Report 07-6
May 2007

An Evaluation

Wetland Regulatory Programs

Department of Natural Resources

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May 22, 2007

Senator Jim Sullivan and
Representative Suzanne Jeskewitz, Co-chairpersons
Joint Legislative Audit Committee
State Capitol
Madison, Wisconsin 53702

Dear Senator Sullivan and Representative Jeskewitz:

As requested by the Joint Legislative Audit Committee, we have completed an evaluation of wetland regulatory programs administered by the Department of Natural Resources (DNR). In fiscal year 2005-06, estimated expenditures for wetland regulatory activities—including permitting, enforcement, and mapping—totaled $1.75 million, including $1.43 million in salaries and fringe benefits for an estimated 19.3 full-time equivalent employees.

Most projects that disturb wetlands require approval from both DNR and the United States Army Corps of Engineers. From January 2001 through June 2006, DNR approved 3,582 permits, or 82.6 percent of the applications it received. However, the process is complicated and requires frequent communication with applicants. Although DNR generally issued permits within 120 days, as required by statute, 282 decisions took longer than one year from when the application was received.

Other states differ in the manner and extent to which they regulate wetlands. For example, local governments, rather than state agencies, approve permits for activities that disturb wetlands in Minnesota. Further, most midwestern states require compensation for permitted wetland losses, although Wisconsin does not. As a result, DNR approved only 52 compensatory mitigation projects from February 2002 through June 2006.

We make recommendations to simplify the permitting process and improve program management, including establishing categories of general permits, providing additional guidance to applicants, improving coordination with federal agencies, and tracking permitted wetland losses. We also include recommendations for DNR to report to the Joint Legislative Audit Committee by December 31, 2007, with options for increasing the use of mitigation banking, eliminating duplicative state and federal permits, and improving its wetland maps.

We appreciate the courtesy and cooperation extended to us by DNR and other state and federal agencies. DNR's response follows the appendices.

Respectfully submitted,

Janice Mueller
State Auditor

JM/ss

Report Highlights ■

DNR spent an estimated $1.75 million on wetland regulatory activities in FY 2005-06.

Other midwestern states exempt activities that result in only small wetland disturbances.

Efforts to verify compliance with wetland permit requirements could be improved.

Compensatory mitigation is voluntary and has not been widely used in DNR permits.

Existing wetland maps are outdated and not readily accessible to the public.

Wetlands—commonly referred to as marshes, bogs, or swamps—provide public benefits such as habitat for plants and animals, flood abatement, water quality protection, and recreational and educational opportunities. Activities that alter wetlands are regulated under various federal, state, and local laws, but the Department of Natural Resources (DNR) is the primary state agency responsible for their protection and management.

Because many wetlands are located on private lands, concerns have been raised about the extent to which Wisconsin's regulatory program balances the public's interest in protecting wetlands with the rights of property owners. In addition, some legislators have questioned the consistency, predictability, and timeliness of DNR's wetland permitting decisions and have asked how wetland regulations in Wisconsin compare to those in other states. To address these concerns, and at the direction of the Joint Legislative Audit Committee, we:

- reviewed DNR revenues, expenditures, and staffing levels from fiscal year (FY) 2001-02 through FY 2005-06;
- analyzed permit approval rates and the timeliness of permitting decisions from January 2001 through June 2006;
- analyzed compliance monitoring and enforcement differences among DNR regions;

- evaluated Wisconsin's wetland compensatory mitigation program, which was created by 1999 Wisconsin Act 147; and

- reviewed wetland regulatory programs in surrounding states, including Minnesota.

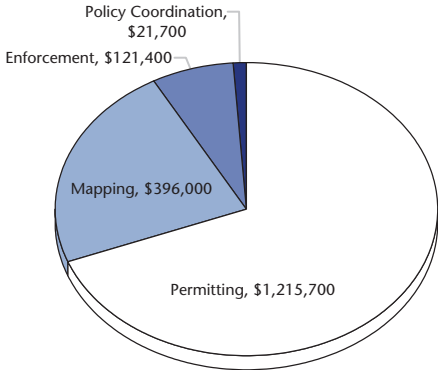
Staffing and Finances

Under the federal Clean Water Act, most activities that involve grading, filling, removing, or disturbing the soil in a wetland—such as residential construction, road building, and pond creation—require approval from both DNR and the Army Corps of Engineers. DNR is also authorized under 2001 Wisconsin Act 6 to regulate activities in small, isolated wetlands that are not subject to federal permitting requirements.

DNR regulates Wisconsin wetlands as part of a larger waterway permitting program. In FY 2005-06, an estimated 19.3 full-time equivalent (FTE) staff performed wetland permitting, enforcement, mapping, policy coordination, and other regulatory activities. Expenditures for these activities were estimated at $1.75 million, as shown in Figure 1.

Figure 1

Wetland Expenditures by Activity
FY 2005-06



DNR charges $500 for most state wetland permits, regardless of project size, the nature of the disturbance, or the extent of its effects on wetlands. However, wetland permit fees do not cover all program costs. In FY 2005-06, general purpose revenue (GPR) funded 45.5 percent of program expenditures.

Wetland Permits

States differ in the manner and extent to which they regulate wetlands. For example, local governments are responsible for wetland permitting in Minnesota, and the State of Michigan has assumed federal wetland permitting authority. Generally, both DNR and the Corps approve permits in Wisconsin, but only if wetlands cannot be avoided and if projects will not have significant adverse environmental effects.

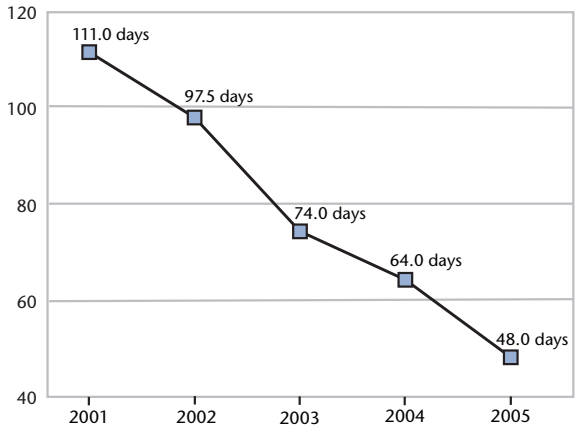
Wisconsin and several other midwestern states regulate at least some activities in wetlands that are not subject to federal jurisdiction. Indiana, Michigan, and Minnesota exempt activities that result in only small wetland disturbances, but Wisconsin does not.

From January 2001 through June 2006, DNR approved 3,582 wetland permits, or 82.6 percent of the permit requests it received. The three most frequently approved activities were pond creation (659 permits), utility projects (555 permits), and residential construction (501 permits). Approval rates ranged from 74.0 percent in DNR's Northern Region to 88.0 percent in the South Central Region. Approved permits disturbed an estimated 867.7 wetland acres.

The Natural Resources Board has directed that wetland permits be issued in a simple, straightforward, and predictable manner. However, the process is complicated and requires frequent communication with applicants. Existing laws give DNR flexibility, but this flexibility can be confusing and frustrating for applicants. Permit requests were generally approved or rejected within statutorily prescribed time frames and, overall, median processing time declined significantly from 2001 to 2005, as shown in Figure 2. However, 282 permit decisions took longer than one year.

Figure 2

Median Time to Reach a Decision on Permit Applications[1]



[1] From the date the application was received.

Compliance and Enforcement

Verifying compliance with permit requirements is an important component of a regulatory program. From January 2005 through September 2006, regional staff reported conducting only 27 inspections of completed projects for which permits had been issued. Violations were found at six of these project sites.

DNR also identified 325 violations—including disturbing wetlands without a permit or not following wetland permit requirements—in response to complaints from the public or other government officials. More than half of these violations occurred in the Northern Region, where in 10 of 18 counties, more than 20 percent of the land area is classified as wetland.

According to DNR, most violations are resolved voluntarily. During our audit period, DNR issued 229 after-the-fact permits and 69 notices of violation for non-permitted activities. However, regional staff lack clear guidelines for resolving violations, and our report includes recommendations to ensure consistent enforcement practices.

Compensating for Wetland Losses

Compensatory mitigation is the process of restoring, enhancing, or creating wetlands to replace those lost through permitted projects. Wisconsin implemented a voluntary program in 2002. Applicants are typically required to restore 1.5 wetland acres for each acre lost, but the manner in which that is done varies.

Some applicants create or restore wetlands on site, while others purchase credits from wetland mitigation banks that provide a market-based system for restoring or creating wetlands in advance of permitted losses. As of June 30, 2006, six wetland mitigation banks in Wisconsin had been approved.

Compensatory mitigation was included in only 1.8 percent of permits approved by DNR during our audit period. They provided compensation for a total of 41.1 wetland acres disturbed by 52 projects. Most projects were located in the Southeast Region.

The use of compensatory mitigation in DNR permits is limited by:

- geographic restrictions;
- additional costs to applicants for long-term monitoring and maintenance; and
- state policies that discourage the use of wetland mitigation banks.

In contrast, compensatory mitigation is mandatory, and therefore more widely used, in Department of Transportation projects, as well as under federal wetland permits and those issued by other states. Wetland mitigation banks offer administrative, economic, and ecological advantages, although some believe that increasing their use would reduce wetland quality and protection.

Wetland Mapping

Consistent, accurate, and up-to-date wetland maps are important for measuring program effectiveness, making informed program decisions, and prioritizing limited resources. As required by law, DNR has mapped wetlands larger than five acres. However, existing maps are outdated and not readily available to the public, and they lack sufficient detail to help landowners locate wetlands on their property.

Recommendations

Our report includes recommendations for DNR to:

- ☑ improve its tracking of wetland losses and the timeliness of permit processing, (*pp. 31 and 42);*
- ☑ develop general permits for activities that have minimal effects on wetlands (*p. 38*);
- ☑ increase efforts to monitor compliance and ensure consistent enforcement practices (*pp. 50 and 51*);
- ☑ improve its coordination with federal agencies (*pp. 53 and 62*); and
- ☑ report to the Joint Legislative Audit Committee by December 31, 2007, on:
  - its efforts to ensure that regional staff document consistency in reaching decisions, and to provide permit applicants with additional guidance *(p. 37)*;
  - the advantages and disadvantages of increasing the use of wetland mitigation banks *(p. 69)*;
  - options for establishing permit fees that better reflect staff and resource costs (*p. 84*);
  - the feasibility of assuming responsibility for administering the federal wetland permit program, as allowed by the Clean Water Act (*p. 86*); and
  - a strategy for updating wetland maps and increasing their availability to the public (*p. 91*).

■ ■ ■ ■

Introduction ■

Wetlands serve important ecological functions and have economic value.

Wetlands are dynamic ecosystems that serve important ecological functions and provide economic and recreational value to humans. Different types of wetlands have different characteristics—for example, some are continuously inundated with water while others are isolated from other surface waters or flooded only during certain times of the year—but most support distinctive plant and animal communities that thrive in wet soil conditions. The functions and values of a particular wetland vary depending on its type, size, degree of past disturbance, and relationship to the surrounding landscape. These may include:

- storing storm and flood waters to moderate flooding events and reduce the need for expensive flood control measures such as levees, dikes, and dams;
- maintaining stable stream flows through groundwater discharge;
- protecting drinking water supplies through groundwater recharge;
- improving water quality by filtering and trapping sediment and other pollutants, preventing them from entering downstream waterways;
- protecting shorelines from erosion by dispersing wave and wind energy;

- providing habitat for numerous types of plants, fish, and wildlife, including many rare or endangered species that depend entirely on wetlands;

- providing opportunities for recreation such as fishing, hunting, trapping, canoeing, and bird watching, which are important to Wisconsin's economy;

- providing opportunities for cultural, educational, and scientific uses; and

- enhancing private property values by providing natural scenic beauty and open spaces.

Wetland regulations that restrict activities on private property are controversial.

Concerns about wetland losses have led to regulatory and non-regulatory efforts at management, protection, and restoration. However, wetland regulations are often controversial because they restrict construction and other activities on privately owned lands. Many property owners and businesses contend that wetland laws are confusing, intrusive, and overly protective of wetlands that have limited ecological and economic values. On the other hand, wetland protection advocates believe that existing laws are uncoordinated and inadequate to prevent continued wetland losses. Further, debate persists about the procedures used to identify wetlands and measure their functions and values, as well as the manner in which they are regulated and whether created or restored wetlands can adequately compensate for permitted wetland losses.

To address concerns about the implementation of the State's wetland regulations, we reviewed DNR's wetland regulatory activities. Because there is no single program that encompasses all aspects of wetland management, we defined these to include wetland permitting and compensatory mitigation, compliance monitoring and enforcement, and wetland mapping and inventorying activities.

In conducting this audit, we analyzed information from DNR's waterway and wetland permit tracking database and reviewed 140 randomly selected wetland permit applications that were received from January 2004 through June 2006. We also interviewed DNR staff, including regional staff responsible for issuing wetland permits; officials from the United States Army Corps of Engineers and the Environmental Protection Agency (EPA); and representatives of local governments and other state agencies, businesses, real estate developers, road builders, environmental advocates, and conservationists. Finally, we interviewed state

agency officials in Illinois, Indiana, Iowa, Michigan, and Minnesota and examined differences in wetland laws, policies, and procedures among these states and Wisconsin.

Local governments protect wetlands through shoreland zoning laws.

We did not review local government efforts to regulate wetlands because these were outside of the audit's scope. Nonetheless, each Wisconsin county, village, and city is required under ss. 59.692, 61.351 and 62.231, Wis. Stats., respectively, to enact a shoreland-wetland zoning ordinance to protect wetlands larger than five acres that are within 1,000 feet of a lake or 300 feet of a river or stream and that are identified on DNR's wetland inventory maps. While local governments are responsible for administering the shoreland-wetland zoning programs, DNR develops standards in administrative code and ensures that local ordinances meet state standards.

