

**WISCONSIN DEPARTMENT OF TRANSPORTATION**  
**WETLAND MITIGATION BANKING TECHNICAL GUIDELINE**

In cooperation with:

Wisconsin Department of Natural Resources  
U.S. Army Corps of Engineers  
U.S. Environmental Protection Agency  
U.S. Fish & Wildlife Service  
Federal Highway Administration

July 1993

First Revision: January 1997

Second Revision: March 2002

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Interagency Agreement on the 2002 Revision

Interagency Coordination Agreement of 1993

Wisconsin Department of Natural Resources Concurrence Correspondence

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**Interagency Agreement on the 2002 Revision  
Wetland Mitigation Banking Technical Guidelines for WisDOT Projects**

This revision reflects the Federal and State guidance and philosophical changes that have occurred in wetland mitigation and banking since the 1997 revision of the *Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline*. The principal changes include considerations for siting wetland compensation near airports, the wetland compensation concepts of wetland enhancement, use of upland buffer and wetland protection. Wetland restoration will continue to be the core method for compensation. Specific guidance on bank site establishment, site plans, definition of goals and objectives and site monitoring has been revised and are given greater detail.

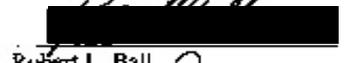
This 2002 revision includes all changes and additions agreed upon by the interagency Mitigation Bank Review Team (MBRT) and it is the desire of the participating agencies to endorse this revision so that the cooperative spirit that supports these guidelines will be maintained.

  
Gene F. Kuszart, Secretary

2/13/02  
Date

  
Darrell Bazzell, Secretary  
Wisconsin Department of Natural Resources

2/14/02  
Date

  
Robert L. Ball  
Colonel, Corps of Engineers  
District Engineer

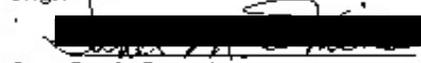
2/28/02  
Date

  
Philip H. Barnes  
Acting Division Administrator  
Wisconsin Division  
Federal Highways Administration

2/14/02  
Date

  
Kevin Pierard, Chief  
Wetlands and Watershed Section  
U.S. Environmental Protection Agency,  
Region V

3/1/02  
Date

  
Janet Smith, Supervisor  
Green Bay Field Office  
U.S. Fish and Wildlife Service

3-8-02  
Date

**INTERAGENCY COORDINATION AGREEMENT**  
**WETLAND MITIGATION BANKING TECHNICAL GUIDELINES**  
**FOR WIDOT PROJECTS**

We are pleased to note that the Wisconsin Department of Natural Resources and the Wisconsin Department of Transportation have officially concurred in the use of mitigation banking technical guidelines to address wetland impacts associated with Wisconsin Department of Transportation (WIDOT) projects.

The development of these guidelines by a Federal/State interagency task force was initiated approximately three years ago. The numerous meetings and intense discussions on this issue have produced an agreement which reflects a philosophy and procedural approach that is consistent with the wetland protection goals of the Clean Water Act.

Accordingly, it is the desire of the Federal agencies to endorse this agreement so that both Federal and State agencies are in harmony with respect to wetland mitigation banking for WIDOT projects. Further, by endorsing this agreement, the respective Federal agencies agree to active participation on the Interagency Overview Committee, and make a firm commitment to maintain the cooperative spirit that made possible the establishment of these guidelines.

APPROVED:

  
Frederic R. Ross  
Administrator, Division of Highways  
Wisconsin Department of Transportation

July 20, 1993  
Date

  
Jaclyn D. Kewton  
Environmental Programs Engineer  
Wisconsin Division  
Federal Highways Administration

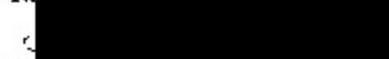
July 20, 1993  
Date

  
Ben A. Wopat  
Chief, Regulatory Branch  
U.S. Army Corps of Engineers  
St. Paul District

20 July 93  
Date

  
Douglas Ehorn  
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Region V

July 20, 1993  
Date

  
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Supervisor, Green Bay Field Office  
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July 20, 1993  
Date



George E. Meyer  
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State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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June 15, 1993

JUN 23 1993

OFFICE OF  
ENV. ANALYSIS

Ms. Carol Cutshall  
Office of Environmental Analysis  
Wisconsin Department of Transportation  
ID-MAIL, Room 651, Hill Farms Building  
Madison, Wisconsin

SUBJECT: Wetland Mitigation Banking Guideline  
Wisconsin DOT

Dear Ms. Cutshall:

In response to your recent letter, the Department of Natural Resources concurs with the final draft of the wetland mitigation banking technical guideline for DOT projects, dated June 1, 1993.

Wetland mitigation banking done under this guideline will implement the mitigation banking policies stated in the Amendment to the Cooperative Agreement between DNR and DOT on Compensatory Wetland Mitigation for DOT projects, November, 1990.

The mitigation banking guideline is consistent with the spirit and intent of our Cooperative Agreement. DOT staff are to be commended for initiating the development of the guideline, which hopefully will meet the requirements of the various federal agencies interested in mitigation banking on DOT projects in Wisconsin.

APPROVED:

[Redacted Signature]  
John E. Fryatt, Administrator  
Division of Enforcement

6-15-93  
Date

[Redacted Signature]  
George E. Meyer, Secretary  
Department of Natural Resources

6-16-93  
Date

Sincerely,  
Bureau of Environmental Analysis and Review

[Redacted Signature]  
Bruce B. Braun, Director



CC: Ben Wopat, U. S. Army Corps of Engineers, St. Paul  
Dale S. Bryson, U. S. EPA, Chicago  
Janet Smith, U. S. Fish and Wildlife Service, Green Bay  
James St. John, U. S. DOT, Federal Highway Administration, Madison  
DNR District Directors\*  
Tom Hauge - WM/4\*  
Stan Druckenmiller - PM/4\*  
Chuck Pils - ER/4\*  
Bruce Baker - WR/2\*  
Bob Roden - WZ/6\*  
Lee Kernen - FM/4\*  
Maryann Sumi - AD/5  
Ron Semmann - AD/5  
Lyman Wible - AD/5  
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Jim Kurtz - LC/5\*  
Bob Read - EA/6\*  
Dave Siebert - EA/6\*  
Mike Neuman - EA/6\*  
Du Wayne Gebken - EA/6\*  
District Environmental Impact Coordinators\*

\* Including copy of Technical Guideline.

**June 1, 1993**<sup>1</sup>

**Wisconsin Department of Transportation  
Wetland Mitigation Banking Technical Guideline<sup>2</sup>.**

**Introduction.**

The Wisconsin state policy on wetland mitigation banking for Wisconsin Department of Transportation (DOT) is established through the 1990 amendment to the cooperative agreement (COA) between DOT and the state Department of Natural Resources (DNR) regarding compensatory wetland mitigation (Appendix A). The amendment is applicable under Wis. Stats 30.12 (4) and allows for a program of wetland compensatory mitigation banking for DOT activities carried out under the established liaison procedure.

The concept and policy of wetland mitigation banking has been agreed upon within the state of Wisconsin for DOT projects. The **purpose of this guideline** is to establish the participation of the appropriate federal regulatory, resource and supporting agencies in a statewide program of wetland compensatory mitigation banking. The federal agencies include: The U.S. Army Corps of Engineers (Corps), the U.S. Environmental Protection Agency (EPA), the U.S. Fish & Wildlife Service (FWS) and the Federal Highway Administration (FHWA).

Wetland mitigation banking for DOT projects was established within Wisconsin by signature to the DOT/DNR COA amendment by the secretaries of DOT and DNR and letter of concurrence with the Interagency Coordination Agreement of 1993. Federal participation in Wisconsin statewide mitigation banking was established by signature to the 1993 Interagency Coordination Agreement on the procedures contained in this technical guideline by each participating federal agency. The sponsor of this wetland mitigation bank is the Wisconsin Department of Transportation. The bank may be used by any entity within DOT supervising DOT projects under the DOT/DNR Cooperative Agreement. A DOT project is any state or local project supervised by the Wisconsin Department of Transportation.

The operation and maintenance of the DOT wetland mitigation bank will be reviewed by an *Mitigation Bank Review Team*<sup>3</sup> (MBRT). The MBRT will be composed of a representative from the Corps, U.S. EPA, U.S. Fish & Wildlife Service, FHWA, Wisconsin DNR and DOT. Specific activities of the MBRT are outlined under Operational Criteria item 8.

For definitions of special terms used in this guideline, refer to the glossary of terms beginning on page 17.

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<sup>1</sup> Second revision March 2002.

<sup>2</sup> This document provides guidance for all DOT wetland mitigation. Wetland mitigation is a sequence process with wetland banking a compensation option.

<sup>3</sup> MBRT was formally known as the Interagency Overview Committee (IOC)

## **Background.**

Mitigation or measures to minimize harm was defined for the purpose of the implementation of the *National Environmental Policy Act* (NEPA) 40 CFR 1508.20. Under this definition mitigation includes avoiding and minimizing impacts or reducing impact by preservation and maintenance operations, as well as rectifying through restoring or compensating for the impact by replacement of resource lost.

*Executive Order 11990*, Protection of Wetlands (1977) directed federal agencies to provide leadership to minimize loss and destruction of wetlands. In response to and in accordance with E.O. 11990 the U.S. DOT revised a 1975 DOT order on wetland preservation and issued DOT 5660.1A, which directed "new construction located in wetlands shall be avoided unless there is no practicable alternative to the construction and the proposed action includes all practicable measures to minimize harm to wetlands which may result from such construction."

The establishment of a mitigation bank for DOT projects is in conformance with NEPA mitigation guidelines and with Executive and DOT Orders provided there are no other practicable project alternatives.

The *404(b)(1) Guidelines* of the Clean Water Act have a goal of restoring and maintaining aquatic resources. The guidelines are mandated for the 404 permit process. After all practicable measures have been taken to *avoid* the aquatic resource followed by planning to *minimize* the impact to the resource that cannot be avoided, *compensation* for the unavoidable loss may be required.

"Appropriate and practicable compensatory mitigation **is** required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has been required" (Corps/EPA MOA Concerning the Determination of Mitigation under Section 404(b)(1) Guidelines, 1990). According to the MOA, mitigation banking "may be an acceptable form of compensatory mitigation under specific criteria designed to ensure an environmentally successful bank." Concurrence with specific criteria developed by DOT as the bank proponent by all affected agencies should ensure participation by those agencies.

## **Operational Criteria for the Bank.**

1. **Geographic.** The DOT wetland mitigation bank is a statewide bank serving all 72 counties of Wisconsin. The bank sites of the mitigation bank will be associated with the three major drainage basins; Lake Superior, Lake Michigan and the Mississippi River, which form the major geographic areas of the bank. Opportunities for bank site development are present in each of these basins so it is expected that wetland losses occurring within the three basins would be debited to bank sites within those areas.

The three major drainage basins in Wisconsin are further subdivided by USGS into 10 watersheds or accounting units and 48 sub watersheds or cataloging units (USGS, 1974). The movement of debited wetland losses from one of these watersheds to another will be permitted and is discussed under Evaluation Procedure (item 4).

2. **Bank Life.** The mitigation bank should always maintain a positive acre balance (DOT/DNR COA Amendment). This balance will be reviewed at least annually by the MBRT. If a deficit condition arises, statewide use of the bank will be temporarily suspended by the MBRT until a positive balance is attained. Long term and sustained deficit may result in dissolution of the bank if factors causing chronic deficits cannot be resolved.

Under surplus credit condition the bank will exist as long as there is unused credit. Individual bank sites will be available for use by the bank until all available creditable acres have been expended on the site.

Bank sites will be purchased or leased. Purchased sites will be either retained by DOT or donated to DNR, another public entity (e.g. U.S. Fish and Wildlife Service, a County) or to a private entity (e.g. The Nature Conservancy) dedicated to natural resource protection. Leased sites will be retained by the landowner, but the property will be placed under covenants or conservation easement so that wetland bank sites will not be subject to future developments or other uses that convert, alter or degrade the bank site. The objective in public or private ownership is to protect bank site wetland restorations or creations and maintain them as wetlands in perpetuity.

Arrangements for future operation and maintenance for each bank site will be agreed to by the bank sponsor (DOT) and the potential future owner on a site-by-site basis. The agreement will become part of the bank site record and available for review by the MBRT. The final decision will reside with DOT whether a bank site will be retained by DOT or to whom a bank site will be transferred. DOT will seek interagency concurrence for sites retained in private ownership.

3. **Project Applicability Criteria.** The projects eligible for the mitigation banking process are those where all **reasonable** measures to *avoid*, *minimize* and *compensate* harm have already been taken, on-site or near-site compensation is not practicable and the loss of the wetland is unavoidable. Potentially eligible projects will be designated by DOT at the project level in the highway district. These projects will qualify for the process if they conform to the operational criteria of this guideline. All debit and credit transactions to the wetland mitigation bank are subject to review by the MBRT. A formal review will be conducted annually. Other reviews may be conducted upon request by any member of the MBRT.

The first considerations on mitigation will be given to avoiding and then minimizing wetland loss. For unavoidable losses where compensation is recommended, first consideration will be given to restoration opportunities within the highway right-of-way or near the location of wetland loss. Near-site opportunities for wetland compensation are those within 2.5 miles of either side of the alignment. This provides a five-mile search corridor covering the project alignment.

Certain wetland types, such as aquatic bed, deep marsh, shallow marsh and mudflats, are considered hazardous wildlife attractants when positioned near airports. Consideration should be given to the vicinity of airports when wetland compensation sites are being selected within 5,000 feet of an airport serving piston-powered aircraft or 10,000 feet of an airport serving turbine-powered aircraft. These distances are measured from aircraft movement areas, which include runways, taxiways or hover taxiways. The Bureaus of Environment and Aeronautics will initiate coordination on such potential sites. Further coordination with wildlife damage management biologists (U.S. Department of Agriculture-Wildlife Services) may be necessary. Palustrine

wetland types with no open water, such as wet meadow and shrub swamp may be acceptable within the siting criteria recommended by Federal Aviation Administration (FAA).

If no reasonable opportunities are available on-site or near-site, second consideration may be given to an off-site wetland compensation. Off-site compensation for unavoidable wetland losses will be considered for the mitigation banking process.

**4. Evaluation Procedure.** Ratios of replacement in the DOT/DNR COA Amendment (Appendix A) are based on the uncertainty of completely establishing the hydrologic regime for project specific wetland restoration or creation projects. Once wetland hydrology, persistent hydroperiod, and hydrophytic response have been established and the risk eliminated the ratio of replacement is one-acre replacement for each acre lost. Projects where wetland loss is concurrent with wetland replacement, the initial replacement ratio may be one and one-half acres replacement for each acre lost. Since bank sites are expected to be established as wetlands before becoming part of the statewide bank, debits to bank sites will be a minimum acre for acre. Within some bank sites different areas will establish at different rates over time. After project completion interim assessments should be made to determine proportion of site establishment. Only the proportion of established bank site area can be available for wetland debit.

