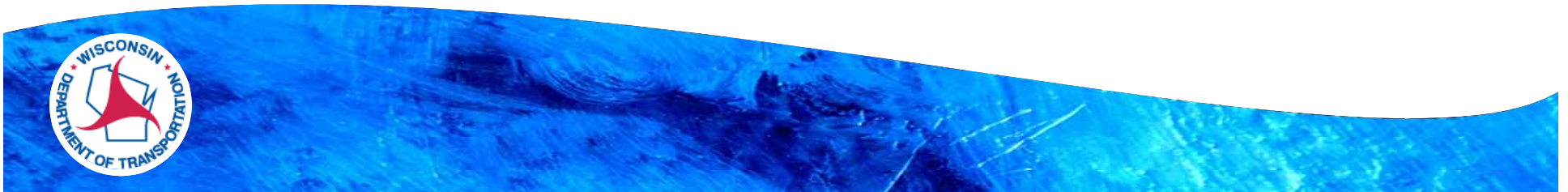


Oneida Wetland Mitigation Bank

Wisconsin Dept. of Transportation
November 2017



Presenters

- ▶ Jennifer Gibson – WisDOT Environmental Coordinator
- ▶ Mike Helmrick – WisDOT Environmental Coordinator



Overview

- ▶ Background on compensatory wetland mitigation
- ▶ Site purpose and need
- ▶ Intergovernmental agreement and collaboration
- ▶ Site design and construction
- ▶ Monitoring and maintenance
- ▶ Lessons learned and successes



Compensatory Wetland Mitigation

- ▶ Compensates for wetland loss through on-the-ground replacement
- ▶ Restoration, establishment, enhancement, preservation
- ▶ 2008 EPA/USACE Mitigation Rule
 - Mitigation banks – generate credits for future use
 - In-lieu fee – purchase advance credits; projects completed later in time
 - Permittee-responsible – concurrent project-specific wetland sites



Federal Requirements

- ▶ Watershed approach
- ▶ Interagency review team
- ▶ Prospectus
- ▶ Public notice
- ▶ Bank instrument
- ▶ Compensation site plan
- ▶ Long-term site protection