Our review was hindered by incomplete permit data maintained by DNR, and we spent substantial time working with DNR to improve the quality of the information used in our analyses. Further, the Corps was unable to provide requested information about the number and types of federal permits issued in Wisconsin. This limited our ability to determine the extent to which federal and state permitting activities are coordinated and to compare Wisconsin's program to programs in other states.

Wetland Types and Trends

Wetlands have unique soils, plants adapted to wet conditions, and water at, near, or above the surface.

Wetlands are difficult to define because they have a range of characteristics and are often found in transitional areas between aquatic and upland ecosystems. Section 23.32(1), Wis. Stats., defines wetlands as areas where water is at, near, or above the land surface long enough to be capable of supporting water-tolerant plants and where soils are indicative of wet conditions. State and federal agencies use a variety of methods to classify and categorize different types of wetlands. For the purpose of Wisconsin's wetland inventory, which is a statewide wetland mapping effort required under s. 23.32, Wis. Stats., DNR classifies wetlands based on their physical and biological characteristics. These classifications include:

- forested wetlands, which contain woody plants such as trees and shrubs that are taller than 20 feet;

- scrub/shrub wetlands, which contain woody plants that are shorter than 20 feet;

- emergent/wet meadow wetlands, which contain non-woody plants standing above the surface of the water or the soil;
- open water, such as lakes or ponds with a maximum depth of 6 feet;
- aquatic bed wetlands, which contain plants growing entirely in or on a water body; and
- mud flats/exposed wet soils that do not support vegetation.

As shown in Table 1, forested wetlands make up 2.5 million acres, or nearly half of Wisconsin's total wetland acres. Approximately 743,300 acres, representing 13.8 percent of the wetland acreage, are unclassified, including 184,000 acres located in three counties—La Crosse, Menominee, and Waupaca—where DNR has not estimated wetland acreage by type.

Table 1

Wetland Acreage, by Predominant Type
June 2006

Wetland Type	Estimated Acres	Percentage of Total
Forested	2,523,800	46.9%
Scrub/Shrub	1,202,300	22.3
Emergent/Wet Meadow	811,000	15.1
Unclassified/Other[1]	743,300	13.8
Open Water	66,800	1.2
Aquatic Bed	30,200	0.6
Mud Flats/Exposed Wet Soils	7,900	0.1
Total	**5,385,300**	**100.0%**

[1] Includes wetland acreage for La Crosse, Menominee, and Waupaca counties for which wetland type data are unavailable.

More than half of the nation's wetlands have been lost to agriculture and development.

Despite wide recognition of their benefits, wetlands continue to be lost through agricultural and development activities. The United States Fish and Wildlife Service estimates that only 107.7 million of the 221.0 million wetland acres present in the 48 coterminous states before the 1800s remain. Further, an estimated 75.0 percent of these wetlands are located on private lands. However, in its 2006 survey of national wetland trends, the Fish and Wildlife Service reported that gains through regulatory and non-regulatory wetland restoration and creation activities surpassed losses for the first time. According to the survey, there was a net gain of 32,000 wetland acres per year from 1998 through 2004, which compares to estimated losses of approximately 500,000 acres per year during the 1970s.

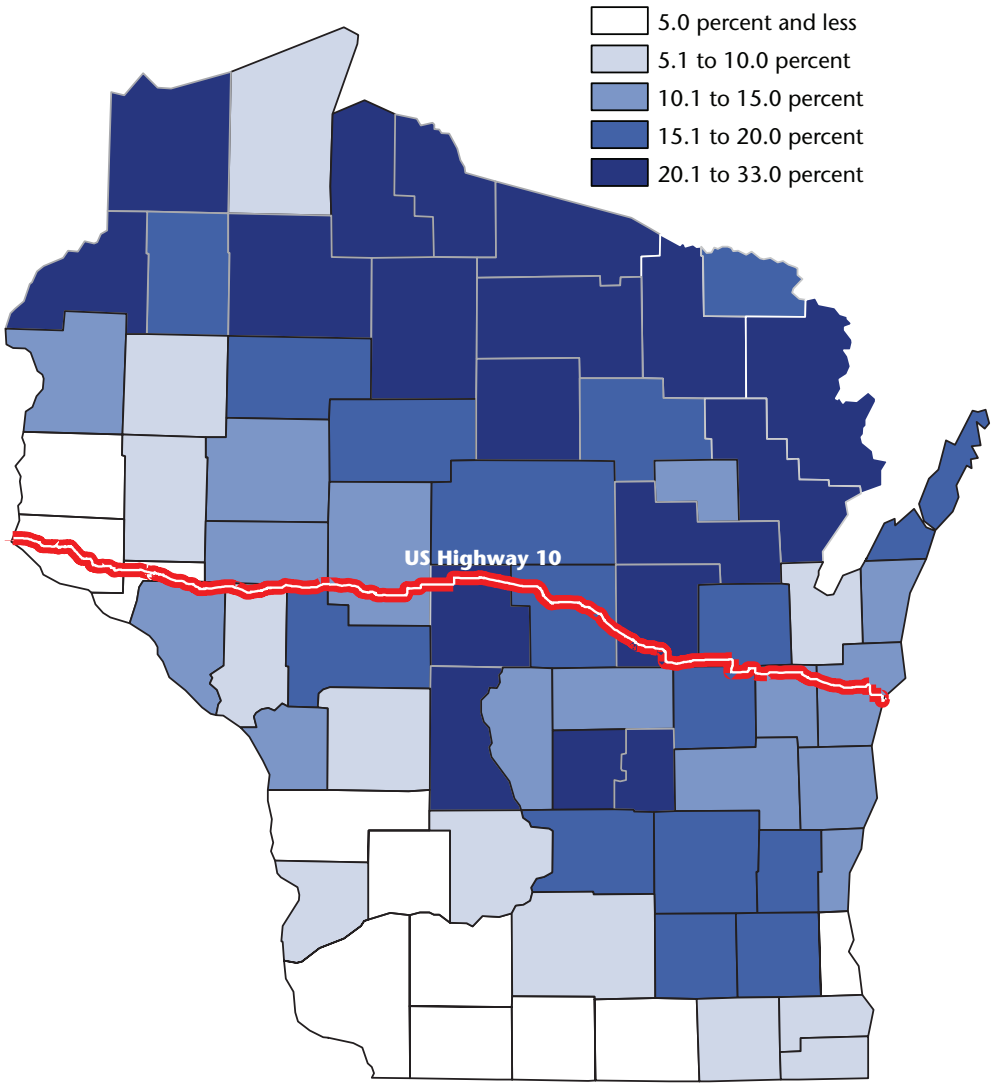
The Fish and Wildlife Service noted, however, that many of the wetland gains are attributable to the creation of freshwater ponds, resulting in a shift in wetland types from vegetated wetlands to open water habitat that may not provide the same range of wetland functions. Furthermore, the survey did not provide an assessment of the quality or condition of existing wetlands. The benefits provided by wetlands continue to be diminished through changes in surrounding land uses and through the proliferation of non-native plants such as purple loosestrife, which replace native plants, reduce species diversity, and diminish habitat value for wildlife.

The majority of Wisconsin's wetlands are located in northern counties.

In Wisconsin, DNR believes that 5.4 million of the estimated 10.0 million acres of wetlands present before statehood remain. These wetlands are distributed unevenly across the state, with the majority located in the north. As shown in Figure 3, the percentage of land area classified as wetland ranges from 0.8 percent in Lafayette County to 33.0 percent in Oneida County. Fifteen of the 18 counties in which wetlands make up more than 20.0 percent of the total land area are intersected by or located north of United States Highway 10, which runs from Manitowoc County in the east to Pierce County in the west. Appendix 1 contains information about the estimated wetland acreage in each county.

Figure 3

Land Area Classified as Wetland
June 2006



Federal and State Permit Requirements

DNR's wetland permit program is based on the federal Clean Water Act.

There is no single, comprehensive wetland protection law in Wisconsin. Instead, DNR's authority to regulate wetlands is derived from the State's constitutional responsibility to protect navigable waters under the Public Trust Doctrine, and from various federal and state laws. Specifically, the federal Clean Water Act of 1972 authorizes the Corps, with oversight from EPA, to issue permits for

dredging, filling, or otherwise disturbing wetlands and waterways. In turn, states may certify that activities authorized by federal permits meet state water quality standards. Chapter 281, Wis. Stats., directs DNR to establish water quality standards for wetlands and to ensure that federally permitted projects meet these standards. These standards are promulgated in ch. NR 103, Wis. Adm. Code, and consist of the designated uses of wetlands and criteria for protecting these uses. Appendix 2 summarizes Wisconsin's wetland water quality standards.

Although permits are required for most activities that involve draining, filling, or excavating a wetland, some activities are exempt from both federal law and state wetland water quality standards, including:

- normal farming, forestry, and ranching practices;
- maintaining and repairing transportation structures, dikes, dams, levees, and riprap used to protect shorelines;
- constructing and maintaining farm ponds, stock ponds, drainage ditches, and irrigation ditches; and
- constructing and maintaining farm roads, forest roads, or temporary roads.

Existing artificial wetlands are generally exempt from state wetland permitting requirements.

In addition, s. NR 103.06(4), Wis. Adm. Code, exempts activities in existing artificial wetlands from state regulation, although these activities may still require a federal permit. Artificial wetlands are defined as stormwater detention ponds, sewage lagoons, fish rearing ponds, landscape ponds, and wetlands within active nonmetallic mining operations. Activities that would normally be exempt may nonetheless be regulated if their purpose is to use a wetland in a manner for which it was not previously used or if the activity reduces the size of a wetland by impairing the natural flow and circulation of water.

The location of a wetland is important for determining whether it is subject to both federal and state permitting requirements. In a landmark 2001 decision, the United States Supreme Court held that federal jurisdiction does not extend to certain isolated intrastate wetlands. In response, Wisconsin and many other states expanded their regulatory authority over wetlands beyond federal law. Specifically, 2001 Wisconsin Act 6 authorized DNR to require water quality certification, also known as a state wetland permit, for projects in wetlands that are no longer under federal jurisdiction. These wetlands are considered to be "non-federal" wetlands. Act 6

does not establish new state permitting requirements; rather, it allows DNR to continue regulating activities in wetlands that previously had been subject to federal permits. However, the number of non-federal wetland acres in Wisconsin is unknown because the precise meaning of the Supreme Court's decision is still being litigated.

DNR certifies that federal wetland permits issued by the Corps meet state water quality standards.

The Clean Water Act envisions complementary, rather than duplicative, roles for federal and state permitting activities. The Corps may issue a federal permit if it determines that a project will not have significant adverse effects on wetlands and is not contrary to the public interest. Federal permits are conditioned upon DNR certifying that the project meets state water quality standards. DNR typically conducts an independent review of all projects and can deny a permit if it believes the project does not meet state water quality standards. As a result, although many projects require federal approval, DNR is the de facto permitting agency in Wisconsin.

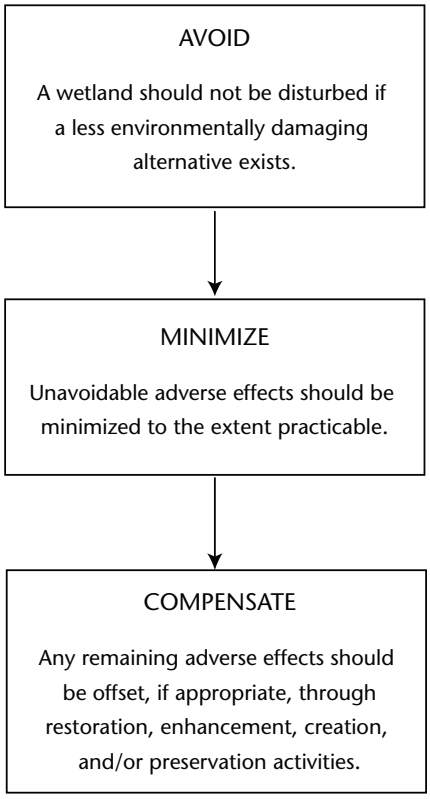
DNR and the Corps follow a similar decision-making sequence for wetland permits.

In general, DNR and the Corps follow a similar decision-making sequence when reviewing wetland permit requests. As shown in Figure 4, permit applicants must first demonstrate that there is no alternative to their proposed project that would avoid disturbing a wetland. If avoidance is not possible, applicants must demonstrate that they have taken measures to minimize their proposed project's effects on wetlands. Finally, the Corps requires the restoration or creation of new wetlands to compensate for unavoidable wetland losses. In contrast, DNR may allow compensatory mitigation in certain circumstances but does not require its use.

In addition to exercising its responsibilities under the Clean Water Act, DNR issues waterway permits for specific types of activities that alter or place structures in or near navigable waters, including some wetlands. Specifically, ch. 30, Wis. Stats., requires permits for activities such as culvert construction, placement of boat ramps, pier construction, bank stabilization, and grading. In addition, ch. 31, Wis. Stats., requires permits for dam and bridge construction. To address concerns about the issuance of these waterway permits, 2003 Wisconsin Act 118 established new timeliness and permitting requirements. Although Act 118 did not change Wisconsin's wetland permitting requirements, many projects require both wetland and waterway permits. Appendix 3 provides a time line of key state and federal legislation and court actions affecting Wisconsin's wetland regulatory programs.

Figure 4

Mitigation Sequencing



Source: National Academy of Sciences and National Research Council

State Policy Goals

Wisconsin has not adopted the goal of no net loss for its wetland permitting program.

