



**US Army Corps  
of Engineers®**



# Matching Multiple Stakeholder Goals to Restoration Opportunities in a Great Lakes Watershed

*Nick Miller, The Nature Conservancy*

*Tom Bernthal, WI Dept. Natural Resources*

*John Wagner, The Nature Conservancy*

*Mike Grimm, The Nature Conservancy*

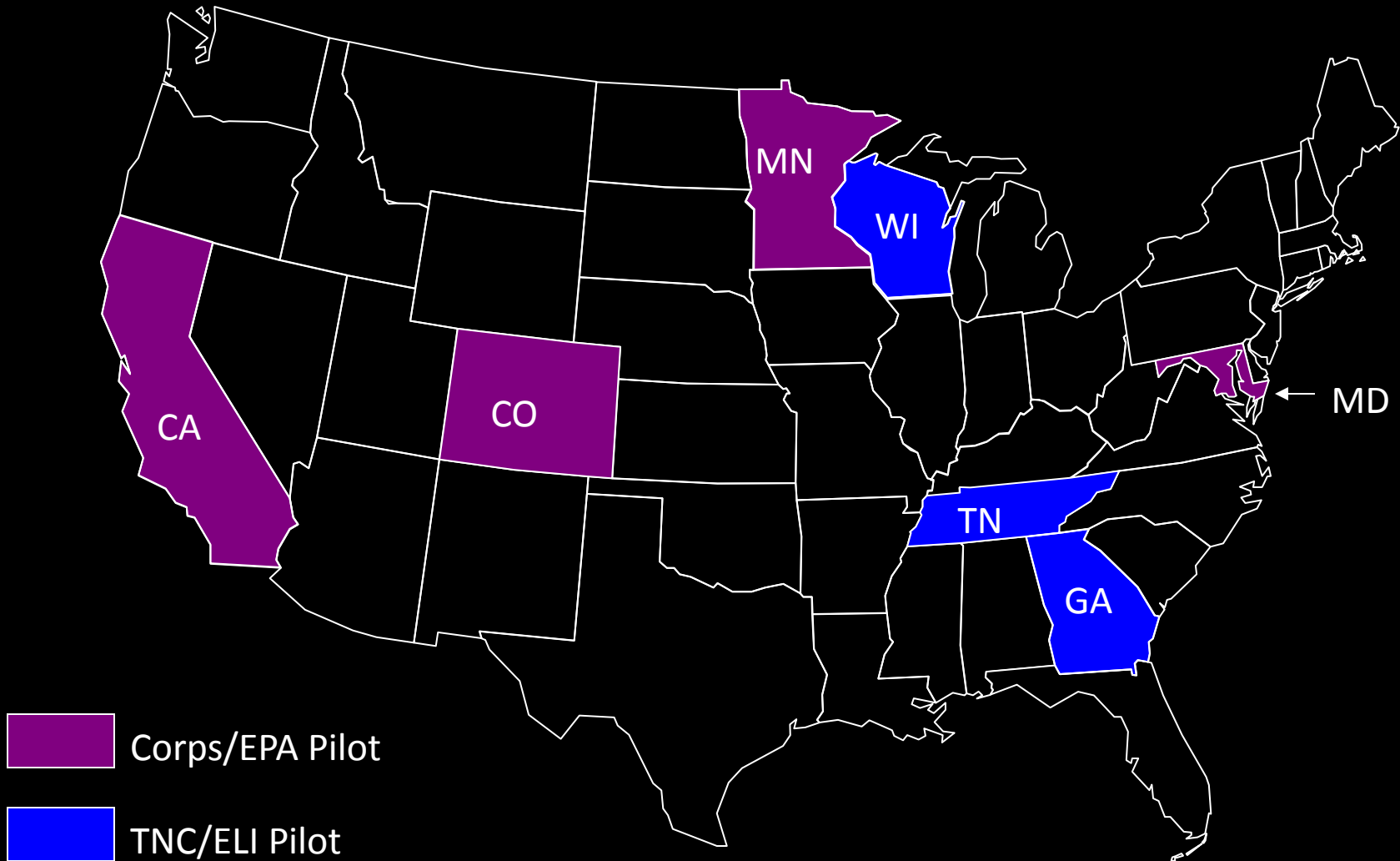
*Gary Casper, UW-Milwaukee*

*Joanne Kline, WI Dept. Natural Resources*

**TheJoyceFoundation**



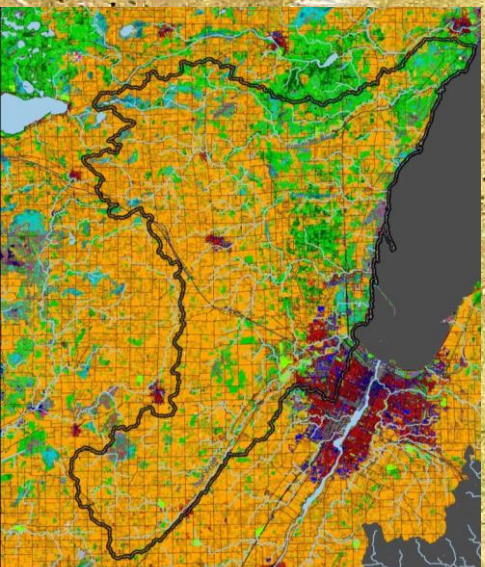
# Pilot Watershed Approach Projects



A satellite image of the Great Lakes region in North America. A red circle highlights a specific area on the western shore of Lake Michigan. A semi-transparent grey box is overlaid on the right side of the image, containing text and a bulleted list.