According to the 1990 Memorandum of Agreement between the U.S. EPA and the Corps of Engineers on determination of mitigation under the Clean Water Act Section 404(b)(1) guidelines, the first objective of mitigation for unavoidable wetland losses is to provide functional replacement (sec. III B), i.e. replacement of wetland function. Wetland compensation within drainage area, floristic province and by wetland type is assumed to result in functional wetland replacement by this guideline.

Since there is uncertainty in the precision of existing methodologies to measure wetland function and some disagreement in using functional wetland assessment methods for evaluation in wetland mitigation banking, agreed upon ratio schedules have been proposed as surrogates for functional wetland replacement. Staff of EPA Region V and the Corps St. Paul District have made the assumption that the highest probability of success for replacing the wetland functions and values lost is to compensate in-kind, acre for acre, close to the area of wetland loss (on-site is the first choice, within the same sub watershed the next choice, followed by site choices more distant from the site where loss has occurred).

Where the credit for restoration or creation is in equal acres and wetland type within minimum defined area, the ratio of replacement is acre for acre. If replacement of wetland loss is by a different wetland type or into a different geographical area or both, the debit will be permitted, but the ratio of replacement may be higher and according to a specified schedule described within this section and in Appendix C (Table 3C). A higher ratio is required where replacement consists of wetland enhancement and protection or a combination of both.

Two methods are offered in the EPA/Corps Generic Mitigation Banking Program Under Section 404 (Wopat and Rockwell, 1991) to develop a schedule of replacement ratios for wetland debits that are out-of-kind and off-site. One suggested method based on historic trends of wetland loss with the intent to replace those categories of wetland that have received greatest losses. A second method is based on interagency agreement to a schedule of replacement factors.

Information needed to develop a system based on loss trends is not currently available in sufficient detail. The greatest concentrations of wetlands in the state occur in the glaciated region, which represents almost two-thirds of the state's area. Agricultural drainage is given as the cause for most of the wetland loss and it is assumed that the wetland types drained consist primarily of wet and sedge meadows, low prairies and shallow and deep marshes. According to information compiled by WDNR on drainage districts (Johnson, 1976), the greatest area for these activities was from the south central to the northeastern part of the state. Currently drained agricultural land provides the greatest potential for wetland restoration and the opportunity to replace wetlands that were historically lost over large areas.

Since sufficient information is not currently available to develop a complete system of replacement ratios based on loss trends at this time, an interim factor system will be used until a *loss trend* system is developed or it is decided that the interim system is sufficient to continue operating as the standard. The concept of loss trend is proposed under a factor "professional discretion", which is defined below.

Ratios of replacement in a factor system are derived using the factors *Drainage Area*, *Floristic Province*, *Wetland Type* and a factor based on professional discretion. Replacement within limits specified by these factors assumes wetland function replacement. Replacement outside the limits are considered off-site or out-of-kind or both and is discouraged by requiring a larger replacement ratio.

*Drainage area* is defined according to the hydrologic units mapped by USGS (1974). For the purpose of this wetland mitigation bank the hydrologic units are grouped into three major drainage areas (Appendix C, Fig. 1C). These drainage areas correspond to "Geographic Area" cited in the DOT/DNR cooperative amendment (Appendix A) and include:

- 1) Lake Superior,
- 2) Mississippi River, which includes the St Croix, Chippewa, Trempealeau, Wisconsin, Rock-Fox-Des Plaines river systems,
- 3) Lake Michigan, which includes Lake Michigan, Fox-Wolf and Menominee-Oconto-Peshtigo river systems.

If a wetland loss in one drainage area is replaced at a bank site in a second, the added increment is 0.5 acre. The professional discretion factor may reduce or increase the increment. Since the base ratio is 1.0 to 1.0 (replacement to loss), the final replacement ratio would be 1.5 to 1.0 provided no other increments are added from other factors.

*Floristic Province* is used as a substitute for ecoregion as defined by Omernik and Gallant (1988) or Wells (1988). It has long been recognized (Curtis, 1959) that a tension zone divides Wisconsin into two floristic provinces, which lie north and south of a vegetational zone. It is felt that these two provinces may best represent the ecoregional differences in the state. For purposes of the mitigation bank system, the two provinces are divided along county lines within the band of the tension zone (Appendix C, Fig. 1C).

If a wetland loss on one side of the tension zone is debited to a bank site on the other side of the tension zone, the added increment is one acre, unless the professional discretion factor is employed to reduce it.

*Wetland Type* is based on a modification of the classification of Shaw and Fredine (1956) and consists of the nine types given in Appendix C (Table 1C). Application of replacement ratio increments is variable and depends on the perceived importance of each type. Specific replacement ratio increments by type are given in Appendix C (Table 2C).

Wetland type may change in time. In general, the intent is to develop wetland bank sites for passive management. Without active management the wetland type at time of establishment may succeed to a different wetland type. For example, a meadow without periodic burning may succeed to shrub wetland or a shrub wetland later subjected to long duration inundation should succeed to a shallow or deep marsh. It is suggested that if a portion of a wetland bank site or the entire bank site was established originally to yield a specific type and remains that type through the first few seasons then it will be given credit as that type for the duration of the bank site.

A table giving increments for compensation ratios for combined factors; Floristic Province, Drainage Area and Wetland Type is provided in Appendix C (Table 3C). These increments when added to the floor of one will give the final replacement side of the replacement/loss compensation ratio. The replacement side can be modified by the following "professional discretion" factor provided the compensation ratio does not fall below 1:1.

*Professional Discretion* factor corresponds to the "site specific factor" of Wopat and Rockwell (1991), which gives the intent of this factor to provide "... additional latitude in determining the compensational ratio will allow the mitigation bank to take advantage of unique circumstances and to arrive at a beneficial compensatory mitigation situation where a rigid ratio system might otherwise not have allowed this to occur." For the purposes of this mitigation bank system the range given for this factor is - 0.5 to + 0.5.

Some example applications of this factor are:

- 0.5, if wetland type lost is abundant on a statewide basis and the compensation wetland type at the bank site is unique or represents restoration of wetlands that have been lost historically on large scale. For example, degraded wet meadows adjacent to highways or bridge approaches that are lost to highway improvement or bridge replacement projects, but replaced by restored wetlands previously drained for agriculture would receive a 0.5 acre reduction in debit.

- 0.5, if wetland lost and bank site are geographically close, but fall just to either side of Drainage Area or Floristic Province boundaries. Given the variable width of the tension zone in Wisconsin; Polk, Eau Claire, Wood, Portage, Waupaca and Outagamie counties can be considered on either side of the Floristic Province boundary.

- + 0.5, if the wetland unavoidably lost is rare ecologically or hydrologically unique (e.g. a Fen).

Other examples will become apparent as experience is gained with operating the bank.

### ***Wetlands with special status***

Some wetland types are considered sensitive and have been assigned a critical status by resource agencies and society. These wetlands are commonly referred to as *red flag* wetlands. Such wetlands may possess one or more of the following characteristics:

1. Wetland is unique to its locality.
2. Wetland is ecologically unique. In Wisconsin these include calcareous fens and wild rice producing wetlands.
3. A resource agency has placed a nationwide emphasis on its protection. In Wisconsin these would include those riparian-forested wetlands that are identified as "bottomland hardwoods" by the U.S. Fish and Wildlife Service.
4. Presence or use by federal or state threatened or endangered species.
5. Public or private expenditure has been made to restore, protect or ecologically manage the wetland on either public or private land.
6. Wetland is on a listing of historic places or archeological sites.

The debit of wetland loss of wetlands with special status or *red flag* wetlands will be determined by the MBRT on a case-by-case basis.

### ***Other activities yielding wetland compensation credit***

In the interest of establishing comprehensive wetland compensation projects and optimizing land use and public expenditure; wetland protection, enhancement and upland buffer may be included as part of wetland compensation.

#### ***Wetland protection***

Wetland protection for the purpose of preservation can be considered creditable for wetland compensation as part of a larger wetland restoration or combined wetland restoration-creation project. Wetlands that are not part of a larger project, but are potentially under threat of destruction or degradation can be purchased for protection. Wetlands that are considered for protection should be in reasonable condition, i.e. minimum disturbance and no invasive species such as reed canary grass or purple loosestrife, or if present the species occurs in spatial densities that are easily suppressed using hand-held methods. Wetlands considered for protection would be *red flag* wetlands, but could also include wet prairie, sedge meadow, marsh, aquatic bed, shrub-carr and wooded swamp, such as white cedar swamp and forested bog. The recommended credit is one acre of wetland credit for 8 acres of protected wetland.

#### ***Enhancement.***

An increase in wetland functional capacity through wetland enhancement or improvement techniques can be considered creditable for wetland compensation. Improvements in hydrological connectivity or vegetative cover can be considered. The recommended credit for wetland enhancement is one acre of wetland credit for 3 acres of wetland enhanced.

#### ***Upland buffer areas.***

Upland areas immediately adjacent to and associated with the wetland compensation site that are vegetated with a combination of non-invasive grass, forb or shrub species and provide a protective buffer area between the surrounding upland and wetland compensation site can be

considered creditable if they contribute to the overall functioning of the wetland. The creditable upland buffer area should not exceed 15 to 20% of the wetland compensation site. Professional discretion, however, may be used to determine the on-site size and quality of the creditable area. The recommended credit for upland buffer is one acre of wetland credit for four acres of upland buffer.

## **5. Bank Credit, Debit and Accounting Procedures.**

There are three categories of wetland compensation projects; *project specific*, *project specific with a surplus* and *bank developed*. Project specific wetland compensation projects are those that are developed for a particular highway or bridge project and the amount of wetland compensation is equal to the amount needed for the project. For those project specific compensation projects that establish surplus acres, the surplus acres can become a bank site. Bank developed sites may be independent of specific highway projects and are established in advance of known wetland losses.

The compensation ratios given in the DOT/DNR Cooperative Agreement amendment and those developed under the federal generic mitigation guideline to accommodate off-site and out-of-kind replacement are applied to these compensation project categories.

If project specific or surplus generating project specific projects produce restored/created wetlands that are established prior to wetland losses, the ratio of replacement is one acre restored/created for one acre lost (1:1). If these types of projects are restored or created concurrently with the wetland losses then the ratios of replacement are 1.5:1. Replacement ratios for protection and enhancement projects done concurrent with the transportation project may be increased to a practicable level based on site-specific interagency review.

Bank developed compensation projects or the surplus from project specific projects are pre-established wetlands and the 1:1 ratio is applied to all losses that are within floristic province, drainage area and wetland type. Additions to the floor of 1:1 replacement are based on the criteria discussed in item 4 above and detailed in Appendix C. Monitoring will compare wetland establishment with the mitigation plan objective to determine success of the bank site. Monitoring guidelines are found in section 4, Appendix B.

*Accounting and reporting.* Reports on wetland mitigation bank statewide status will be submitted to member agencies of the MBRT at a minimum of one per year. Current status of the mitigation bank in regional areas is open to review at any time upon request. Information contained in reports shall contain at a minimum: location of wetland loss (DOT Highway/Bridge project, County), wetland acres lost by wetland type, location of wetland replacement (bank site) and ratio of replacement in acres by wetland type. Reports will be due on December 31 each year. Appendix D (Table 1D) provides the basic format for statewide reporting.

**6. Bank Site Establishment.** Wetland mitigation bank sites will be established for the DOT wetland mitigation bank in different areas of the state. The process for bank site establishment is given in section 1, Appendix B. The ability to acquire wetland compensation sites will depend on a private landowner's willingness to sell or lease in perpetuity the land identified for a bank site. Use of publicly owned land will be bound by agreements among the public agencies.

A DOT interdisciplinary science and engineering team should be established to assist in site selection, feasibility and the development of plans and specifications for wetland compensation. This Wetland Technical Team will assist the district project staff and environmental coordinator in bank site and project specific developments, monitoring and critique. Use of this team will be on the premise that a well selected, planned and executed project will be less likely to require remediation and rectification.

The essential science fields for this team are hydrogeology, surface water hydrology, wetland ecology and geomorphology. Basic civil engineering fulfills the engineering needs.

Staff can be allocated to the team as needed and is dependent on the needs of the project. The team should have at its disposal or access to at least one:

- Hydrogeologist
- Surface Water Hydrologist
- Wetland Ecologist
- Geomorphologist
- Soil Scientist
- Landscape Architect
- Civil or Agricultural Engineer

The fields of civil engineering, hydrogeology, wetland ecology, soil science, geomorphology and landscape architecture are available within DOT.

This team leader should establish contact with resource agencies such as WDNR, Natural Resource Conservation Service, U.S. Geological Survey, U.S. Fish & Wildlife Service, State Geological Survey, Corps of Engineers and U.S. EPA.

**7. Bank Site Development and Maintenance.** This section refers to the development and maintenance of the physical and biological attributes of bank sites.

In the context of compensatory wetland mitigation the obligation of DOT is to compensate by means of wetland restoration, creation, enhancement and protection for wetlands lost due to DOT facility development. Development of specific wetland habitat features for wildlife management is not required to compensate for wetland loss. Habitat features at the mitigation site should be determined and agreed to in the mitigation planning process and specified in the plan. Objectives based on wetland function at bank sites are determined by the mitigation plan.

Credit of each site should be based on the establishment of those attributes that define a wetland, i.e. wetland hydrology, hydric soils and hydrophytic vegetation. First consideration will be given to wetland hydrology and evidence of a persistent hydroperiod. For site developments consideration will be given to establishing a diversity of wetland vegetational types, but not to the extent that such developments are inappropriate for the hydrogeomorphological potential of the site. Recommendations from resource agencies will be sought, considered and concurrence reached in bank site selection and development.

In the development of plans for bank sites emphasis will be placed on projects that result in low operational and maintenance costs (DOT/DNR COA). Facilities that require passive management are encouraged. Future operations and maintenance of a site will be part of plan development.

Based on experience so far gained, wetland restoration of drained wetlands is the preferred technique for bank site development. Larger sites provide an economy of scale and represent an efficient use of public funds. The greatest potential for finding sites with these characteristics is in the state's glaciated region, particularly from south central to northeastern areas of the state. The lowest potential is found in the driftless areas in the southwestern part of the state and areas of low agricultural development in northeastern and north central Wisconsin.

