



Current Developments in Wetland Mitigation and Wetland Mitigation Banking in Michigan

Michael Pennington, MDEQ

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

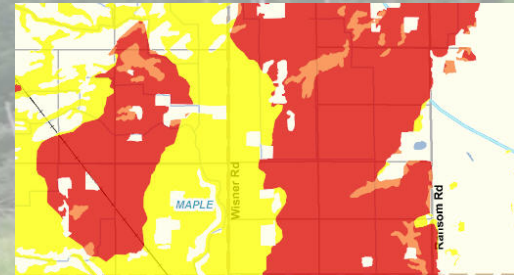
(Under Development)



- 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

CHECKLIST FOR WETLAND MITIGATION PLANS



DEPARTMENT OF ENVIRONMENTAL QUALITY • LAND AND WATER MANAGEMENT DIVISION
Jennifer M. Granholm, Governor • Steven E. Chester, Director
www.michigan.gov/deq/wetlands

In accordance with the administrative rules for Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, a mitigation plan must be submitted by the permit applicant when wetland mitigation is required by the Michigan Department of Environmental Quality. The following items must be submitted in the wetland mitigation plan:

- ☐ Wetland Mitigation Goals and Objectives: Goals and objectives, including:
 - a. The acreage to be restored, created, or preserved by ecological type.
 - b. A description of the ecological types, hydrology, soils, and vegetation of the wetlands to be impacted.
 - c. A description of the functions provided by the wetlands to be impacted and the proposed mitigation wetlands.
- ☐ Map: A map showing the location of the wetland mitigation site in relation to surrounding roads and other landmarks.
- ☐ Baseline conditions: Characterization of the existing conditions at the proposed wetland mitigation site including:
 - a. A description of the topography, soils, hydrology, and vegetation. Soil boring information and groundwater monitoring data should supplement this description.
 - b. A plan view that includes topographic information (1 or 2 foot contour intervals), roads, trails, structures, property lines, directional arrows, scale, and the exact size and boundaries of existing wetlands, streams, and floodplain to the 100-year elevation.
 - c. Typical cross-sections.
 - d. An explanation of why the site was selected.
- ☐ Site Development Plan: The proposed wetland mitigation design including:
 - a. A description of the sources of hydrology, the source and type of soil amendments, wetland vegetation establishment, and wildlife structures.
 - b. A plan view showing all of the proposed conditions of the mitigation site including all contour elevations (at 1 foot contour intervals), structures, the type and size of all proposed wetland areas, property lines, directional arrows, scale, and the conservation easement area.
 - c. Typical cross-sections.
 - d. A water budget of inputs and outputs to the proposed wetland (e.g., precipitation, groundwater, runoff, evapotranspiration).
 - e. A vegetative establishment plan which includes a plan view, methods, species list with scientific and common names, and source of any plant or seed stock.
- ☐ Performance Standards: Criteria by which the mitigation wetland will be evaluated to determine if the wetland mitigation requirements have been met.
- ☐ Monitoring Plan: Locations of vegetative sampling transects, photo points, monitoring wells, and staff gauges for monitoring should be shown on a plan view.
- ☐ Schedule and Construction Methods: A schedule for completion of the mitigation site must be provided (e.g., initiation, planting, completion). The site preparation and soil erosion/sedimentation control methods to be used during construction should be described.
- ☐ Long-term Protection: Information on current site ownership, the conservation easement, and other provisions for the long-term protection of the site must be provided. Methods to be used to prevent and control the establishment of invasive plant species, to prevent over-grazing of vegetation, to remove trash, etc., should be identified.
- ☐ Financial Assurances: Cost estimates for construction, planting, monitoring, and any necessary land acquisition should be provided by the applicant to allow the Land and Water Management Division to determine the financial assurance amount necessary to be used to complete corrective action in the event of mitigation default or failure.

2/28/2007

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

TEMPLATE
(Remember to remove this before submittal.)

**DRAFT/FINAL WETLAND
MONITORING REPORT**
(If the report is Draft, delete "Final"; if it is Final, delete "Draft." Delete "and Stream" if there are no streams associated with the mitigation project.)