## Watershed Approach Components

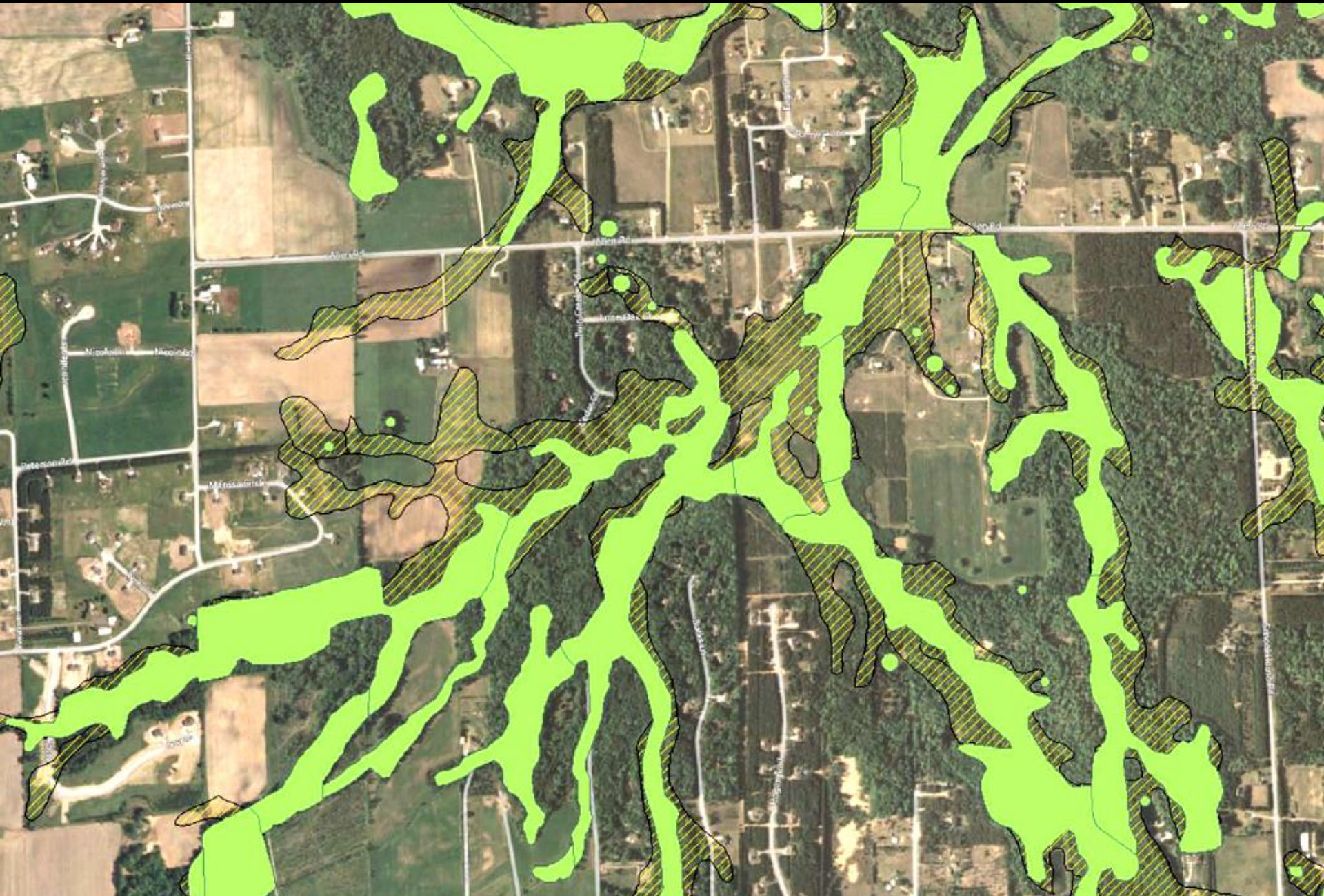
- Work with partners
- Identify sites
- Determine watershed needs
- Prioritize sites



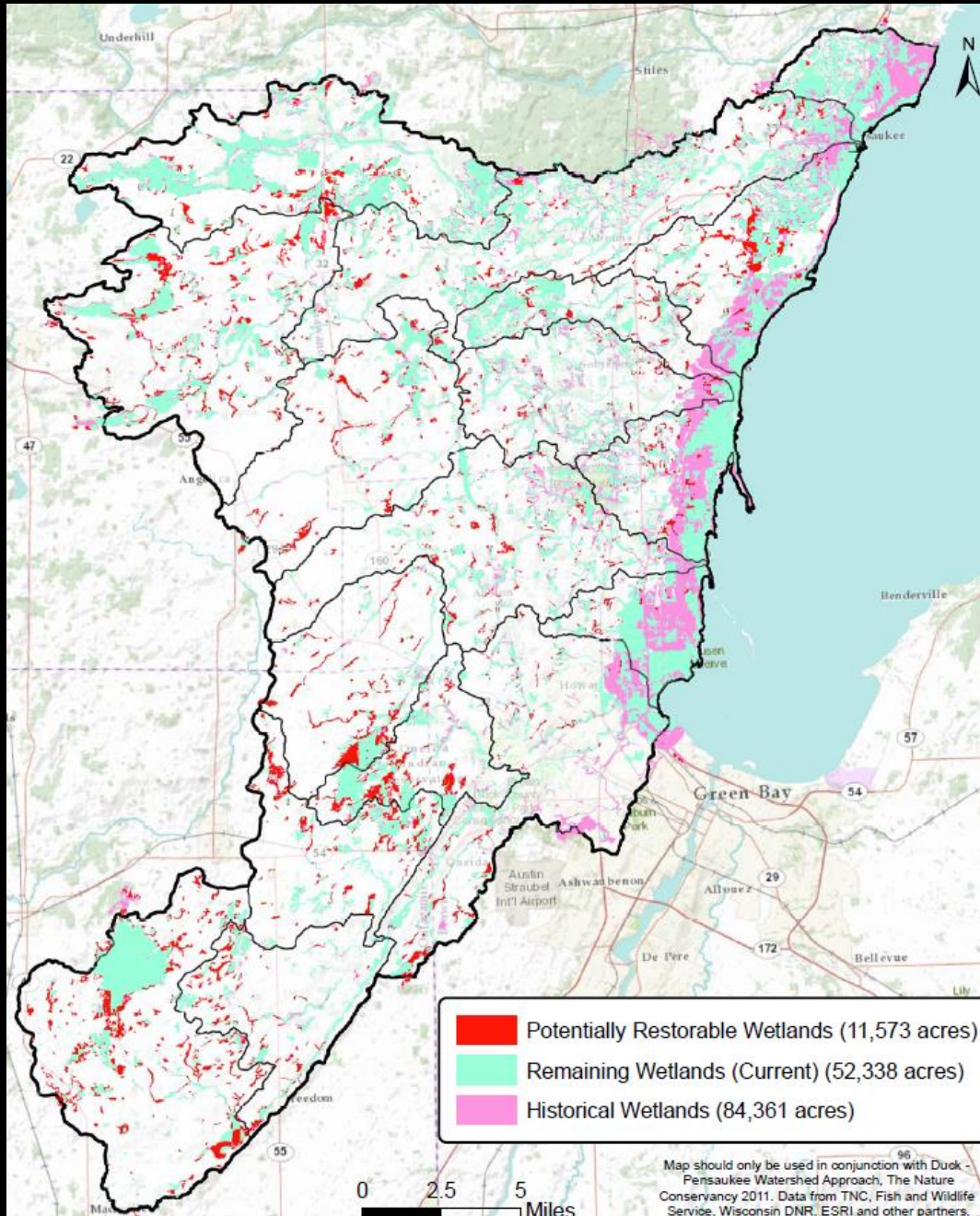
A photograph showing the silhouettes of several birds, likely herons or egrets, standing in a shallow, reflective wetland. The birds are dark against a bright, golden background of a sunset or sunrise. Their long legs and necks are clearly visible, and their forms are mirrored in the water below. The word "Partners" is written in a bold, yellow font across the middle of the image, centered over the birds.