Differences in state and federal wetland regulatory programs' uses of compensatory mitigation can be attributed, in part, to different policy goals. Specifically, the federal government's wetland policy has been described as "no net loss," which means that wetland losses resulting from federal permits, actions, or decisions must be offset through long-term wetland gains. In contrast, DNR has established a policy of reversing wetland losses through both regulatory and non-regulatory programs, rather than a no-net-loss approach for its permitting program.

The Natural Resources Board has promulgated s. NR 1.95, Wis. Adm. Code, which states: "wetlands shall be preserved, protected, restored, and managed to maintain, enhance, or restore their values." To accomplish these goals, the Board has also directed DNR to:

- strengthen partnerships through outreach, technical assistance, and conservation incentives;
- preserve, protect, and restore wetlands through management and conservation activities, land acquisition, and easements;
- administer a comprehensive state wetland regulatory program that is simple, straightforward, and reasonable, and to make regulatory decisions in a predictable, timely, and fair manner;
- establish an effective wetland enforcement program that discourages permit violations and illegal filling or alterations;
- develop and maintain a publicly available, up-to-date wetland inventory that can be used for planning, policy development, and regulatory decisions; and
- develop and maintain a system for tracking wetland conservation, management, and regulatory actions.

In 2000, DNR issued a strategic plan to implement these directives. This plan outlines steps for protecting and restoring wetlands in Wisconsin and establishes performance benchmarks and goals to guide DNR's activities from 2001 through 2007. As noted in the plan, wetland permits are only one component of the framework for protecting, managing, and restoring Wisconsin's wetlands. DNR also works to accomplish its goals through non-regulatory initiatives, such as working with landowners to restore wetlands on their property. We did not attempt to catalog or evaluate these efforts because they were beyond the scope of our audit. Nonetheless, DNR believes that many of these programs have resulted in successful partnerships for protecting and restoring wetlands.

■ ■ ■ ■

Staffing and Finances ■

Most activities that alter Wisconsin's lakes, rivers, and wetlands are regulated by DNR's Division of Water, but staff in other agency programs have some wetland regulatory responsibilities. Program funding is provided through many sources, including program revenue from wetland permit fees and GPR.

Staffing Levels

Staff in DNR regional offices are primarily responsible for issuing wetland permits.

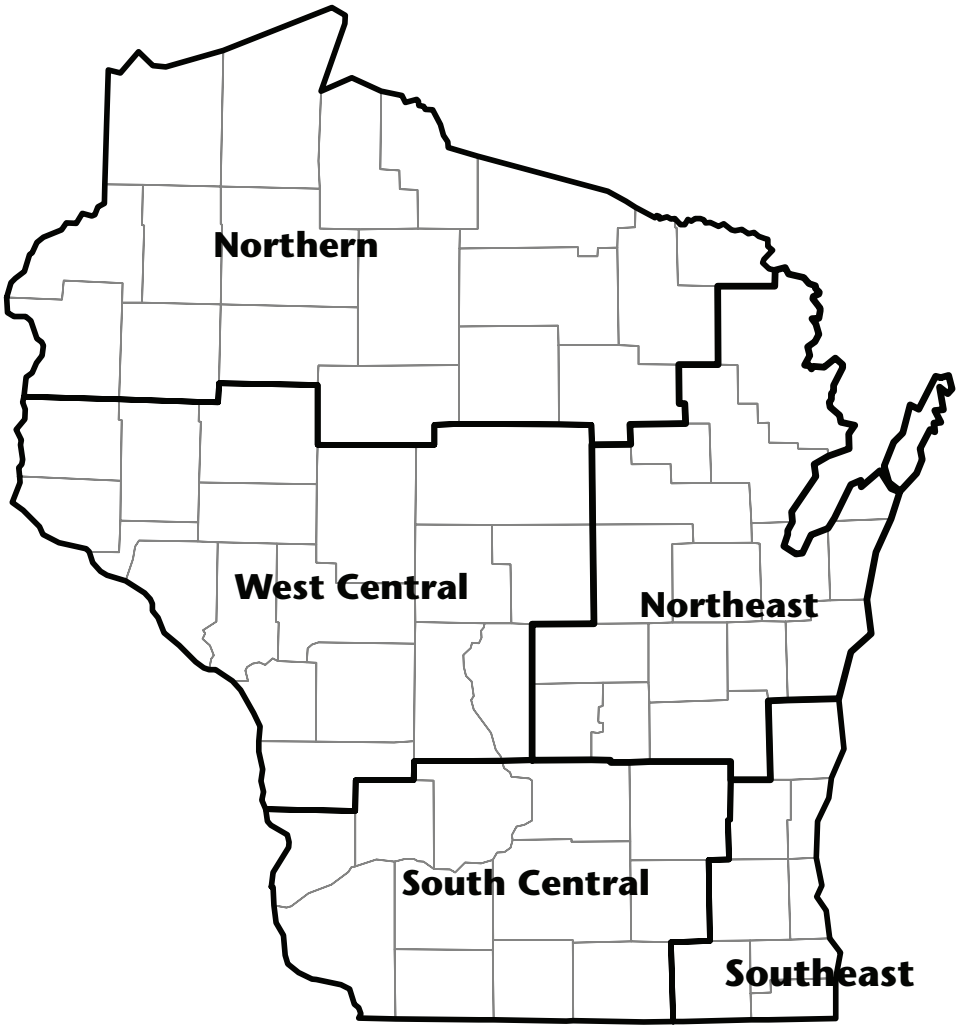
DNR was authorized 52.1 FTE positions for its waterway and wetland programs in FY 2005-06. These positions are located in the central office and throughout its five regions, which are shown in Figure 5, and include:

- regional staff who are responsible for reviewing and approving wetland permits under ch. 281, Wis. Stats.; issuing waterway permits under chs. 30 and 31, Wis. Stats.; providing technical assistance to local governments related to shoreland-wetland zoning; and enforcing wetland and waterway laws; and

- staff in the central office who are responsible for program administration; wetland compensatory mitigation; utility project permitting; wetland mapping and monitoring; staff development and training; and outreach and education efforts.

Figure 5

DNR Regional Boundaries



In addition, staff from other DNR programs review certain types of projects for compliance with environmental regulations, including wetland laws. For example, state-administered transportation projects—including the construction, maintenance, and repair of highways and bridges—are exempt from state wetland permitting requirements, but s. 30.2022, Wis. Stats., authorizes DNR to enter into a cooperative agreement with the Department of Transportation (DOT) to coordinate the environmental review of transportation projects. Under this agreement, which was signed in 1976 and updated in 2002, funding for 4.0 FTE transportation liaison positions at DNR was provided from the Transportation Fund in FY 2005-06.

In 2003, DNR entered into a similar cooperative agreement with the Public Service Commission. In FY 2005-06, the Commission

provided funding for 7.0 FTE positions that were assigned to DNR's Office of Energy. Staff in these positions coordinate the environmental review of projects such as pipelines and electric transmission lines, which often span multiple counties. Utility companies reimburse the Commission based on the amount of time DNR staff spend working on their projects.

The number of FTE positions associated with DNR's wetland regulatory activities varies because staff have multiple responsibilities and are not exclusively assigned to work on wetlands. We therefore estimated the number of FTE positions working on wetland regulatory activities using the number of hours reported by DNR staff, including limited-term employees, in FY 2001-02 and FY 2005-06.

An estimated 19.3 FTE staff worked on wetland regulatory activities in FY 2005-06.

As shown in Table 2, an estimated 19.3 FTE staff worked on wetland regulatory activities in FY 2005-06, an increase of 6.6 percent from FY 2001-02. Staff work effort on all permitting activities, including transportation and utility projects, increased 16.2 percent over our review period. Limited-term employees accounted for 12.5 percent of the total hours spent on wetland regulatory activities in FY 2005-06. The large increase in staff effort on compensatory mitigation is attributable to its full implementation after 2002.

Table 2

Estimated Staffing for Wetland Regulatory Activities
(FTE Positions)

Activity	FY 2001-02	FY 2005-06	Percentage of FY 2005-06 Total	Percentage Change
Permit Activities				
Wetland Permits	10.9	9.4	48.7%	(13.8)%
State Transportation Projects[1]	1.9	2.8	14.5	47.4
Compensatory Mitigation Projects	0.2	2.4	12.4	1,100.0
Utility Projects[2]	–	0.5	2.6	–
Subtotal	13.0	15.1	78.2	16.2
Wetland Mapping	2.3	2.2	11.4	(4.3)
Enforcement	1.9	2.0	10.4	5.3
Wetland Policy Coordination[3]	0.9	–	–	–
Total	**18.1**	**19.3**	**100.0%**	6.6

[1] Includes hours reported under the DNR-DOT cooperative agreement.
[2] Includes hours reported under the DNR-Public Service Commission cooperative agreement. In FY 2001-02, utility projects were included with other wetland permits and could not be separated.
[3] This activity was combined with wetland permits beginning in FY 2005-06.

Table 3 shows the estimated number of wetland regulatory staff by region, which includes 6.8 FTE staff located in the central office. The Northern Region, which has the highest percentage of land area classified as wetland, also reported the most FTE staff working on wetland regulatory activities in FY 2005-06.

Table 3

Estimated Wetland Regulatory Staff, by Region
FY 2005-06

DNR Region	Estimated Number of FTE Positions	Percentage of Total
Central Office[1]	6.8	35.2%
Northeast	2.6	13.5
Northern	3.3	17.1
South Central	1.6	8.3
Southeast	2.7	14.0
West Central	2.3	11.9
Total	**19.3**	**100.0%**

[1] Includes staff in DNR's Office of Energy.

Program Finances

It is difficult to determine DNR's expenditures and revenues for wetland regulatory activities because these activities are integrated with related waterway activities. Although DNR is required under s. 281.22, Wis. Stats., to charge a fee for reviewing and processing applications for state wetland permits, the wetland permitting program is not required to be supported entirely by permit fees. As shown in Table 4, we estimate that GPR funded 45.5 percent of the wetland program's $1.75 million in costs in FY 2005-06, while program revenue funded 29.3 percent.

Table 4

Estimated Funding for Wetland Regulatory Activities
FY 2005-06

Source	FY 2005-06	Percentage of Total
GPR	$ 798,300	45.5%
Program Revenue[1]	514,600	29.3
Segregated Revenue	328,500	18.7
Federal Revenue	113,400	6.5
Total	**$1,754,800**	**100.0%**

[1] Includes permit fees, payments from other state agencies, and revenue from the sale of wetland maps.

DNR spent an estimated $1.75 million on wetlands regulatory activities in FY 2005-06.

As shown in Table 5, DNR's estimated direct expenditures for wetland regulatory activities totaled $1.75 million in FY 2005-06, which was an increase of 28.3 percent since FY 2001-02. This includes $812,500 that was spent on permitting, and another $396,000 that was spent on wetland mapping activities.

Table 5

Estimated Expenditures for Wetland Regulatory Activities

Activity	FY 2001-02	FY 2005-06	Percentage Change
Permit Activities			
Wetland Permitting	$ 665,400	$ 812,500	22.1%
State Transportation Projects	159,300	201,800	26.7
Compensatory Mitigation Projects	14,900	138,900	832.2
Utility Projects	0	62,500	–
Subtotal	839,600	1,215,700	44.8
Wetland Mapping	383,300	396,000	3.3
Enforcement	118,600	121,400	2.4
Wetland Policy Coordination	26,100	21,700	(16.9)
Subtotal	528,000	539,100	2.1
Total	**$1,367,600**	**$1,754,800**	28.3

As shown in Table 6, salaries and fringe benefits represent the largest share of expenditures related to wetland regulatory activities, accounting for 81.5 percent of total program costs in FY 2005-06. Expenditures for contractual services totaled $211,300 in FY 2005-06 and were primarily for contracts to obtain aerial photography for wetland maps.

Table 6

Estimated Wetland Regulatory Expenditures, by Type
FY 2005-06

Type	Amount	Percentage of Total
Salaries	$ 998,100	56.9%
Fringe Benefits	431,100	24.6
Contractual Services	211,300	12.0
Supplies and Services	84,800	4.8
Travel and Training	29,500	1.7
Total	**$1,754,800**	**100.0%**

■ ■ ■ ■

Issuing Wetland Permits ■

The wetland permitting process is complicated, involves frequent communication with applicants, and requires DNR staff to use professional judgment to evaluate proposed projects. The process is designed to provide DNR with flexibility in approving projects, but it can be time-consuming and confusing to applicants. Although the majority of wetland permits are approved, DNR could improve predictability and timeliness by developing general permits for some types of projects, providing additional guidance to assist landowners in completing permit applications, and ensuring that regional staff consistently evaluate alternative project locations and the effects of proposed projects.

Number and Types of Permits Issued

Most projects affecting wetlands require both state and federal approval.

Most projects that result in permanent or temporary wetland disturbances—regardless of the project size, extent of the wetland disturbance, or the type or quality of wetland being affected—require approval from DNR and also require a federal permit from the Corps. Wetlands subject to federal jurisdiction are commonly known as "federal" wetlands. However, through its water quality certification authority, DNR approves wetland permits for activities in both federal and non-federal wetlands.

The type of federal permit required depends on the nature of the proposed project and the amount of wetland affected. For example, the Corps may issue:

- individual permits for projects that disturb large amounts of wetland or that have significant adverse environmental effects;

- letters of permission, which are streamlined individual permits, for projects that disturb smaller amounts of wetland and that have less significant effects; or

- general permits for designated activities that have minimal individual and cumulative environmental effects.

The Corps issues general permits for most projects that affect wetlands under federal jurisdiction.

