DEC and County Trail Coordinators to establish appropriate signage and/or barriers at points of entry to prevent access to the Gulf and to keep ATV users on designated trails

Eastern Lake Ontario Dunes and Wetlands Area (ELODWA) and Agricultural Riparian Buffer Kiosks and Interpretive Panels

- Educational signage can educate users on the sensitivity of an area and promote sound stewardship practices
- Increased public access to the ELODWA is threatening the area
- Two DEC public access fishing sights, where riparian habitat restoration work is taking place in the upper watershed, provide an opportunity for signage
- THC will work with Cornell Sea Grant to research, design and develop 2 comprehensive interpretive kiosks and 8 satellite interpretive panels to be located in the ELODWA and Upper Watershed.
- DEC will construct and install the signs

Inman Gulf – Summer 2007




Tug Hill Aquifer
in the Tug Hill Region
Helping local governments and citizens shape the future of the Tug Hill region
The Tug Hill Region is defined in state law in Tug Hill Commission enabling legislation (Chapter 972 of Laws of 1972 and Chapter 293 of Laws of 1995) and the Tug Hill Reserve Act (Chapter 486, Laws of 1992)
N
W
E
S
Publicly Owned Forest and Park Land
Town within Region
Incorporated Municipality
Hamlet
County Boundary
Adirondack Park Blueline
WATERTOWN
CHAMPION
RUTLAND
DENMARK
ADAMS
PINCKNEY
HARRISBURG
ROSMAN
LOWVILLE
LORRAINE
WORTH
MONTAGUE
MARTINSBURG
BOYLSTON
TURIN
WEST TURIN
REDFIELD
OSCEOLA
LEYDEN
ALBION
LEWIS
FORESTPORT
BOONVILLE
WILLIAMSTOWN
FLORENCE
AVA
PARISH
AMBOY
ANNSVILLE
STEUBEN
REMSEN
CAMDEN
LEE
WESTERN
HASTINGS
WEST MONROE
CONSTANTIA
TRENTON
FLOYD
JEFFERSON COUNTY
LEWIS COUNTY
ONEIDA COUNTY
OSWEGO COUNTY
HERKIMER COUNTY
ADIRONDACK PARK
10 Miles
10 Kilometers

Tug Hill Aquifer Study Year One: Baseline Data Collection in northern and middle sections of aquifer by US Geological Survey

•Seepage measurements on seven streams in the northern aquifer and 14 stream sites in the middle aquifer
•One year, real-time stream flow gage on Trout Brook
•Hydrograph analysis
•Well inventory
•Base map compilation

Natural Heritage Inventory and Modeling

•Lack of data on biodiversity and natural habitats in this watershed
•By understanding the natural system better, can make informed decisions
•NY Natural Heritage program will begin this winter to identify potential sites with GIS
•Field inventory this summer of selected sites
•Based on the work they did in the Salmon River watershed

From A to B

- Based on work over the last two years… Planning and on-the-ground projects:
  - Sandy Creeks Baseline Conditions Report
  - Sandy Creeks Stakeholder Outreach
  - Sandy Creeks EBM Strategy
  - Invasive species, forestry workshops, agricultural buffers, aquifer study, ESD landfill green energy plan, and MORE!
- Taking lessons learned, being adaptive, inclusive, responsive, and moving towards an action-orientated process that works for this area
- We know a lot. Don't want to reinvent the wheel
- Stakeholder priorities


JEFFERSON
Hounsfield
Rutland
North Branch
Sandy Creek
Adams
Stony Creek
Henderson
Rodman
Upper Sandy Creek
Gulf Stream
Fish Creek
Pinckney
Little Stony/
Lakeview
Lower Sandy Creek
Ellisburg
Upper South
Sandy Creek
Lorraine
Worth
Fox Creek
Lindsey/Skinner
Sandy Creek
Little Sandy Creek
Redfield
Boylston
OSWEGO

Next Steps

Getting to Action

- EcoLogic, thanks for helping all of us!

Ecosystem-based Management

- Face problems, identify opportunities, find common solutions
- Science-based approach
- Long-term view for sustainability
- Comprehensive perspective: economic prosperity, lasting livelihoods, environmental health

Our Assignment

- New York Ocean and Great Lakes Ecosystem Conservation Council
- Tug Hill Commission regional partner: Sandy Creeks Demonstration Project
- Facilitate a second round of stakeholder outreach: define priorities for projects and action steps based on a common vision for the watershed's future.

Approach

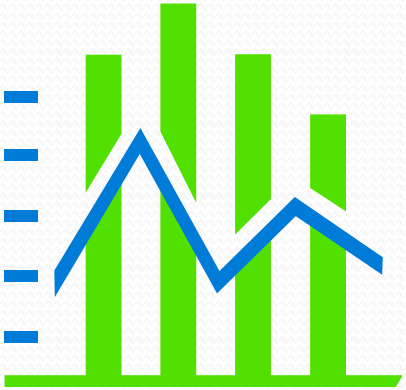
- Critically review studies and plans for Sandy Creeks: issues, common vision, priorities
- Re-engage stakeholders
- Recruit a Core Team
  - Vision, issues, actions
- Build on existing information
  - Priorities and actions
  - Data gaps: natural and social sciences
  - How to measure improvements and adapt to new information?

The Watershed Planning Process

1. Where are we now?

Descriptive Information, Community Values

2. Where are we going?



Trend Information, Probable Scenario

3. Where do we want to be?

Possible/ Preferred Scenarios, Community Vision

4. How do we get there?

Goals, Strategies, Actions, Action Agendas & Priorities

Based on: Ames, Steven C. Community Visioning: Planning for the Future in Oregon's Local Communities. American Planning Association National Conference Proceedings, San Diego CA 1997.