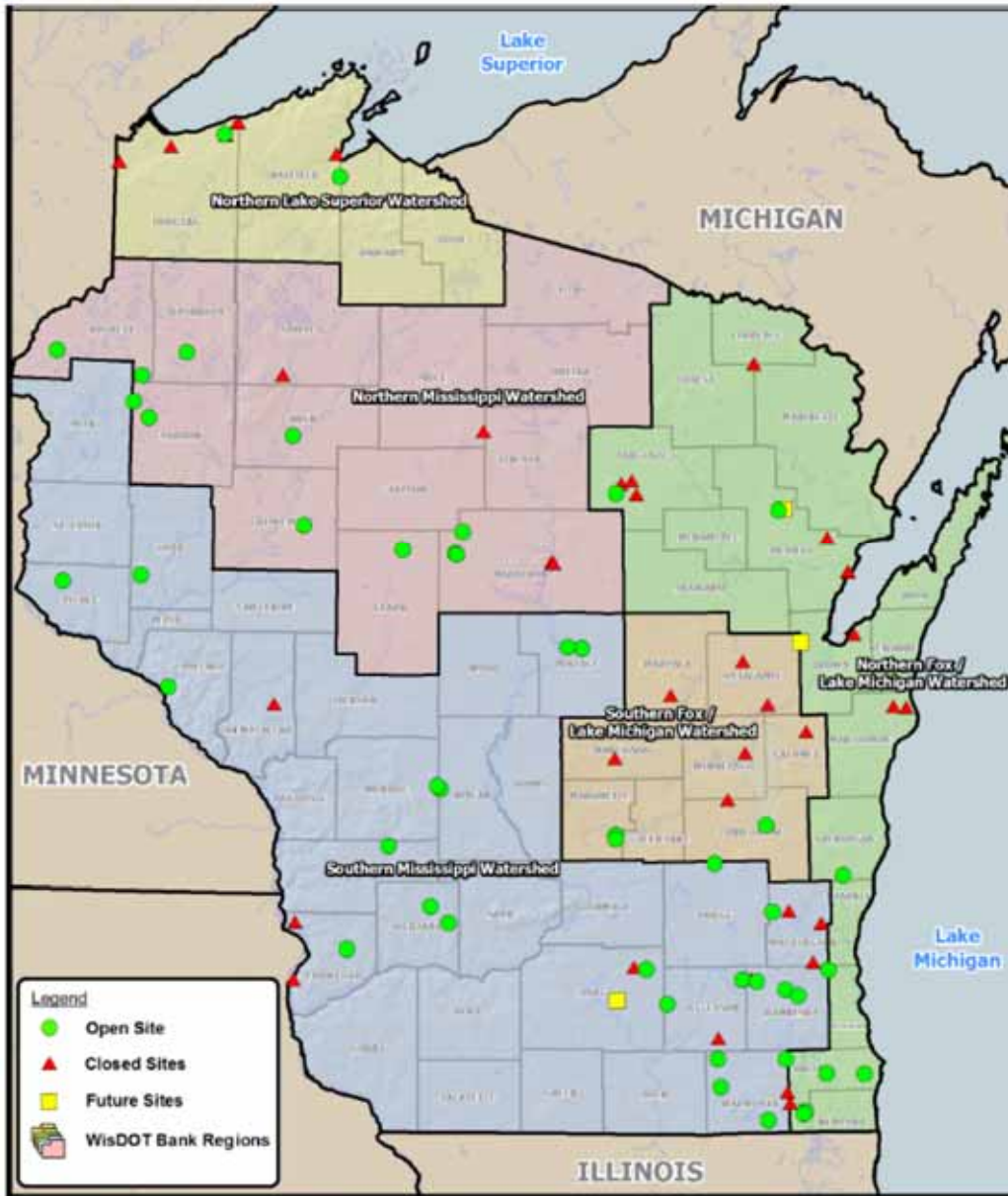


WisDOT's Wetland Program

- ▶ Established in 1990 through the WisDOT/WDNR cooperative agreement
- ▶ Federal participation in 1993
- ▶ WisDOT wetland mitigation technical guideline
- ▶ WisDOT or WisDOT-supervised projects