**Partners**

# Site ID: *Process*

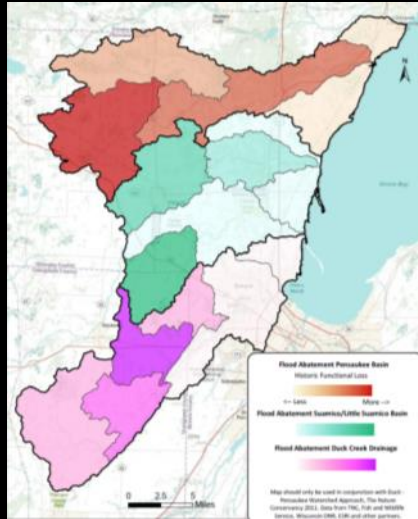


# Site ID

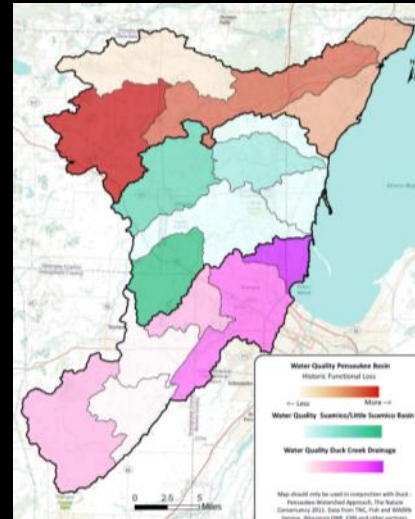


# Watershed Needs: *Ecosystem Service Losses*

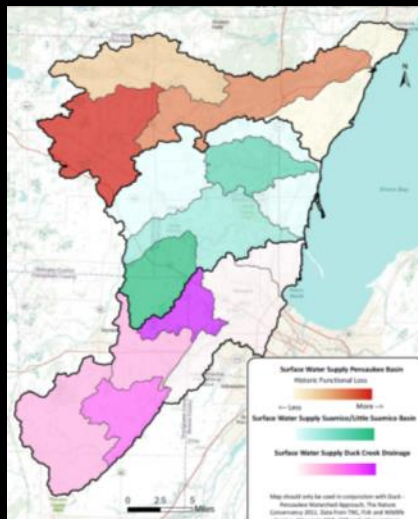
## Flood Abatement



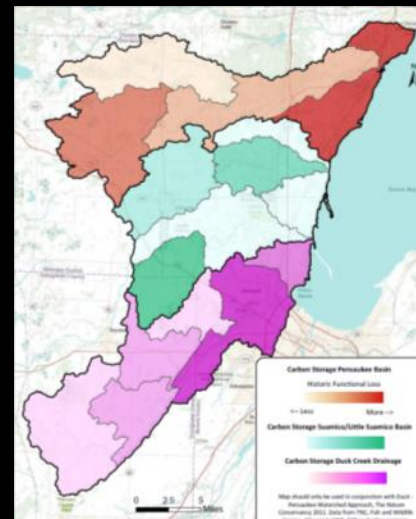
## Water Quality Protection



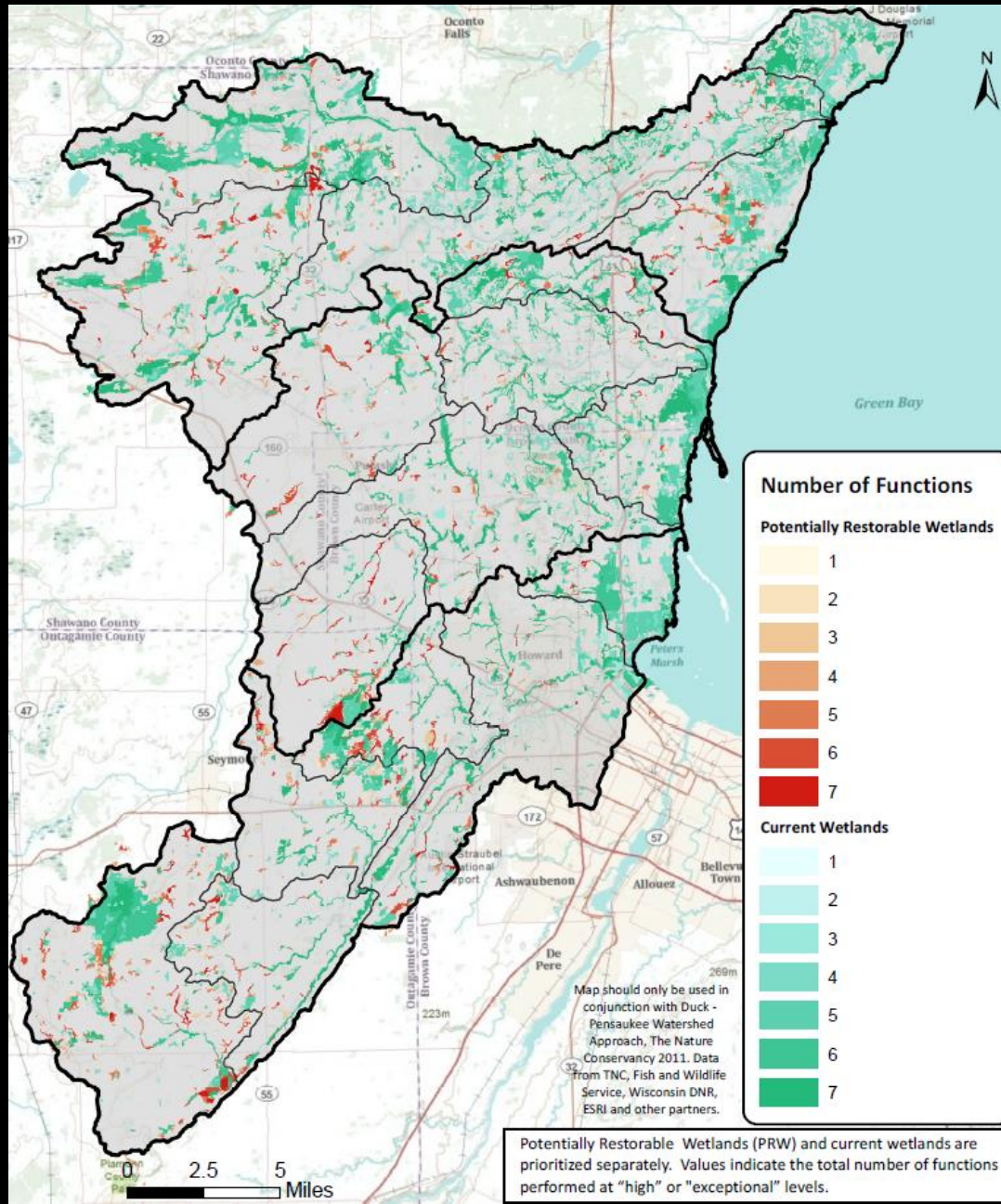
## Surface Water Supply



## Carbon Storage



# Site Prioritization: *Ecosystem Services*



Potentially Restorable Wetlands (PRW) and current wetlands are prioritized separately. Values indicate the total number of functions performed at "high" or "exceptional" levels.