**8. Bank Management and Reporting Responsibility.** The purpose of this section is to define the organizational structure necessary to carry out the functions of the DOT Wetland Mitigation Bank and associated wetland compensatory mitigation projects. Components of the organization have responsibility to provide interagency communication and coordination, supervise accounting for the statewide system and provide a mechanism to resolve procedural as well as technical problems. The administrative components of the DOT statewide mitigation bank will consist of two entities: the MBRT, a DOT wetland bank coordination team and a DOT wetland interdisciplinary design team (see section 6).

*Mitigation Bank Review Team (MBRT)*<sup>4</sup>. Representatives of the US Army Corps of Engineers, US Environmental Protection Agency, US Fish and Wildlife Service, Federal Highway Administration, Wisconsin DNR, and Wisconsin DOT (Bureau of Environment), will comprise the MBRT.

The role of the MBRT is to monitor the progress and status of the DOT bank, to set policy directions through amendments to the Technical Guideline (the bank document), and to act as a forum for resolving conflicts elevated from the district or regional staffs. MBRT members are responsible for disseminating updated information and policy direction to their respective agencies.

Each agency will be represented equally on the MBRT. During MBRT deliberations, additional individuals from the agencies may be involved, but each agency will have single representation. Decisions of the MBRT should be by unanimous consent of the members. In matters directly related Section 404 of the Clean Water Act and Section 10 of the 1899 Rivers and Harbors Act, the Corps will make the final determination.

*Intra-DOT Wetland Mitigation Bank Coordination.* To ensure administrative functions and requirements are met coordination is needed among district environmental and real estate staff, central office real estate staff, the Bureau of Fiscal Services and Bureau of Environment. A close interaction between real estate and environmental staff and between environmental administration and the science-engineering team is required to execute the wetland mitigation

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<sup>4</sup> Mitigation Bank Review Team (MBRT) has replaced the Interagency Oversight Committee (IOC) to be consistent with State rules and federal wetland banking guidelines.

bank site establishment and processes found in section 1, Appendix B.

A statewide wetland bank site project will be initiated through concept definition report (CDR) approval by the Bureau of Environment director. Bureau of Environment will communicate approval to Bureau of State Highway Programs program finance for project authorization. District environmental staff will ensure that wetland loss and compensation for DOT projects within their respective districts are entered or submitted to the Wetland Mitigation Bank Accounting System (WMBAS). Bureau of Environment will maintain the WMBAS database and produce standard reports for wetland bank reporting. Bureau of Environment will maintain the WMBAS database and produce standard reports for wetland bank reporting. Bureau of Environment will provide reports to the Bureau of Fiscal Services who will calculate an annual statewide charge-back rate and conduct bank use charge-back on projects.

Communication between central office Real Estate, Bureau of Environment and district environmental and real estate property management staff has been established to review land title or lease agreements on compensation sites to ensure that covenants comply with wetland bank objectives. The real estate and environmental staffs will follow the sequential process for disposal of lands. Covenants with the Corps will be ensured through this process.

### **Agency Obligations.**

The wetland mitigation bank for DOT projects requires the participation of several public agencies. Included are the Wisconsin Departments of Transportation and Natural Resources and the federal agencies, U.S. Army Corps of Engineers, U.S. EPA, U.S. Fish & Wildlife Service and Federal Highway Administration.

In general, Wisconsin DOT as the project sponsor will develop bank sites, while all other agencies through their concurrence will support the use of these sites for compensatory wetland mitigation under the section 404 guidelines, NEPA, Executive Order 11990, the Fish and Wildlife Coordination Act and the state DOT/DNR COA compensatory wetland mitigation amendment.

Specific obligations and responsibilities of each agency are as follows:

**DOT** has been assigned the responsibility by the state to provide an adequate, safe and economical transportation system for the people and the commerce of the state. Programs and plans for transportation facility development have been established for specific improvement projects. These projects can cause unavoidable losses to the waters of the United States including wetlands and other special aquatic sites.

DOT with assistance from resource agencies will find and identify potential bank sites. Once a potential site has been located and concurrence has been made on the feasibility of its restoration to a wetland, DOT will:

- Acquire the site from a willing seller.
- Determine and arrange for future ownership of the site.

- Prepare reports and plans for developing the site. Emphasis will be placed on strong and comprehensive plan development.
- Develop cost estimates and specifications for construction, landscape operations and follow-up contingencies identified in plans.
- Supervise construction.
- To conduct or arrange for follow-up monitoring according to terms specified in site plans.
- Remediate construction deficiencies.
- Establish in coordination with the regulatory and resource agencies the limits and size of the restored wetland. This may be done using approved federal agency procedures of Wetland Delineation.
- Where a bank site is under a lease agreement with a private entity, DOT will insure the long term protection, maintenance and remediation of bank sites.

DOT will be responsible for maintaining mitigation bank accounting and generating accounting reports for the MBRT.

**WDNR.** WDNR has the responsibility to protect and manage the natural resources of the state. Obligations of DNR to wetland mitigation banking for DOT projects is established through the DOT/DNR COA amendment (Appendix A) and in procedures for wetland mitigation bank site establishment (Appendix B). WDNR will make available a representative for the MBRT.

**U.S. Army Corps of Engineers.** The Corps administers the regulatory program under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. In the construction of transportation projects Section 404 and/or Section 10 permits are required for the discharge of dredge and fill material into waters of the United States and any work done in Navigable Waters of the United States. The Corps will make available a representative for the MBRT.

**U.S. EPA.** The U.S. EPA has the responsibility to require that all activities needing a permit under Section 404 of the Clean Water Act fully comply with all applicable parts of the Guidelines to Section 404, known as the 404 (b)(1) Guidelines. In addition, if the project is subject to the National Environmental Policy Act, it is EPA's responsibility to require compliance to that Act. The EPA will make available a representative for the MBRT.

**U.S. Fish & Wildlife Service.** The Service is responsible for conserving and protecting fish and wildlife and their habitats for the benefit of people through federal programs relating to migratory birds, endangered species, certain marine mammals, inland sport fisheries and specific fishery and wildlife research activities. Replacement of wetland habitat values is consistent with that agency's goals and responsibilities. The Service has the responsibility to provide consultation pursuant to the Fish and Wildlife Coordination Act. The Service will make available a representative for the MBRT.

**Federal Highway Administration.** The role of FHWA is to approve project federal aid funding. In carrying out this responsibility, FHWA will assure coordination activities are carried out with regulatory and resource agencies to the extent necessary to secure compliance with the National Environmental Policy Act and executive orders for protection of natural resources. FHWA will make available a representative for the MBRT.

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## **Glossary of Terms.**

### **Compensation Project Types:**

*Bank Developed:* Wetland mitigation project that establishes wetland for the purpose of developing a wetland mitigation bank site irrespective to and in advance of any specific facilities development projects.

*Project Specific:* Wetland mitigation project that compensates for the amount of wetland loss of a specific facility development project, i.e. the amount of wetland established compensates only for wetland loss due to the facilities project.

*Project Specific with Surplus:* Wetland mitigation project that compensates for more than the wetland loss of a specific facility development project, i.e. the amount of wetland established exceeds that needed for the facility development project, therefore, producing an acre surplus.

**Degraded Wetland:** Wetland that has been exposed to deleterious activities such as excessive use as pasture, agricultural cultivation, over exposure to urban effects or storm water runoff to the extent that its natural characteristics have been severely compromised and where wetland function has been substantially reduced.

**Exchange:** Conversion of one wetland type for another. For example, impoundment of surface water onto an existing sedge meadow to establish a shallow to deep marsh, i.e. an exchange of shallow marsh for sedge meadow.

**In-Kind Replacement:** Wetland loss replaced with wetland from a compensation project of the same or similar wetland type.

**Near-Site Replacement:** Replacement opportunity for wetland compensation within a five-mile corridor centered over the highway project alignment.

**Off-Site Replacement:** Wetland replacement located away from the project site, generally outside the project's local watershed.

**On-Site Replacement:** Wetland replacement located in the general proximity of the project site within the same local watershed. These replacements are often contiguous to the highway project.

**Out-of-Kind Replacement:** Wetland loss replaced with wetland from a compensation project of a different wetland type.

**Practicable:** Available and capable of being done after taking into consideration cost, existing technology and logistics in light of project purposes.

**Protection:** Acquisition of existing wetland and associated uplands for the purpose of preservation and set aside in their existing condition.

**Remediation:** Action taken to correct unforeseen deficiencies in a wetland compensation project. The action may take the form of correcting planned construction methods incorrectly installed, not installed or repairing installed facilities through maintenance operations.

**Riparian Wetland:** A wetland adjacent to a river, stream or lake that is periodically flooded.

**Unavoidable wetland loss:** An impact to a wetland that occurs after all practicable alternatives to avoid and minimize wetland impacts are considered.

**Upland Buffer:** The non-wetland land surrounding and contiguous with the compensation wetland.

**Watershed:** A drainage area or basin that contributes surface and ground water to a stream, river, lake or isolated wetland basin. The term can be used interchangeably with *drainage basin* or *contributing area*.

**Wetland:** Wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include swamps, marshes, bogs and similar areas [40 CFR 230.3 (t)].

Wetlands are those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. [Executive Order 11990].

Wetland – "...an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions." [Section 23.32 (1), Wis. Stats].

**Wetland Compensation:** Wetland restoration, creation, enhancement, and protection in combination or singular that results in a replacement of wetlands lost to transportation system.

**Wetland Creation:** Establishment of a wetland on a site that was never before a wetland, e.g. construction producing wetlands on an upland site.

**Wetland Enhancement:** Refers to increasing one or more functions of an existing wetland by means of management techniques, which increases and improves function, but does not change wetland type. For example, use of prescribed burning, weed control and seeding to establish a wet prairie on a reed canary grass and shrubby wet meadow.

**Wetland Mitigation:** Measures to temper, meliorate or mollify harmful actions to wetlands, which include in sequence: 1) Avoid the impact, 2) minimize the action's magnitude and then, 3) compensate for unavoidable loss.

**Wetland Mitigation Bank:** A system of accounting for wetland loss and compensation, which

can include one to many wetland mitigation bank sites.

**Wetland Mitigation Bank Site:** A wetland compensation site containing wetland credit acres and types from bank developed wetland restoration, creation, enhancement, and protection projects or surplus acres from project-specific wetland compensation projects.

**Wetland Restoration:** Reestablishment of a wetland and wetland function on a site that was once a wetland, rehabilitation of a degraded wetland, or reversing human created conditions to the extent practicable.

# **APPENDIX A**

**Amendment to the Cooperative Agreement  
between Wisconsin DNR and DOT  
on Compensatory Wetland Mitigation**

Attachment to the DOT/DNR Cooperative Agreement

Memorandum of Understanding

by and between the

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

and the

WISCONSIN DEPARTMENT OF TRANSPORTATION

on

**COMPENSATORY MITIGATION FOR UNAVOIDABLE WETLAND  
LOSSES RESULTING FROM STATE TRANSPORTATION ACTIVITIES**

**A. Purpose**

The purpose of this document is to provide mutual departmental procedures for compensatory mitigation for unavoidable wetland losses resulting from State transportation activities.

**B. Applicability**

This memorandum of understanding applies to any transportation activity subject to the DOT/DNR Cooperative Agreement (COA) which establishes interagency liaison procedures in accordance with Chapter 30.12(4), Wis. Stats.

**C. Liaison Procedures for Wetland Compensatory Mitigation**

1. After wetland impacts related to the proposed transportation project have been avoided and minimized to the maximum extent practicable, compensation for all unavoidable wetland losses shall occur.
2. Compensation for wetland acres lost shall be based on an evaluation of primary (or direct) impacts, but may also include secondary (or indirect) impacts. Secondary impacts are those effects which are caused by the project, but occur later in time and are reasonably foreseeable (for example, drainage changes resulting from the project). Adjacent private land use developments are not secondary impacts under this policy.
3. Compensatory mitigation should be accomplished in concert with, or prior to, the construction of the transportation project.
4. First consideration will be given to on-site compensatory mitigation opportunities, generally within the highway right-of-way or near the location of wetland loss.
5. Second consideration will be given to near-site opportunities for wetland compensation, generally those within 2.5 miles of either side of the alignment

6. For localized wetland loss, generally involving smaller projects where the wetland loss is one acre or less, a near-site search under #5 above for compensation may not be necessary (see Appendix E of the *Wetland Mitigation Banking Technical Guideline*).
7. If on-site or near-site compensation is not feasible or practical, compensation shall occur off-site or at a mitigation bank site. The process and requirements for banking shall follow the *Wetland Mitigation Banking Technical Guideline* (as amended).
8. Certain wetland types, such as aquatic bed, deep marsh, shallow marsh and mudflats, are considered hazardous wildlife attractants when positioned near airports. Consideration should be given to the vicinity of airports when wetland compensation sites are being selected within 5,000 feet of an airport serving piston-powered aircraft or 10,000 feet of an airport serving turbine-powered aircraft. According to guidance from the Federal Aviation Administration (FAA), these distances are measured from aircraft movement areas which include all runways and taxiways. Coordination on such potential sites will be initiated by the DOT Bureaus of Environment and Aeronautics. Further coordination with wildlife damage management biologists (U.S. Department of Agriculture/ Wildlife Services) may be necessary. Palustrine wetland types with no open water, such as wet meadow and shrub swamp may be acceptable within the siting criteria recommended by FAA.
9. As a general rule, compensatory mitigation should be planned based on replacement of the acreage of the impacted wetlands at the following ratios (replacement acreage: acreage lost):
  - **1.0 : 1.0** where wetland acreage losses are applied to an existing mitigation bank site for which DNR and DOT agree that credits are available at the time of wetland loss. This ratio may be increased based on factors considered using Appendix C of the *Wetland Mitigation Banking Technical Guideline*.
  - **1.5 : 1.0** where wetland acreage losses are compensated as part of a concurrent transportation project design. This ratio applies to project specific compensation located either on-site, near-site or off-site.
10. Preference shall be given to compensatory mitigation that restores former or degraded wetlands.
11. DOT will develop a mitigation plan for each planned wetland compensatory mitigation site. The mitigation plan should be developed in accordance with the outline in Appendix B Section 2 of the *Wetland Mitigation Banking Technical Guideline*. DOT and DNR will work together to come to mutual agreement on a mitigation plan. At a minimum, the agencies should agree to a preliminary mitigation plan prior to DNR final concurrence on the transportation project.
12. In formulating a mitigation plan, preference should be given for techniques that result in low operation and maintenance costs.