Issues of concern: *Summer 2007*

- Conflicts between agriculture and residential land use
- Erosion of rural quality of life ~ sprawl; impacts of Fort Drum expansion
- Invasive species
- Need for water and wastewater infrastructure
- Lake level and dune management
- Managing recreational uses

Documenting conditions: basis for stakeholder concerns

- Multiple reports by EBM partner agencies and others
- Baseline conditions report by Biohabitats and Camoin Associates
- Compile what is known, data gaps, recommendations
- Categorize reports in three broad groups
  - Planning documents
  - Natural resource inventory and analysis documents
  - Lake Ontario-related documents

Planning Documents

- Municipal comprehensive plans
  - Sandy Creek, Richland, Champion, Rutland, Watertown, Adams (T and V)
- Local waterfront revitalization plans
  - Oswego, Sackets Harbor, Dexter, Cape Vincent, Watertown
- Jefferson County plans
  - Farmland protection plan
  - Economic development strategy
- Statewide Comprehensive Outdoor Recreation Plan
- Open Space Conservation Plan

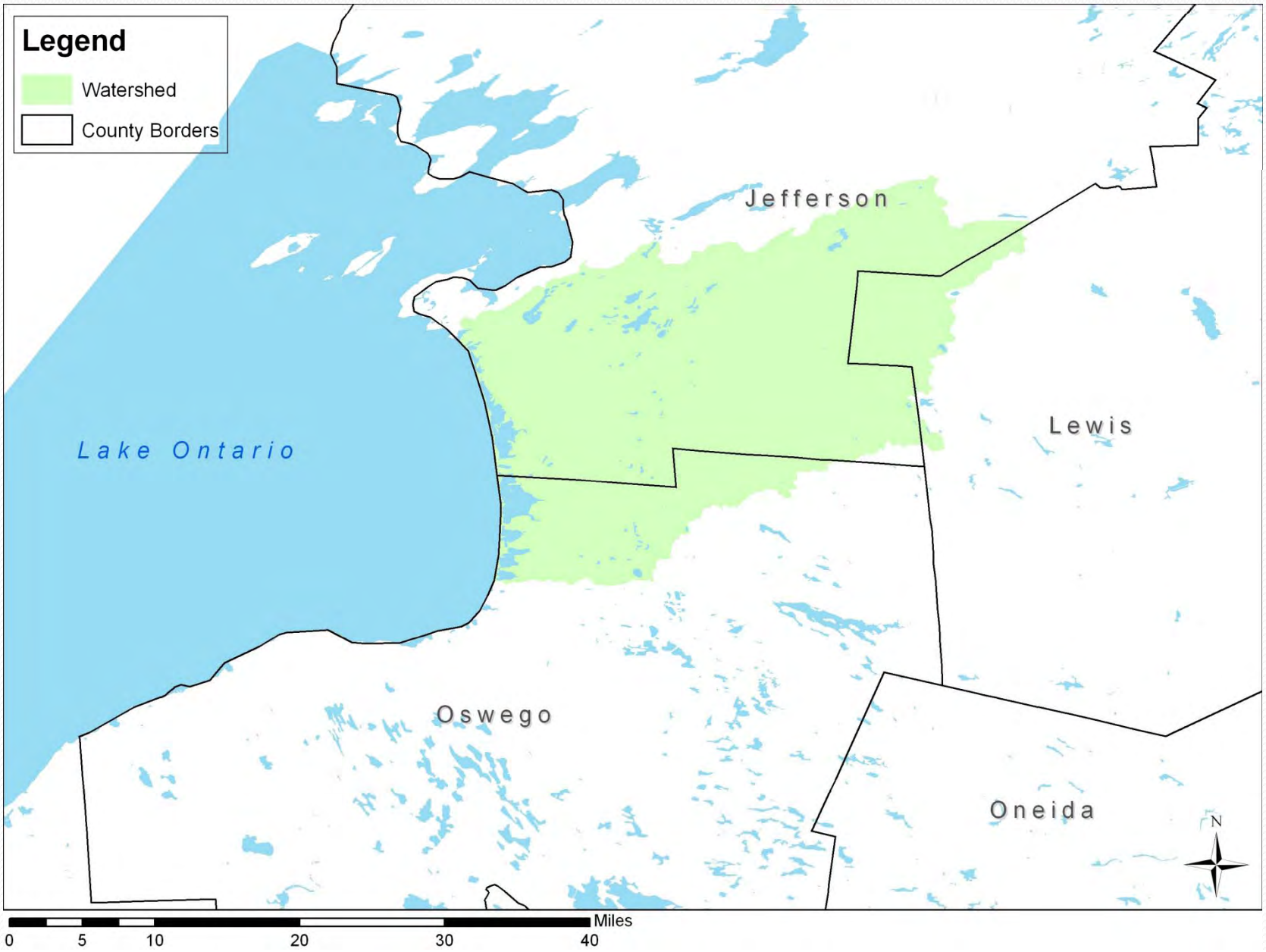
Natural Resource Inventory and Analysis Documents

- Baseline conditions and EBM strategy reports (Biohabitats)
- Water quality and quantity
  - Tug Hill aquifer: USGS study
  - Stream water quality data: 1995 – 2005 (SUNY)
  - RIBS 1997-1998
- Invasive species : aquatic and terrestrial (PRISM and other programs)
- Biodiversity and high priority species (NY Natural Heritage Program; Aquatic Gap)

Lake Ontario-related Documents

- Lake Ontario Lake-wide Management Plan
- Lake Ontario Fish Community Objectives
- 25-Year Plan for the Great Lakes
- Southeast Lake Ontario (SELO)Watershed [Species Conservation] Action Plans
- Biocomplexity initiative: Lake Ontario embayments
- Eastern Lake Ontario Dune and Wetland Strategy/Report