In 2006, the Corps had 14 project managers located in Wisconsin to process federal wetland and waterway permits. However, the Corps was unable to provide us with the number of federal wetland permits issued in Wisconsin during our review period. Instead, it reported that from 2001 through 2004, it issued 10,405 permits authorizing the discharge of dredged or fill material to both wetlands and other waterways in Wisconsin. The majority of these—85.4 percent—were issued as general permits. According to a 2006 United States Government Accountability Office report, the Corps denies less than 1.0 percent of federal permits nationwide. Appendix 4 provides examples of activities authorized by general permits issued by the Corps.

DNR reviews most wetland permit requests individually, although it may issue water quality certifications for projects that have been approved under federal general permits without a detailed review. We analyzed the number of applications for wetland permits received and approved by DNR from January 2001 to June 2006, including utility project permits reviewed under the cooperative agreement with the Public Service Commission, but not state transportation projects approved under the cooperative agreement with DOT. Because DOT projects are exempt from state wetland permitting requirements, they are not tracked in DNR's database.

DNR received 4,651 requests for wetland permits from January 2001 through June 2006.

As shown in Table 7, DNR's tracking system indicates that 4,651 requests for wetland permits were received from January 2001 through June 2006. Only 298 of these requests, or 6.4 percent, involved non-federal wetlands, which are generally small, isolated wetlands. The remainder required both state and federal approval. However, the number of permit applications received does not correspond to the number of projects landowners wished to undertake because the system tracks each permitting decision separately. For example, an applicant constructing a driveway that crosses a navigable stream and two wetlands might submit one application with three separate permit requests: one for a culvert under s. 30.123, Wis. Stats., and two wetland permits.

Table 7

Wetland Permits Requested[1]
January 2001 through June 2006

DNR Region	Federal Wetlands	Non-Federal Wetlands	All Requests	Percentage of Total
Northeast	1,077	39	1,116	24.0%
Northern	828	81	909	19.6
South Central	687	30	717	15.4
Southeast	912	121	1,033	22.2
West Central	849	27	876	18.8
Total	**4,353**	**298**	**4,651**	**100.0%**

[1] Does not include state transportation projects approved under the cooperative agreement between DNR and DOT.

DNR's wetland permit approval rate increased from 81.8 percent in 2001 to 87.4 percent in the first half of 2006.

As of June 30, 2006, outcomes had been determined in 4,337 of the 4,651 wetland permit requests made since January 2001. As shown in Table 8, 3,582 permits, or 82.6 percent of all requests, were approved. A total of 164 requests, or 3.8 percent, were denied, and 591, or 13.6 percent, were withdrawn. A permit request may be withdrawn if an applicant finds an alternative non-wetland location for the project, decides not to proceed with the project, or fails to respond to DNR requests for additional information. The approval rate increased from 81.8 percent in 2001 to 87.4 percent in the first half of 2006.

Table 8

Wetland Permitting Outcomes, by Year
January 2001 through June 2006

Calendar Year	Permit Requests Approved	Permit Requests Denied	Permit Requests Withdrawn	Total	Percentage of Permit Requests Approved
2001	589	38	93	720	81.8%
2002	743	41	106	890	83.5
2003	627	34	113	774	81.0
2004	610	26	152	788	77.4
2005	756	18	97	871	86.8
2006[1]	257	7	30	294	87.4
Total	**3,582**	**164**	**591**	**4,337**	82.6

[1] Includes decisions through June 30, 2006.

Permit approval rates ranged from 74.0 percent in the Northern Region to 88.0 percent in the South Central Region.

Staff in DNR's Northeast and Southeast regions—which include Milwaukee and cities in the Fox River Valley—issued 1,720 permits, or 48.0 percent of the statewide total during the period we reviewed. As shown in Table 9, the South Central Region had the highest permit approval rate—88.0 percent—while the Northern Region had the lowest, at 74.0 percent. Both geography and demographics may affect permitting rates. For example, a smaller percentage of the land area is classified as wetland in the South Central Region compared to the Northern Region, so fewer South Central Region projects might be expected to affect wetlands. Similarly, more permits could be expected in the Southeast Region, where the population is larger and development pressure is generally greater.

Table 9

Wetland Permitting Outcomes, by Region
January 2001 through June 2006

DNR Region	Permit Requests Approved	Permit Requests Denied	Permit Requests Withdrawn	Total	Percentage of Permit Requests Approved
Northeast	912	55	99	1,066	85.6 %
Northern	601	37	174	812	74.0
South Central	580	27	52	659	88.0
Southeast	808	26	145	979	82.5
West Central	681	19	121	821	82.9
Total	**3,582**	**164**	**591**	**4,337**	82.6

Permits for pond creation, residential construction, and utility projects were most frequently requested.

The three most frequently requested activities—pond creation, residential construction, and utility projects—accounted for 47.9 percent of approved permits. As shown in Table 10, permit approval rates varied depending on the type of activity proposed. For example, 97.3 percent of permit requests for wetland conservation activities were approved, compared to 83.4 percent of those related to commercial development. We were unable to determine the activity type for 1,203 wetland permits, or 27.7 percent of the applications, because this information was not consistently tracked before 2004. Nonetheless, permit requests for which the activity type was unknown had the lowest approval rate, 65.3 percent.

Table 10

Wetland Permitting Outcomes, by Activity
January 2001 through June 2006

Type of Activity	Permit Requests Approved	Permit Requests Denied	Permit Requests Withdrawn	Total	Percentage of Permit Requests Approved
Ponds[1]	659	17	51	727	90.7%
Residential Construction	501	45	43	589	85.1
Utility	555	3	22	580	95.7
Local Roads[2]	421	29	31	481	87.5
Recreation	193	16	15	224	86.2
Commercial Development	166	13	20	199	83.4
Conservation[3]	107	0	3	110	97.3
Dredging	77	4	9	90	85.6
Grading	53	3	6	62	85.5
Erosion Control	53	2	3	58	91.4
Other	12	1	1	14	85.7
Unknown	785	31	387	1,203	65.3
Total	**3,582**	**164**	**591**	**4,337**	82.6

[1] Includes ponds constructed to capture stormwater or to provide wildlife habitat.
[2] Does not include state transportation projects approved under the cooperative agreement between DNR and DOT.
[3] Includes wetland conservation general permits issued since 2003.

Measuring Wetland Losses

As shown in Table 11, DNR reported that its permits authorized wetland disturbances totaling 867.7 acres from January 2001 through June 2006. The Northeast Region, which issued the largest number of permits, reported 396.7 acres of wetland disturbance, or 45.7 percent of the total. In comparison, the South Central region reported that projects it permitted resulted in 98.2 acres of wetlands being disturbed.

Table 11

Permitted Wetland Disturbances
January 2001 through June 2006

DNR Region	Estimated Number of Wetland Acres Disturbed[1]	Percentage of Total
Northeast	396.7	45.7 %
Northern	113.4	13.1
South Central	98.2	11.3
Southeast	132.2	15.2
West Central	127.2	14.7
Total	**867.7**	**100.0 %**

[1] Includes both permanent losses and temporary disturbances.

Most permitted projects result in small wetland disturbances. Among projects for which sufficient information was available, the median size of the disturbance was 0.08 acres. However, 16.7 percent of the acres disturbed during the period we reviewed could be attributed to three projects: a nonmetallic mining project that affected 42.0 acres in Waupaca County, and the creation of wildlife ponds affecting 76.8 acres in Fond du Lac County and 25.7 acres in Green Lake County.

DNR has not consistently tracked permitted wetland gains and losses.

Actual wetland losses differ from these amounts because before 2004, DNR did not consistently track the wetland acreage affected by permitted projects or the amount of wetlands gained through conservation projects. Furthermore, when acreage information was available, DNR often did not distinguish between temporary disturbances and permanent wetland losses. Although recent efforts have been made to improve the tracking of permitted wetland gains and losses, some of the files we reviewed contained inconsistencies and incomplete information.

For example, for 32 of 140 projects we reviewed, the size of the disturbance recorded in DNR's permit database differed from the amount authorized in the permit. Similarly, we identified 20 wetland conservation projects for which DNR recorded the same number for acres disturbed and acres restored. These acres could be

counted both as wetland losses and as wetland gains. Further, the size of the disturbance was not recorded for 33.6 percent of projects approved during the period we reviewed. Some of these projects may have had only temporary effects on wetlands, and therefore do not represent actual wetland losses; others may represent instances in which DNR failed to record the wetland acreage affected by a project.

The lack of consistent information about permitted wetland gains and losses hinders policymakers' ability to analyze wetland trends, make informed program decisions, and prioritize resources to address areas where the most wetland losses are occurring. DNR could improve its tracking of wetland losses by requiring its regional staff to consistently record the amount and type of wetlands disturbed and to identify whether projects result in permanent losses or temporary reductions in wetland functions.

☑ Recommendation

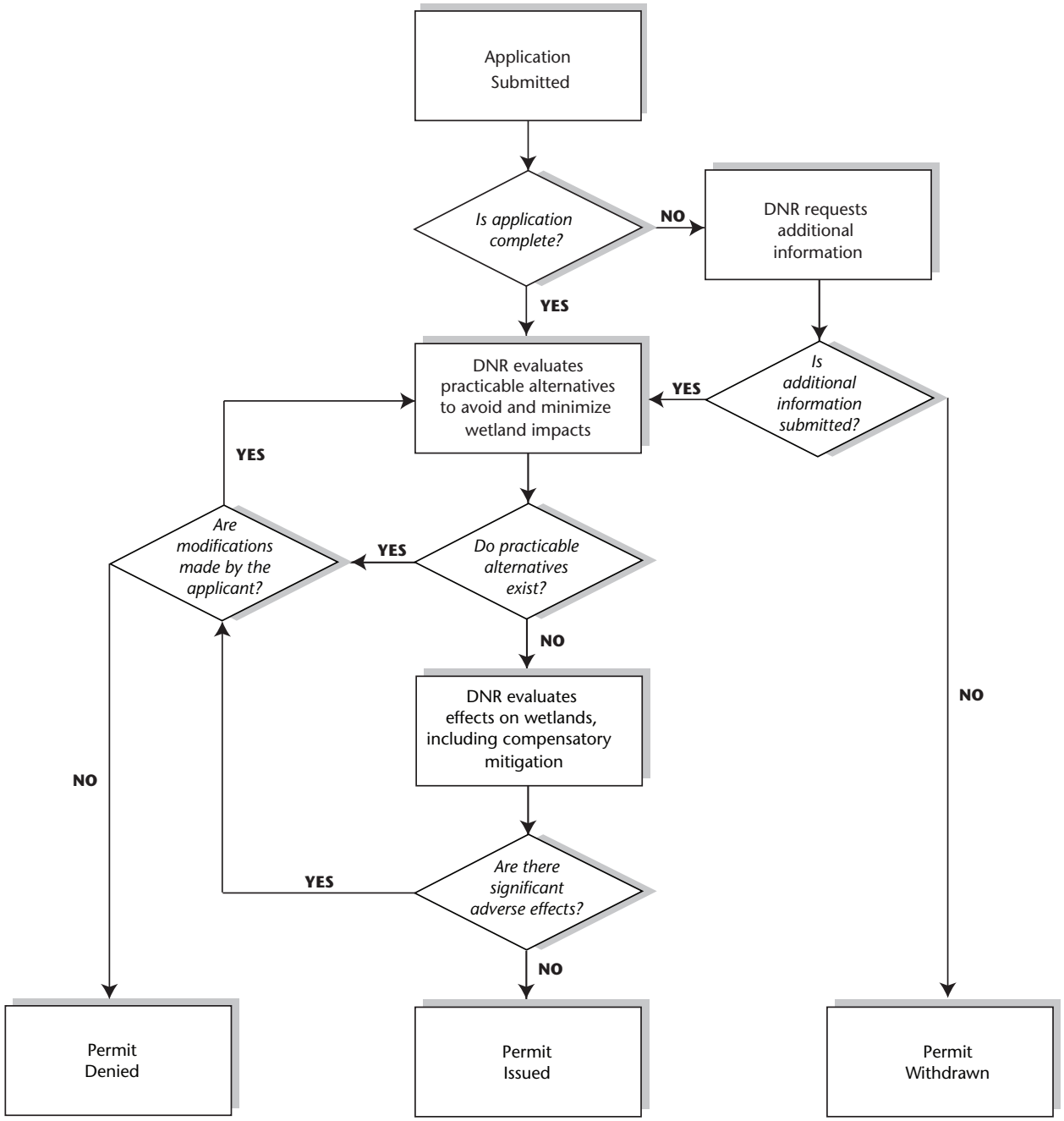
We recommend the Department of Natural Resources improve its tracking of permitted wetland losses, including the number and type of wetland acres that are permanently or temporarily disturbed under state wetland permits.

Reviewing Permit Applications

As shown in Figure 6, DNR follows a complex, multi-step process for reviewing wetland permit applications, which typically requires frequent communication with the applicant. As noted, applicants must first demonstrate there are no alternatives to proposed projects that would avoid disturbing wetlands. Next, if DNR concurs that avoidance is not possible, applicants must demonstrate that they have taken all practicable measures to minimize adverse effects to wetlands. Finally, DNR evaluates whether each proposed project will have a "significant adverse effect" on wetlands. In certain cases, DNR may consider compensatory mitigation that is voluntarily proposed by an applicant in determining a project's overall effects.

Figure 6

DNR Standard Wetland Permit Process



All projects must meet the same water quality standards, regardless of the affected wetland's size, type, or degree of previous disturbance. However, for some projects that have small effects or that are located in certain types of wetlands, s. NR 103.08, Wis. Adm. Code, establishes a streamlined review process under which DNR can evaluate the effects of a proposed project, including any benefits gained through compensatory mitigation, concurrently with alternatives to avoid and minimize adverse effects to wetlands. For the streamlined review process to be used:

- the project must be located in or adjacent to a wetland to fulfill its basic purpose;

- the project disturbs 0.1 acre or less of wetland; or

- each wetland affected by the project is smaller than 1.0 acre, outside the 100-year floodplain depicted on Federal Emergency Management Agency maps, and not of a type that DNR deems to be rare or unique under s. NR 103.08(4)(c), Wis. Adm. Code, which includes deep marshes, ridge and swale complexes, wet prairies not dominated by reed canary grass, ephemeral ponds in a wooded setting, fresh wet meadows not dominated by reed canary grass, bogs, hardwood swamps, and conifer swamps located south of U.S. Highway 10, or cedar swamps located north of U.S. Highway 10.