13. Provisions for long-term protection must be made for all compensation sites, including who will own the mitigation site, and who will be responsible for long-term management.
14. The mitigation plan shall include a monitoring plan that will allow an evaluation of the mitigation effort. The extent of monitoring necessary should be based on the criteria set forth in Appendix B Section 4 of the *Wetland Mitigation Banking Technical Guideline*.
15. Any compensatory mitigation proposal shall include coordination with US Fish and Wildlife Service, US Environmental Protection Agency, US Army Corps of Engineers, and Federal Highway Administration to facilitate interagency coordination and participation (refer to the *Wetland Mitigation Banking Technical Guideline*).
16. This memorandum of understanding shall supersede the 1990 version entitled: "Compensatory Mitigation Policy for Unavoidable Wetland Losses Resulting from State Transportation Activities: an amendment to the Interagency Cooperative Agreement."

  
\_\_\_\_\_  
Darrell Bazzell, Secretary  
Wisconsin Department of Natural Resources

9/11/01  
Date

  
\_\_\_\_\_  
Terry Mulcahy, Secretary  
Wisconsin Department of Transportation

9/27/01  
Date

# **APPENDIX B**

## **Bank Site Establishment and Monitoring**

## APPENDIX B

### Section 1

#### Wetland Mitigation Bank Site Establishment and Process

A wetland mitigation bank will be used to compensate for unavoidable wetland losses caused by a Department of Transportation project where the sequence of mitigation steps of **Avoid**, **Minimize** and **Compensate<sub>on-site</sub>** have been followed in that order. All reasonable efforts to **avoid** wetland loss will be made before minimization and compensation are considered. The mitigation bank process is integrated into the DOT Facilities Development Process. Applicable elements of this process can be used for compensational mitigation projects that are not bank sites. This process is established under the DOT/DNR Cooperative Agreement amendment on wetland mitigation. The general flowchart for bank site establishment process is given in figure B1.

*Bank Site Project Stage and Actions.*

#### 1. Site Selection

- (a) Identify potential bank site from pre-established inventory, field review or by solicitations from private landowners or recommendations natural resource agencies. Determination of site potential is based initially on the level of risk in site restoration and creation. DOT will make preliminary archeological determination.
- (b) Define mitigation concept based on initial assessment of identified site. This assessment should provide topological, geological and hydrological evidence that the site has the potential to support a wetland. This activity estimates the site feasibility.
- (c) DOT real estate initiate contact with landowner. Determine feasibility of purchase. DOT environmental staff makes preliminary determination of future site ownership.
- (d) DOT District prepares and submits Concept Definition Report (CDR).
- (e) DOT, Bureau of Environment approves CDR to initiate project for charges through DOT program finance and financial accounting units.
- (f) DOT coordinate with COE and DNR on mitigation concept and request comments.
- (g) DOT develop conceptual mitigation plan. Plan is to include location, size (acres), restoration/creation objective, anticipated hydrology, wetland type, disposition of special features, monitoring plan based on objective. Determine future management and if future operation and management costs will apply. Obtain from Corps and DNR initial concurrence with conceptual mitigation plan.

(h) DOT prepares and submits Environmental Documentation

(i) DOT prepares and submits Design Study Report.

**2. Site Acquisition**

(a) DOT survey site, prepare plat and initiate real estate process. Acquire funding approvals for real estate acquisition and estimated costs for monitoring program.

**3. Detailed Design**

(a) Final mitigation plan. DOT prepares plans and specifications based on preliminary studies and interagency recommendations from resource agency comment. Produce site development plan (see Section 2).

(b) COE and DNR will provide final concurrence on mitigation plan.

**4. Site Construction**

(a) Pre-construction plan review.

(b) Let contract.

(c) Monitor construction and contractor.

(d) Recommend site modifications within scope of plan.

(e) Implement site modifications.

(f) Determine bank site wetland acreage

**5. Open Bank Site**

(a) Determine initial wetland acreage (credit) of bank site (anticipated acres).

(b) Record bank credit (acres), site criteria, wetland type and functions.

(c) If applicable, establish surplus acres from a transportation project developed wetland compensation site as a bank site.

**6. Debit Bank**

(a) Delineate project wetlands (DOT). Determine unavoidable wetland acre loss (debit) (DOT). Document presence or absence of on-site wetland compensation opportunities

(DOT). Provide rationale for not using an on-site opportunity (DOT). Follow process on compensation for loss defined in wetland mitigation amendment to the Cooperative Agreement (DOT/DNR).

(b) Identify wetland bank to be debited. Record debit based on acres of wetland loss due to individual transportation projects. Record wetland type and function lost (DOT).

(c) Coordinate with and obtain concurrence from EPA, COE, FWS, FHWA (DOT/DNR assist).

## 7. **Monitoring**

(a) Verify that the construction objectives for the bank site project have been executed.

(b) Implement bank site monitoring according to the monitoring guidance in Appendix B, section 4.

(c) Make interim and final determinations of wetland acres established on the bank site.

## 8. **Bank Site Accounting**

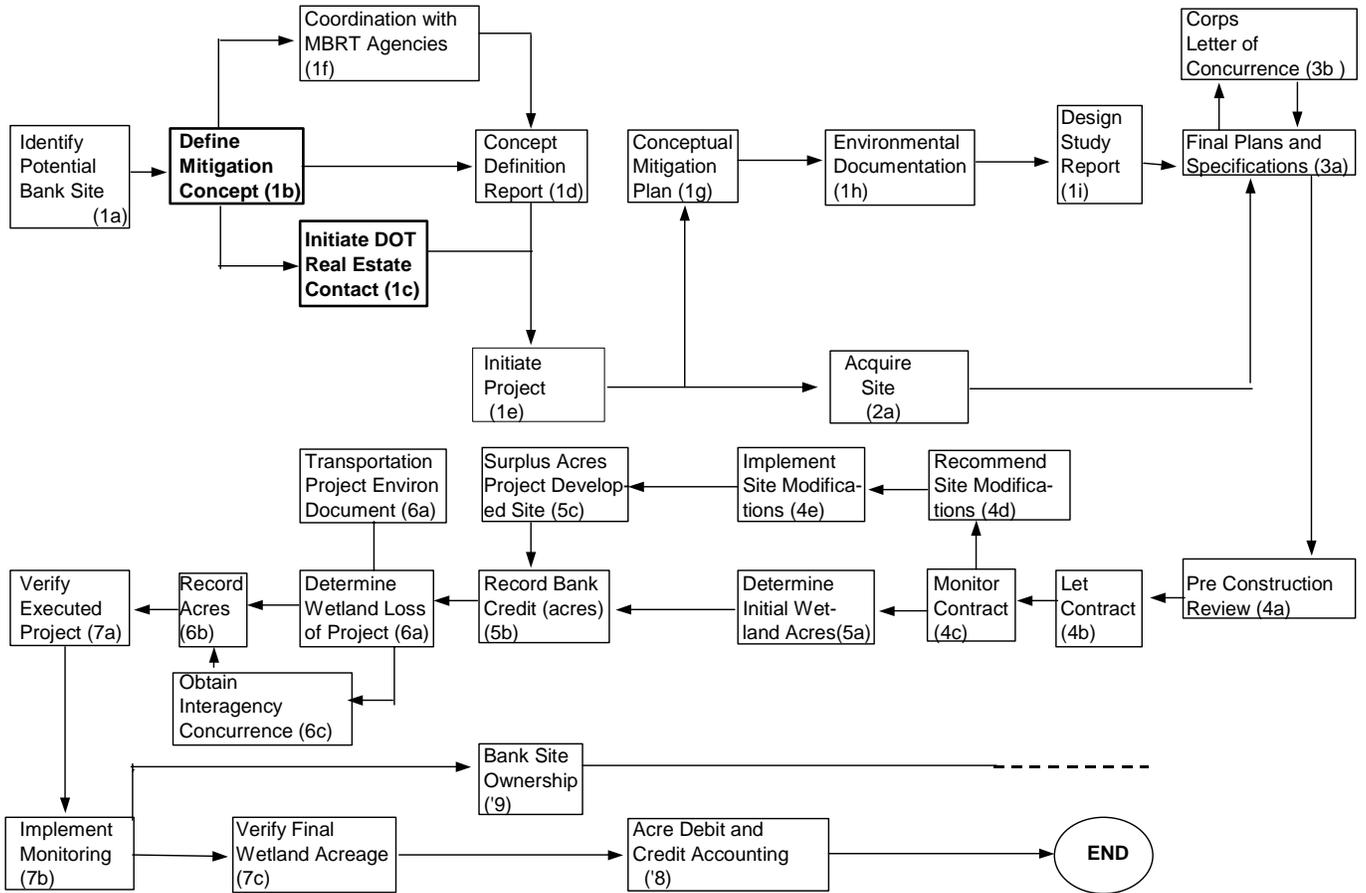
Maintain wetland mitigation banking accounting system and annual reporting to wetland bank MBRT. Close bank site when wetland acres lost (debits) assessed to the bank site are approximately equal, but do not exceed the wetland acre credit. Close project account (DOT).

## 9. **Bank Site Ownership**

Transfer ownership, the bank site agreements and deed restrictions to a public agency, a private entity or DOT will retain ownership until a suitable future owner is found. DOT or the new owner will **own the site under the obligation to retain the constructed wetland site as wetland**. Review of title or lease restrictions by central and district office DOT environmental and property management real estate staffs will be made before transfer approval to assure that future land-use of the wetland compensation site conforms to obligations defined in this Guideline.

The documentation on Real Estate transfer process and considerations for land use restrictions in the form of deed restrictions and covenants are in the DOT Real Estate Program Manual (Wetlands).

**Figure 1B. Wetland Mitigation Bank Site Establishment Process**



## **APPENDIX B**

### **Section 2**

#### **Wetland Mitigation Bank Site Plan Outline<sup>5</sup>**

- 1) Bank Site Name
- 2) Location (county, town, range, section (s), bank region)
- 3) Site purpose
  - Wetland bank developed site
  - Project specific wetland compensation with surplus acres
  - On-site compensation
- 4) Schedule of coordination
  - DOT real estate contact results
  - Interagency review. DNR and Corps of Engineers (other agencies where applicable)
- 5) General site description (baseline conditions)
  - Geology and hydrogeomorphological setting
  - Topography and landscape position
  - Description of site drainage modifications (ditching, tile systems)
  - Soil survey description (soil series, type, distribution and stratigraphy)
  - Historical land use
  - Current land use of site
  - Adjacent land use
  - NRCS and Wisconsin Wetland Inventory descriptions and maps of the site including adjacent land (distribution of existing wetlands)
  - Pre-construction functional wetland assessment (applicable on restoration of farmed wetlands, or increasing functional capacity or existing wetlands)
- 6) Statement of general goal for WisDOT wetland compensation (see Section 3)
- 7) Conceptual plan and design. Description of work needed to establish wetland on the site. Identify DOT units or consulting firm responsible for design.
- 8) Construction objectives based on detailed plan and specifications. Performance criteria for measuring those objectives (see Section 3). As built plans.
- 9) Wetland compensation project objectives and performance criteria for measuring those objectives (see Section 3). Restoration or creation or combined restoration and creation.

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<sup>5</sup> This outline applies also to on-site, off-site and consolidation site compensation site projects.

Attendant features. Protection and enhancement of on-site existing wetlands and on-site upland enhancement

10) Monitoring compensation project and construction objectives (see Section 4).

11) Protection of the site.

Anticipated future ownership. List of prospective future owners including DOT.  
List deed restrictions and covenants placed in the site's title.

12) Site management.

Level of site management will be dependent of project objectives and defined by site design.

List agreements and responsibilities with future owner on planned management.

John O. Jackson  
WisDOT, Bureau of Environment

## APPENDIX B

### Section 3

#### **Wisconsin DOT wetland compensation site goal and objectives related to site development and monitoring.**

Restoration of former wetland-to-wetland or combined restoration and creation of wetland are the principal methods for establishing wetland bank sites or large off-site wetland projects. The most reasonable approach to wetland bank sites and other large off-site wetland restoration and creation projects is to work with the existing landscape and make efficient use of information collected on the site's hydrogeomorphology and historic land use. Since a wetland is a feature within a larger landscape, specific wetland types resulting from a wetland restoration and creation project will ultimately tend to be controlled by what the contributing drainage area and landscape will naturally provide, i.e. restoration of the site will progress to some equilibrium within limitations set by the contributing environment.

*Primary goal:* to compensate for wetland loss caused by Transportation Facility Development projects by developing sites that provide wetland function within the existing landscape that are self-sustaining, and can be managed passively. This general goal applies to all compensation sites developed for WisDOT wetland mitigation.

*Primary objective:* Establish a self-sustaining wetland by restoration of former wetlands or wetland creation on sites with the hydrogeomorphological potential to produce a wetland type or complex of types. Objective wetland types should be based on what can be determined as the site's historic wetland type or be comparable to existing natural wetlands within the same landscape. This general objective applies to all compensation sites developed for WisDOT wetland mitigation.

*Fundamental performance criterion.* The established wetland portion of the compensation site will correspond to the definitions for wetland given in the glossary of this technical guideline; i.e. the wetland portion of the site should have a hydraulic regime of inundation or saturation and a hydroperiod sufficiently long enough to produce hydrophytic dominance on a hydric soil or developing hydric soil.

*Example site-specific wetland project objectives and associated performance criteria.* In practice, the primary goal and objective should be restated for each site-specific plan. The following examples are abstract and represent possibilities that may be applied to specific compensation sites. They are not intended to be used in place of site-specific evaluation.

1. *Site Objective.* Restore a converted and prior converted wetland within a glacial lake plain to a wetland complex containing wet meadow, shallow and deep marsh vegetational communities. Revegetation is provided from existing propagules in the substrate and through natural ingress. Aerial vegetational cover by different wetland types will be dependent on the site's resulting hydrologic regime and duration and therefore, may vary through time.

*Performance criteria.* Prevalence<sup>6</sup> of hydrophytic vegetation and inundation or saturation of the root zone for a hydroperiod of at least 15 to 20 days during the growing season. Root zone saturation during the vernal period is preferable on new sites. Based on multivariate analyses, the vegetative community composition is similar to that of reasonably undisturbed native wetland on the same geomorphic unit within three to five years.