Sandy Creeks Watershed



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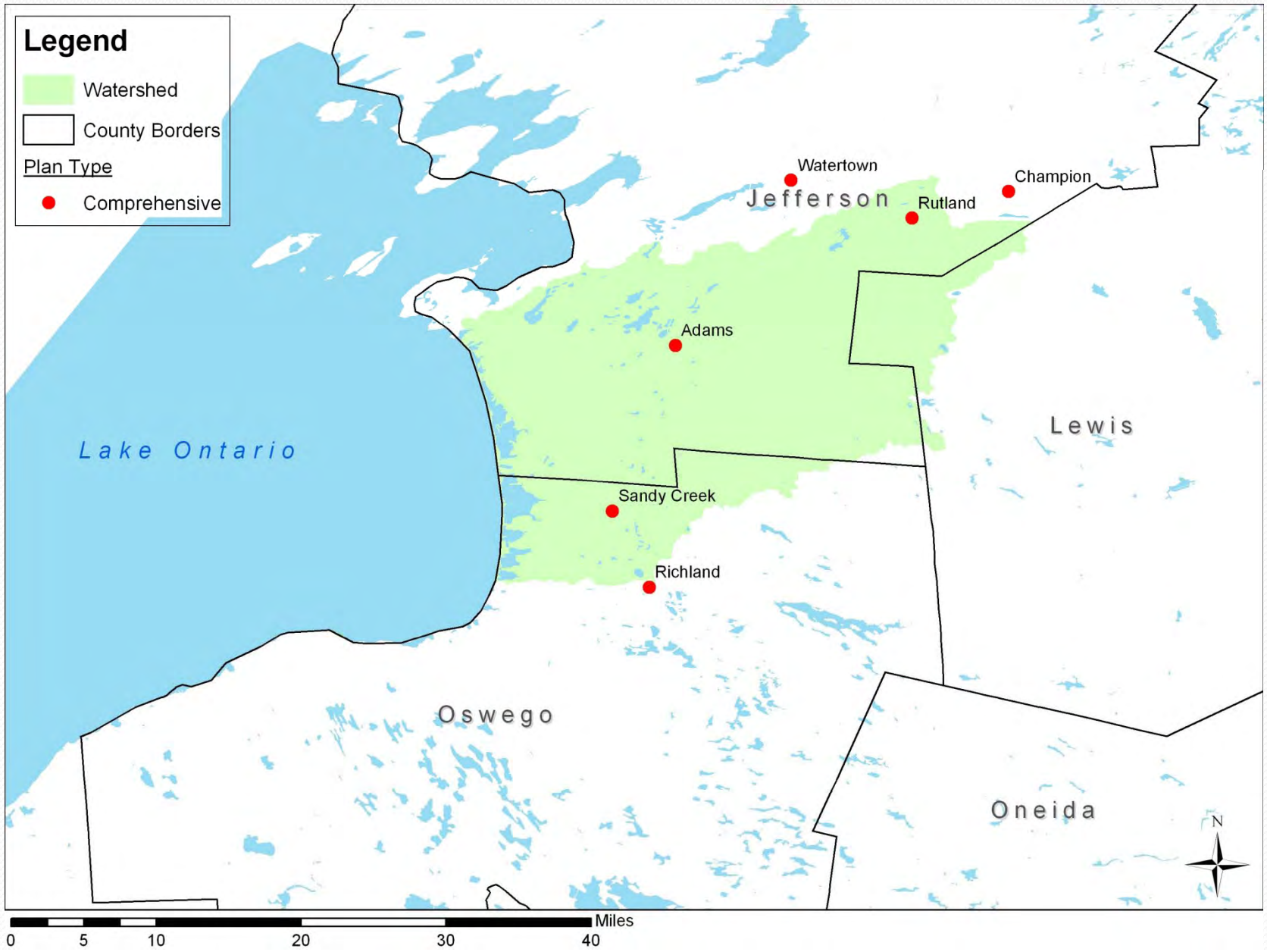
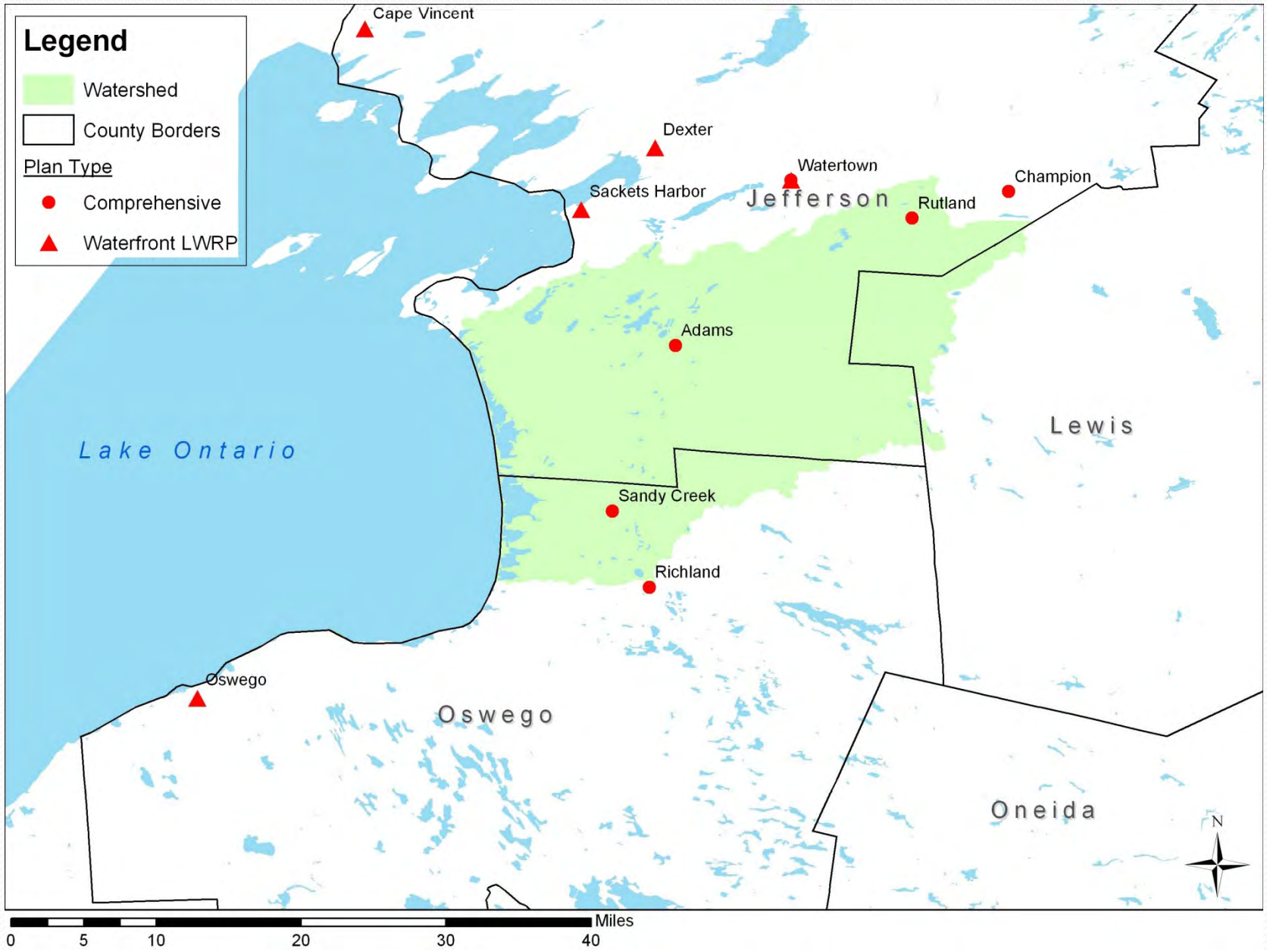