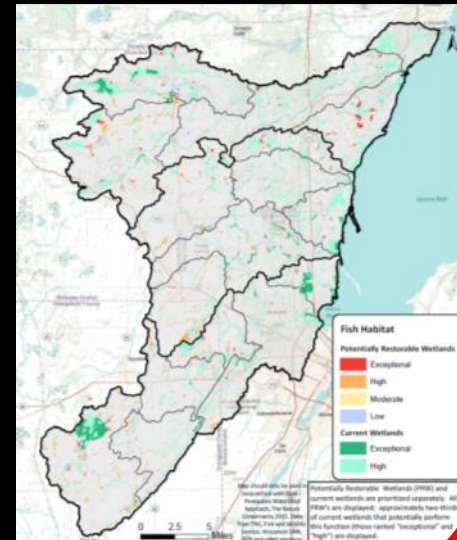
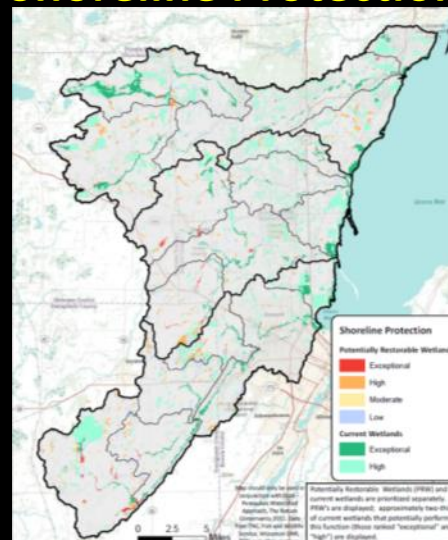
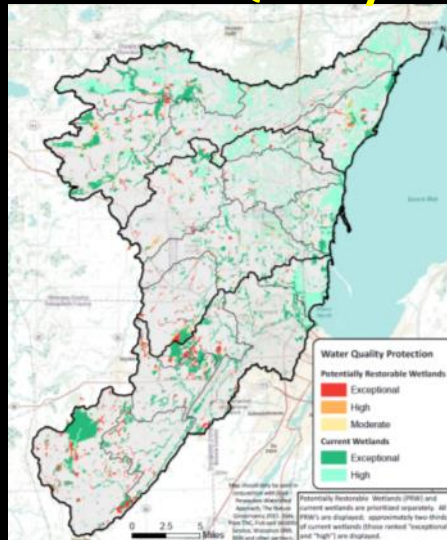
# Site Prioritization: *Ecosystem Services*

## Flood Abatement

## Water Quality

## Shoreline Protection

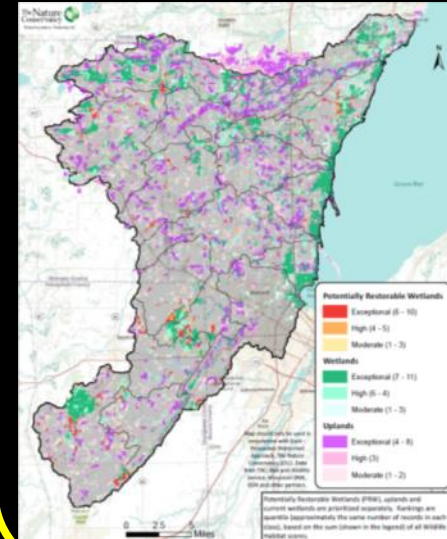
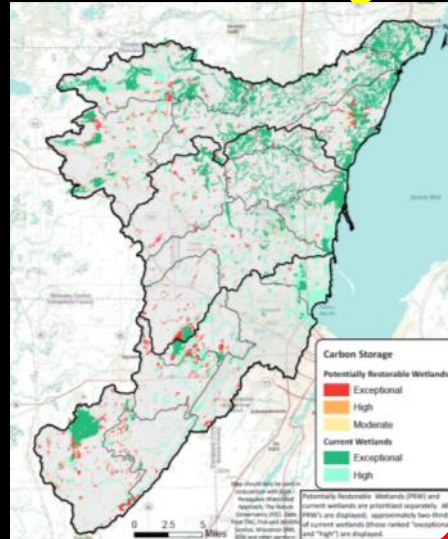
## Fish Habitat



## Surface Water Supply

## Carbon Storage

## Wildlife Habitat



# Site Prioritization: *Ecosystem Services*

*Example: Flood abatement*

*Water quality*

*Shoreline protection*

*Fish habitat*

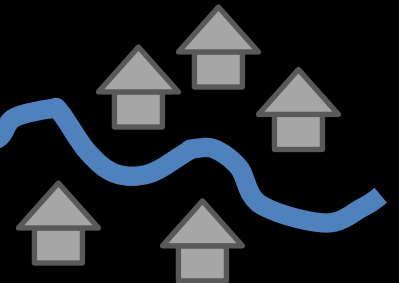
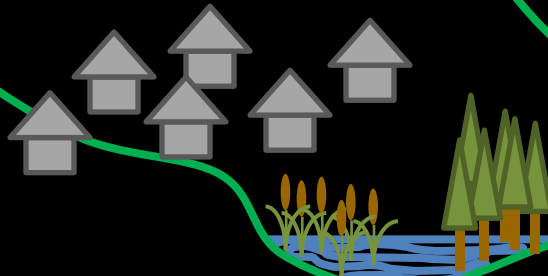
*Surface water supply*

