

WETLAND MITIGATION AND WETLAND BANKING

Michael Pennington, MDEQ



PRESENTATION OUTLINE

- Update on MDEQ's Banking Program
- Update on Wetland Mitigation Bank Funding (WMBF) Program
- New Tools in MDEQ's Wetland Mitigation Toolbox



WHAT IS WETLAND BANKING?

- Establishment of new wetlands in advance of losses
- Service watersheds and ecoregions
- Preferred method of compensatory mitigation
- Provides benefits to state and applicants



BENEFITS OF WETLAND BANKING

Benefits to State of Michigan

- Increase in state's wetland resources
- Larger better functioning wetlands
- Facilitates watershed planning approach

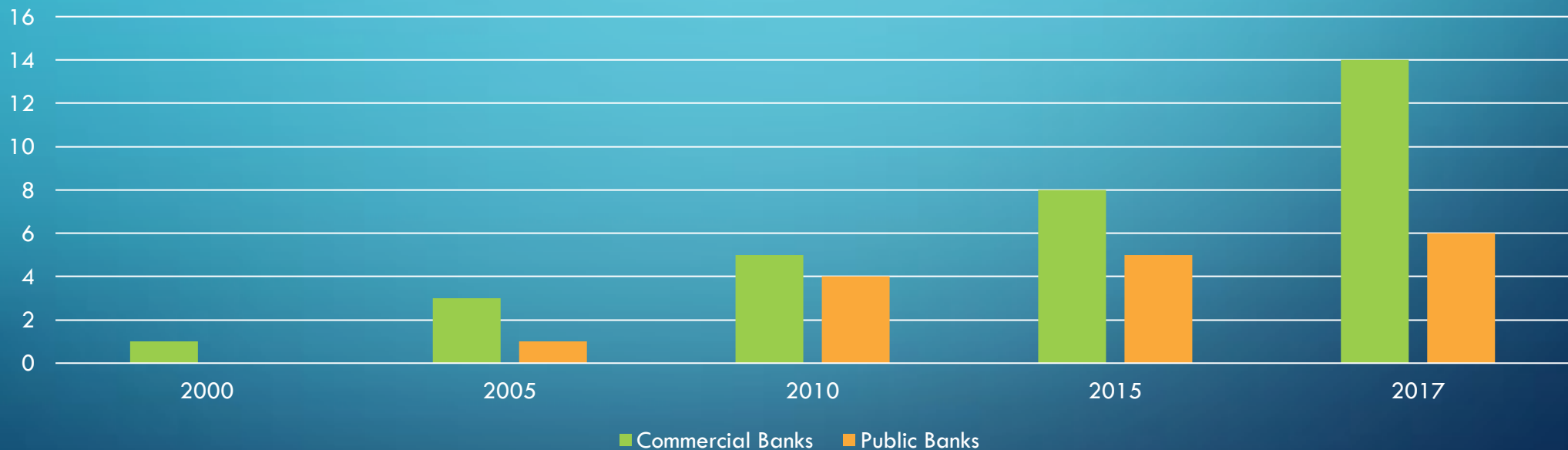
Applicant Benefits

- Reduces permit processing times
- Ensures success and availability of mitigation



HISTORY OF WETLAND BANKING IN MICHIGAN

Total Number of Bank Sites



2018 WETLAND BANKING PROJECTION

- 8 New Commercial Bank Sites
- 6 New Public Bank Sites
- 4 Municipal Bank Sites
- 400 acres of potential credit



2018 WETLAND BANK SERVICE AREA



WETLAND BANKING REGISTRY MAP



WETLAND BANKING REGISTRY MAP



WETLAND BANKING REGISTRY MAP



WETLAND MITIGATION BANK FUNDING (WMBF) PROGRAM

- Provides grants and low interest loans to municipalities to establish wetland banks
- Grants are used to design wetlands and establish banking agreements
- Loans are used to construct, manage and monitor wetland banks



CURRENT STATUS OF WMBF PROGRAM

- 4 grants in 2017 totaling approximately \$400,000
- Private/Public partnership between Michigan Municipal Wetland Alliance and MDNR
- Bank sites located in MDNR property
 - Saginaw/Gratiot State Game Area, Grand River State Game Area, Allegan State Game Area, Petersburg State Game Area
- Primary purpose is to service municipal needs
- Construction in 2018