2. *Site Objective.* Restore a prior converted wetland on an alluvial plain to wet meadow and floodplain forest. *Performance criteria.* Tree saplings planted on the riparian fringe will exhibit an 80 percent survival rate in the first two to three years. Aerial herbaceous cover will consist of a prevalence of hydrophytic species common to wet and sedge meadow. The site is seasonally flooded early in the growing season, but also occasionally in the fall. Inundation should be at least 15 to 20 days during the growing season each year or at a minimum every two years.
3. *Site Objective.* Establish a wetland through restoration or combined restoration and creation by retarding surface water flow and drainage over a poorly or very poorly drained substrate in a glacial outwash plain on slow draining substrates or on a large drainage way. *Performance criteria.* Prevalence of hydrophytic vegetation and inundation or saturation of the root zone for a hydroperiod of at least 15 to 20 days during the growing season. Actual wetland acres established should be 80% or greater than the acres anticipated in the conceptual design.
4. *Site Objective.* Restore a converted or prior converted wetland by disabling subsurface drainage tile or other drainage structures to produce deep to shallow marsh and wetland meadow within a depressional basin or glacially formed kettle. *Performance criteria.* Prevalence of hydrophytic vegetation and inundation or saturation of the root zone for a hydroperiod of at least 15 to 20 days during the growing season. Where revegetation is done by root stock, success will be measured by a 45 to 67 % survival rate. Revegetation by properly applied marsh sod should provide a 75 to 90% survival rate.
5. *Site Objective.* Establish emergent vegetation in created embayment areas that are contiguous to or hydrologically connected by stream by lacustrine or riverine aquatic systems. These areas may be part of a larger wetland restoration site or be the principal part of the project. Fishery function and provision for fish reproduction are anticipated. Vegetation may be provided through natural ingress or planting appropriate emergent plant rootstock. *Performance criteria.* Observe a moderate level of fish spawning and invertebrate food chain support as determined by fishery specialists. Plant species established are adequate for fish spawning by the second year.
6. *Site Objective.* Establish a wetland basin with a constricted or no outlet in the upper reaches of a riverine system to provide flood storage capacity in acre-feet in the tributary's watershed.

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<sup>6</sup> As a general rule vascular vegetational prevalence should exhibit a prevalence index of 2.5 or less ( $PI \leq 2.5$ ) or a dominance greater than 50% of obligate and facultative wet species with the remainder facultative species and no facultative upland or upland species present in established stands (relic individual plants may be permissible). An expanded definition is given following site objective examples.

Vegetate the basin by means of marsh sod or planting. *Performance criteria.* Storage capacity in acre-feet is a minimum of 75 - 80% of the design estimate for a given year. Prevalence of hydrophytic vegetation and inundation or saturation of the root zone for a hydroperiod of at least 15 to 20 days during the growing season.

#### *Functional wetland assessment*

Under certain circumstances formal functional wetland assessment of a wetland compensation site may be of interest or recommended. Wetland functions provided by wetland bank sites or large off-site wetland restoration/creation projects can be assessed and estimated by making use of certain developing or developed functional wetland assessment methods. Examples of wetland assessment methods could include, but not limited to, models based on the Hydrogeomorphic Classification of Wetlands (HGM), *Wisconsin DNR Rapid Assessment Method*, *Minnesota Routine Assessment Method for Evaluating Wetland Functions* (MnRAM, ver. 2.0), *Minnesota Wetland Evaluation Methodology for the North Central United States*, *Wetland Evaluation Technique* (FHWA/COE, WET2), or *Hollands-Magee* (IEP/Normandeau).

Vegetational prevalence.

Based on Table 5.4 in CCW (1995) and the work of Wentworth, et al. (1988) *prevalent vegetation* in practice for WisDOT includes:

- On mapped hydric soils all plant species are obligate, facultative wet and facultative and where obligate and facultative wet species are greater than 50% or the mean prevalence index (PI) is  $\leq 2.5$ . No upland species are dominant.
- On field verified organic hydric soils vegetation is dominated by facultative species or wetter (PI  $\leq 3.0$ ). Hydric soils include: Histosols except Folists, organic surface layer 8-16 inches deep, mineral soils classified as a Histic subgroup of an Aquic suborder, Sulfaquents or Hydraquents, or gleyed subsoil immediately below the A, Ap or E-horizon.
- On field verified mineral soils vegetation is dominated by facultative species or wetter, PI  $\leq 3.0$ , or all dominant species are all facultative, facultative wet or obligate with more than 50% of the species in terms of frequency or cover being facultative wet and obligate.

References:

CCW. 1995. Wetlands. Characteristics and boundaries. Committee on Characterization of Wetlands, National Research Council. National Academy Press. Washington, D.C.

Wentworth, T.R., G.P. Johnson, and R.L. Kologiski. 1988. Designation of wetlands by weighted averages of vegetation: A preliminary evaluation. *Water Resources Bulletin*. 24(2): 389-396.

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## APPENDIX B

### Section 4

#### Guideline for DOT Wetland Compensation Site Monitoring

(July 23, 1997)

#### Justification and Purpose

The **basis** for bank site and other wetland compensation site monitoring is in the *Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline* under Agency Obligations (DOT) and in the DOT/DNR Cooperative Agreement amendment on compensatory wetland mitigation.

The **purpose** of this monitoring guideline is to provide a process of verification and the wise selection of wetland compensation sites for further evaluation. The process will give consideration to the conservation of material resources, wise use of financial resources, and the appropriateness of the site for scientific study.

The wetland compensation site **monitoring strategy** is dependent on information need and site specific characteristics, i.e. geomorphology, hydrology and landscape setting. What should be measured is based on site-specific evaluation and will vary according to the type of site.

#### Monitoring Goals

*Goals* for monitoring DOT wetland compensation projects include:

1. Verify that the project has been completed according to plan and specifications.
2. Provide a measure of the extent of wetland establishment.
3. Provide a measure for objectives defined in the mitigation plan.
4. Provide data for the improvement of plans and specifications for future DOT wetland compensation projects.

#### Monitoring Step Sequence

The level of effort for site monitoring will be dependent on project objectives and the initial post construction evaluation. The term **initial** is used here to mean the first period between late-summer to early fall (mid-August to late September) in the year after construction. This allows for the completion of the principal part of one growing season.

Figure B2 gives the steps and decision path for DOT wetland compensation site monitoring.

#### (1) Mitigation Monitoring Commitment

The general commitment for site monitoring is given in the Wetland Bank Guideline and the DOT/DNR Cooperative Agreement. Specific commitments are stated in a mitigation plan developed as a result of interagency coordination.

(2) **Initial Evaluation**

At a time specified and agreed to in the mitigation plan the site should be evaluated for:

- a) Compliance with general and specific commitments,
- b) Correspondence to plan and profile,
- c) Correspondence to contract special provisions,
- d) Elements of project needing remediation and repair,
- e) Need for future monitoring of the site.

(3) **Determine Monitoring Path**

At time of initial year evaluation or during a subsequent interagency consultation determine need for and level of monitoring of the site based on site characteristics (location type, size, construction type), resemblance to other monitored sites, expectations of mitigation plan.

The three levels of monitoring in order of magnitude are:

[A] **Basic**, [B] **Standard**, [C] **Expanded Standard**.

(4,5) The general criteria for selecting a monitoring level are based on area, project location (on-site, off-site, bank site), construction type (restoration, creation) and lack of redundancy (i.e., reduce repetitious evaluation of similar sites).

(6) An expanded standard plan is based on the potential for scientific gain.

**Criteria for Monitoring Level Selection**

**Level A Basic and Initial Evaluation**

- Compensation site is on-site or off-site and produced by a specific highway improvement project.
- Compensation site is approximately 5 acres or less if a wetland restoration and 1 acre or less if a wetland creation.
- The site does not meet the first two criteria, but it is determined through interagency coordination that the site is similar to other monitored sites and monitoring results of the site are anticipated to be comparable.

**Level B Standard**

- Compensation site is a bank site; or
- Compensation site is on-site or off-site, a restoration and is greater than five acres or greater than one acre if a wetland creation.
- The site does not meet the first criteria, but it is determined through interagency coordination that the site should be monitored.

### **Level C      Standard Expanded**

- A compensation project fitting the criteria of levels **A** or **B**, but based on the initial evaluation has raised questions of interest. Specific hypothesis or hypotheses should be generated as a result of first year evaluation, during the feasibility study or design phase.

### **Steps and requirements for selected level of monitoring**

The standard monitoring period is 5 years for standard levels. A shorter period may be prescribed based on the initial site evaluation or longer for level C monitoring.

### **Level A      Basic and initial evaluation**

(A1) Basic compliance monitoring.

*Period:* 1 year, concomitant with the initial evaluation.

*Activity:* Field site assessment and wetland boundary delineation.

*Information collected:*

- Comparison of site with design plan and specifications.
- Data for routine wetland delineation according to 1987 Corps manual procedures.
- Ground level panoramic photo series of site.
- Record plant species present list noting prevalent species for determination of wetland type and general community analysis.
- Record incidental observations of use by wildlife.

(A2) File documentation.

*Information required:*

- Summary comparison of site with design plan or as-built plan. Note any changes and document reasons, if available.
- Identify any remedial actions that might be needed.
- Routine wetland delineation report.
- Photographic series.
- Summary plant species presence list, noting prevalent plant species and community type.
- Summary observations of wildlife use.
- If initial evaluation, provide recommendation on monitoring level, i.e. basic, standard or expanded.
- If basic level is selected, estimate future trend for site's development.

*Reporting cycle:* Once at year-end of the evaluation year. Report copies should be filed with the DOT district environmental unit, DOT Bureau of Environment Wetland Unit, DNR Regional office, and Corps of Engineers Area office.

## **Level B      Standard**

(B1) Standard monitoring.

*Period:* Defined in mitigation plan developed through interagency coordination. Usual period is 5 years (3 years if recommended as a result of initial evaluation).

*Activity:*

First year. Field site assessment.

- Subsequent years. Dependent on mitigation plan objectives (see section 3 for example objectives).
- Final year. Final field assessments and final wetland boundary delineation.

*Information collected:*

- First year. (see Level A, A1).
- Subsequent years. In addition to first year data elements, those data required to meet plan objectives. Oblique and vertical aerial photography when appropriate (after first season, during or after final season, but not necessarily for every intervening season).
- Assessment of success of needed remedial actions previously identified and identification of further remedial actions.
- Final year. Data elements required for the intervening seasons. Final wetland delineation (wetland boundary delineations for intervening years probably not necessary). Oblique and vertical aerial photography.

(B2) File documentation and report.

*Information required:*

- First year. (see Level A, A2).
- Subsequent years. Analyses and summary of basic data and data related to measures of plan objectives.
- Final year. Final wetland delineation report. Final analysis and summary of data collected from project initiation through the final season.

*Reporting cycle:* Once at year-end of the first evaluation year and at year-end of designated reporting years. Designated years will usually be the first, third and fifth, but can be more or less frequent if appropriate. Sites should be evaluated each year during the period.

Report copies should be filed with the DOT district environmental unit, DOT Bureau of Environment Wetland Unit, DNR Regional office, and Corps of Engineers Area office.

**Level C      Standard Expanded**

(C1) Standard expanded monitoring plan.

*Period:* Variable and dependent on proposed plan.

*Activity:* Includes activities of level B and additional activities supporting proposed plan.

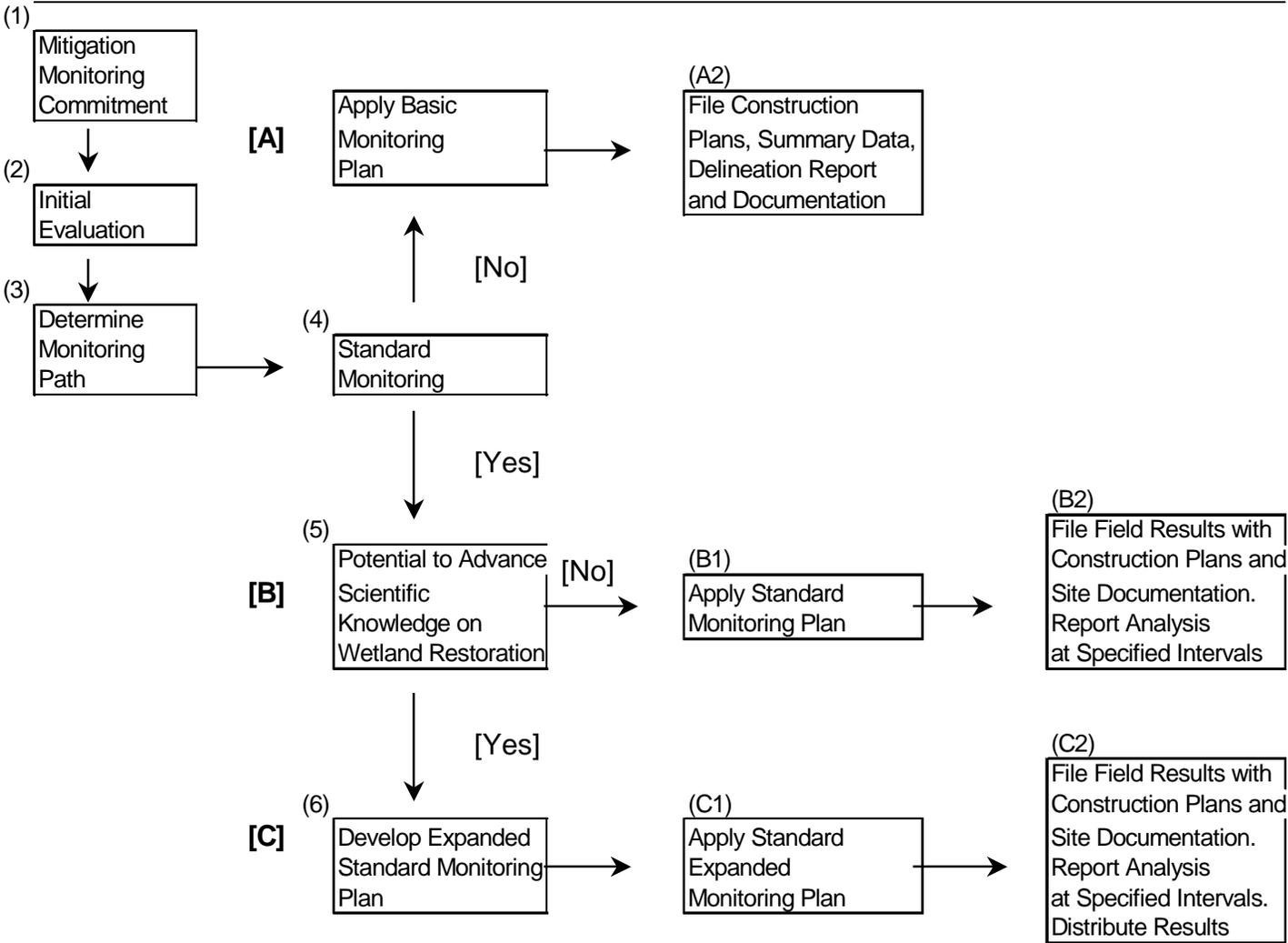
*Information collected:* Includes information collected for level B and additional information supporting proposed plan.

(C2) File documentation, report and distribute results.

*Information required:* Includes information required for level B and additional information and analysis specific to the proposed plan.

*Reporting cycle:* General reporting recommended at 1, 3 and 5 years. Final report at year's end of final evaluation year. Report copies should be filed with the DOT district environmental unit, DOT Bureau of Environment Wetland Unit, DNR Regional office, and Corps of Engineers Area office. Any abstract from presentations and published papers should be distributed to the agencies.