*Carbon storage*

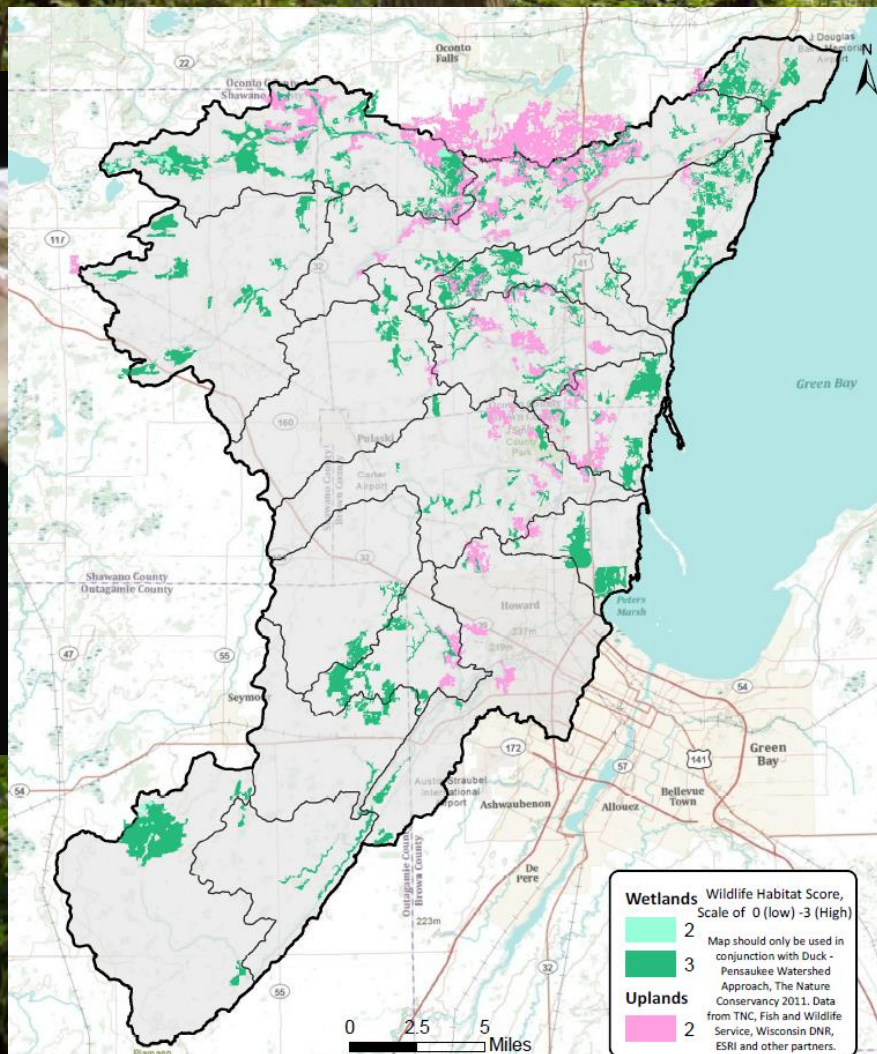
**Opportunity**

**Effectiveness**

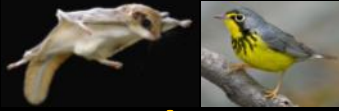
**Social significance**



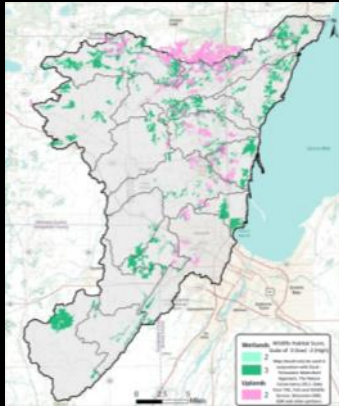
# Site Prioritization: *Wildlife Habitat* Forested Swamps



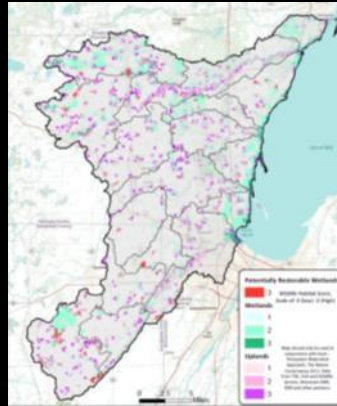
# Site Prioritization: *Wildlife Habitat*



