Current Developments in Wetland Mitigation and Wetland Mitigation Banking in Michigan

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Presentation Outline

- 2009 Amendments to Part 303
- Proposed Wetland Mitigation Reforms
  - Improve flexibility in mitigation regulations
  - Enhance Wetland Banking
- Mitigation Toolbox
- Mitigation Site Recommendations
- Pine River Bank Spotlight
2009 Amendments to Part 303
(Mitigation Preferences)

- The acquisition of approved credits from a wetland mitigation bank (preferred)
- The restoration of previously existing wetland is preferred over wetland creation (sites must have hydric soils to be considered restoration)
- The creation of new wetlands, if the permit applicant demonstrates that ecological conditions necessary for establishment of a self-sustaining wetland ecosystem exist or will be created
- The preservation of exceptional wetlands
2009 Amendments to Part 303
(Watershed Approach)

“In approving a compensatory mitigation plan, the department shall consider how the location and type of wetland mitigation supports the sustainability or improvement of aquatic resources in the watershed where the activity is permitted.”

- Consider how landscape position and the types and locations of compensatory mitigation projects will provide the desired aquatic resource functions, and will continue to function over time in a changing landscape.

- Consider the habitat requirements of important species, habitat loss or conversion trends, sources of watershed impairment, and current development trends, as well as the requirements of other programs that affect the watershed (e.g., watershed, storm water management and habitat conservation plans).
Proposed Wetland Reforms
Improve Flexibility in Mitigation Regulations

The DEQ is proposing to develop wetland mitigation standards (through administrative rule) that allow for consideration of the wetland functions and values being impacted and the expected functions and values of the mitigation area, including:

- Continuing to reduce focus on on-site mitigation
- Providing flexibility in mitigation ratios for uses of wetlands (e.g., farming) by allowing consideration of functions and values instead of a strict ratio
- Allowing consideration of ecologically beneficial additions (e.g., upland buffers)
- Allowing a reduction of mitigation ratios when using a wetland mitigation bank
Enhance Wetland Banking

The DEQ proposes to establish incentives (through administrative rule) that would encourage the creation of more mitigation banks and ensure bank credits are available in developing areas, including:

- Increasing service area size of banks.
- Allowing earlier release of credits (e.g. release credits sooner for privately owned banks and allowing the release of advance credits to municipalities as done with in lieu fees programs)
- Allowing wetland preservation in areas where there are not wetland restoration opportunities
- Developing state backed low interest loans to municipalities utilizing the State Water Pollution Control Revolving Fund
- Devoting a staff person to wetland mitigation banking
Why Michigan Encourages Wetland Banking

- Preferred method of mitigation under Federal Mitigation Rule and 2009 Amendments to Part 303
- Applicant benefits
  - Reduced permit processing time and costs
  - Increases certainty of mitigation
- State benefits
  - Providing for establishment of new wetlands in advance of losses
  - Consolidating small mitigation projects into larger, better designed and managed units
  - Encourages integration of wetland mitigation projects with watershed based resource planning
Wetland Banking Grants and Loans

- Effective January 2, 2013
- Provides municipalities grants and loans under the Strategic Water Quality Initiative Program
- 3 Million in FY 2014
Municipality

A city, village, county, township, authority, or other public body, including an intermunicipal agency of 2 or more municipalities, authorized or created under state law; or an Indian tribe that has jurisdiction over construction and operation of sewage treatment works or other projects qualifying under section 319 of title III of the federal water pollution control act, 33 USC 1329.
Wetland Banking Grants

- $500,000
- Developing an approvable wetland banking agreement
- Notifying local units of government
- Planning and designing a wetland bank
- Completing a wetland bank loan application
Wetland Banking Loans

- $10,000,000
- Completing and executing a banking agreement
- Completing design and engineering
- Purchase of property
- Construction of wetland bank
- Monitoring and maintenance of bank
Wetland Mitigation Toolbox
(Under Development)

- Watershed based site selection guidance
- Mitigation and monitoring plan template/guidance
- Monitoring report template/guidance
- Water budget template/guidance
- Long Term Management and Stewardship
Watershed Based Site Selection

- High priority wetland restoration areas
  - Wetland Map Viewer
- Use watershed approach for siting
  - Approved watershed plans
- Look at wetland functions and values
  - Michigan Rapid Assessment Method (MiRAM)
  - Other functional assessment
Mitigation and Monitoring Plan Templates/Guidance

