

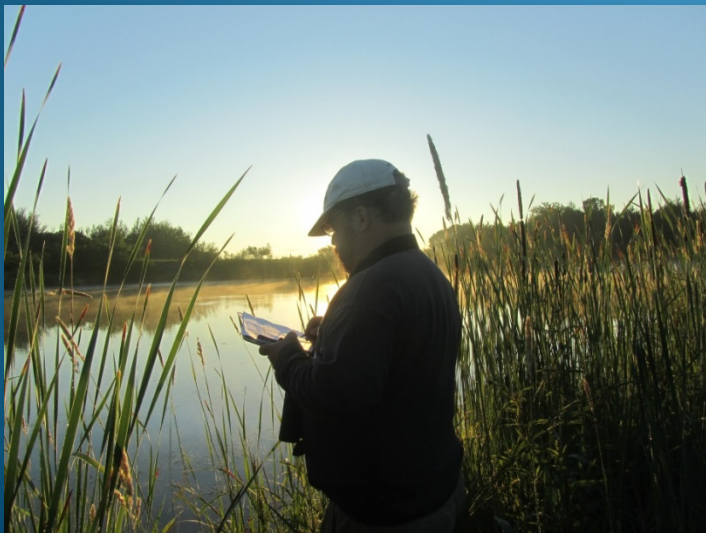
# Environmental and Socioeconomic Factors Associated with Public-Private Partnership Wetland Restoration Projects in the Great Lakes Watershed

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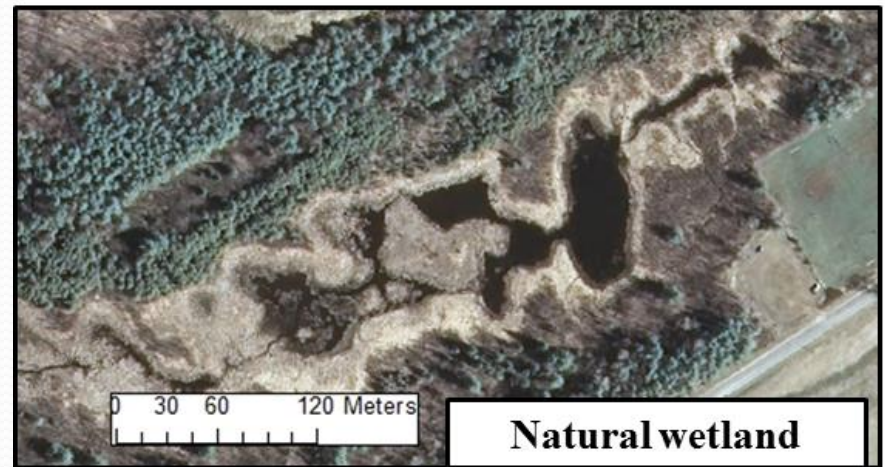
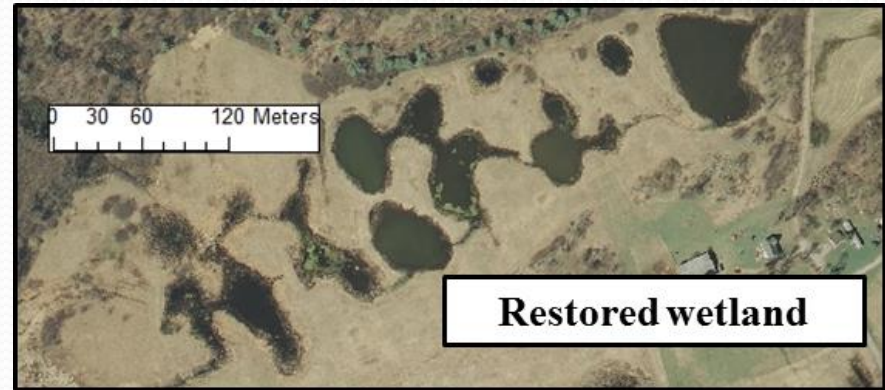
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# Wetland Restoration Background