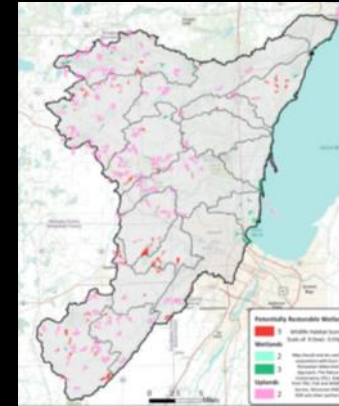
**Forested Swamps**



**Integrated Landscapes**



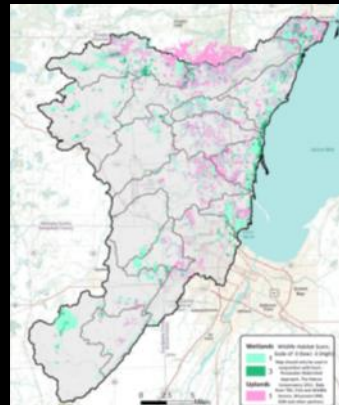
**Open Wetlands & Waters**



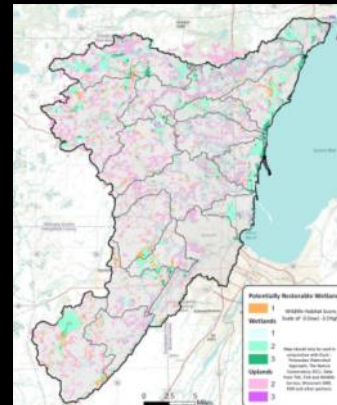
**Beaches**



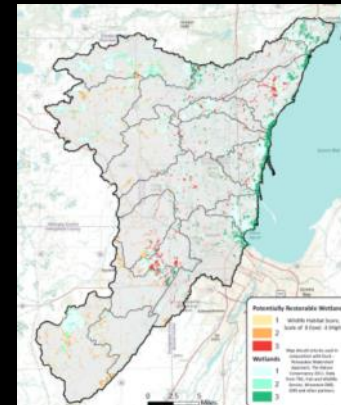
**Shrub Swamps**



**Riparian Areas**

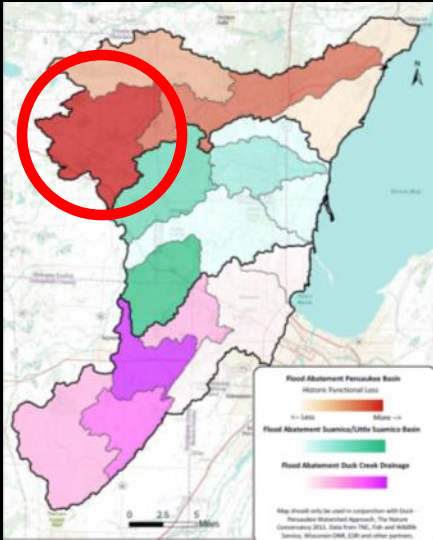


**Migratory Shorebirds**

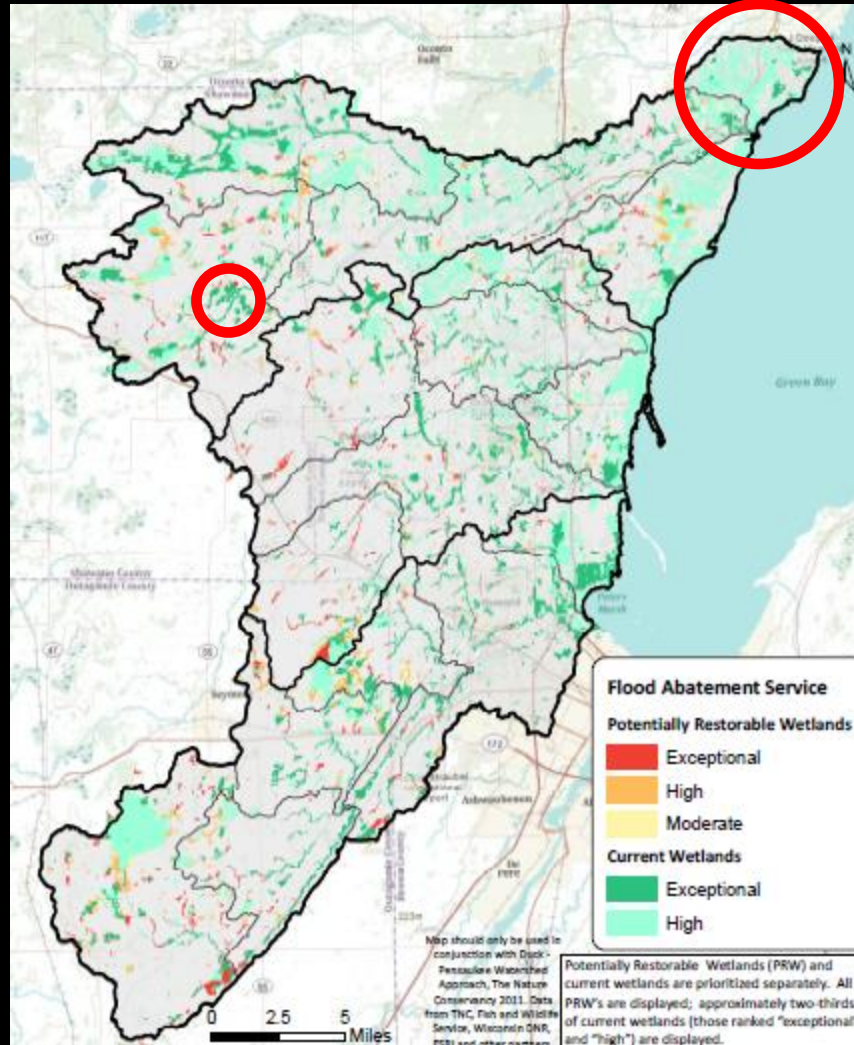


# Site Selection

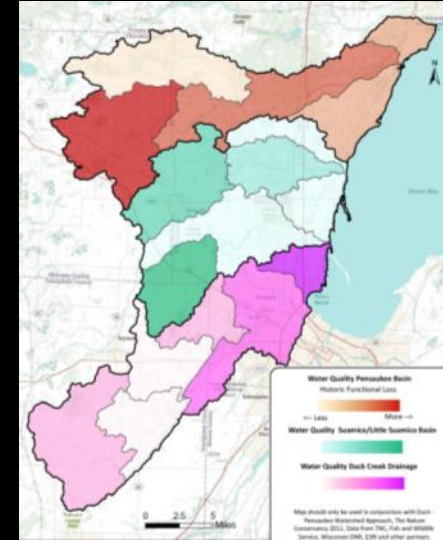
## Flood Abatement



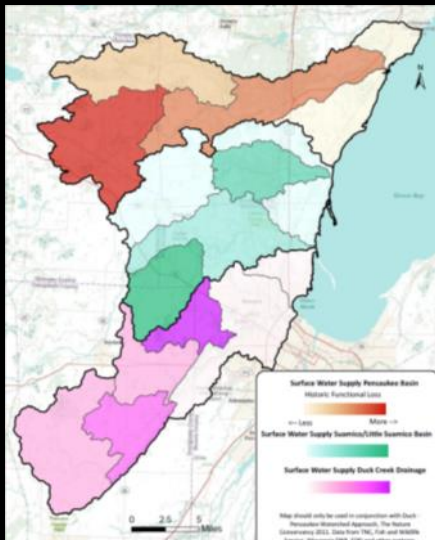