Sandy Creeks Watershed



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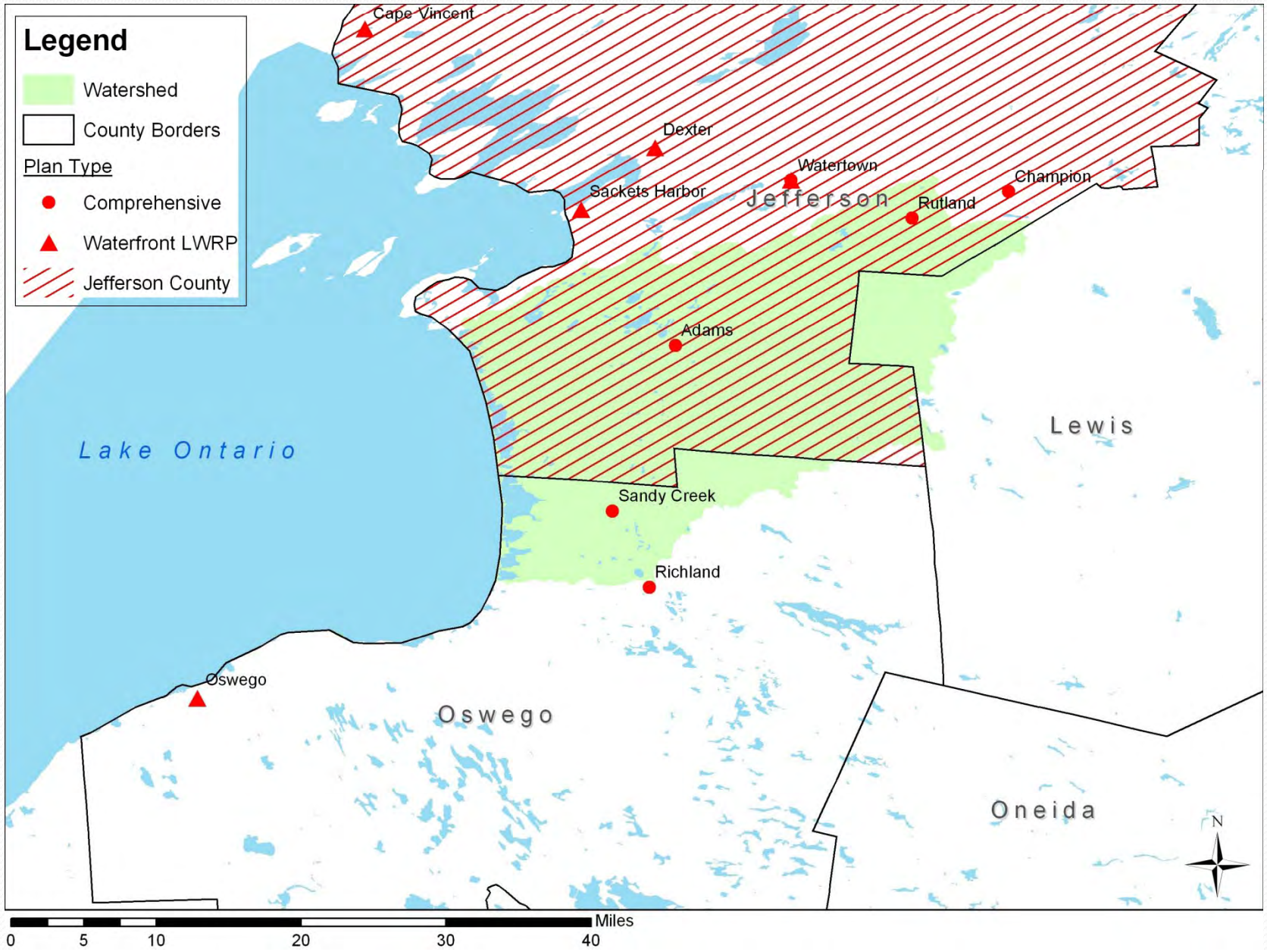