- Voluntary Public-Private Partnership (PPP) programs are essential in the Great Lakes watershed.
  - USDA NRCS WRP and EQIP
  - USFWS Partners for Fish & Wildlife
  - Ducks Unlimited
- *But are PPP wetland restoration programs worthwhile and sustainable?*
  - Uncertainties about PPP wetland restorations include.....
    - Ecosystem services and biodiversity
    - Landowners perception
    - Cost-effectiveness

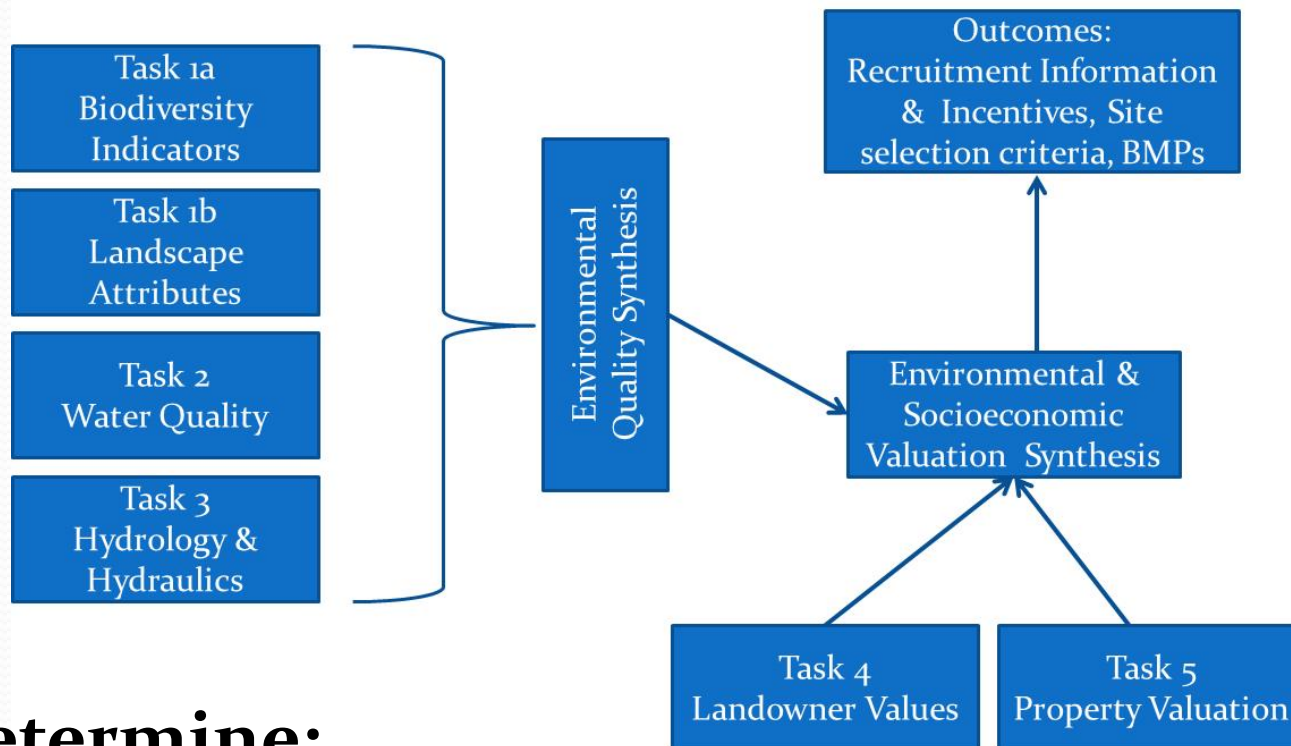


# Project Approach

*A key component is regular engagement with end-users to share preliminary findings and seek their input on what information is most helpful and how best to present final results to ensure it is most useful to them.*