## Flood Abatement



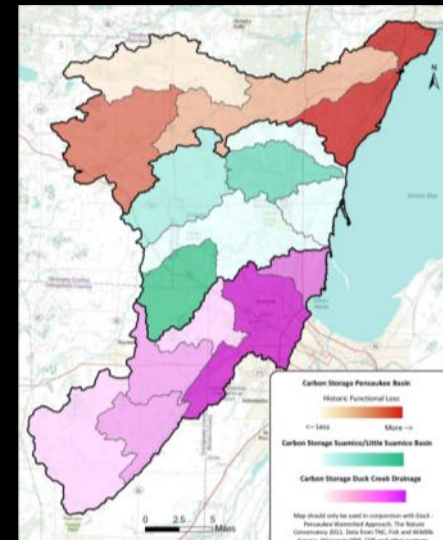
## Water Quality



## Surface Water Supply

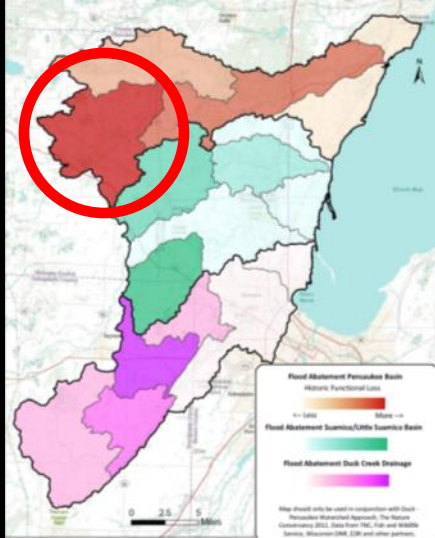


## Carbon Storage

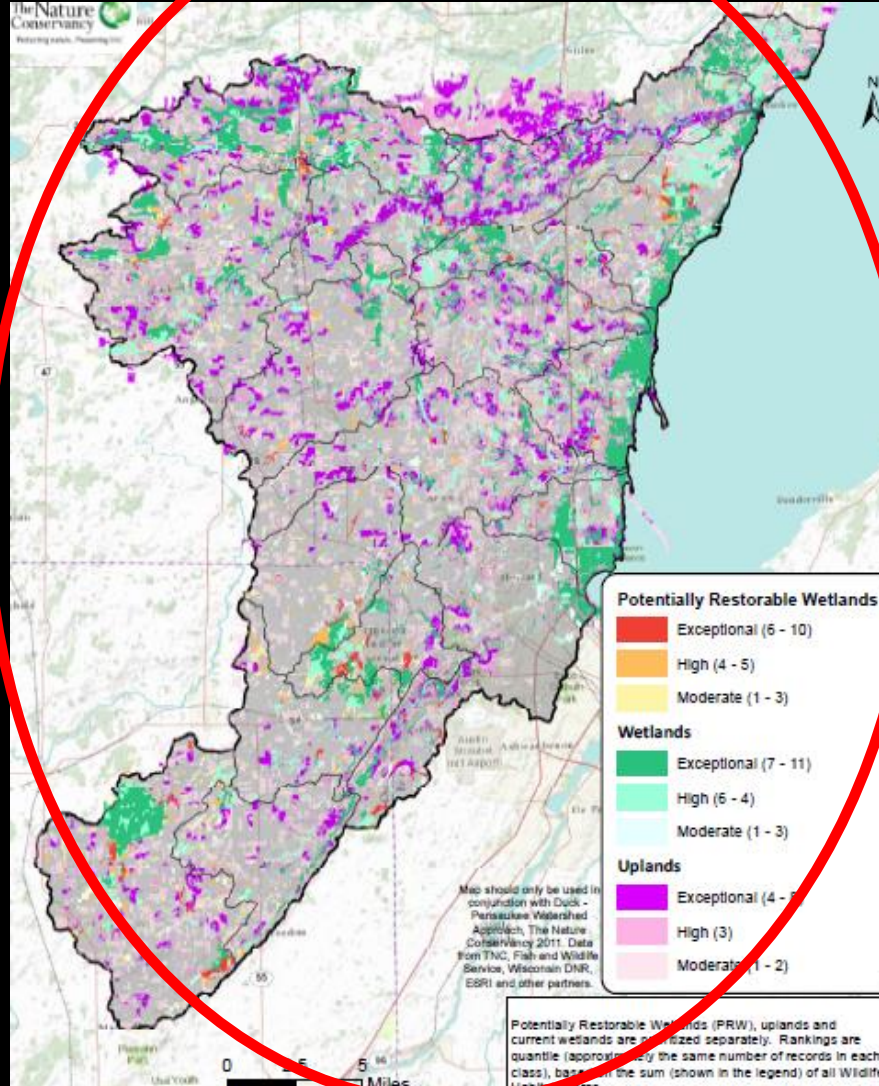


# Site Selection

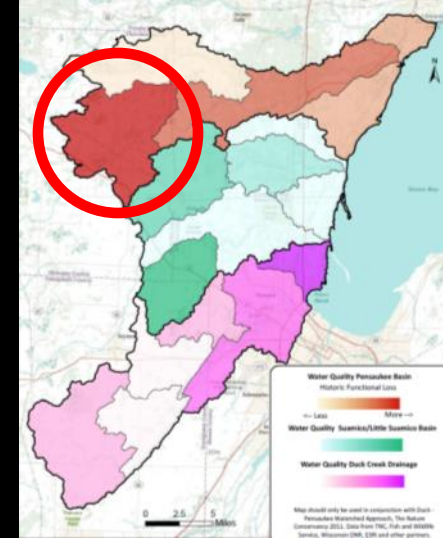
## Flood Abatement



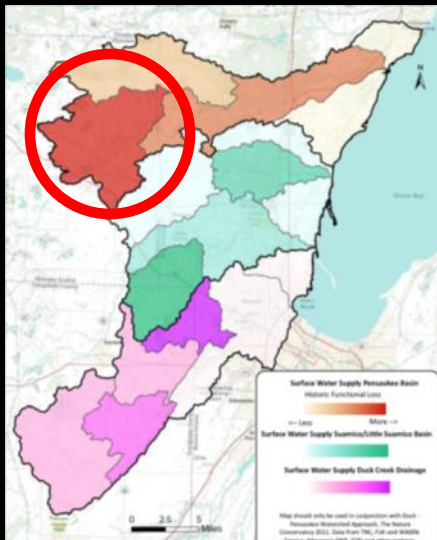
## Wildlife



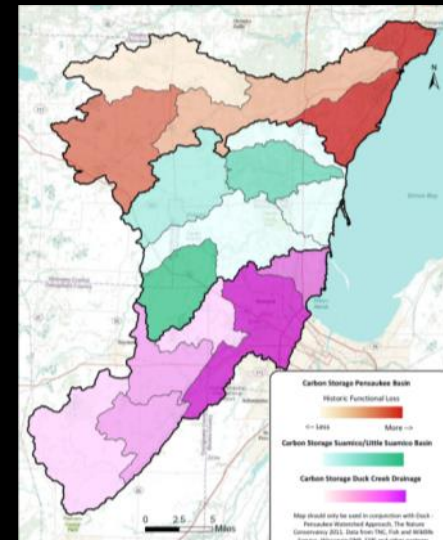
## Water Quality



## Surface Water Supply

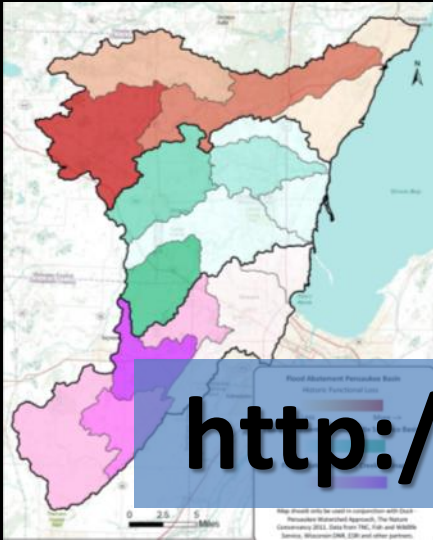


## Carbon Storage

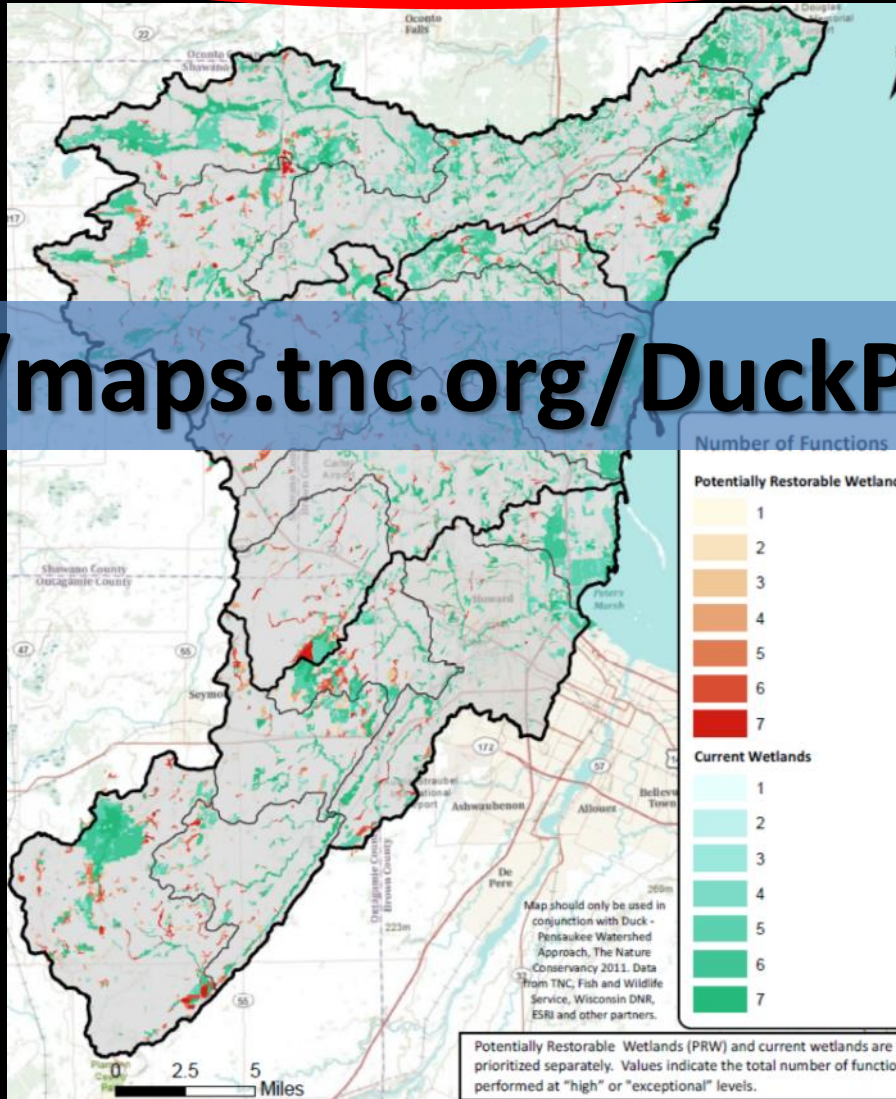