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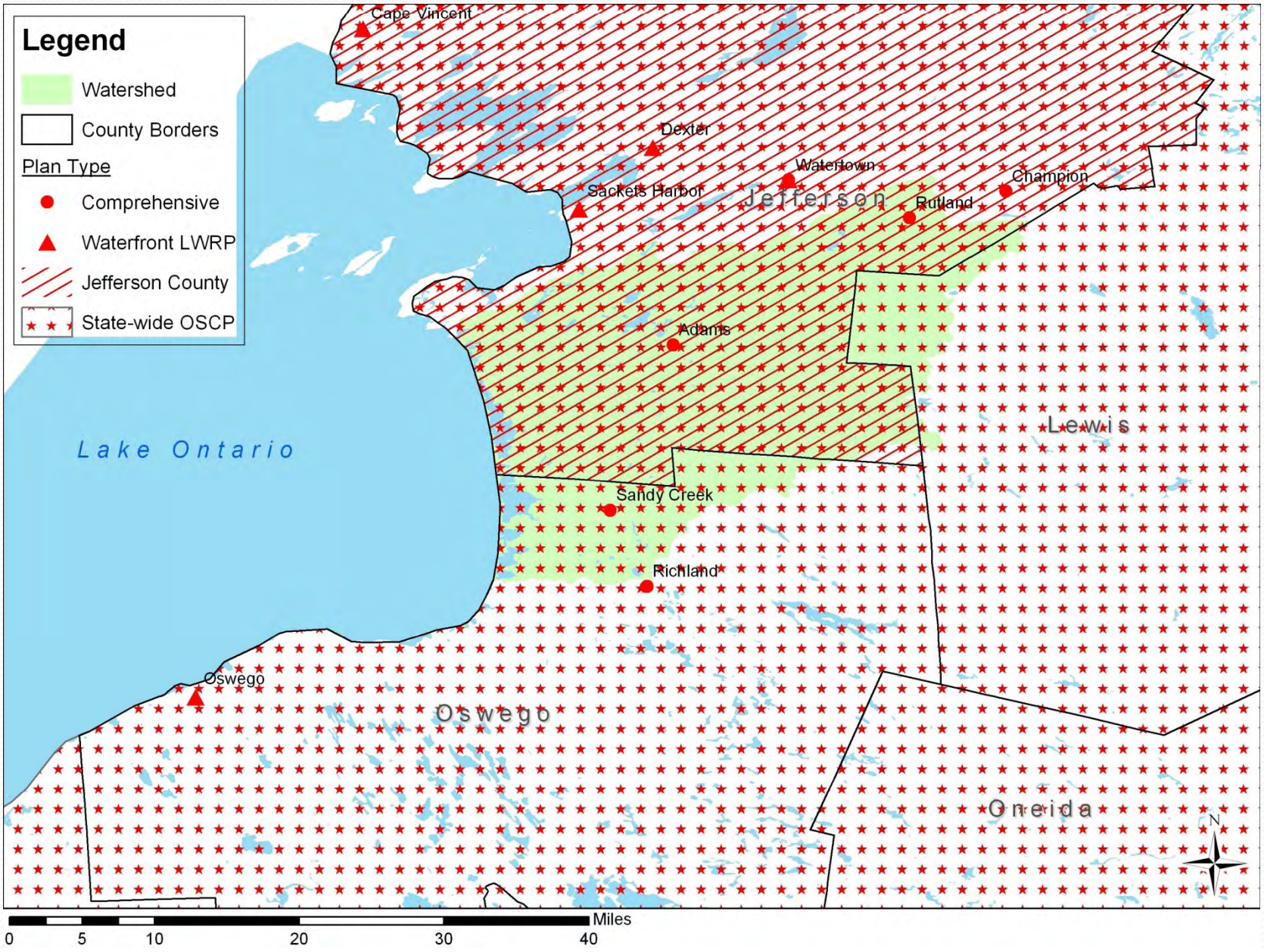

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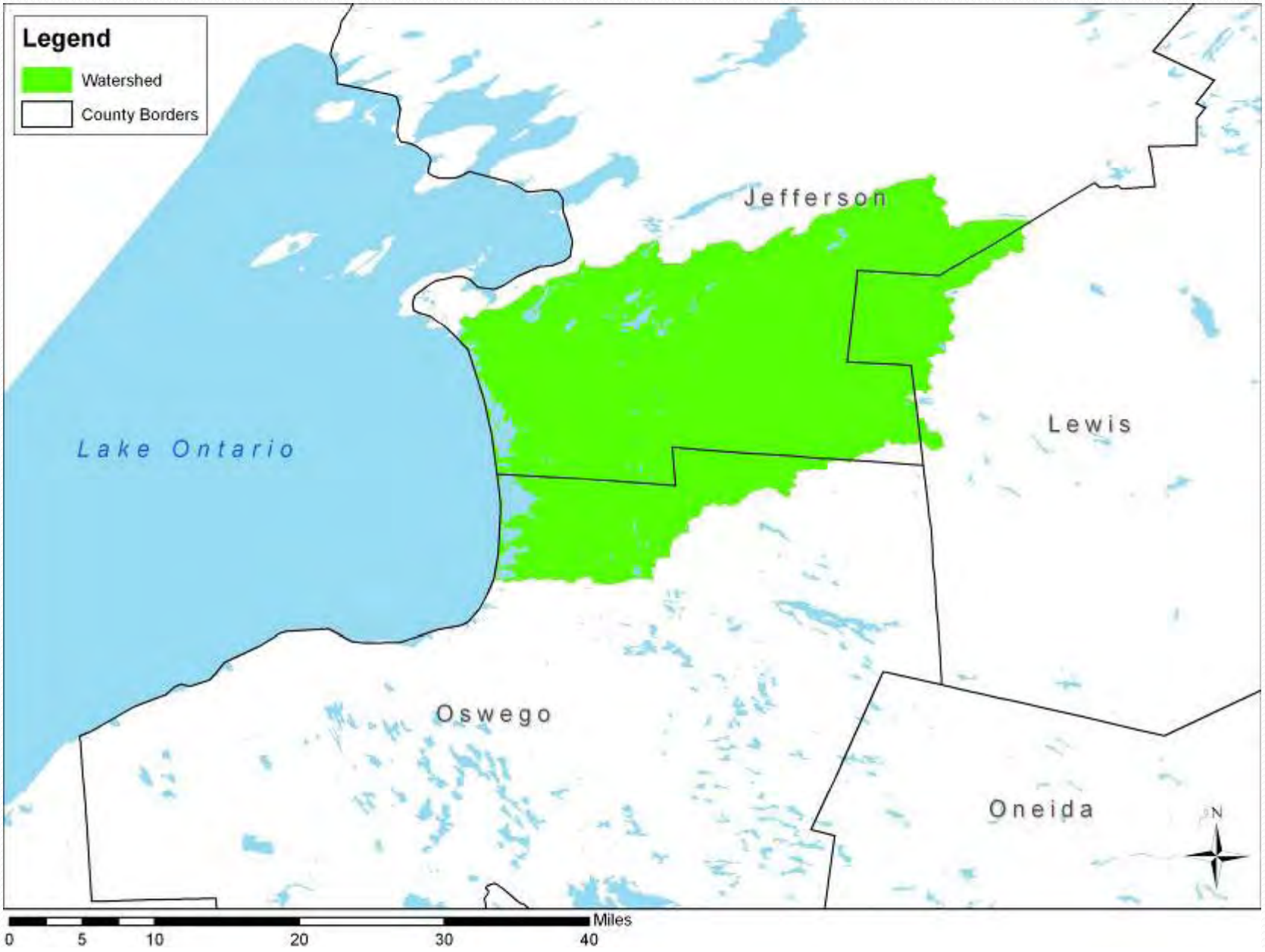