## We assess PPP restorations:

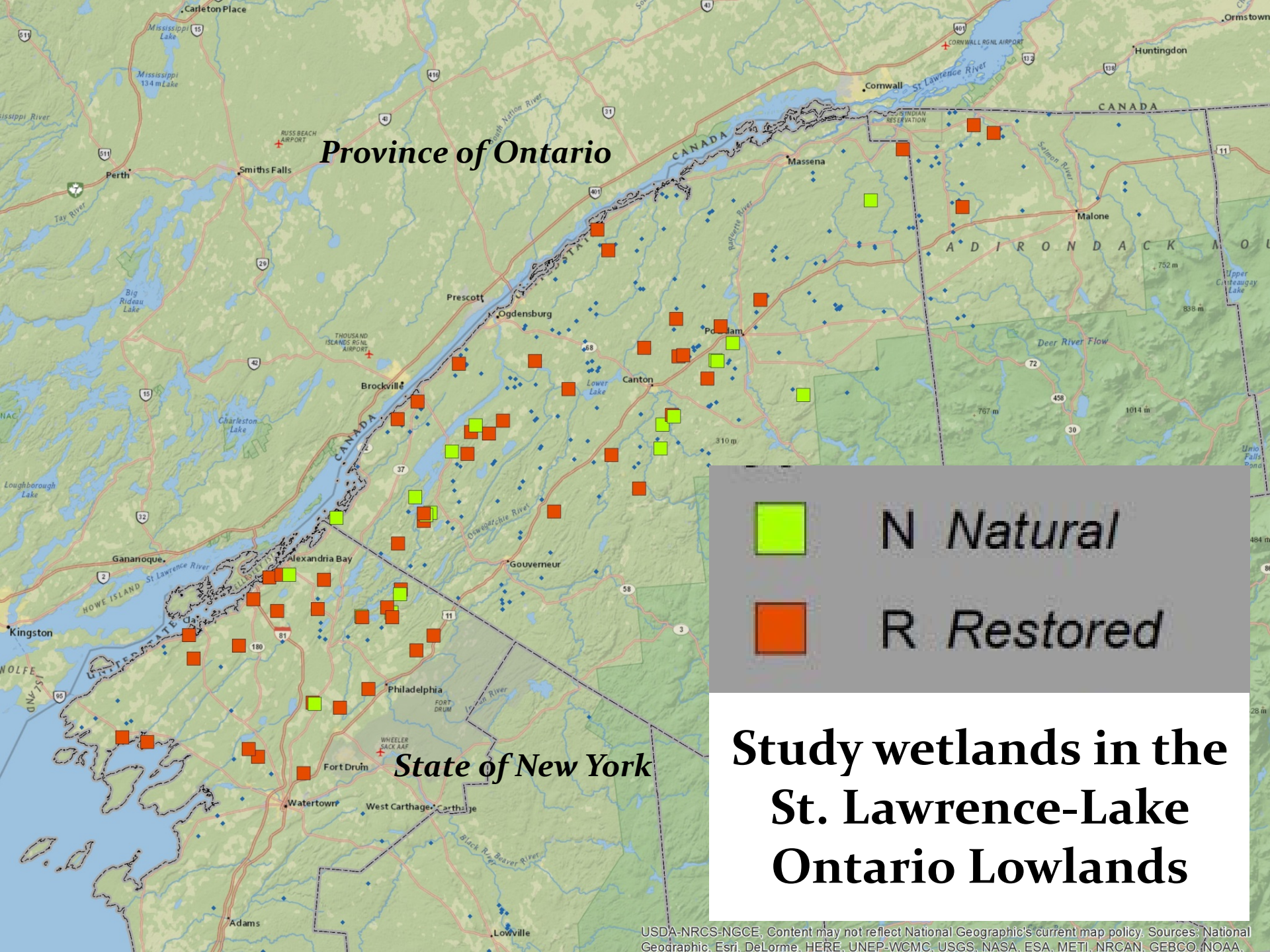
- Fifty (50) wetland restoration projects + twenty (20) natural reference wetlands



## We determine:



- Key environmental and socioeconomic indicators and drivers of restoration success.
- Identify how landowner participation in such programs can be increased.