# Site Selection

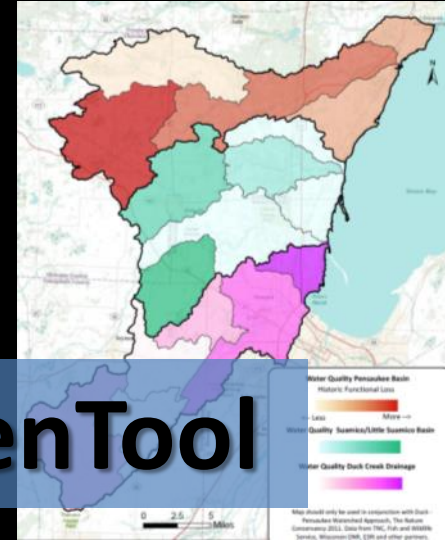
## Flood Abatement



## All Ecosystem Services

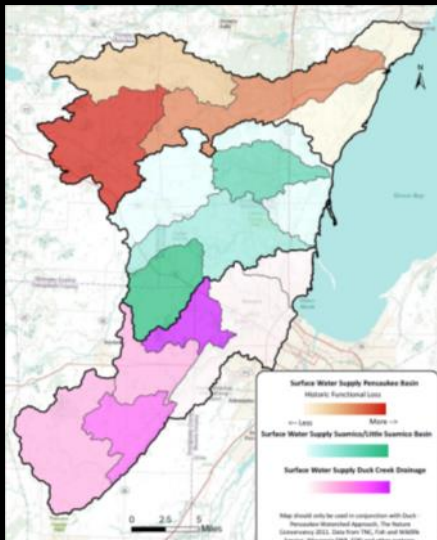


## Water Quality

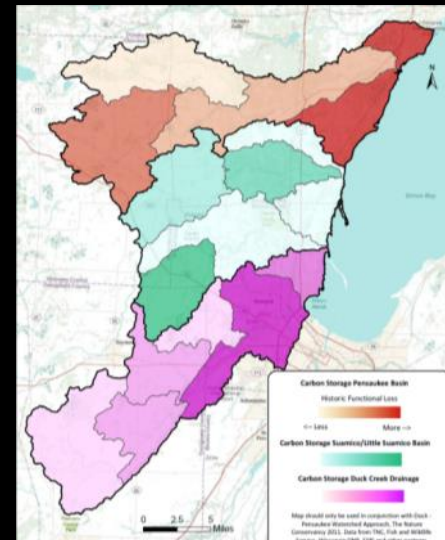


<http://maps.tnc.org/DuckPenTool>

## Surface Water Supply



## Carbon Storage



Potentially Restorable Wetlands (PRW) and current wetlands are prioritized separately. Values indicate the total number of function performed at "high" or "exceptional" levels.



## Looking Forward

- Implementation
- Validation
- Broader application
- Evolution