WisDOT Wetland Bank System Overview

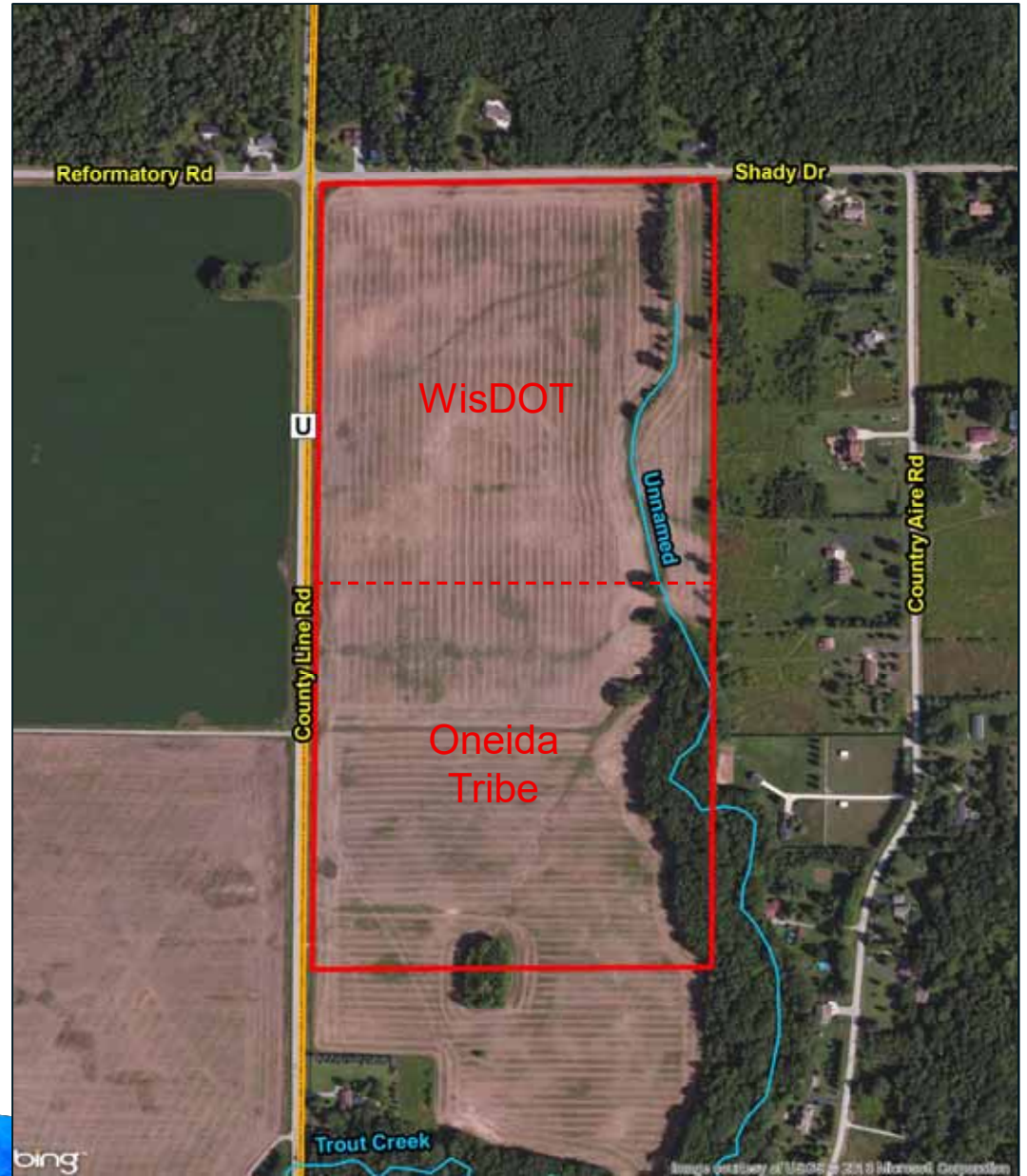
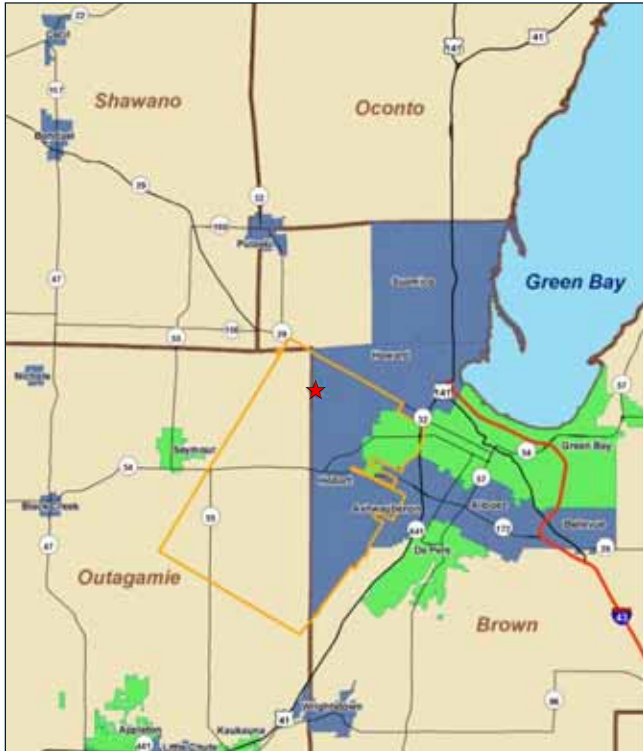


Project History

- ▶ WIS 29 & CTH FF interchange project was planned to impact 11.17 acres of wetland
- ▶ Completed a 2.5 mile buffer search around the project for suitable mitigation properties
- ▶ The search yielded several potential sites:
 - 40-acre parcel Oneida Tribe parcel
 - Adjacent 40-acre privately-owned parcel



Project Location



Project History

- ▶ Contacted the Oneida Tribe to see if they had interest in partnering for a mitigation project
- ▶ Highway project schedule wouldn't allow enough time for mitigation site design process and concurrent construction
- ▶ WDNR and USACE agreed that the highway project wetland impacts could be debited to an existing WisDOT Wetland Mitigation Bank



Project Purpose & Need

- ▶ Duck Creek Watershed
 - Impaired due to agriculture and urbanization
- ▶ WisDOT agreed to pursue development of the site as a bank site to help offset impacts to the watershed
- ▶ WisDOT's Northern Fox River/Lake Michigan bank region is a priority for wetland credit establishment



Cost/Benefit Analysis

- ▶ Real estate costs
- ▶ Construction costs – restoration vs establishment
- ▶ Maintenance required – invasives, structures
- ▶ Monitoring duration – wooded vs non-wooded
- ▶ Likely number of credits generated
- ▶ Need for credits in bank service area