MDEQ TOOLBOX

- Example Templates
- Recommended Methodologies
- Promote Consistency and Streamline Permit Processing Times



NEW TOOLS

- Updated Wetland Monitoring Report Example
- Vegetation Sampling Worksheet
- Watershed Approach for Siting Wetland Mitigation and Restoration Projects



- USACE May 2016 Guidance/RGL 08-03
- Consolidated Format
- Less fluff
- Electronic Data Submittal

[illegible]

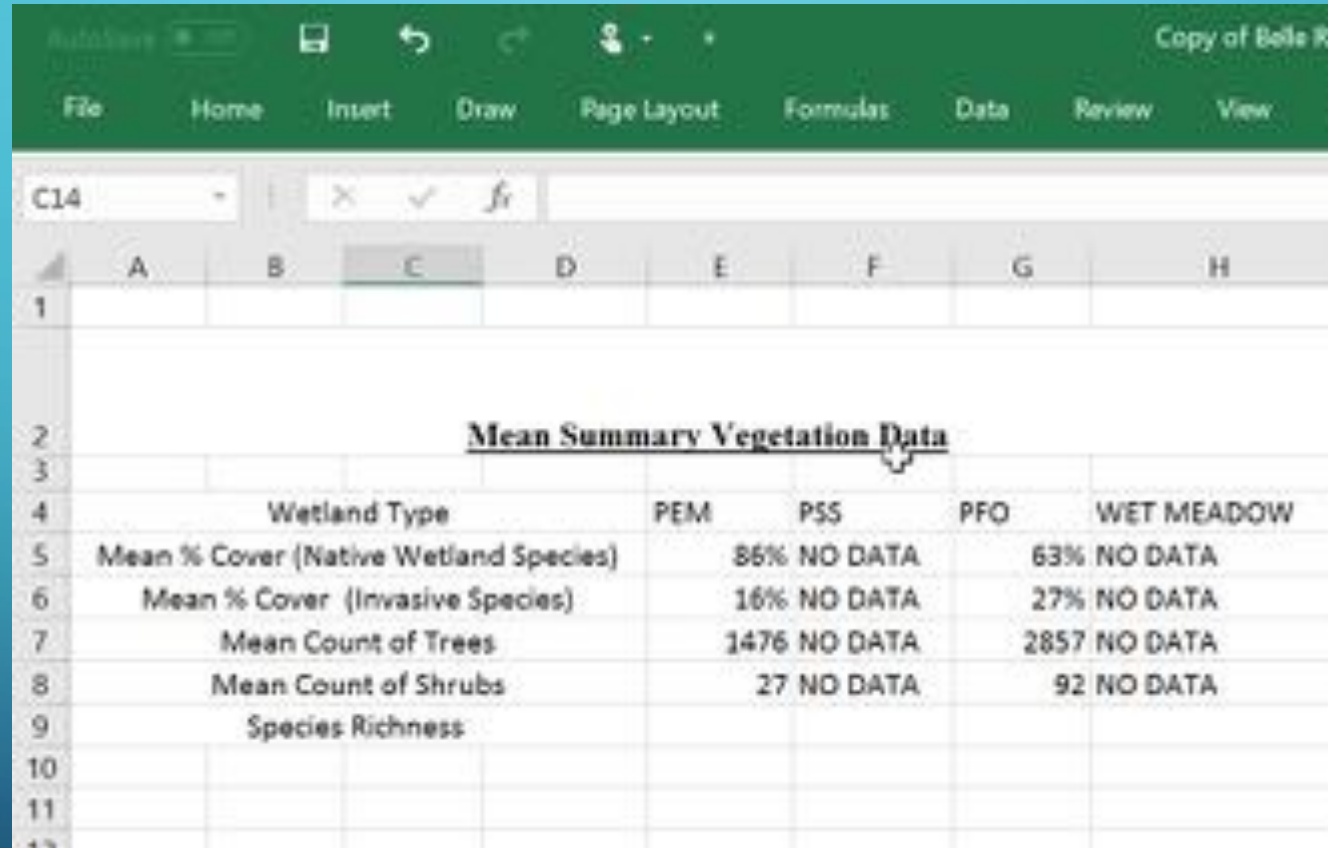
VEGETATION SAMPLING WORKSHEET

 This image cannot currently be displayed.