To determine whether DNR followed consistent procedures when reviewing permit applications, we interviewed its regional staff, as well as environmental consultants familiar with the regulatory program. In addition, we conducted a detailed file review to determine the criteria used to evaluate alternatives that avoid or minimize adverse wetland effects and the methods used to assess the significance of unavoidable effects on wetlands. As shown in Table 12, we reviewed 140 randomly selected projects for which applications were received between January 2004 and June 2006. These included 109 approved projects, 16 applications that were denied or withdrawn, and 15 projects that were pending as of June 30, 2006.

Table 12

Projects Selected for Review
(Applications Received from January 2004 to June 2006)

DNR Region	Projects Reviewed	Percentage of Total
Northeast	23	16.4%
Northern	25	17.9
South Central	26	18.6
Southeast	24	17.1
West Central	29	20.7
Central Office[1]	13	9.3
Total	**140**	**100.0%**

[1] Includes utility projects reviewed by DNR's Office of Energy, which coordinates the environmental review of energy and utility projects.

Evaluating Project Alternatives

DNR considers cost and feasibility when evaluating project alternatives.

DNR must deny a wetland permit if it determines that a practicable alternative exists to building the project in a wetland, unless the applicant modifies the project proposal. Section NR 103.07(2), Wis. Adm. Code, defines practicable alternatives as those that are "available and capable of being implemented after taking into consideration cost, available technology, and logistics in light of overall project purposes." Although state law does not specify how many alternatives must be considered, DNR's permit application form, which is included as Appendix 5, requires each applicant, at a minimum, to:

- identify other locations that would avoid wetlands, including different locations at the same site or at a new site;
- propose modifications to the project that would minimize unavoidable adverse effects, such as reducing the project's size; and
- describe the social and economic consequences of not building the project.

Of the 140 project files we reviewed, 60 contained no evidence that alternatives had been considered.

However, we found that applicants frequently did not provide each of these three alternatives to their preferred project. Only 25 of the 140 applications we reviewed contained three or more alternatives, and 60 applications, or 42.9 percent, contained no evidence that any alternatives had been considered. The number of alternatives submitted varied by region. Proposals in the Northeast Region included an average of 0.7 alternatives per project, while those in the Southeast and West Central regions included an average of 1.6.

Identifying practicable alternatives is often the most difficult part of the application process.

Both DNR regional staff and environmental consultants have noted that identifying practicable alternatives is often the most difficult part of the application process. Regional staff have discretion in deciding whether to accept or reject proposed alternatives. According to some environmental consultants we interviewed, this results in differences in approval requirements that can be difficult for landowners to anticipate. For example, some regional staff consider how long an applicant has owned the property on which a project is proposed when evaluating alternatives and may be less likely than other staff to require long-time owners to seek alternative parcels on which to construct their projects.

Although DNR encourages applicants to meet with regional staff to discuss project alternatives before submitting applications, doing so is not required, and after meetings are held applicants may not know whether DNR will accept their proposed alternatives or whether additional alternatives will be required. As a result, the application process can be confusing and frustrating for some applicants, because DNR may request additional alternatives before the application can be considered complete.

Evaluating Project Effects

DNR evaluates the individual and cumulative effects of a project on wetlands.

Once an applicant demonstrates that wetlands have been avoided to the extent practicable, DNR evaluates whether the project will have significant adverse effects on wetlands. Neither statutes nor administrative code establish criteria for determining whether an effect is significant. However, DNR considers whether the project will diminish the ecological functions and economic values of the wetland, as well as the individual and cumulative loss of wetland acreage. This requires regional staff to use their professional judgment to evaluate a project's effects on a wetland's physical, chemical, and biological characteristics.

Section NR 103.08(2), Wis. Adm. Code, allows DNR to assess wetland functions and values on a case-by-case basis, using methods that are "accepted by the Department and appropriate to the affected wetland." DNR has identified a number of acceptable procedures, including a rapid wetland assessment method developed specifically for Wisconsin. This method requires an

on-site field investigation and is designed to provide a comprehensive and reproducible system for documenting results. Regional staff can use another method if they believe it is sufficient to assess the effects of the proposed project.

Nearly half of the project files lacked information about the method used to evaluate effects on wetlands.

To determine whether the effects of proposed projects were evaluated consistently among DNR regions, we identified the method used to assess wetland functions and values for the 109 approved projects we reviewed. We excluded denied, withdrawn, and pending projects from this analysis because a functional assessment may not have been required or completed. As shown in Table 13, DNR used a comprehensive method, such as the Wisconsin rapid assessment method, for only 13 projects. A more limited assessment—such as identifying only whether endangered plants and animals were present at the project site—was used for another 43 projects. For the remaining 53 projects, or 48.6 percent of those approved, either DNR did not assess the wetland's functions and values or it did not document that an assessment was completed.

Table 13

Method Used to Evaluate Wetland Functions and Values
(109 Approved Projects)

DNR Region	Comprehensive Assessment[1]	Limited Assessment[2]	No Assessment	All Projects	Percentage with No Assessment
Northeast	0	18	2	20	10.0%
Northern	2	5	9	16	56.3
South Central	5	2	15	22	68.2
Southeast	3	5	14	22	63.6
West Central	0	12	6	18	33.3
Central Office	3	1	7	11	63.6
Total	**13**	**43**	**53**	**109**	48.6%

[1] Includes methods that comprehensively evaluate wetland functions and values, such as the Wisconsin rapid assessment method, and environmental analyses conducted under ch. NR 150, Wis. Adm. Code.
[2] Includes methods that assess only a limited number of functions and values, such as endangered species or plant diversity.

The method used to evaluate effects on wetland functions and values varied by DNR region.

The methods used to assess wetland functions and values also varied by region. Specifically, the Northeast Region conducted limited assessments for 18 of the 20 projects we reviewed but did not conduct any comprehensive assessments. In contrast, the Southeast and South Central regions completed comprehensive assessments more frequently than other regions but did not document the procedure

used for approximately two-thirds of their projects. Because the reason a particular method was selected is unknown, it is difficult to determine whether procedures were used consistently across all regions. However, projects for which DNR used a comprehensive method to assess wetland functions and values may have been subjected to more stringent review than projects for which DNR did not conduct an assessment or conducted only a limited assessment.

Because of the scientific and technical difficulty of assessing wetland functions and values, DNR staff have flexibility in choosing the most appropriate method for evaluating the effects of a proposed project. For projects that have minor effects or that are located in already degraded wetlands, it may be appropriate and preferable to allow staff to conduct a limited review rather than to require a more time-consuming comprehensive assessment. On the other hand, DNR's procedures may contribute to perceived inconsistencies because staff use their discretion when determining the particular methods to be used.

Improving Predictability of Permitting Decisions

Despite the Natural Resources Board's directive that wetland permits be issued in a simple, straightforward, and predictable manner, the process is complicated and requires frequent communication with applicants. While existing laws give DNR flexibility, this flexibility can be confusing and frustrating for applicants who believe the criteria for approving wetland permits are too subjective. DNR could improve the predictability of the permitting process without diminishing its ability to protect wetland resources by providing additional guidance to assist landowners with completing applications for wetland permits and ensuring that its regional staff follow consistent procedures when evaluating these applications.

☑ Recommendation

We recommend the Department of Natural Resources report to the Joint Legislative Audit Committee no later than December 31, 2007, on its efforts to better ensure that regional staff document consistency in reaching permitting decisions and to provide additional guidance to applicants, including:

- *identifying the number and types of project alternatives that permit applicants must provide;*
- *evaluating the cost and feasibility of proposed project alternatives; and*
- *determining whether a project will have significant adverse effects on wetland functions and values.*

DNR has not developed general permits for non-federal wetlands.

DNR could further simplify the permit process for many applicants by expanding its use of general permits. Although s. 281.36(8), Wis. Stats., requires it to issue general permits for activities in non-federal wetlands that are consistent with those issued by the Corps, DNR has not done so. However, it has established a general permit for wetland conservation activities, which became effective in 2003. Wetland conservation projects are defined as projects that are intended to restore former wetlands or to enhance degraded wetlands, or that are necessary for the maintenance or management of existing wetlands.

General permits could be issued for activities with minimal adverse effects on wetlands.

General permits could be developed for a broader range of commonly permitted activities in both federal and non-federal wetlands that are deemed to have minimal environmental effects. Such permits could improve predictability, because projects that meet the general permit criteria could be allowed to proceed without requiring a complicated analysis of practicable alternatives or an assessment of wetland functions and values.

☑ Recommendation

We recommend the Department of Natural Resources develop general permits, as required by s. 281.36(8), Wis. Stats., for commonly permitted activities that have minimal individual and cumulative effects on Wisconsin's wetland resources.

Time Needed to Issue Permits

DNR must approve or deny wetland permits within 120 days from the date an application is deemed complete.

Delays in approving wetland permits can lead to delays in project construction and can increase costs for applicants. The period within which DNR is required to process wetland permits depends on the nature of the project and its location. For most projects, statutes require DNR to determine whether an application is complete and to request additional information, if needed, within 30 calendar days of receipt. Once DNR determines that an application is complete, it generally has 120 calendar days under statutes to approve or deny a wetland permit. For projects that require a public notice, such as those in non-federal wetlands or when DNR places conditions on federal permits, the permit becomes effective 30 calendar days after the applicant publishes the notice in a newspaper, unless objections are filed or a public hearing is requested.

In some situations, DNR has less than 120 days to approve or deny a permit. For example, DNR is required to issue a decision within 60 working days from the date an application is complete if the project does not require additional permits under ch. 30, Wis. Stats., and if the affected wetlands are less than 1.0 acre, outside the

100-year floodplain, and not among the rare and unique wetland types listed under s. NR 103.08(4)(c), Wis. Adm. Code. DNR is also required to issue a decision on wetland conservation general permits within 30 days from the date the application is complete. Finally, if the applicant pays an additional $2,000 for an expedited review, DNR and the applicant negotiate a mutually agreeable deadline shorter than the standard 120 days. Statutes do not establish a time line for reviewing expedited applications, but DNR is required to refund the expedited permit fee if it fails to approve or deny the permit within the agreed time line.

For 276 permit requests, DNR failed to reach a decision within the statutory time frame.

We evaluated the number of days needed to reach a decision on 3,791 permit requests that were made from January 2001 through December 2005, and for which sufficient information was available. They included 3,523 standard wetland permits, 202 expedited permits, and 66 wetland conservation permits. As shown in Table 14, the median time to reach a decision from the date DNR deemed the application complete was 16.0 days for both standard and expedited permits. DNR failed to reach a decision within 120 days from the date it deemed the application complete for 276 of the 3,523 standard wetland permits, or 7.8 percent. We excluded permit applications received in 2006 because insufficient time had elapsed for a comparable analysis.

Table 14

Time Needed to Process Wetland Permits
January 2001 through December 2005
(Calendar Days)

Type of Permit	Permit Decisions	Median Days from Application Received to Application Deemed Complete	Median Days from Application Deemed Complete to DNR Decision
Standard Wetland Permits	3,523	33.0	16.0
Expedited Permits	202	116.5	16.0
Conservation Permits	66	36.0	9.0
Total	**3,791**		

Total processing time for wetland permits decreased 56.8 percent from 2001 to 2005.

Although DNR generally reached its decision within 120 days from when an application was deemed complete, that time frame does not represent total processing time for wetland permits because it does not include the time spent waiting for additional information or negotiating project alternatives with applicants before their applications are considered complete. As shown in Table 15, the median processing time required for DNR to reach a decision after the initial receipt of an application was 70 days for all permit decisions reached from January 2001 through December 2005. This total processing time for all permit types has decreased 56.8 percent, from 111 days in 2001 to 48 days in 2005.

Table 15

Median Processing Time for Wetland Permits
January 2001 through December 2005
(Calendar Days)

Calendar Year	Permit Decisions	Median Days from Application Received to DNR Decision
2001	626	111.0
2002	820	97.5
2003	738	74.0
2004	760	64.0
2005	847	48.0
Total	**3,791**	70.0

While the median processing time from application receipt to permit decision has decreased since 2001, some permitting decisions took longer than one year. As shown in Table 16, DNR regions varied in their timeliness. The percentage of decisions that took longer than one year was highest in the Southeast Region. Of the 282 decisions from January 2001 through December 2005 that took longer than one year, 203 were approved, 10 were denied, and 69 permit requests were withdrawn by the applicant.

Table 16

Permit Decisions Made After More than One Year[1]
January 2001 through December 2005

DNR Region	Decisions Made After More than One Year	All Permit Decisions	Percentage Made After More than One Year
Northeast	35	954	3.7%
Northern	43	721	6.0
South Central	24	534	4.5
Southeast	138	880	15.7
West Central	42	702	6.0
Total	**282**	**3,791**	7.4

[1] From the date the application was received.

DNR does not follow consistent procedures for determining when an application is complete.

The 314 permits pending as of June 30, 2006, included 81 that had been pending for more than one year. According to DNR, the most common reason for delay in reaching a decision is an incomplete application, which typically lacks information needed for the practicable alternatives analysis. Nonetheless, DNR does not appear to follow consistent procedures for determining when an application is complete. According to the wetland permit application form, applicants are required to submit proof of ownership, photographs of the existing project area, site maps showing wetland boundaries, and practicable alternatives to the proposed project before their applications can be considered complete. However, only 25 of the 109 approved projects files we reviewed contained documentation of all four of these items.