Intergovernmental Agreement

- ▶ Establish WisDOT wetland bank on tribal parcel
- ▶ Transfer ownership of parcel to Oneida Tribe
- ▶ Transfer maintenance responsibility at the end of 10 year monitoring
 - WisDOT maintains catastrophic failure responsibility
- ▶ Establish protections to maintain bank as wetland in perpetuity



Intergovernmental Agreement

- ▶ General public access for non-motorized outdoor recreational activities
- ▶ No hunting, fishing, trapping, shooting, ect
- ▶ Limited waiver of sovereign immunity for enforcement of agreement



Intergovernmental Agreement

- ▶ Multi-year process during site design
- ▶ Reviewed by WisDOT, Oneida Tribe and USACE legal staff
- ▶ Signed by Oneida Tribe's Environmental, Health and Safety Division/Land Management Division Director and WisDOT's Secretary



Site Goals and Objectives

- ▶ Passively managed wetland and upland complex that will provide credits to mitigate for unavoidable impacts to wetlands by WisDOT projects
- ▶ Restore wetland functions and values lost by historic land use changes within the Duck Creek watershed
- ▶ Create an upland area to buffer the site



Plant Communities

- ▶ Wetland Establishment
 - Wet meadow – 18.35 acres
 - Shallow marsh – 7.8 acres
 - Deep marsh – 4.5 acres

- ▶ Wetland Enhancement
 - Wet meadow & deep marsh – 0.35-acre

- ▶ Upland Buffer
 - 18 acres





LEGEND

 Wet Meadow (Soil Saturation) 18.6 AC	 Shallow Marsh (0-6") 7.8 AC	 Deep Marsh (6-36") 4.6 AC	 Wooded Swamp (0-6") 10.3 AC	 Existing Trees	 Creditable Upland Buffer
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DRAINAGE AREA TO WETLAND RATIO: 3:1
 PROPOSED WETLAND ACREAGE: 40.25
 EXCAVATION: 147,800 C.Y.
 EMBANKMENT: 149,500 C.Y.

3:1
 40.25
 147,800 C.Y.
 149,500 C.Y.

TYPICAL SIDE SLOPE: 10:1
 WETLAND WATER ELEVATION: 751.00
 SUBGRADE EXCAVATION ELEVATION: 750.50
 CONTROL STRUCTURE INVERT: 751.00
 EMERGENCY SPILLWAY ELEVATION: 751.50
 TYPICAL TOP OF BERM: 753.00

Oneida Bank Wetland Mitigation
 Proposed Vegetative Communities Map



Wisconsin Department of Transportation
 September 2013



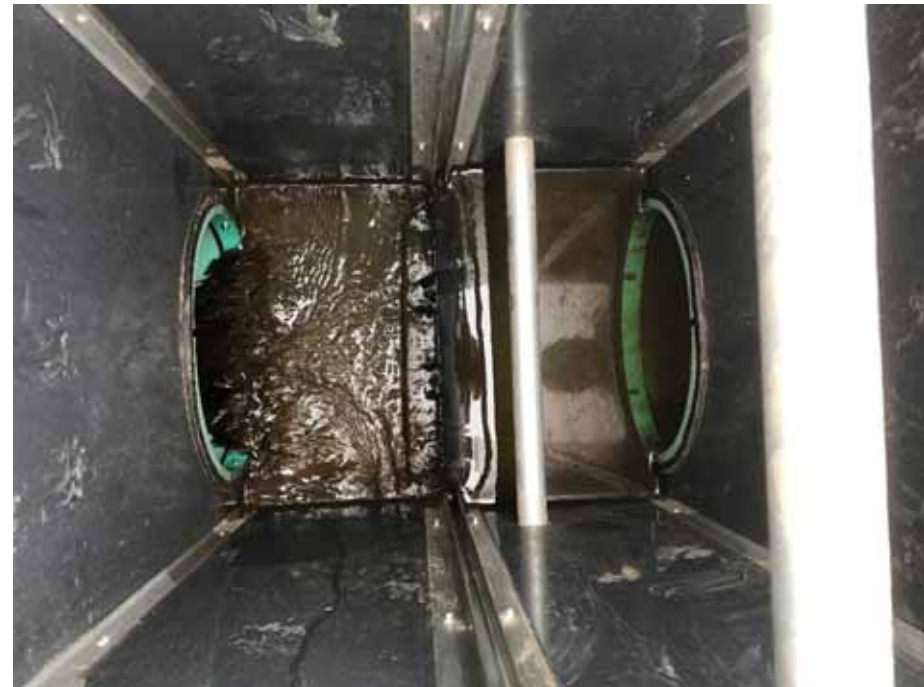
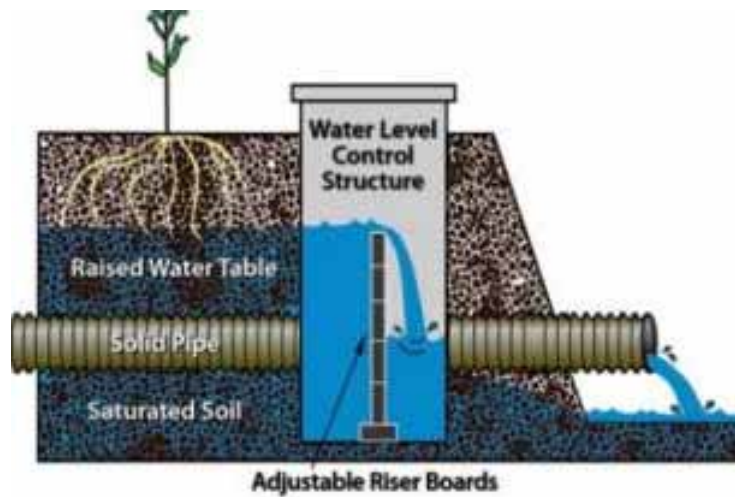
Collaboration