VEGETATION SAMPLING WORKSHEET

DEC

VEGETATION SAMPLING WORKSHEET



Copy of Belle Riv

File Home Insert Draw Page Layout Formulas Data Review View

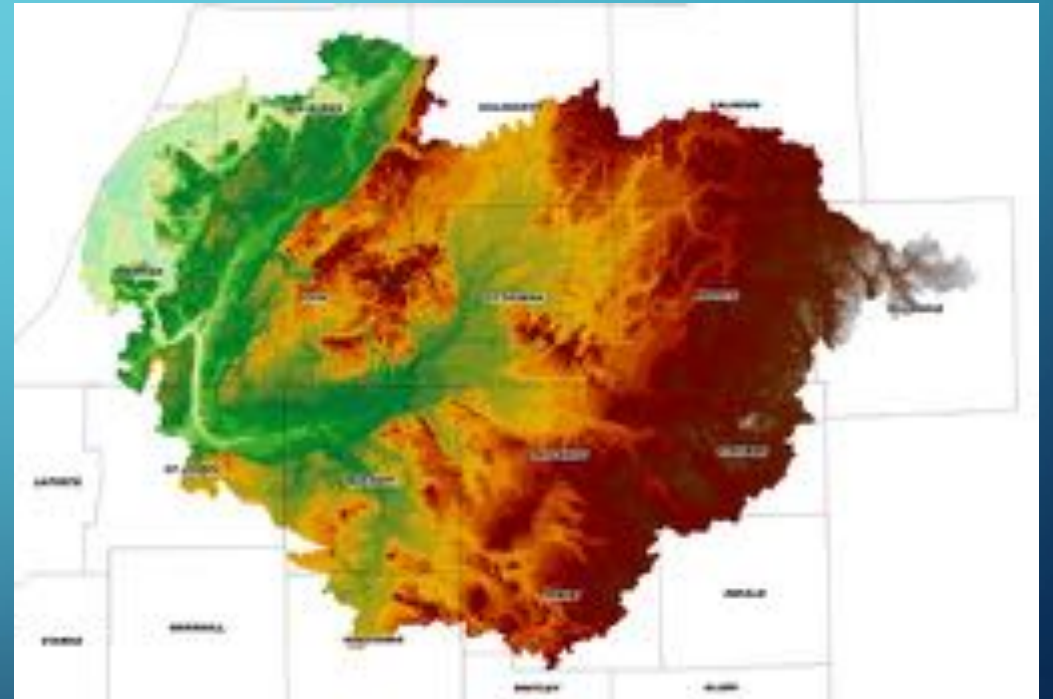
C14

Mean Summary Vegetation Data

Wetland Type	PEM	PSS	PFO	WET MEADOW
Mean % Cover (Native Wetland Species)	86% NO DATA		63% NO DATA	
Mean % Cover (Invasive Species)	16% NO DATA		27% NO DATA	
Mean Count of Trees	1476 NO DATA		2857 NO DATA	
Mean Count of Shrubs	27 NO DATA		92 NO DATA	
Species Richness				

SITING MITIGATION AND RESTORATION IN A WATERSHED CONTEXT

- Incorporates MDEQ's Landscape Level Wetland Functional Assessment (LLWFA)
- Incorporates Wetlands Map Viewer and Status and Trends
- Incorporates Watershed Plans (if applicable)



MDEQ APPROACH COMPONENTS

- Initial Site Evaluation Sheet
 - Walks users through existing data
 - Identifies data gaps
- Wetland Functional Assessment Checklist
- Wetland Functional Assessment Flowcharts



INITIAL SITE EVALUATION SHEET

- What type of wetland is being assessed?
- Has LLWFA been completed?
- Is there a Watershed Plan?
- Complete Checklist or Flowcharts

I

Wetland Functional Assessment Initial Site Evaluation Sheet

1. What type of wetland is being assessed? ☐ Existing Wetland
☐ Proposed Wetland (Anticipated Future Use)

2. Is this wetland in a watershed that has completed Landowner and Wetland Functional Assessment (LLWFA)? [Click Here](#)
☐ Yes
☐ No

If you check "No" to question 2, please see the LLWFA process for functional assessment and provide a copy of the LLWFA report.