**Fig. B2. Decision Path for DOT Wetland Compensation Site Monitoring.**



# **Appendix C**

## **Compensation Ratios**

## Appendix C

For the purposes of this wetland mitigation bank, the replacement of wetland function is assumed if the replacement of wetland loss occurs within the floristic province, major drainage area and by wetland type. Under these conditions the replacement ratio is one acre of replacement for one acre lost (1:1). A 1:1 ratio represents the floor for wetland compensation. Wetland losses replaced outside designated areas and/or by different wetland types are assessed by a variable schedule of increments, which will cause the replacement ratio to be greater than 1:1, but not exceed 3:1. These increased ratios do not produce ratio generated surpluses (see discussion under item 5 of Guideline).

Floristic province and drainage area boundaries for this bank are given in figure 1C.

Nine wetland types are defined for this wetland mitigation bank (Table 1C) and can be placed into four major groups: Riparian, palustrine emergent, palustrine shrub/forested and bog. In terms of hydrogeomorphology and stage of ecological succession these appear to be natural groupings. Based on these groupings the interrelationship between out-of-kind replacement by type and increments of increase for replacement ratios is given in Table 2C.

It should be noted in Table 2C that degraded conditions are given for wetlands lost to DOT projects, but not at Bank sites. It is assumed that bank sites will not be exposed to the outside influences of degradation. Degradation in lost wetlands can be caused by agricultural practices such as pasturing, haying and crop cultivation. Wetlands in the early stages of regeneration from tillage can be regarded as degraded. Surface water run-off from urban and highway development can cause degradation by sediment loading and poor water quality.

Evidence of degrading influences on riparian emergent, wet and sedge meadow and wet prairie could be vegetational community dominated by reed canary grass and stinging nettle. For riparian shrub/forest, shrub or wooded swamps the resulting vegetational community composition could include an over-story of box elder, a shrub layer of buckthorn or honeysuckle and a reed canary grass herb layer. Degraded aquatic bed may be indicated by turbid water, low density of rooted vegetation and evidence of excessive run off.

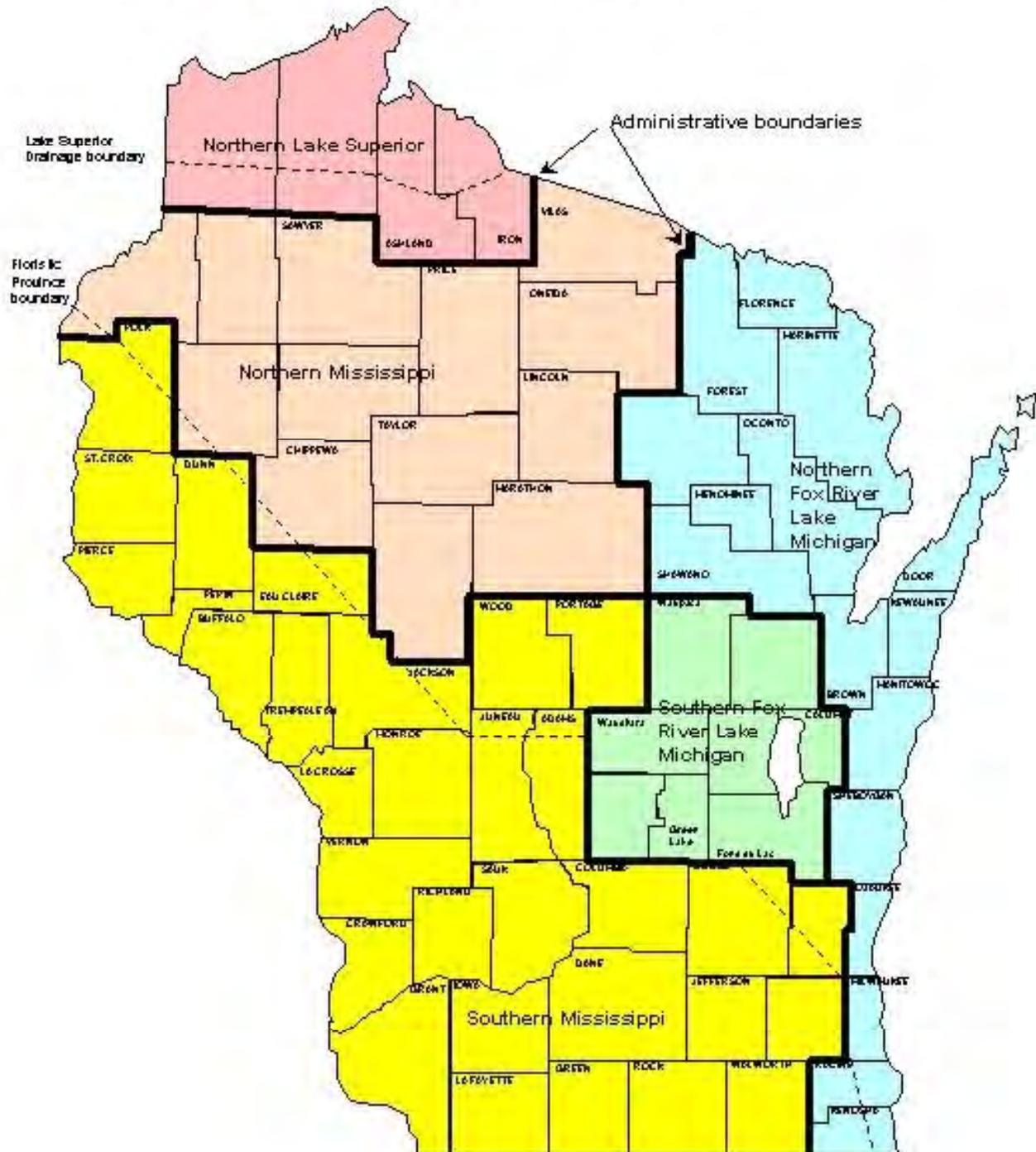
Since shallow and deep marshes do not seem to be subjected to the same degree of degradation as meadows, no categories were provided.

An integration of compensation ratio increments by floristic province, drainage area and wetland type is given in Table 3C. Given the wetland lost and the replacement wetland at the bank site, replacement ratio can be obtained by adding the increment to 1.0. For example, shallow marsh acres lost are replaced by shallow marsh acres at a bank site (increment=0.0). The bank site is within the same floristic province (increment=0.0), but outside the drainage area (increment=0.5). Therefore, if there is no modification base on professional discretion, the replacement ratio is 1.5:1.

### EXAMPLES Using Table 3C

1. Undegraded riparian forested wetland [RPF(N)] replaced by wet meadow (M) within the drainage area and within the floristic province. No professional discretion applied. Increment is 0.5 (third row, third column). Compensation ratio is 1.5:1.
2. Undegraded riparian forested wetland [RPF(N)] replaced by shallow marsh (SM) outside the drainage area and outside the floristic province. No professional discretion applied. Increment is 2.0 (third row, sixth column). Compensation ratio is 3.0:1.
3. Degraded riparian forested wetland [RPF(D)] replaced by shallow marsh (SM) within the drainage area, but outside the floristic province. Professional discretion factor applied, since site of wetland loss is relatively near the floristic province boundary. Increment is 1.1 (row 11, column 5) minus 0.5 (professional description). Compensation ratio is 1.6:1.
4. Undegraded sedge meadow [M(N)] replaced by wet meadow (M) outside the drainage area, but inside the floristic province. Professional discretion not applied. Increment is 0.5 (row 15, column 4). Compensation ratio is 1.5:1.
5. Degraded shrub swamp [SS(D)] replaced by wet meadow (M) inside the drainage area, but outside the floristic province. Professional discretion applied (- 0.5) based on the replacement wetland being in a category of wetland types that have been historically lost in large amounts. Increment is 1.5 (row 27, column 6) minus 0.5 (professional discretion). Compensation ratio is 2.0:1.
6. Bog replaced by shallow marsh (SM) outside the drainage area and outside the floristic province. Professional discretion applied (-0.5) since the bogs in the area of wetland loss are abundant and the replacement wetland represents a wetland type that was historically lost in the area of replacement. Increment is 2.0 (row 6, column 31) minus 0.5 (professional discretion). Compensation ratio is 2.5:1.

Fig. C1. Wisconsin DOT Wetland Bank Regions based on administrative boundaries. Actual floristic province and Lake Superior drainage area boundaries are approximated by dashed line. A discretionary zone is between the two boundaries.



**Table 1C. Wetland Type Classification for the Wisconsin Wetland Mitigation Bank.**

Cir39 Classification	Wetland Type Bank Site *	Examples of Vegetational Community Types
1A Seasonally flooded basin or flat	Riparian wetland (RPF) (wooded)	Floodplain Forest (includes Bottomland Hardwood forests **), Riparian Shrub Carr and Alder Thickets
1B Seasonally flooded basin or flat	Riparian wetland (RPE) (emergent)	Riparian Wet and Sedge Meadows, Bars and Mudflats
2 Inland fresh meadow	Wet Meadow (M)	Wet Meadow, Wet/Wet Mesic Prairie, Sedge Meadow, Vernal pools, (also includes Fens **)
3 Inland shallow fresh marsh	Shallow Marsh (SM)	Emergent Aquatic
4 Inland deep fresh marsh	Deep Marsh (DM)	Emergent and Submergent Aquatic
5 Inland open fresh water	Aquatic Bed (AB)	Submergent Aquatic, Aquatic Bed (depth less than 3 Meters)
6 Shrub swamp	Shrub Scrub (SS)	Shrub Carr, Alder Thicket
7 Wooded swamp	Wooded Swamp (WS) (Forested Wetland)	Wet/Wet-Mesic Deciduous Forests White Cedar Swamps
8 Bog	Bog (Bog)	Open Bog, Forested Bog

\* Wetland types used for purposes of this bank system.

These should be referred to by name or by acronym (e.g. RPF, SM, AB, etc.)

\*\* Red flag wetlands

**Table 2C. Increments (acres)\* for Replacement by Wetland Type.**

Wetland Type Lost	Bank Site Wetland Types			
	RPF (N)	RPE (N)	M,AB(N) SM,DM	SS,WS (N)
RPF(N)**	0.0	0.2	0.5	0.3
RPE(N)	0.1	0.0	0.3	0.2
RPF/E(D)***	0.0	0.0	0.1	0.1
M(N),SM, DM,AB(N)	0.1	0.1	0.0	0.2
SS,WS(N)	0.1	0.2	0.2	0.0
M,AB(D), SM,DM	0.0	0.0	0.0	0.0
SS,WS(D)	0.0	0.0	0.0	0.0
BOG	0.5	0.5	0.5	0.5

\* Increment added to minimum replacement of 1.0 acre.

\*\* (N): Wetland is not degraded.

\*\*\* (D): Wetland is degraded.

Table 3C. Compensation ratio increments\* by floristic province, drainage area, and wetland type. \*\*

Wetland Type Lost	Bank Site Type	Within Floristic Province (In)		Outside Floristic Province (Out)	
		Drainage Area (IN)	Drainage Area (OUT)	Drainage Area (IN)	Drainage Area (OUT)
RPF(N)	RPF	0.0	0.5	1.0	1.5
	RPE	0.2	0.7	1.2	1.7
	M,AB,SM,DM	0.5	1.0	1.5	2.0
	SS,WS	0.3	0.8	1.3	1.8
RPE(N)	RPF	0.1	0.6	1.1	1.6
	RPE	0.0	0.5	1.0	1.5
	M,AB,SM,DM	0.3	0.8	1.3	1.8
	SS,WS	0.2	0.7	1.2	1.7
RPF/E(D)	RPF	0.0	0.5	1.0	1.5
	RPE	0.0	0.5	1.0	1.5
	M,AB,SM,DM	0.1	0.6	1.1	1.6
	SS,WS	0.1	0.6	1.1	1.6
M(N),SM,DM,AB(N)	RPF	0.1	0.6	1.1	1.6
	RPE	0.1	0.6	1.1	1.6
	M,AB,SM,DM	0.0	0.5	1.0	1.5
	SS,WS	0.2	0.7	1.2	1.7
SS,WS(N)	RPF	0.1	0.6	1.1	1.6
	RPE	0.2	0.7	1.2	1.7
	M,AB,SM,DM	0.2	0.7	1.2	1.7
	SS,WS	0.0	0.5	1.0	1.5
M,AB(D)SM,DM	RPF	0.0	0.5	1.0	1.5
	RPE	0.0	0.5	1.0	1.5
	M,AB,SM,DM	0.0	0.5	1.0	1.5
	SS,WS	0.0	0.5	1.0	1.5
SS,WS(D)	RPF	0.0	0.5	1.0	1.5
	RPE	0.0	0.5	1.0	1.5
	M,AB,SM,DM	0.0	0.5	1.0	1.5
	SS,WS	0.0	0.5	1.0	1.5
BOG	RPF	0.5	1.0	1.5	2.0
	RPE	0.5	1.0	1.5	2.0
	M,AB,SM,DM	0.5	1.0	1.5	2.0
	SS,WS	0.5	1.0	1.5	2.0

\* Increments (acres) are added to 1.0 to give the replacement component of a compensation ratio.

\*\* See Tables 1C and 2C for defined abbreviations.

# **APPENDIX D**

## **Wetland Mitigation Bank Reporting**

## Wetland Mitigation Bank Reporting

Reporting for the wetland mitigation bank is generated from the Wetland Mitigation Bank Accounting System (WMBAS). This data base was developed to fulfill the reporting requirement for the Bank System and provides summary and detailed reports on DOT project wetland loss and compensation. Five example standard reports are given and include in order:

- Wetland bank site mitigation summary report.
- Wetland consolidation site mitigation summary report.
- District total compensatory wetland mitigation. This report gives detail on all compensatory wetland compensation for a district for a specified time period.
- Bank site report. This report gives the individual transactions associated with each bank site. Each constructed bank site is reported.
- Consolidation site report. This report gives the individual transactions associated with each consolidation site. Each constructed consolidation site is reported.

Non-standard reports can be generated for specific needs by specified requests.