- ▶ Meetings and updates throughout the design process
- ▶ Design features:
 - Parking area
 - Future upland walking trails
 - Incorporating wild bergamot into upland seed mix



Design Features

- ▶ Adjustable water control structure



Design Features

- ▶ Articulated Concrete Mat



Tribal Coordination & Involvement

- ▶ Section 106
 - Corina Williams, Oneida THPO
- ▶ Native American hiring provision in construction contract
- ▶ Oneida Tribe visit during construction activities



Site Construction

▶ August 2015



Tree Planting

▶ October 2015



Tree Planting

- ▶ Contractor had difficulty obtaining species and quantities
- ▶ Container grown
- ▶ Planted 9 native, wetland species
- ▶ 904 trees over 8.9 acres



Performance Standards

- ▶ Targets established in the site plan to ensure wetland and upland areas are successful
- ▶ Attainment of standards allows for credits to be released for use



Performance Standards

- ▶ Vegetation
 - Hydrophytic species in wetlands
 - Prevalence of native vegetation
 - Limited non-native/invasive cover
 - Diversity

- ▶ Hydrology
 - Depth to ground water and surface water inundation
 - Duration requirement



Post-Construction Monitoring

- ▶ Minimum of 10 years
- ▶ Wetland delineations
- ▶ Plant community assessments
- ▶ Shallow wells and staff gauges
- ▶ Tree surveys
- ▶ Photos



Hydrology Monitoring



Vegetation



Photo Credit: Steve Eggers



Vegetation



Trees



Photo Credit: Steve Eggers



Wildlife



- ▶ Many species of birds, waterfowl, amphibians, and mammals observed
- ▶ Nesting pair of Dickcissels - WI special concern bird

Maintenance

- ▶ Herbicide applications
 - Reed canary grass
 - Phragmites (common reed grass)
 - Purple loosestrife
 - Narrow-leaf and hybrid cattail

- ▶ Mow upland buffers

- ▶ Adjust water elevation at outlet



Long-Term Obligations

- ▶ Oneida Tribe responsible for maintenance after monitoring ends
- ▶ WisDOT's long-term requirements
 - Wetland in perpetuity
 - Catastrophic failure
- ▶ Invasives



Lessons Learned

- ▶ Invasive management
 - Preconstruction
 - Early, often

- ▶ Tree plantings
 - Maturity
 - Elevated mounds

- ▶ Gained understanding of new mitigation rule



Successes

- ▶ Partnering with Oneida Tribe
- ▶ Native American hiring provision utilized in contract
- ▶ Positive review by USACE on native wetland diversity and cover



Thank You

- ▶ Oneida Tribe
- ▶ Jeremy Ashauer – WisDOT Project Manager
- ▶ URS – Site design



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