Furthermore, even if applicants submit all of the information required on the application form, regional staff can request additional information. Although we could not specifically identify why individual applications were considered incomplete, we found that DNR had requested additional information, such as more project alternatives, for 35 of the 140 projects we reviewed and that multiple requests for information were sent to 12 applicants. Many of these applicants may not have known whether their applications would be considered complete until after they had been submitted.

DNR could improve its tracking of dates applications are deemed complete and of permit timeliness.

DNR could improve its system for tracking whether permits are processed within statutory deadlines by consistently recording key milestones, such as the application completion date, which was missing for 251 of the permit requests approved, denied, or withdrawn from January 2001 through December 2005. Further, we were unable to verify whether DNR complied with requirements for processing applications subject to a 60-day review, or whether expedited permits were issued within agreed deadlines, because insufficient information was available.

☑ Recommendation

We recommend the Department of Natural Resources establish consistent procedures for determining whether applications are complete and track whether permits are processed within required statutory deadlines.

■ ■ ■ ■

Compliance Monitoring and Enforcement ■

Individuals who violate their permit conditions or fail to obtain a permit before disturbing a wetland may be subject to both state and federal enforcement actions. Fair and consistent enforcement practices can improve the effectiveness of wetland protection laws by increasing permit compliance and deterring illegal wetland disturbances. However, DNR's compliance monitoring efforts are inadequate to identify all wetland violations, and its enforcement practices differ across regions. Additional efforts are needed to identify and track wetland violations, ensure consistent enforcement practices statewide, and coordinate state and federal enforcement activities.

State Enforcement Actions

DNR is responsible for ensuring compliance with state wetland laws.

DNR is responsible for ensuring that projects located in Wisconsin—regardless of whether they occur in a federal or non-federal wetland—comply with state water quality standards and permit requirements. Although DNR can issue citations for violations that occur in navigable waters under ch. 30, Wis. Stats., this authority does not extend to non-navigable wetlands. As a result, most wetland violations are resolved informally through voluntary agreements and administrative actions. In cases where voluntary compliance cannot resolve the violation, DNR seeks more formal remedies through the Wisconsin Department of Justice (DOJ) or through federal agencies.

Identifying Wetland Violations

Violations occur when wetlands are illegally disturbed without a permit or when those who have properly obtained a permit do not follow its conditions. The number of wetland permit violations and illegal wetland disturbances that occurred during our review period is unknown because DNR did not consistently track this information. Therefore, we estimated the number of complaints investigated and violations discovered using information provided by staff in each region.

Inspections are important to verify compliance with wetland permits.

Although neither statutes nor administrative code require DNR to inspect a project site after a permit has been issued, regular inspections are important for verifying that projects comply with state water quality standards and other permit conditions. According to DNR, regional staff verify compliance through both regular inspections and informal site visits. However, they do not inspect every permitted project, and they are not required by DNR policies to systematically document the results of completed inspections. Beginning in 2005, DNR made an effort to improve its compliance monitoring program by requesting that staff in each region:

- annually inspect at least five randomly selected project sites where wetland permits were approved, to verify compliance with permit conditions; and

- conduct an assessment of one randomly selected lake and one randomly selected stream segment each year, to determine if projects were illegally constructed without wetland and waterway permits.

DNR reported inspecting 27 completed projects from January 2005 through September 2006.

Regional staff submitted documentation to the central office for 40 compliance monitoring inspections of approved projects located in wetlands. The inspections were conducted between January 2005 and September 2006 and involved 27 projects that had been fully constructed, as well as 13 that had not begun or were not yet completed. In addition, regional staff submitted ten compliance monitoring reports for projects that were denied permits, including two in which wetland violations were identified.

As shown in Table 17, wetland or other environmental violations, such as failed erosion control measures, were discovered at 6 of the 27 approved project sites for which compliance monitoring reports were available, or 22.2 percent. While the noncompliance rate differs across regions, it is difficult to draw conclusions because of the small number of compliance inspections reported. Nonetheless, the overall rate of noncompliance is similar to that reported in an EPA-funded study conducted from 1991 through 1994, which found violations for 30.8 percent of the 302 wetland permits issued in 22 Wisconsin counties during that period.

Table 17

Inspections of Completed Wetland Projects
January 2005 through September 2006

DNR Region	Completed Projects Inspected	Noncompliant Projects	Percentage of Projects in Noncompliance
Northeast	10	2	20.0%
Northern	5	2	40.0
South Central	0	0	–
Southeast	2	2	100.0
West Central	10	0	0.0
Total	**27**	**6**	22.2

More than half of the reported violations occurred in the Northern Region.

DNR staff also discover illegal wetland activities through complaints from the public or other government officials. As shown in Table 18, regional staff identified at least 325 wetland violations over the 18-month period from January 2005 through June 2006. More than half of the reported violations occurred in the Northern Region, and 4 counties in that region—Douglas, Price, Lincoln, and Oneida—accounted for 23.7 percent of the violations. By comparison, 4.3 percent of the violations occurred in the 12-county South Central Region. The number of wetland acres affected by these illegal wetland disturbances is not known.

Table 18

Reported Wetland Violations
January 2005 through June 2006

DNR Region	Number of Cases	Percentage of Total
Northeast	49	15.1%
Northern	174	53.5
South Central	14	4.3
Southeast	41	12.6
West Central	47	14.5
Total	**325**	**100.0%**

The large number of violations in the Northern Region may be caused, in part, by increased development pressure in an area that has relatively high wetland concentrations. However, some of the differences may be attributable to the level of effort devoted to investigating complaints and tracking violations. As noted, DNR regional staff have competing responsibilities to issue wetland and waterway permits, conduct compliance inspections, investigate complaints, and provide technical assistance and public outreach. DNR officials stated that in recent years, some regional staff have placed a higher priority on issuing permits than on compliance monitoring because of the permit processing deadlines required by 2003 Wisconsin Act 118.

Resolving Wetland Violations

DNR uses a multi-step process to resolve wetland violations.

Regional staff are primarily responsible for responding to violations identified within their regions. While DNR can issue citations for certain violations that occur in navigable waters, such as illegal alterations to shorelines and the placement of non-permitted structures in waterways, it is not authorized to issue citations for wetland violations. Instead, DNR uses a multi-step administrative process to obtain voluntary compliance with wetland laws. This process may include issuing after-the-fact permits or notices of violation that seek restoration of affected wetlands. If voluntary compliance cannot be achieved through these means, DNR may seek more formal enforcement remedies through the circuit courts with the assistance of DOJ, or through federal agencies. Because formal enforcement proceedings can be expensive and time-consuming for both parties, most violations are resolved voluntarily.

In cases where a wetland disturbance has occurred without a permit but the project would have been authorized if a permit application had been properly submitted, DNR may issue an after-the-fact permit. Persons who obtain after-the-fact permits are required to pay twice the normal fee, or $1,000 for each wetland disturbance. Before DNR can issue an after-the-fact permit, the applicant must demonstrate that the disturbance could not have been avoided and that the project had no significant adverse effects on wetlands.

DNR resolved 229 violations with after-the-fact permits from January 2001 through June 2006.

As shown in Table 19, DNR issued 229 after-the-fact permits from January 2001 through June 2006. The West Central region issued 77, while the South Central Region issued only 15. It is difficult to determine whether these differences reflect inconsistencies in how after-the-fact permits have been used, because regional staff have discretion in determining when after-the-fact permits should be issued.

Table 19

After-the-Fact Permits Issued
January 2001 through June 2006

DNR Region	Number	Percentage of Total
Northeast	51	22.3%
Northern	50	21.8
South Central	15	6.6
Southeast	36	15.7
West Central	77	33.6
Total	**229**	**100.0 %**

When a violation cannot be resolved through an after-the-fact permit, DNR works with the landowner or permittee to correct it through a voluntary restoration plan. These plans typically require the removal of any illegal fill placed in the wetland, or other restoration to return it to its previous condition. DNR regional staff are responsible for ensuring that restoration plans are implemented, but the number of violations resolved in this manner is unknown because DNR does not systematically track violations resolved through voluntary restoration.

If the violation cannot be resolved through a voluntary restoration plan, or if the permittee or landowner refuses to cooperate, DNR may issue a notice of violation. Notices of violation provide written notice that a wetland violation has gone uncorrected, specifically describe the violation, outline the steps necessary to resolve it, and identify the penalties for continued noncompliance.

DNR issued at least 69 notices of violation related to wetlands from January 2001 through June 2006.

As shown in Table 20, DNR reported issuing at least 69 notices of violation related to wetlands from January 2001 through June 2006. The actual number is unknown because DNR's enforcement database does not always identify whether a case involving multiple environmental violations also involves a wetland violation. In addition, DNR noted that some notices of violation may not have been entered into its database because they were not reported to the central office.

Table 20

Wetland Notices of Violation Issued
January 2001 through June 2006

DNR Region	Number	Percentage of Total
Northeast	19	27.5%
Northern	26	37.7
South Central	4	5.8
Southeast	13	18.9
West Central	7	10.1
Total	**69**	**100.0%**

DNR encourages its regional staff to resolve notices of violation through an enforcement conference. These conferences involve a meeting with the permittee or landowner and are used to discuss technical problems, identify a mutually agreeable solution, and develop a schedule for corrective action. However, differences exist among the regions in the use of enforcement conferences. For example, the Northern Region held enforcement conferences for 50.0 percent of the notices of violation it issued from January 2001 through June 2006, while enforcement conferences were held for 86.0 percent of the notices of violation issued in the remaining four regions. DNR noted that the geographic size of the Northern Region may limit the ability of staff to meet with individuals receiving notices of violation.

DNR referred 19 cases involving wetland violations to DOJ from January 2001 through June 2006.

Finally, if DNR is unable to satisfactorily resolve a wetland violation, the case may be referred to DOJ or the federal government for formal enforcement action. DOJ can seek injunctions, restoration orders, civil penalties, or criminal penalties that can include fines of up to $5,000 per day from the appropriate circuit court. DNR's Secretary and the director of the region where the violation occurred approve each decision to refer a case to DOJ. As shown in Table 21, DNR referred 19 cases involving one or more wetland violations to DOJ from January 2001 through June 2006. The Northern and Northeast regions accounted for 73.6 percent of these cases.

Table 21

Wetland Cases Referred to the Wisconsin Department of Justice
January 2001 through June 2006

DNR Region	Number	Percentage of Total
Northeast	7	36.8%
Northern	7	36.8
South Central	1	5.4
Southeast	2	10.5
West Central	2	10.5
Totals	**19**	**100.0%**

DOJ reported that as of December 31, 2006, 16 of the 19 wetland violation cases had been resolved, including 14 for which the courts ordered that violators pay fines ranging from $2,500 to $125,000, with an average of $29,700. In one case, DOJ declined to prosecute the violation, and in another case the court issued an injunction to stop the unapproved wetland work but did not impose a fine. In 13 of the 16 cases, the courts also ordered that the wetland be restored to its original condition. No wetland violations were prosecuted criminally in Wisconsin during our audit period; all were civil cases.

Improving State Enforcement Activities

Compliance monitoring and violation tracking could be improved.

One of the goals identified in DNR's wetland strategic plan is to develop a publicly accessible violation reporting and tracking system. Such a system has not been implemented. As a result, it is

difficult to determine whether regional differences are the result of inconsistent compliance monitoring and enforcement practices or whether more violations actually occurred in some regions. Nonetheless, the high rate of noncompliance we identified with the limited data available suggests that DNR's compliance monitoring procedures are inadequate for identifying and tracking wetland violations. Without effective compliance monitoring, landowners may be more willing to risk undertaking projects without permits or to violate their permit conditions when constructing their projects. Moreover, the lack of compliance monitoring may lead to inconsistent enforcement, because violations may be more likely to be detected in some regions than in others.

☑ Recommendation

We recommend the Department of Natural Resources increase the number of compliance inspections conducted each year and develop a publicly accessible, statewide database to track wetland violations.

Regardless of how many wetland violations are detected, most are resolved voluntarily. However, it appears that the regions may not follow consistent procedures for resolving those violations that require enforcement actions. For example, the Northeast and West Central regions identified a similar number of violations, but the Northeast Region issued more notices of violation, while the West Central Region issued more after-the-fact permits. Although the specific details of each case may have warranted these actions, guidelines do not exist to assist DNR staff in determining which cases should be resolved voluntarily and which cases require other enforcement mechanisms.

Enforcement staff in the Northern Region spent a larger percentage of time on waterway and wetland violations.

Further, regional enforcement priorities vary. In addition to permitting staff, each region has one or more enforcement specialists who are responsible for following up on most environmental violations, including wetland violations. We analyzed the number of hours reported on wetland and waterway enforcement activities by enforcement specialists in each region from FY 2001-02 through FY 2005-06. We were unable to determine the number of hours spent exclusively on wetlands enforcement, because DNR's time reporting system does not track this activity separately. As shown in Table 22, the percentage of time spent on waterway and wetland cases ranged from 18.7 percent of the total hours reported on all enforcement activities in the Northern Region to 3.4 percent in the West Central Region.