# Wetland Mitigation Bank Site Summary for Wisconsin

1/1/1991-10/1/2002

Site ID	Site Name	County	Debit Status	Beginning Debts against sites:																			Total	Remaining Balance
				1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002								
<b>DOT DISTRICT: 1</b>																								
6310105	Patrick Marsh	Dane		152.12	17.25	7.25	34.85	36.29	1.30	-6.72	3.14	18.90	0.86	0.09	0.20						125.74	26.98		
				<i>Closed for Debit</i>																				
6310304	Warpun Site	Dodge		71.48																	20.40	50.99		
				<i>Open for Debit</i>																				
6311102	Vail	Dane		150.00																	0.00	150.00		
				<i>Status Pending</i>																				
6311301	Pineet Point	Jefferson		44.50					0.31	0.71	0.01	1.90	2.47	5.57	13.66						24.66	19.84		
				<i>Open for Debit</i>																				
<b>Number of Sites:</b>				<b>4</b>																		<b>Total for District:</b>	<b>170.88</b>	<b>247.82</b>
<b>Wetland Acreage</b>				<b>418.70</b>																				
<b>DOT DISTRICT: 2</b>																								
6310307	Jacobson Parcel	Walworth		300.50					1.34	0.72	1.30	4.79	26.11	22.76	39.09	0.03					103.02	197.48		
				<i>Open for Debit</i>																				
<b>Number of Sites:</b>				<b>1</b>																		<b>Total for District:</b>	<b>103.02</b>	<b>197.48</b>
<b>Wetland Acreage</b>				<b>300.50</b>																				
<b>DOT DISTRICT: 3</b>																								
6310301	Shocon Site	Outagamie		423.18	1.25	92.37	6.35	100.96	125.24	3.96	0.49	1.50	1.99	0.10	65.91						400.12	23.06		
				<i>Open for Debit</i>																				
6310302	Wrens Site	Calumet		30.000		17.20		0.10		0.17	14.69	3.11	0.20	0.13							35.91	-5.91		
				<i>Closed for Debit</i>																				
6310303	Sikma Site	Osorno		95.00	47.40	0.05	1.82	1.08	0.70	1.07	1.00	1.56	0.35	0.03	11.51						66.25	28.75		
				<i>Open for Debit</i>																				
6310307	Blohowiak Site	Manitowish		60.000		15.06	2.28	7.83		0.70	2.48	1.95	18.45	11.36	0.03						60.13	-0.13		
				<i>Closed for Debit</i>																				
6310308	Sellen Site	Osorno		58.500					10.47		9.25	1.65	12.53	1.27	26.72	0.40					62.28	-1.28		
				<i>Closed for Debit</i>																				
6310310	Walker Site	Winnebago		23.40				1.35			9.79			2.08	8.05	0.05					21.32	2.08		
				<i>Pending Closure</i>																				
<b>Number of Sites:</b>				<b>6</b>																		<b>Total for District:</b>	<b>48.55</b>	<b>124.59</b>
<b>Wetland Acreage</b>				<b>689.58</b>																				

County Debits against sites: Beginning Wetland Acreage 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 Total Remaining Balance

DOT DISTRICT: 4

6310401	Three Lakes Marsh	Marathon	160.00	3.54	5.17	1.69	9.95	2.88	3.82	4.23	81.05	4.54	0.21	19.17	126.25	23.75
			<i>Open for Debits</i>													
6314207	Hope Marsh	Marquette	195.00								0.16	12.15	-0.46	23.16	39.91	159.09
			<i>Open for Debits</i>													
6314508	Hope Marsh II	Marquette	400.00											0.00	0.00	-400.00
			<i>Open for Debits</i>													
Number of Sites:			5	3.54	5.17	1.69	9.95	2.88	3.82	4.23	81.21	16.67	0.67	42.33	172.16	582.84
Total for District:				3.54	5.17	1.69	9.95	2.88	3.82	4.23	81.21	16.67	0.67	42.33	172.16	582.84
Wetland Acreage			755.00													

DOT DISTRICT: 5

6310501	Mill Bluff	Juneau	125.00					4.95	3.50	0.15	0.04	2.47	1.85	0.49	13.05	111.95
			<i>Status Pending</i>													
6315109	Bell Center	Crawford	106.41					0.02		0.24	10.35	0.98	0.93		12.54	93.87
			<i>Open for Debits</i>													
Number of Sites:			2					4.97	3.50	0.15	0.28	12.82	2.43	1.44	25.59	205.82
Total for District:								4.97	3.50	0.15	0.28	12.82	2.43	1.44	25.59	205.82
Wetland Acreage			231.41													

DOT DISTRICT: 6

6310603	Stephens Site	Chippewa	70.00	17.40	23.81		7.63	0.03	0.30	0.31	0.76	2.27	1.94	10.18	64.61	5.39
			<i>Open for Debits</i>													
6310607	Pechack Site	Pierce	65.10				0.06	0.32	1.74	1.70	28.24	32.27	3.18		67.50	-2.40
			<i>Closed for Debits</i>													
6312903	CCEHC	Clark	125.00	0.09	17.99	106.23	0.10								124.40	0.60
			<i>Closed for Debits</i>													
6316300	Knights Creek	Dunn	60.00								0.83				0.83	-9.17
			<i>Open for Debits</i>													
Number of Sites:			4	17.49	41.79	106.29	8.05	1.77	1.99	0.31	29.83	34.54	5.11	10.18	257.34	52.76
Total for District:				17.49	41.79	106.29	8.05	1.77	1.99	0.31	29.83	34.54	5.11	10.18	257.34	52.76
Wetland Acreage			320.10													

DOT DISTRICT: 7

6310702	Deerbrook	Langlade	45.00	19.12	2.19	2.49	11.88	0.40							26.08	8.92
			<i>Closed for Debits</i>													
6310703	Fence Site	Therence	6.00		2.00	1.25									3.25	2.75
			<i>Closed for Debits</i>													
6310728	Bina Site	Langlade	200.00				5.20	7.02	0.24	1.92		8.33	12.72	4.55	39.98	160.02
			<i>Open for Debits</i>													



# Wetland Mitigation Consolidation Site Summary for Wisconsin

1/1/1991-10/1/2001

Site ID	Site Name	County	Debit Status	Beginning Wetland Acreage	Debts against sites:										Total	Remaining Balance			
					1990	1991	1992	1993	1994	1995	1996	1997	1998	1999			2000	2001	2002
<b>DOT DISTRICT: 3</b>																			
6310202	Ryan Site	Waukesha		33.85				26.33			2.00						28.33	5.53	
		<i>Closed for Debit</i>																	
10651071	Call Site	Waukesha		17.00													1.82	1.82	15.18
		<i>Open for Debit</i>																	
14880001	Whitesaver Site	Walworth		53.00													27.27	27.27	25.73
		<i>Open for Debit</i>																	
11070373	Lampfield Site	Fond du Lac		33.86			26.63			4.28							2.40	33.86	0.00
		<i>Closed for Debit</i>																	
13720400	Lamp Road Site	Waukesha		35.80													34.50	34.50	1.30
		<i>Closed for Debit</i>																	
13830000	Lannon Road	Washington		68.00													26.30	26.30	41.70
		<i>Open for Debit</i>																	
23300471	Church Road Site	Oraukee		71.40			5.99	4.80	2.40	1.45	3.80	0.00					0.92	19.38	2.02
		<i>Closed for Debit</i>																	
37630171	Peters Site	Kenosha		83.00					0.74	41.82	0.98	14.79	0.66				24.88	83.87	1.14
		<i>Closed for Debit</i>																	
40150600	Groesch Site	Sheboygan		25.00													2.89	2.89	22.11
		<i>Open for Debit</i>																	
<b>Number of Sites:</b>	<b>9</b>			<b>Total for District:</b>	<b>26.63</b>	<b>5.91</b>	<b>31.19</b>	<b>3.14</b>	<b>49.55</b>	<b>4.78</b>	<b>15.40</b>	<b>0.66</b>	<b>0.92</b>	<b>5.29</b>	<b>114.77</b>		<b>258.21</b>	<b>116.70</b>	
				<b>Wetland Acreage</b>	<b>374.91</b>														
<b>DOT DISTRICT: 3</b>																			
6310305	Goehle Site	Oconto		10.03				1.80	7.86								0.04	9.70	0.33
		<i>Closed for Debit</i>																	
14800400	Manitowish	Brown		10.45				6.75										6.75	3.70
		<i>Open for Debit</i>																	
49810000	Learning Resource Center	Outagamie		5.00								0.11					0.90	1.01	3.99
		<i>Open for Debit</i>																	
<b>Number of Sites:</b>	<b>3</b>			<b>Total for District:</b>	<b>6.55</b>	<b>7.86</b>		<b>0.11</b>	<b>0.04</b>	<b>0.90</b>							<b>17.46</b>	<b>8.02</b>	
				<b>Wetland Acreage</b>	<b>25.46</b>														
<b>DOT DISTRICT: 4</b>																			

Site ID	Site Name	County	Debit Status	Beginning										Total	Remaining Balance				
				Debts against sites:															
				Wetland	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002		
61800371	Puckel Row	Washington		3.22								2.31						2.46	0.76
				<i>Closed for Debits</i>															
Number of Sites: 1				Total for District:										2.31	0.15	2.46	0.76		
				Wetland Acreage 3.22															

DOT DISTRICT: 5				Wetland	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total	Remaining Balance					
50430271	Mack-Johnson Site	Richland		14.69			12.20	0.05	2.44									14.69	0.00					
				<i>Closed for Debits</i>																				
50710671	EGR Property	Richland		0.75														0.66	0.09					
				<i>Closed for Debits</i>																				
51610371	Quality Beverage Site	Crawford		22.30			16.22		2.17	0.35								18.74	3.56					
				<i>Closed for Debits</i>																				
51880171	Rockbridge	Richland		57.10			0.56	1.15	0.22		0.57	2.57	10.72	0.13				13.92	41.18					
				<i>Open for Debits</i>																				
77220200	Spencer Hanson Site	Trempealeau		31.50					1.50	0.29	1.78	5.10	19.28					27.95	3.55					
				<i>Status Pending</i>																				
Number of Sites: 5				Total for District:										28.42	0.67	3.59	3.89	1.30	2.35	7.67	30.00	0.13	77.98	48.38
				Wetland Acreage 126.34																				

DOT DISTRICT: 6				Wetland	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total	Remaining Balance
88990170	CTH V Site	Taylor		7.40														6.66	0.75
				<i>Closed for Debits</i>															
Number of Sites: 1				Total for District:										3.24		2.97	0.507	6.66	0.75
				Wetland Acreage 7.40															

DOT DISTRICT: 7				Wetland	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total	Remaining Balance
16020300	Parlick	Lamplade		11.19														10.40	0.79
				<i>Closed for Debits</i>															
92160270	Hilmar Olson	Price		7.99					4.59	3.40								7.99	0.00
				<i>Closed for Debits</i>															
Number of Sites: 2				Total for District:										4.59	3.40	10.40	18.39	0.79	
				Wetland Acreage 19.18															

DOT DISTRICT: 8				Wetland	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total	Remaining Balance
11810400	Fish Creek	Bayfield		32.60														11.66	0.94
				<i>Closed for Debits</i>															

Site ID	Site Name	County	Debit Status	Beginning Debts against sites:													Total	Remaining Balance											
				1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992			1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
15702100	Brand	Park		14.43																							14.43	0.00	
		<i>Closed for Debits</i>																											
85700600	Wiergo	Sawyer		3.31																							3.30	0.01	
		<i>Closed for Debits</i>																											
87449800	Brule Bonds	Douglas		18.19																							15.22	2.97	
		<i>Closed for Debits</i>																											
87441671	Fully-Three Case	Douglas		7.25																							6.25	1.00	
		<i>Senior Pending</i>																											
	Number of Sites:		5																										
	Total for District:			29.89																									
	Wetland Acreage			55.78																									

**Statewide Totals:**

Number of Sites	Wetland Acreage	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total	Balance
26	612.31	53.51	34.33	44.94	26.19	58.02	6.08	37.52	18.76	31.42	6.47	114.77			431.90	180.31

# Wetland Accounting Report for District 3

1/1/1998 - 12/31/1998

1998

County	Main ID	Lat Date	Route	RPF	RPE	M	SM	DM	SS	WS	AB	BOG	UNSP	Total Loss	Debit Rate	Compen-		Site Name	Site Type
																sation	Amount		
Brown	1130-12-00	4/16/1998	USH 43		0.23									0.23	1.30	0.30	Etchovak Site	Bank Site	
Brown	4125-01-71	1/10/1998	STH 29			0.03								0.03	1.33	0.04	Goma Site	Consolidation Site	
Brown	4506-03-00	6/16/1998	LCL Van		0.02									0.02	1.29	0.02	Sikma Site	Bank Site	
Calumet	1500-11-71	4/21/1998	USH 10			0.81								1.33	1.52	2.01	Wiens Site	Bank Site	
Calumet	4285-12-71	1/10/1998	STH 32		0.33									0.33	1.56	0.38	Wiens Site	Bank Site	
Calumet	4285-12-71	1/10/1998	STH 32			0.12								0.53	1.15	0.72	Wiens Site	Bank Site	
Door	4415-03-00	4/20/1998	CTH X											1.70	1.20	2.04	Blochovak Site	Bank Site	
Green Lake	6547-00-00	6/16/1998	CTH J			0.05								0.05	1.00	0.05	Shovodon Site	Bank Site	
Keweenaw	4383-01-71	6/16/1998	LCL Cou		0.01									0.01	1.60	0.02	Sikma Site	Bank Site	
Marquette	1470-09-01	1/10/1998	STH 42			0.09				0.01				0.10	1.00	0.10	Blochovak Site	Bank Site	
Marquette	9246-03-00	4/25/1998	LCL N 71			0.05								0.05	1.00	0.05	Seven Site	Bank Site	
Marquette	6739-01-00	12/9/1998	LCL 14th			0.07				0.07				0.14	1.00	0.14	Shovodon Site	Bank Site	
Oconto	9021-05-00	1/20/1998	CTH A			0.04								0.04	2.40	0.09	Sikma Site	Bank Site	
Oconto	9095-07-00	1/25/1998	CTH C		0.81	0.00				0.04				1.14	1.40	1.62	Seven Site	Bank Site	
Oconto	9116-02-00	1/10/1998	CTH J		0.09									0.09	1.30	0.12	Sikma Site	Bank Site	
Oulagamie	1433-05-00	12/8/1998	USH 41			0.49								0.45	1.00	0.45	Shovodon Site	Bank Site	
Oulagamie	6038-03-00	1/7/1998	CTH S		1.17					0.18				1.35	1.50	2.03	no name	On-site Mitigatio	
Shawano	1059-17-71	8/18/1998	STH 28			0.07								0.07	1.37	0.10	Shovodon Site	Bank Site	
Sheboygan	4198-01-00	5/25/1998	CTH D		0.02									0.02	1.30	0.03	Blochovak Site	Bank Site	
Sheboygan	4202-01-00	4/25/1998	CTH W						0.01					0.01	1.00	0.01	Blochovak Site	Bank Site	
Sheboygan	4236-01-00	5/25/1998	CTH F		0.27	0.52								0.79	1.36	1.09	Sikma Site	Bank Site	
Sheboygan	4246-02-00	2/3/1998	CTH I			0.01								0.01	1.33	0.02	Sikma Site	Bank Site	
Sheboygan	4996-00-59	3/25/1998	LCL Mill R			0.14								0.14	1.00	0.14	no name	On-site Mitigatio	
Sheboygan	4996-00-59	3/25/1998	LCL Mill R			0.05								0.05	1.20	0.05	no name	On-site Mitigatio	
Waupaca	6903-01-71	1/20/1998	LCL Mai		0.01	0.04								0.05	13.40	0.67	Shovodon Site	Bank Site	
# Transportation Projects: 25					2.73	1.07	1.98	0.01		0.21	2.87			8.87	12.31	12.31			