Project Name

XXX County, MI
MDEQ Permit Number XX-XX-XXXX

Prepared by
Name of Consultant

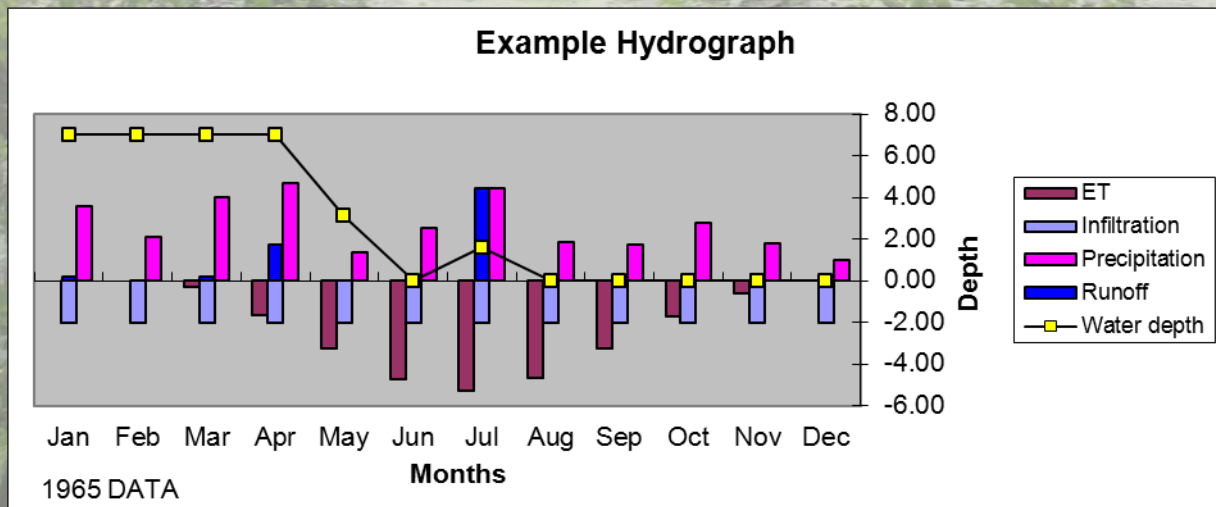
Month, day, year
(Revise month, day, year that document was completed before printing or submitting.)

Project Name
Wetland Monitoring Report

Month Day, Year

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



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

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CO-OPERATIVE STEWARDSHIP AGREEMENT FOR CONSERVATION EASEMENT

This Co-operative Stewardship Agreement for Conservation Easement (Agreement) is made effective and entered into as of this _____ day of _____, 20____, by and among:

The PERMITTEE _____ (name), a married/single individual(s), (circle one) or Michigan corporation, partnership, municipality, limited liability company (circle one), whose address is: _____

The GRANTOR _____ (Easement Holder
If not the Permittee, whose address is: _____

The STEWARD _____ (Name) whose address is: _____

The GRANTEE, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) whose address is P.O. Box 30458, Lansing, Michigan 48909-7958 or Constitution Hall, 1st Floor South, 525 West Allegan Street, Lansing, Michigan 48933.

Preamble:

The DEQ may in certain circumstances accept preservation of existing wetlands as mitigation for permitted wetland impacts, if the DEQ determines that all of the following conditions are met:

A. The wetlands to be preserved perform exceptional physical or biological functions that are essential to the preservation of the natural resources of the state or the preserved wetlands are an ecological type that is rare or endangered.

B. The wetlands to be preserved are under a demonstrable threat of loss or substantial degradation due to human activities that are not under the control of the applicant and that are not otherwise restricted by state law.

C. The preservation of the wetlands as mitigation will ensure the permanent protection of the wetlands that would be otherwise lost or substantially degraded.

Recitals:

WHEREAS, the Permittee, as a condition of DEQ Permit _____ -P, (Exhibit A) granted a Conservation Easement (Exhibit B) to the DEQ over a approximately _____ acre(s) of Property.

WHEREAS, (For Wetland Banks only) The Bank Sponsor, pursuant to an DEQ Wetland Banking Agreement, submitted a Management Plan that requires monitoring of the Conservation Easement premises, to ensure the Wetland Bank remains permanently protected and continues to evolve as a natural and undeveloped wetland area.

Mitigation Site Recommendations

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



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



Aerial Photo



Existing Cedar
Swamp



Two Tier Design

Forested 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



Contact Information

Michael Pennington
Wetlands, Lakes and Streams Unit
Water Resources Division
517-241-3303
penningtonm@michigan.gov