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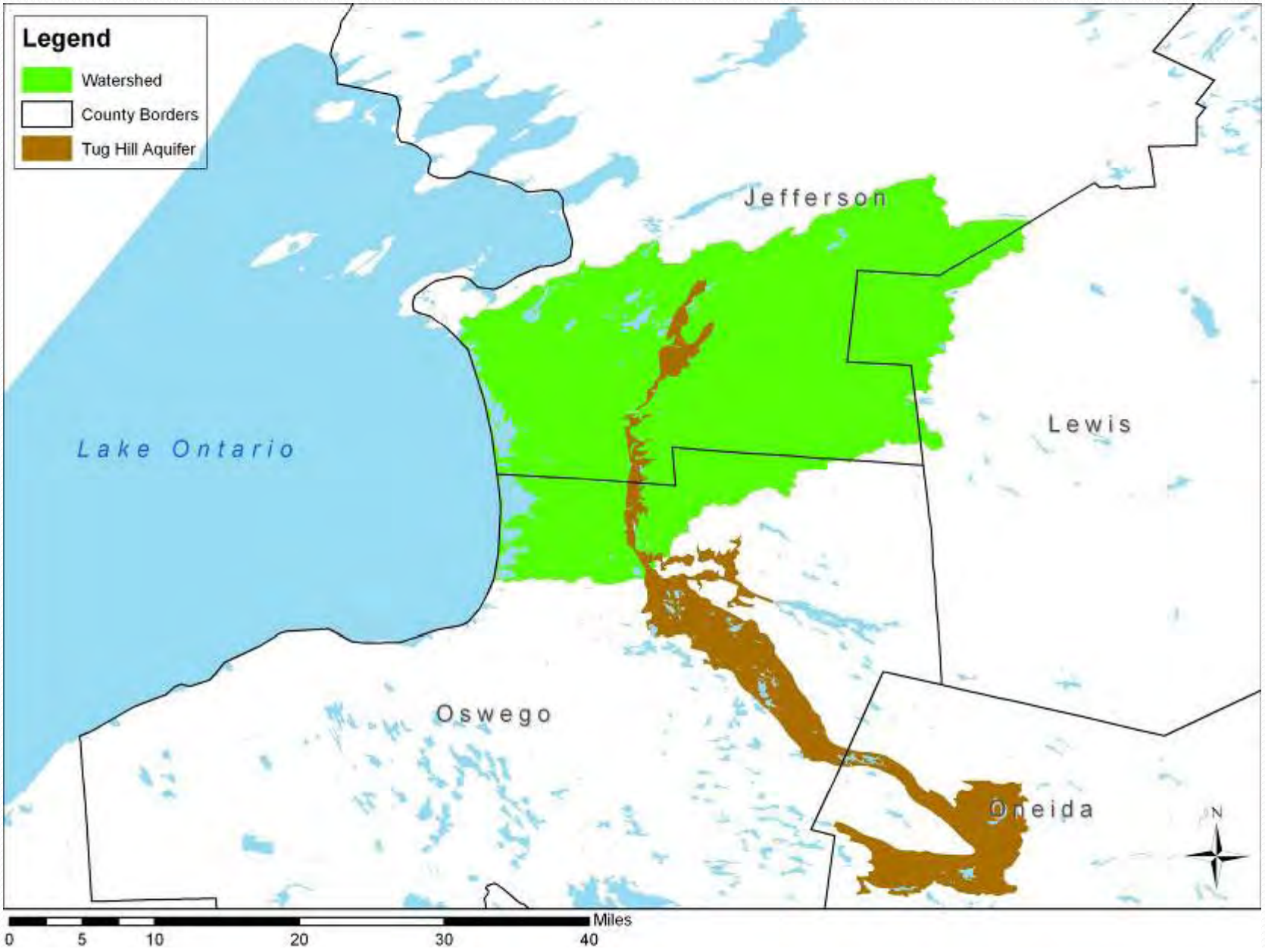