- Mitigation plan checklist
- Mitigation plan template
- Spring 2013
- Consistent with 2008 Federal Mitigation Rule
- Increase consistency on statewide basis
- Facilitate staff review time of mitigation plans
Monitoring Report Templates/Guidance

- Spring 2013
- Consistent data collection and analysis
- Consistent data reporting/statistics
- Facilitate staff review and acceptance
- Facilitate potential corrective action and final site approval
Water Budget Templates/Guidance

- Spring 2013
- Required for complete mitigation plans
- Standard template for consultant use

- Step by step instructions
- Facilitate staff review and site approval

![Example Hydrograph](1965 DATA)
Long Term Management and Stewardship

- Consistent with Federal Mitigation Rule
- Signed by all parties and recorded with conservation easement
- Agreement identifies stewardship responsibilities and obligations
- Baseline conditions and Inspections
- Includes long term management plan and funding mechanism
Mitigation Site Recommendations

- Water Control Structures
- Grading
- Planting Recommendations
- Invasive Species Control
- Adaptive Management
- Maintenance
Water Control Structures

- Hydrology needs to be monitored and/or manipulated to ensure long term success (single most important factor)

- Adjustable water control structures
  - DEQ standard permit conditions
  - Important for forested and scrub-shrub wetlands to ensure woody plant survival

- Will need to be replaced with permanent structures after monitoring period

- Not to be used for moist soil management (i.e. waterfowl management)
Water Control Structures

Agri Drain In-Line Water Control Structure
Grading

- Flat grading for certain wetland types
  - Forested and scrub-shrub wetlands should be graded at the same elevation per wetland cell
  - Uniform water control
  - 3-4 inch vertical tolerance based on research

- Rough grading (3-4 inches)

- Incorporate micro-topography

- Grades determine wetland type (assuming sufficient water)
  - Water tolerance for certain species (cattails)
  - Tree/shrub survival
Grading Examples

Flat Grading

Rough Grading

Pit and Mound Topography
Planting

- Small bare root stock **appears** to be best
  - Container grown and balled and burlapped costly and high mortality (aesthetics?)
  - Root Prune Management (RPM)
- Spring or fall planting during dormancy acceptable
  - Fall planting may require more maintenance in the spring
Adaptive Management

- Invasive species control
- Lowering/raising water levels for cattail eradication
- Removing tiles missed during construction
- Re-planting trees/shrubs/plugs
Invasive Species Control

- Location, location, location
  - Do not site wetlands near invasive monocultures
  - Think about sources of invasive species in advance (drains, adjacent wetlands, etc.)

- If possible, pre-treat sites prior to construction
- Treat sites immediately post construction
- Maintain control throughout monitoring period
- Long term management plan
Invasive Species Control

Reed canary grass pre-treatment

Reed canary grass post-treatment
Invasive Species Control

Phragmites pre-treatment

Phragmites post-treatment
Maintenance

- Initiate maintenance program immediately after construction
- First two years after construction are most critical
- Hydrology and invasive species control are most important aspects
- Adaptive management plan is necessary
Pine River Bank Spotlight

- 23 acre bank site in Emmet County, Pine River *Charlevoix* Watershed (1 mile north of Bear River)
- MDOT bank sponsor
- Groundwater Site
  - Two years hydrology data
  - Difficult watershed for mitigation due to topography
- Designed to incorporate Michigan Tech University (MTU) study on northern white cedar restoration
- Approved watershed plan (Little Traverse Bay)
- 65 acre conservation easement
  - Includes existing cedar swamp adjacent
Site Location

Emmet County
Pine River Watershed

Approx. 4 miles SE of the City of Petoskey
Plan View

Two Tier Design
Forsted and Scrub-Shrub
Pit and Mound Grading

As part of the research study, White Cedars were planted both on and off of mounds, and both in and out of fences.
Habitat Structure Placement
Water Control Structure
Northern White Cedar Study
Long Term Management

- MDOT intends to donate land to Bear Creek Township
- Endowment for long term management
  - Minimal invasive species control due to siting
  - Regular inspections/maintenance
- Wetland will be incorporated into adjacent soccer fields/park owned by township
Recent Aerial
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