Table 22

Waterway and Wetland Enforcement Effort
FY 2001-02 through FY 2005-06

DNR Region	Hours Reported on All Enforcement Activities	Hours Reported on Waterway and Wetland Enforcement	Percentage of Time Spent on Waterway and Wetland Enforcement
Northeast	26,553	2,776	10.5%
Northern	25,728	4,816	18.7
South Central	15,448	1,404	9.1
Southeast	20,709	1,500	7.2
West Central	13,519	466	3.4
Central Office	16,735	609	3.6
Total	**118,692**	**11,571**	9.7

According to DNR, regional permitting and enforcement staff have discretion to determine the most appropriate response depending on the size of disturbance, the severity of the violation, whether the landowner has had past wetland violations, and whether the violation occurred in an area of special natural resource interest. While some flexibility is necessary to allow staff to continue to work cooperatively with landowners to resolve violations, different enforcement priorities may lead to inconsistent enforcement practices or create a perception that similar violations are treated differently across the state.

☑ Recommendation

We recommend the Department of Natural Resources establish guidelines to ensure that regional staff follow consistent procedures for determining when violations can be satisfactorily resolved through voluntary compliance, and when other enforcement actions are needed.

Federal Enforcement Activities

The Corps and EPA can follow up on violations that occur in federal wetlands.

The Corps and EPA can independently pursue enforcement actions for violations that occur in wetlands under federal jurisdiction, including referring cases to the United States Department of Justice for civil or criminal prosecution. They have established a

memorandum of agreement specifying that the Corps is generally responsible for initial investigations to determine whether a violation has occurred, and for taking the lead to resolve most permit violations. In contrast, EPA takes the lead in cases involving repeat violations, flagrant violations, specific types of high-priority violations, or when requested by the Corps. Through the federal district courts, the United States Department of Justice can seek fines of up to $25,000 per day, and imprisonment of up to one year, for first-time violations.

Because the Corps, like DNR, cannot issue fines, it instead attempts to obtain voluntary compliance before seeking more formal enforcement remedies from EPA or the United States Department of Justice. We were unable to determine the number of wetland violations investigated by the Corps during our audit period, because the Corps does not distinguish between violations that occur in wetlands from those that occur in other waterways under federal jurisdiction. Nonetheless, the Corps reported that it identified 527 violations in Wisconsin from January 2001 through June 2006, including both permit violations and other unauthorized dredge and fill activities. Of these, the Corps reported that 226, or 42.9 percent, were resolved through a voluntary agreement with the landowner or permittee, and 120 were resolved with after-the-fact permits. As of June 30, 2006, the remaining 181 cases were administratively closed, referred to EPA or DNR, pending, or of unknown status.

From January 2001 through June 2006, 13 wetland violations were referred to EPA or the United States Department of Justice.

DNR and the Corps referred 13 wetland violations to EPA or the United States Department of Justice from January 2001 through June 2006. EPA can issue administrative penalties and fines, cease and desist orders, or restoration orders to stop activities that violate federal law. Federal officials reported that as of October 2006, 11 of these cases had been resolved, including:

- 9 in which EPA issued administrative fines averaging $83,100 and ranging from $6,000 to $1.1 million;
- 1 in which the landowner agreed to move a house after it had been constructed in a wetland; and
- 1 in which a federal court ordered the defendants to restore the damaged wetland and pay $160,000 in fines.

Federal officials noted that they work closely with DNR on violations in Wisconsin, and we identified at least 24 violations that occurred between January 2005 and June 2006 and were included in

information provided by both DNR and the Corps. However, the extent to which DNR assisted the Corps with these violations is unknown because the agencies do not share a common database for tracking violations, and neither agency could provide information identifying which one took the lead in each case. Further, there is no formal agreement specifying the level of government appropriate for resolving enforcement cases. Instead, DNR stated that these decisions are made on a case-by-case basis, depending on the nature of the violation and the workload of the staff involved, and that the level of cooperation depends primarily on individual relationships among agency staff.

State and federal coordination of wetland enforcement activities could be improved.

The lack of a formal agreement between DNR and federal agencies raises concerns about duplication of efforts and could potentially lead to inconsistent enforcement practices among DNR regions. For example, if DNR staff have close working relationships with their Corps counterparts, violations may be more likely to be referred to federal authorities. Because of resource constraints, DNR would like to rely more on the Corps to help identify and resolve federal wetland violations. While doing so could reduce the enforcement workload of DNR regional staff and allow them to focus on violations in non-federal wetlands, we question whether this strategy would be effective. Specifically, the number of cases investigated by the Corps in Wisconsin decreased by 57.2 percent, from 201 cases in 2003 to 86 cases in 2005, despite DNR's assertion that the Corps has been more involved in wetlands enforcement in recent years. Nevertheless, we believe that additional coordination between DNR and federal agencies is needed to help ensure consistent enforcement practices statewide.

☑ Recommendation

We recommend the Department of Natural Resources seek to develop a memorandum of agreement with the Army Corps of Engineers and the Environmental Protection Agency to clarify enforcement responsibilities and facilitate information sharing.

■ ■ ■ ■

Compensating for Wetland Losses ■

Compensatory mitigation refers to the restoration, enhancement, or creation of wetlands to replace those lost through permitted projects. DNR's compensatory mitigation program is voluntary and is intended to provide the agency with regulatory flexibility by allowing it to approve wetland disturbances that would not otherwise be permitted. However, since its implementation in 2002, compensatory mitigation has not been widely used in permits issued by DNR. The use of compensatory mitigation is limited by state-imposed restrictions on where it can be considered and by the long-term costs for applicants to monitor and maintain wetland compensation sites. Expanding the use of mitigation banking could reduce these costs and encourage more applicants to use compensatory mitigation in Wisconsin.

Compensatory Mitigation in Wisconsin

Wisconsin's compensatory mitigation program became effective in February 2002.

Compensatory mitigation emerged in the 1990s as a tool to achieve the national goal of no net loss of wetlands. Despite its long-standing and mandatory use in federal wetland permits, state transportation projects, and programs in other states, compensatory mitigation remains controversial because of its administrative complexity and because of uncertainties about its effectiveness in replacing lost wetlands with those of comparable functions and values. Nonetheless, in an effort to provide regulatory flexibility, 1999 Wisconsin Act 147 directed DNR to implement a compensatory mitigation program for state wetland permits. DNR's program became effective in February 2002.

Wisconsin's program is neither designed to offset all wetland losses resulting from state permits nor intended to supplant federal compensatory mitigation requirements. Instead, it allows applicants to voluntarily propose compensatory mitigation for certain projects that would not otherwise meet state wetland water quality standards. According to DNR, this approach addresses concerns that mandatory compensation would circumvent Wisconsin's wetland protection laws by allowing applicants to replace natural wetlands with potentially poorly designed and managed wetland mitigation projects.

Compensatory mitigation can be considered only in certain circumstances.

DNR has established a complex, three-tiered process for incorporating compensatory mitigation into its review of wetland permit applications. First, compensatory mitigation cannot be considered for projects that affect wetlands designated under s. NR 103.04, Wis. Adm. Code, as areas of special natural resource interest. Second, for projects that result in relatively large disturbances or that occur in higher-quality wetlands, applicants must demonstrate that they cannot avoid or minimize adverse effects on wetlands before compensatory mitigation can be considered. Finally, DNR may consider compensatory mitigation concurrently with other alternatives to avoid and minimize adverse effects if the proposed project:

- must be located in or adjacent to a wetland to fulfill its basic purpose;
- will disturb 0.1 acre or less of wetland; or
- will affect only wetlands that are smaller than 1.0 acre, outside of the 100-year flood plain, and not classified as a rare or unique wetland type under s. NR 103.08(4)(c), Wis. Adm. Code.

Number of Projects Approved

DNR approved compensatory mitigation for 52 of the 2,942 permits issued from February 2002 through June 2006.

From February 2002 through June 2006, DNR considered 67 applications for wetland permits that included compensatory mitigation projects. Of these, 52 were approved, 9 were withdrawn, and 6 were pending as of June 30, 2006. As shown in Table 23, the Southeast Region accounted for 29 of the 52 approved mitigation projects, or 55.8 percent. In contrast, only one project was approved in the Northern Region. The 52 projects for which compensatory mitigation was approved represent only 1.8 percent of the 2,942 permits issued from February 2002 through June 2006.

Table 23

DNR-Approved Compensatory Mitigation Projects
February 2002 through June 2006

DNR Region	Projects Proposed	Projects Approved	Percentage of Approved Projects
Northeast	11	9	17.3%
Northern	3	1	1.9
South Central	10	8	15.4
Southeast	37	29	55.8
West Central	6	5	9.6
Total	**67**	**52**	**100.0%**

Compensatory mitigation has been used most frequently for commercial and industrial projects.

Compensatory mitigation has been used most frequently for commercial and industrial projects and has not been widely used by individual landowners with small projects. As shown in Table 24, only three mitigation projects approved by DNR were intended to compensate for wetland losses caused by residential projects, such as driveways and home construction. In contrast, 40 approved projects were related to commercial or industrial facilities, including subdivisions, industrial parks, and retail space. Another nine projects were intended to compensate for wetlands lost for public purposes, such as local roads, parks, and sports fields. These 52 projects disturbed a total of 41.1 wetland acres.

Table 24

Applicants Using Compensatory Mitigation
February 2002 through June 2006

Type of Applicant	Projects Approved	Wetland Acres Disturbed	Percentage of Approved Projects
Commercial or Industrial	40	35.0	76.9%
Public Sector	9	5.5	17.3
Individual Landowner	3	0.6	5.8
Total	**52**	**41.1**	**100.0%**

Generating Wetland Credits

Although compensatory mitigation is intended to replace lost wetland functions and values, these characteristics are often difficult to measure. Therefore, DNR quantifies wetland losses in terms of the number of acres disturbed. Similarly, wetlands gained through compensatory mitigation are measured in terms of credits. DNR typically awards:

- 1.0 credit per acre for restoring wetlands where they previously existed;
- up to 1.0 credit per acre for enhancing the ecological functions of an existing wetland;
- 1.0 credit for every 2.0 acres for creating new wetlands where they did not historically exist; and
- up to 1.0 credit for every 4.0 acres of upland buffer established, which is defined as non-wetland habitat in adjacent areas.

Restoring wetlands where they historically existed is preferred over other methods.

DNR awards more credits for restoration because it is generally more effective than creation or enhancement. Although DNR encourages applicants to select compensation sites that contain wetlands similar in type to the wetland being disturbed, the number of credits awarded is not dependent on wetland type.

Wetland credits can be obtained at the project site, at a different site, or from a mitigation bank.

Applicants proposing compensatory mitigation must follow a prescribed sequence to identify a suitable location for obtaining wetland credits. First, applicants must determine whether they can conduct on-site mitigation, which is defined as within one-half mile of the proposed wetland disturbance. If DNR determines that on-site compensation is not feasible or believes that there are significant ecological benefits to using an off-site location, it may approve a compensation site either within a 20-mile radius of the permitted wetland disturbance, within the watershed of the affected wetland, or within the county of the affected wetland. When considering off-site options, DNR may allow the applicant to purchase wetland credits from an approved wetland mitigation bank.

Mitigation banks generate wetland credits in advance of permitted losses.

Mitigation banks can be sponsored by individuals, businesses, nonprofit groups, or government agencies. They are used to generate marketable credits in advance of authorized wetland disturbances. Mitigation banks accrue credits for wetland restoration, creation, and enhancement activities according to the same criteria used at project-specific compensation sites. Unlike project-specific compensation—under which the applicant is responsible for ongoing maintenance and monitoring at the compensation site—the purchase of credits from a mitigation bank transfers the legal and financial responsibility for compensatory mitigation from the permittee to the bank sponsor.

Mitigation banks were used for two-thirds of the compensatory mitigation projects approved by DNR.

As shown in Table 25, 35 of the 52 applicants purchased credits from mitigation banks to compensate for 18.0 acres of approved wetland disturbances. In comparison, DNR approved 14 on-site projects and 3 off-site projects, which resulted in 23.1 acres of wetland disturbance.

Table 25

Source of Mitigation Credits
February 2002 through June 2006

Source of Credits	Projects Approved	Wetland Acres Disturbed	Percentage of Projects Approved
On-Site Mitigation	14	7.4	26.9%
Off-Site Mitigation	3	15.7	5.8
Purchase of Credits from a Bank	35	18.0	67.3
Total	**52**	**41.1**	**100.0%**

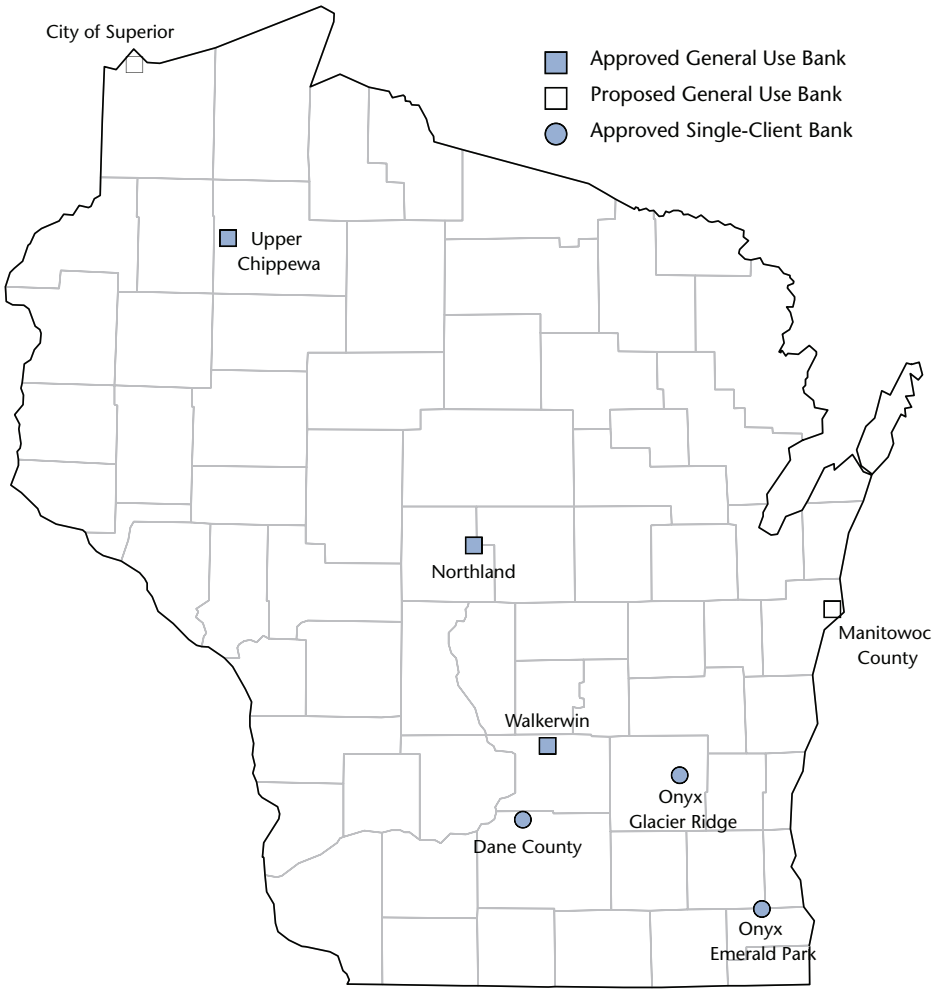
Wisconsin Mitigation Banks

Six mitigation banks were approved in Wisconsin as of June 30, 2006.