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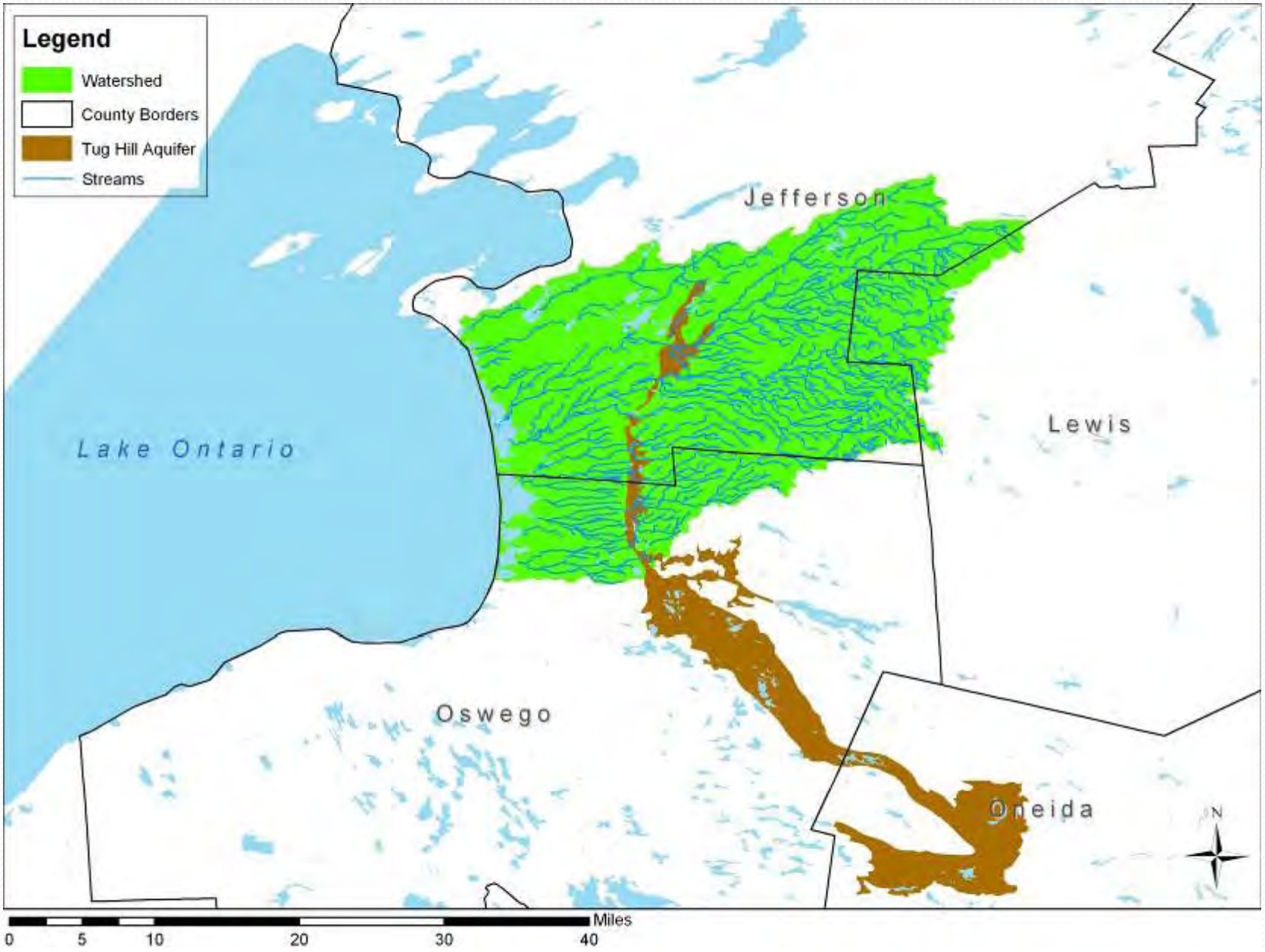

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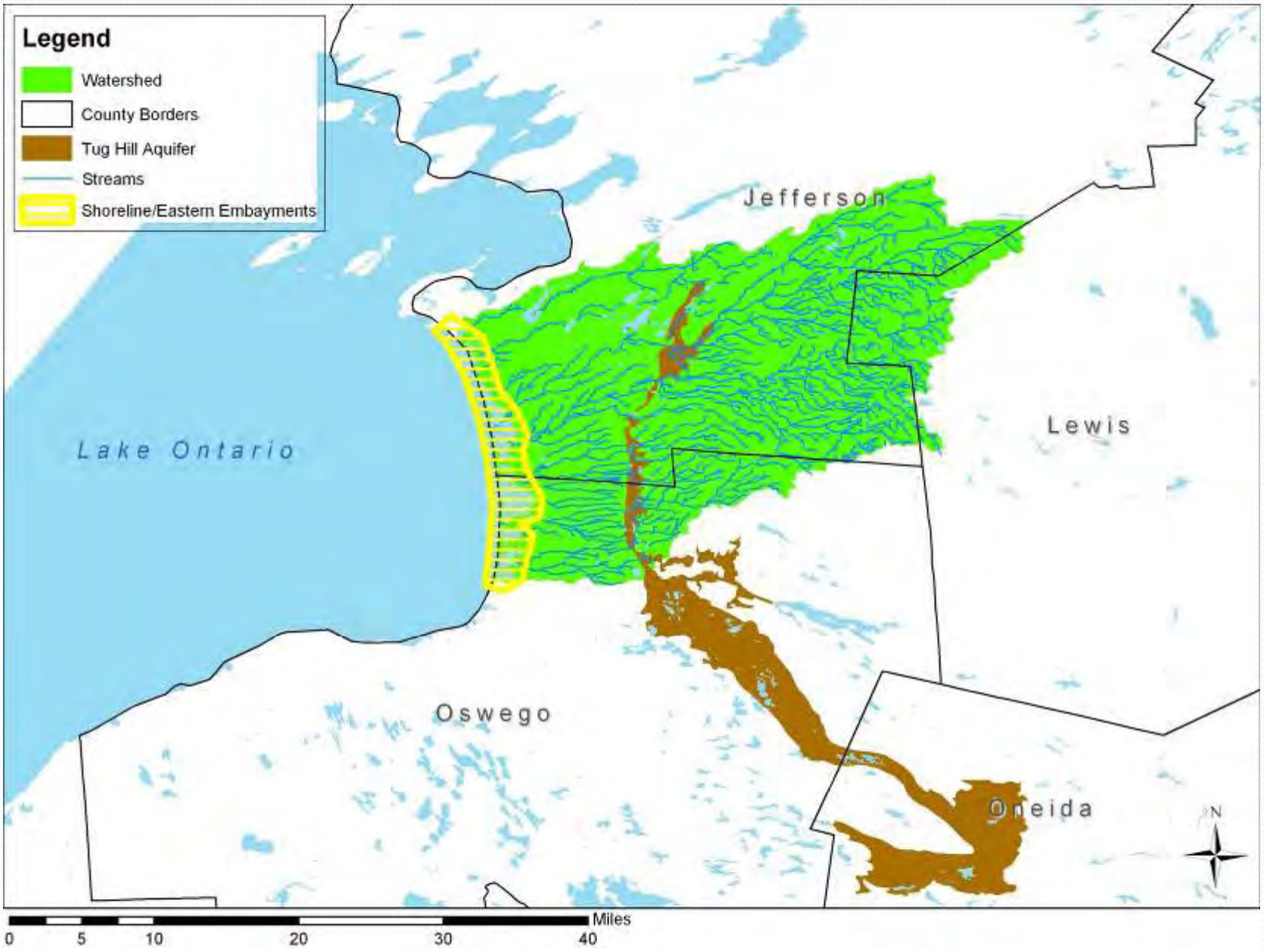