**Province of Ontario**

**State of New York**

-  **N Natural**
-  **R Restored**

# Study wetlands in the St. Lawrence-Lake Ontario Lowlands

USDA-NRCS-NGCE. Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA.

# Project Outputs - Progress

1. **Environmental & social criteria** for agencies to score when evaluating the suitability of a site for participation in a PPP wetland restoration program.
  2. Quantification of **environmental & socioeconomic benefits** of wetland restoration PPPs.
  3. Recommended **information, incentives, and outreach approaches** to recruit landowners for wetland restoration.
  4. **BMPs** for agencies to use when planning, implementing, and managing wetland restoration projects.
  5. **Website** targeted at landowners to provide information in the environmental, social, and economic benefits of wetland restoration PPPs.
- Faunal surveys completed, floral surveys to be completed this month. Water quality analysis completed. Landscape analysis to be completed this month. Data analysis continues.
  - Started development and validation of Tier I, Tier II, and Tier III wetland state assessments.
  - Created a new hydro-geomorphic classification, further validation ongoing using sensors
  - Landowner, neighbor surveys completed; will compare survey responses to wetland environmental quality. Hedonic analysis to be completed this month.
  - In consultation with partners, draft BMPs and website to be completed this fall.



# Project Outcomes - Progress

1. **Enhance agencies' capacities** to recruit and retain landowners for PPP wetland restoration projects.
  2. Agencies develop **improved relationships with participants** from a greater understanding of how to better manage restoration partnerships.
  3. **Increased ecological and socioeconomic benefits** to PPP restoration landowners and their neighbors through improved program and land management.
- Met with and regularly consult with partners. We disseminated preliminary findings and seek comments at multiple professional meetings.
  - Presented to agencies the results of our comparison of Tier I, Tier II and Tier III wetland assessment evaluations.
  - Presented to the Massena – Cornwall Great Lakes Area of Concern Remedial Action Committee our findings on wetland quality within and outside the AOC. Our findings and recommendations are the core of the Habitat and Wildlife Beneficial Use Impairments Recovery Plan.

# Project Findings (partial list)

**Wetland restorations ecologically similar to natural wetlands, but distinct in some ways.**

1. Support wetland-associated **Species of Greatest Conservation Need**.
2. Vegetation similar but have more invasive species.
3. Water quality not impaired but some differences in water chemistry – site context different from natural sites.
4. Variation in performance may be due to hydro-geomorphology and landscape context.
5. IBIs indicate overall good biotic integrity in wetland restorations.

# Project Findings (partial list)

## Landowner participants.

1. Landowners who initiate partnership are older year-round residents, supportive of conservation efforts & outcomes.
2. Landowners are generally positive about participation, enjoy using wetlands to observe wildlife.
3. Landowners partner for reasons of heritage protection, interest in wildlife conservation.
4. Neighbors who responded were positive about wetland restorations, members of environmental groups.
5. Landowners express interest in stewardship but cite information needs as a barrier; landowners would like more engagement with public partners.



# BMPs & Recommendations (examples)

## • Recruitment

- ✓ Emphasize heritage and wildlife conservation values.
- ✓ Introduce concept of wetland (ecosystem) services.
- ✓ Consider ways to communicate potential tax benefits.

## • Project Selection

- ✓ Goals: **overall quality** (cluster near natural wetlands) vs. **value added** (areas that lack natural wetlands).
- ✓ Added benefits to surrounding landscape (easement, beyond).

## • Project Implementation

- ✓ Cluster potholes near larger wetlands or streams.
- ✓ Consider revegetation (seedbank, enrichment plantings) at isolated restorations.



# BMPs & Recommendations (examples)

- **Landowner Relations**

- ✓ Landowners would like more engagement with partner agencies.
- ✓ Need for specific outreach strategies for second generation landowners.
- ✓ Landowners would like more feedback on the quality & benefits of their restoration.

- **Project Stewardship**

- ✓ Invasive plant prevention and control strategies for restorations needed – include information for landowners.
- ✓ Landowner stewardship capacity-building potentially highly beneficial – complementary management (e.g. shrub-land birds)