District Totals: Total Number of Transportation Projects: 25

RPF	RPE	M	SM	DM	SS	WS	AB	BOG	UNSP	Total Loss Compensation	Total
2.73	1.07	1.98	0.01		0.21	2.87				8.87	12.31

# Wetland Accounting Site Report for Hope Marsh

1998 - 2000

Total Site Acreage: 200.00	Beginning Wetland Acreage: 195.00	Wetland Acreage Status:
Site Type: Bank Site	Total Debits from Site: 12.75	Debit Status: Open for Details
	Balance Remaining: 182.25	

## 1998

Project ID	Let Date	Route	County	Title	RPF	RPE	M	SM	DM	SS	WS	AB	BOG	UNSP	Total
6054-04-71	5/19/1998	STH 22	Marquette	Webster St Bridge R-29-423			0.01							0.15	0.15
2 Projects							0.01							0.15	0.16

## 1999

Project ID	Let Date	Route	County	Title	RPF	RPE	M	SM	DM	SS	WS	AB	BOG	UNSP	Total
1510-08-77	7/20/1999	USH 10	Washtenaw	Brown - STH 118										11.55	11.55
6160-08-71	2/14/1999	STH 21	Adams	STH 13 - Coloma										0.28	0.28
6368-01-71	3/16/1999	CTH C	Adams	Big Roche n Cr Creek Bridge				0.03						0.03	0.03
6666-05-70	4/20/1999	LCL - 1st	Junecau	First Street East Bridge Cranberry										0.14	0.14
6847-00-73	11/09/1999	CTH Q	Washtenaw	King - Scandinavia										0.11	0.11
6855-00-70	6/15/1999	CTH W	Washtenaw	CTH 4E - CTH A, Pine River Br										0.02	0.02
6 Projects								0.03						12.10	12.13

## 2000

Project ID	Let Date	Route	County	Title	RPF	RPE	M	SM	DM	SS	WS	AB	BOG	UNSP	Total
143203-71	8/24/2000	STH 82	Junecau	Munson - STH 13			0.02							0.18	0.02
6320-00-71	4/11/2000	STH 71	Wood	STH 13 - Adams City										0.18	0.18
6566-00-70	1/11/2000	STH 23	Marquette	Neeah Creek										0.11	0.11
6590-05-74	3/16/2000	STH 22	Washtenaw	DEPOT & SOUTH BRIDGE ST		0.01								0.01	0.02
6699-00-70	1/11/2000	CTH C	Marquette	Mecan River										0.10	0.10
6736-01-71	5/9/2000	CTH N	Marquette	Mecan River										0.02	0.02
6739-02-70	5/9/2000	14th Ave	Marquette	140 Ave, CHAPPEL CREEK BR										0.01	0.01
7 Projects							0.01							0.43	0.46

<b>Grand Total</b>															
15 Projects	RPF	RPE	M	SM	DM	SS	WS	AB	BOG	UNSP	Total				
	0.01	0.03	0.03							12.68	12.75				

# Wetland Accounting Site Report for Peters Site

1994 - 1997

Total Site Acreage:	0.00	Beginning Wetland Acreage:	65.00	Wetland Acreage Status:	
Site Type: Consolidation Sit		Total Debits from Site:	58.33	Debit Status:	Closed for Debits
		Balance Remaining:	20.68		

## 1994

Project ID	Let Date	Route	County	Title	RPF	RPE	M	SM	DM	SS	WS	AB	BOG	UNSP	Total
2806-02-71	6/21/1994	LCL-SPR	Racine	Koee River Canal Bridge & Appr										0.04	0.04
3180-02-73	11/8/1994	STH 120	Walworth	Lake Geneva - East Toy Rd										0.44	0.44
3190-04-72	11/8/1994	STH 120	Walworth	Lake Geneva - Burlington Rd										0.09	0.09
3761-01-71	5/17/1994	CTH KR	Kenosha	Pike River Bridge										0.17	0.17
<b>4 Projects</b>															
														<b>0.74</b>	<b>0.74</b>

## 1995

Project ID	Let Date	Route	County	Title	RPF	RPE	M	SM	DM	SS	WS	AB	BOG	UNSP	Total
2240-07-70	3/21/1995	STH 360	Racine	Tear Rd - N Kramer Rd										40.05	40.05
2995-02-70	7/18/1995	LCL-Misc	Milwaukee											1.26	1.26
3133-00-71	7/18/1995	STH 30	Racine											0.05	0.05
3766-01-72	1/14/1995	CTH E/12	Kenosha	100th Ave - 72nd Ave (CTH EA)										0.23	0.23
3831-04-70	4/18/1995	CTH S/B	Kenosha	Kilbourn Rd Ditch Bridge										0.23	0.23
<b>5 Projects</b>															
														<b>41.82</b>	<b>41.82</b>

## 1996

Project ID	Let Date	Route	County	Title	RPF	RPE	M	SM	DM	SS	WS	AB	BOG	UNSP	Total
2345-02-71	4/16/1996	LCL-E/D	Milwaukee	S Howell Ave - Pennsylvania A										0.66	0.66
3575-02-70	1/12/1996	USH 12'	Walworth	WCT - Second St										0.18	0.18
3762-01-70	2/20/1996	CTH Y	Kenosha											0.14	0.14
<b>3 Projects</b>															
														<b>0.99</b>	<b>0.99</b>

## 1997

Project ID	Let Date	Route	County	Title	RPF	RPE	M	SM	DM	SS	WS	AB	BOG	UNSP	Total
2240-07-81	7/25/1997	STH 36	Racine	Laureis Rd										14.79	14.79
<b>1 Projects</b>															
														<b>14.79</b>	<b>14.79</b>
<b>Grand Total</b>															
														<b>58.33</b>	<b>58.33</b>
<b>13 Projects</b>															
														<b>58.33</b>	<b>58.33</b>

## **APPENDIX E**

### **POLICY ON LOCALIZED WETLAND LOSS AND MITIGATION SEQUENCE**

December 12, 1995<sup>7</sup>

## Wisconsin DOT Wetland Mitigation Bank

### Policy on Localized Wetland Loss and Mitigation Sequence

#### *Background and Purpose*

A localized wetland loss is a small wetland loss confined to a limited area. This type of loss commonly occurs on small bridge projects or road improvement projects that produce a narrow lateral or small polygonal encroachment onto adjacent wetlands.

The mitigation sequence followed in the Wisconsin DOT wetland mitigation bank procedure is clearly stated under the bank site establishment and process in the July 1993, Wetland Mitigation Banking Technical Guideline (Appendix B, section 1). The basic sequence follows the steps: 1. Avoid Wetland, 2. Minimize the impact, 3. Compensate for the unavoidable wetland loss *on-site*, 4. Compensate for the unavoidable of wetland loss *off-site* or at a bank site. This mitigation sequence is stated in the Technical Guideline operational criteria under item 3, *Project Applicability Criteria* and in the DNR/DOT COA Amendment under *Policy Guidance on Mitigation*. The sequence is based on the 404 (b)(1) guidelines (40 CFR 230).

In order to limit the potential for an unlimited search for on-site suitable wetland restoration areas, the concept of *near-site* was developed and defined in the Technical Guideline. Near-site is defined in the technical guideline as "... within 2.5 miles (4.02 km) of either side of the alignment." The near-site search for compensation sites is best applied to major projects, but may become impractical when applied to smaller projects causing a localized wetland loss.

Wisconsin DOT and DOT supervised local public bridge and road projects that cause a localized wetland loss usually conform to the criteria given for Clean Water Act section 404 general permits. The usual type of project includes public bridge replacements with associated approach work and public road improvements that cause loss to adjacent wetland through widening the existing roadway.

The purpose of this policy is to modify the mitigation sequence for state and local public bridge and road projects that cause localized wetland loss to:

1. Avoid wetland loss,
2. Minimize impact to the wetland,
3. Compensate wetland loss on-site within the immediate project vicinity,
4. Compensate wetland loss at a bank site or off-site at a consolidation site.

The project *vicinity* for on-site compensation means either contiguous to the area of wetland loss or a distance from the site judged by field evaluations to be reasonable. As a rule a reasonable

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<sup>7</sup> Update made March 2000.

distance should be visible from the project site, normally not to exceed 1320 feet<sup>8</sup> (402.34 m) and easily acquired if not within the DOT right-of-way.

### ***Criteria***

The project generally must meet the following conditions in order to qualify in the modified mitigation sequence.

#### Project type

*Bridge.* Usually one or two span, and approach work.

*Culverts.* Pipe or box, and approach work.. (Structure can carry town, county or state road traffic).

*Road Improvement.* Roadway widening or limited shift in horizontal alignment or raising road grade causing lateral encroachment to adjacent wetlands by lateral extension of fill slope.

#### Wetland loss

Loss of wetland should generally not exceed one acre (0.41 ha). Based on field assessments it may be reasonable to consider a wetland loss slightly more or less than an acre.

Usually the wetland loss will occur in one location at a bridge. For road improvement projects the wetland loss could be at one or more locations. If there is more than one location the total wetland loss should not accumulate to exceed one acre.

### ***Exceptions***

Wetlands regarded as ecologically unique, defined as *red flag* wetlands in the Technical Guideline or judged important based on field assessments will be excluded from this policy. Red flag wetlands are listed in the *Evaluation Procedure* (item 4) under *Wetlands with special status* in the Guideline.

Waterways containing important aquatic habitat such as fish spawning areas or areas suitable for endangered or threatened species that are within the reach of a bridge project and judged by field evaluations as affecting the resource may require special on-site or near-site consideration.

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<sup>8</sup> Distance of 1320 feet (402.34 m) is one-quarter mile 0.4 km) or one side of a square 40 acre (16.19 ha) site.

# **APPENDIX F**

## **STATE AND LOCAL USE POLICY**

## FINAL POLICY

Wisconsin Department of Transportation Mitigation Bank  
State and Local Use Policy  
March 2, 1995

Wisconsin Department of Transportation has entered into an agreement with the Wisconsin Department of Natural Resources and the federal agencies, U.S. EPA, Army Corps of Engineers, U.S. Fish & Wildlife Service and the FHWA, on a system of Wetland Mitigation Banking. The system provides procedures within regulatory guidelines to carry highway project wetland loss to bank sites when compensation for loss is infeasible in the vicinity of the project.

DOT has developed wetland mitigation sites throughout the state to compensate for wetland loss due to state and federal highway improvement projects. Some mitigation sites are developed for specific projects and over compensate for the loss, thus generating a surplus. The surplus is established as a bank site. Other wetland projects are developed specifically for the bank.

The Department of Transportation is the sponsor of the bank. Some highway districts have allowed federal-aid local projects to use bank sites, with written permission, so that the projects could move through the project development process. **The purpose of this policy is to establish a single, uniform approach to State DOT and local use of the statewide DOT wetland mitigation bank.**

### **Type of Projects.**

All state and federal highway and bridge projects, federal-aid local road and bridge projects and federal-aid airport projects are eligible. These projects must be administered by DOT and subject to established liaison procedure under the DOT/DNR cooperative agreement. *State administered Transportation Economic Assistance (TEA) and enhancement projects may also be included.* Enhancement includes the two categories: Statewide Multimodal Improvement Program (SMIP) and Congestion Mitigation and Air Quality (CMAQ) program.

### **Location.**

All improvement project wetland acre debits will be assigned to the **closest** bank site. The agreement in the interagency coordination guideline requires that wetland losses be replaced geographically as close as possible.

### **Cost to the State DOT or Local Unit of Government**

The Bureau of Financial Services (DOT/BFS) with the assistance of the Bureau of Environment and the districts will calculate an annual cost per acre based on a statewide average of all completed bank site development costs. This statewide rate will be used to charge individual improvement projects for debit acres assigned to them. The initial rate will be calculated by April 1995.

Cost of wetland mitigation projects is largely dependent on size, location and type or types of

construction and will vary accordingly. The total cost per acre of the bank site is based on the site selection, feasibility studies, design, construction, monitoring and remediation. *Remediation is maintenance activity related to design and construction work and does not include routine maintenance activities such as dike mowing, trash clean up, fence mending, repair of muskrat damage, etc.* An example of remediation could be the repair of a berm damaged by surface water flow. Routine maintenance is not eligible for federal participation funding, whereas the other activities listed are eligible.

The annual average cost per acre of the wetland mitigation bank will probably change each calendar year. An improvement project will be charged for acres assigned to it through transfer cost made by BFS. For example, if a state or local project uses the bank in 1995 and the average annual cost per acre is \$5,000, readjustments in 1996 may increase or decrease the cost per acre for the next wetland debit to the statewide bank. The state and local unit will be charged the cost per acre established for the statewide bank at the time when the wetland debit is assessed to the bank.

The bank debit in acres will reflect the adjusted acres required by the interagency coordination agreement defined in the DOT Wetland Mitigation Banking Technical Guideline.

#### **Funding Source Limitation.**

All bank site development projects that use the statewide allocation and are state funded are eligible for federal reimbursement. *If federal funds were used to develop the bank site, no federal participation funds can be included in the payment for bank entry or included in the statewide wetland bank rate computation, i.e. the source of funding for bank site development must be entirely from the state allocation.* For example, if a project specific wetland mitigation project generates a surplus that becomes a bank site and the project was a federal-aid project, then that bank site would not be available for federal reimbursement from state and local debit projects.

#### **Transaction Procedure.**

In order for an improvement project to be assigned costs from the statewide wetland bank it must comply with the interagency agreements documented in the *Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline*, which includes the amendment to the DNR/DOT Cooperative Agreement on Compensatory Wetland Mitigation. The local project manager should contact the district DOT local road coordinator with the request to

transfer the wetland bank costs and wetland debit. The request should be supported by regulatory agency agreement and environmental documentation verifying that the mitigation sequence outline in the technical guideline has been followed. For airport projects the DOT/BOA project supervisor should contact the responsible party in the district environmental unit.

An environmental coordinator in the district's environmental unit maintains the district-wide accounting on wetland mitigation banking. The district local road coordinator should transmit the local project managers request to the environmental coordinator for assessment and assignment. If the debit is assigned to a bank site outside the district's boundaries, coordination with other districts and Bureau of Environment will be necessary.