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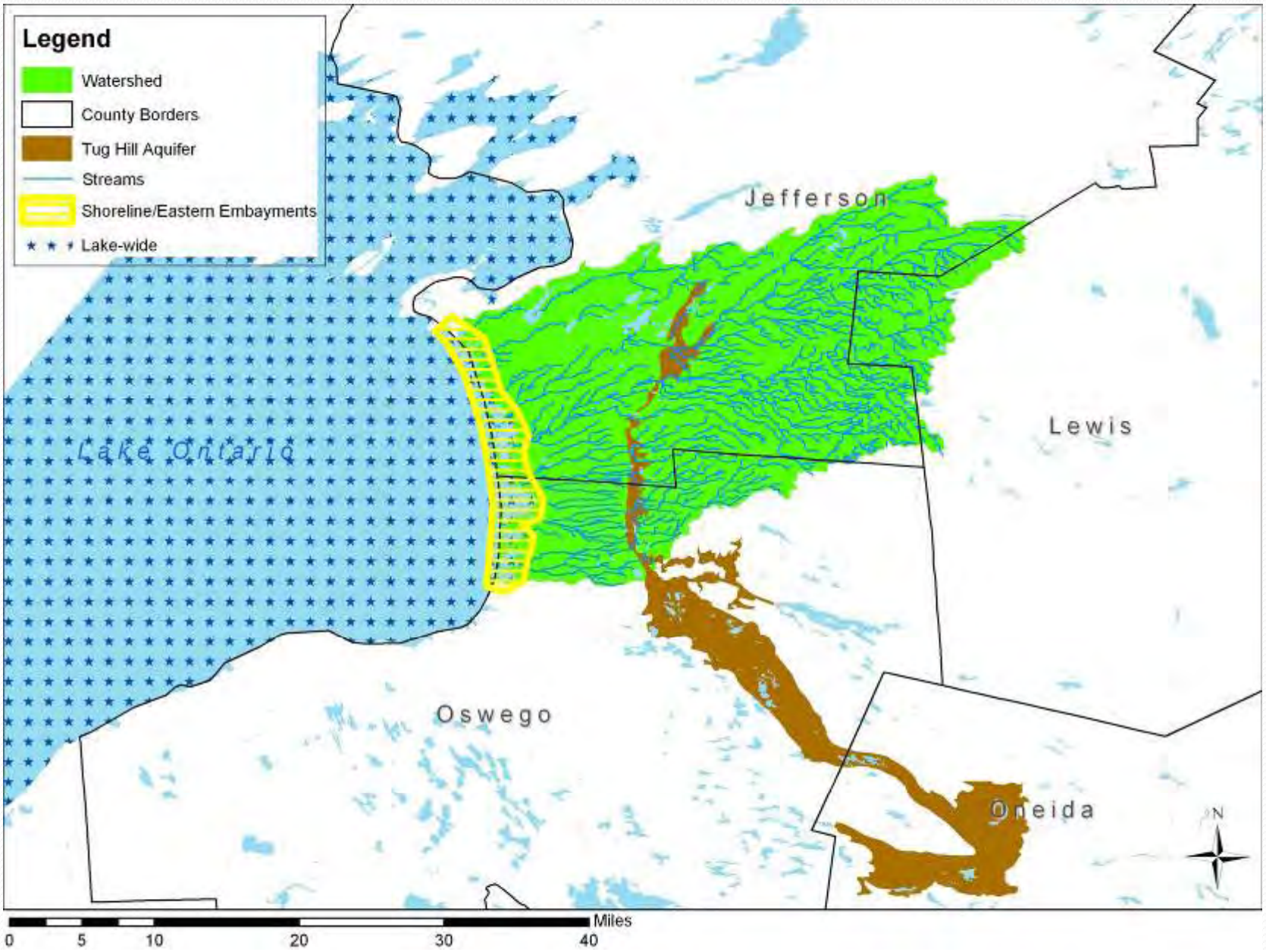

Review of existing reports

- General agreement on broad vision
  - Protect the natural environment and rural quality of life
  - Restore sustainable communities
  - Guide growth and change consistent with community goals

Examples of issues threatening achievement of the broad goals

- Natural environment
  - Invasive species
  - Eutrophication
  - Lake level management
  - Biodiversity
- Sustainable communities
  - Threats to agriculture
  - Sprawl
  - Wastewater management

Broad recommendations for actions in existing plans

- Barrier dune and coastal wetlands: protect while providing access
- Forests: Maintain contiguous tracts and protect headwaters
- Streams: Manage landscape to provide high water quality
- Rural landscape: protect natural-resource based socio-economic structure
- Wetlands: protect water quality and habitat

Broad recommendations for actions in existing plans

- Viable hamlets and villages
- Strong and growing agricultural economy
- Recommendation for data management
- Watershed-wide indicators
- Biological diversity: fish and wildlife conservation
- Preserve opportunities for hunting, fishing, and outdoor recreation

Data gaps

- Comprehensive hydrologic information
- Primary sources of point and nonpoint sources of pollution
- Ecological communities (Natural Heritage)
- Socio-economic factors affecting existing industries, especially agriculture, recreation, and small businesses
- Energy demands and development

LM1

Recommended actions: Summer 2007 Focus Groups

- Integrated trails & creek walks
- Low-interest revolving loan fund for farmers BMPs
- Investment in wastewater management
- Permit system for hunting on agricultural lands
- Willow biomass plant
- Bridges over water: citizen conservation

Slide 55

LM1 this is the diconnect slide

Liz Moran, 9/11/2008

Categories of Actions

- Implementation projects
- Local actions: municipal, regulatory, capital, planning
- Research and monitoring
- Communication

Core team

- Three meetings: 6 pm- 8 pm
  - October 22, November 20, December 10
  - Composition of team
  - Stakeholders
  - EBM partners: resources
- Expectations
  - Process
  - Outcome/products
  - Timetable

Core Team Representatives

- Stakeholder groups
  - Agriculture
  - Large landowner/forestry
  - Recreation
  - Conservation
  - Economic development/business owners
  - Municipal officials
- EBM Agency representatives

EBM Agencies

- Ag and Markets
- NYSERDA
- DEC
- DOS
- DOT
- OPRHP
- SUNY
- OGS
- ESD

Contact Us

- Web link: www.EcoLogicLLC.com/scEBM.html
- Email: Robin Clarke: rclarke@ecologicllc.com
- Call toll-free: 877-221-2110