Are Wetland Functions:

<input type="checkbox"/> Floodwater Storage	<input type="checkbox"/> Groundwater Recharge	<input type="checkbox"/> Aquatic Food Production
<input type="checkbox"/> Sediment Retention	<input type="checkbox"/> Nutrient Retention	<input type="checkbox"/> Fish Habitat
<input type="checkbox"/> Wildlife Habitat	<input type="checkbox"/> Riparian Habitat	<input type="checkbox"/> Shoreline Protection
<input type="checkbox"/> Floodplain Habitat	<input type="checkbox"/> Wetland Habitat	<input type="checkbox"/> Wetland Habitat

Current Wetland Functions:

<input type="checkbox"/> Floodwater Storage	<input type="checkbox"/> Groundwater Recharge	<input type="checkbox"/> Aquatic Food Production
<input type="checkbox"/> Sediment Retention	<input type="checkbox"/> Nutrient Retention	<input type="checkbox"/> Fish Habitat
<input type="checkbox"/> Wildlife Habitat	<input type="checkbox"/> Riparian Habitat	<input type="checkbox"/> Shoreline Protection
<input type="checkbox"/> Floodplain Habitat	<input type="checkbox"/> Wetland Habitat	<input type="checkbox"/> Wetland Habitat

Wetland and Floodplain Functions:

<input type="checkbox"/> Floodwater Storage	<input type="checkbox"/> Groundwater Recharge	<input type="checkbox"/> Aquatic Food Production
<input type="checkbox"/> Sediment Retention	<input type="checkbox"/> Nutrient Retention	<input type="checkbox"/> Fish Habitat
<input type="checkbox"/> Wildlife Habitat	<input type="checkbox"/> Riparian Habitat	<input type="checkbox"/> Shoreline Protection
<input type="checkbox"/> Floodplain Habitat	<input type="checkbox"/> Wetland Habitat	<input type="checkbox"/> Wetland Habitat

Remarks: To verify the accuracy of the data and the results of the LLWFA, the results of the LLWFA should be reviewed and approved by the LLWFA Coordinator.

WETLAND FUNCTIONAL ASSESSMENT CHECKLIST

- Based on LLWFA descriptions
- Can be used for existing wetlands or proposed sites
- Need to have conceptual plan
 - Will there be an outlet?, What type of vegetation?, ponding frequency, depth?

Appendix B. Wetland Functional Assessment Checklist

Type of Site: ☐ Existing Wetland (to be improved)
☐ Conceptual Mitigation Site to be restored

Site Name: _____

WEC's Submission Number: _____

Wetland Functions Evaluated:

1. ☐ Flood Water Storage

Wetlands that perform some type of flood water storage, wetlands that along streams and rivers, if a sufficient volume (frequency) are available to provide this function. These wetlands types hold excess water and the slow or stream can be eroding and move the excess water downstream. (Note: the water flows inside the water plants in these wetlands also creates back to normal flow). Isolated water wetlands may also be an important wetland type for this function. These depressions or bowl-shaped wetlands provide a storage area for adjacent upland wet off during rain events, providing the water back flowing downstream, even. This function does not take into consideration the size of the wetland being evaluated, although generally, smaller properties would indicate that size does make a difference in the amount of water stored.

Justification: _____

2. ☐ Groundwater Recharge

Wetlands that are sources of groundwater recharge that provide infiltration to the watershed. Such wetlands are critically important for supporting aquifers that recharge. All wetlands classified as freshwater wetlands are important for recharge (Gray 2002). Freshwater wetlands are very important when it comes to recharging local flow of streams. All wetlands classified as freshwater are rated as performing this function at a significant rate. Specific wetland types also perform this function, but primarily at a more moderate rate.

Wetlands that are adjacent to rivers or streams, and are located within the floodplain, store water during flooding events and then release water slowly into the stream or river, maintaining flow. Ponds and lakes that have a stream or river flowing through them are also important in supplying and regulating streamflow as well. Other wetlands that discharge groundwater or surface seepage also provide infiltration for a more moderate rate.

WETLAND FUNCTIONAL ASSESSMENT FLOWCHARTS

- Based on LLWFA descriptions
- Can be used for existing wetlands or proposed sites
- Need to have conceptual plan
 - Will there be an outlet?, What type of vegetation?, ponding frequency/depth?