As shown in Figure 7, DNR's mitigation bank registry included six approved banks and two proposed banks as of June 30, 2006. All mitigation banks in Wisconsin must be approved by a mitigation bank review team consisting of representatives of DNR, the Corps, and EPA, as well as other federal, state, tribal, and local officials. The team approves each bank's compensation site plan, determines the maximum number of credits that can be awarded, and establishes the operating terms and conditions for the bank site.

Figure 7

Wisconsin Mitigation Banks
June 2006



Three of the approved banks were for general use, and three were single-client banks. Single-client mitigation banks are sponsored by entities that anticipate a need for credits to compensate for their own future projects. General use mitigation banks can sell their credits to the general public. Two of the three approved general use banks—Northland and Walkerwin—were established before 2002 and operate under agreements that allow the sale of credits statewide if the bank sponsor facilitates additional wetland restoration projects within the compensation search area of the project for which credits were purchased. In contrast, the Upper Chippewa bank, which was established in 2004, can sell credits only within a limited service

area. The three approved single-client banks include one operated by Dane County to provide mitigation credits for wetland losses caused by county and municipal government projects, and two operated by Onyx Waste Services, a private waste management company.

Wisconsin mitigation banks had 153.2 available credits as of June 30, 2006.

Mitigation bank credits are released for sale or use as the bank meets benchmarks established by the review team. As of June 30, 2006, only three of the six approved mitigation banks had all of their credits released. Of the 284.4 credits released to four different banks, 131.2 had been used or sold, and 153.2 were available for additional compensatory mitigation projects. As shown in Table 26, the Northland bank owned 113.4 credits, or 74.0 percent of the total available.

Table 26

Status of Wisconsin Mitigation Banks
As of June 30, 2006

Bank Name	Year Established	Proposed Credits	Released Credits	Used Credits	Available Credits
Northland	1999	130.2	130.2	16.8	113.4
Walkerwin	1996	97.8	97.8	83.3	14.5
Upper Chippewa	2004	47.4	9.5	4.3	5.2
Dane County	1999	46.9	46.9	26.8	20.1
Onyx Emerald Park	2004	43.3	0.0	0.0	0.0
Onyx Glacier Ridge	2004	50.0	0.0	0.0	0.0
Total		**415.6**	**284.4**	**131.2**	**153.2**

DNR and the Corps do not share a common system for tracking mitigation bank credits.

Because mitigation banks in Wisconsin are approved by a federal-state mitigation bank review team, they can provide wetland credits for use in either the state or the federal permit programs. Of the 131.2 credits used, 24.1 were used for state compensatory mitigation projects, while 107.1 were used to satisfy federal compensatory mitigation requirements. However, DNR and the Corps do not share a common database for tracking the use of mitigation bank credits, and the Corps was unable to provide us with information about federally required compensatory mitigation projects in Wisconsin.

☑ Recommendation

We recommend the Department of Natural Resources work with the United States Army Corps of Engineers to develop a joint system for monitoring the status and use of mitigation banks in Wisconsin.

Comparing Wetland Gains and Losses

Mitigation banks were used more frequently for projects disturbing 0.5 wetland acres or less.

The amount of wetlands disturbed by the 52 projects for which compensatory mitigation was approved ranged from 0.01 to 14.3 acres per project. As shown in Table 27, mitigation bank credits were used more frequently than project-specific compensation sites for the 33 projects that disturbed 0.5 wetland acre or less.

Table 27

Source of Wetland Credits by Size of Disturbance
February 2002 through June 2006

Number of Acres Disturbed	Project-Specific Compensation Sites[1]	Projects Using Mitigation Bank Credits	All Projects	Percentage Using Mitigation Bank Credits
0.25 Acre or Less	4	11	15	73.3%
0.26 to 0.5 Acre	4	14	18	77.8
More than 0.5 Acre	9	10	19	52.6
Total	**17**	**35**	**52**	67.3

[1] Includes both on-site and off-site compensatory mitigation projects.

The number of credits needed to compensate for each acre lost is the compensation ratio.

The number of credits needed to compensate for each wetland acre lost—known as the compensation ratio—depends on the type of wetland disturbed and the source of the credits. DNR usually requires applicants to generate at least 1.5 credits to compensate for every acre of wetland lost. However, a compensation ratio of 1-to-1 may be allowed if the wetland credits are purchased from a mitigation bank and the project does not disturb a wetland type that is considered to be rare or unique. Mitigation bank purchases have a lower compensation ratio because wetlands at bank sites have been established before any disturbance is authorized. In contrast, project-specific compensation typically occurs concurrently with authorized wetland disturbances, and its likelihood of success is less certain.

It is difficult to measure the extent to which compensatory mitigation has offset permitted losses because one credit does not necessarily correspond to one wetland acre and because compensation sites have been only recently constructed. As shown in Table 28, the 52 approved compensatory mitigation projects generated 93.0 credits to compensate for 41.1 acres of wetland disturbance, or an average of 2.3 credits per acre.

Table 28

Amount of Wetland Compensation Approved
February 2002 through June 2006

Source of Credits	Projects	Acres of Wetlands Disturbed	Credits Generated	Credits per Acre Disturbed
On-Site Mitigation	14	7.4	17.6	2.4
Off-Site Mitigation	3	15.7	51.3	3.3
Purchase of Bank Credits	35	18.0	24.1	1.3
Total	**52**	**41.1**	**93.0**	2.3

Compensatory mitigation offset only 6.3 percent of DNR-permitted wetland losses from February 2002 through June 2006.

Nonetheless, wetland gains from DNR-approved compensatory mitigation projects are expected to offset only 41.1 acres, or 6.3 percent, of the 651.4 acres of wetland disturbance allowed under permits issued from February 2002 through June 2006. While replacing all wetland losses is not a goal of DNR's wetland permitting program, other federal and state compensatory mitigation efforts have resulted in more wetlands being restored, created, or enhanced in Wisconsin.

For example, since 2000, the Corps has required compensatory mitigation in federal permits for projects that disturb more than 10,000 square feet of wetlands. Neither DNR nor the Corps could specify the number of acres of compensation that have occurred in Wisconsin under federal permits. However, using information from DNR's permitting database, we estimated that from January 2001 through June 2006, the Corps approved at least 256 wetland permits with disturbances greater than 10,000 square feet, totaling 330.2 acres.

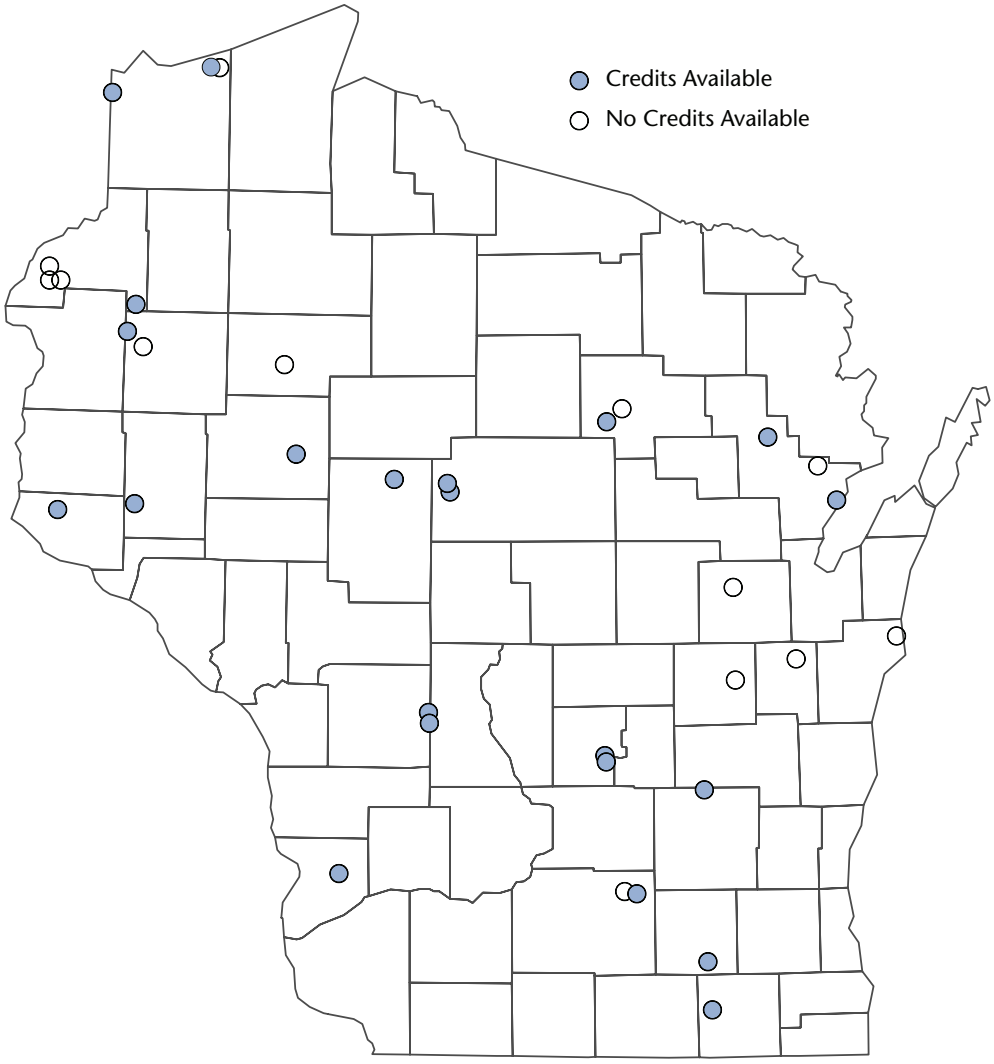
Compensatory mitigation is also mandatory for transportation projects under the direction and supervision of DOT, which are still subject to federal permitting requirements but are exempt from DNR's wetland permitting program under s. 30.2022, Wis. Stats. Instead, DNR reviews transportation projects under the terms of a cooperative agreement with DOT, which was first signed in 1976 and last updated in 2002. This agreement streamlines the permitting process by allowing DNR to work cooperatively with DOT to minimize potential adverse environmental effects during project design, rather than after the design is completed. It requires DOT to avoid and minimize adverse wetland effects caused by a proposed transportation project to the extent practicable and to compensate for unavoidable wetland losses.

DOT's wetland bank had approximately 1,400 available credits as of January 2006.

The cooperative agreement allows DOT to use mitigation banking to meet its compensatory mitigation needs if on-site compensation is not feasible. DOT manages 35 bank sites that are used exclusively for its transportation projects. While DOT can also use its bank to meet federal compensatory mitigation requirements, it cannot sell credits to other permittees or to local governments. As of January 1, 2006, DOT estimated that approximately 1,400 credits were available from 22 of its mitigation bank sites, while as shown in Figure 8, 13 bank sites were fully used.

Figure 8

DOT Mitigation Bank Sites
January 2006



DOT compensated for nearly 1,000 acres of wetland losses from 2001 through 2005.

DOT reported that 775 transportation projects constructed from January 2001 to December 2005 resulted in a total of 963.1 acres of wetland losses. As shown in Table 29, DOT compensation for these projects generated a total of 1,196.6 credits, including 800.2 credits from its mitigation bank. Information about compensatory mitigation completed in 2006 was not available at the time of our fieldwork.

Table 29

Compensatory Mitigation by DOT
January 2001 through December 2005

Source of Credits	Credits Generated	Percentage of Total
Mitigation Bank	800.2	66.9%
Off-Site Compensation	202.2	16.9
On-Site Compensation	194.2	16.2
Total	**1,196.6**	**100.0%**

Use of Compensatory Mitigation

Geographic restrictions, administrative code requirements, and costs may limit the use of compensatory mitigation in state permits.

Because compensatory mitigation has not been widely used as part of DNR's wetland permitting program, some believe that it has not provided the level of regulatory flexibility intended under 1999 Wisconsin Act 147. The use of compensatory mitigation in state wetland permitting has been limited by geographic restrictions on where it can be considered, requirements in administrative code that discourage mitigation banking in favor of compensation at on-site or off-site locations, and a reluctance or inability of permittees to incur additional project costs related to voluntary compensatory mitigation.

Under existing law, compensatory mitigation cannot be considered for projects that are located in wetlands within or adjacent to designated areas of special natural resource interest, regardless of wetland type or degree of past human disturbance. Although DNR was unable to estimate the acreage in this category, these wetlands represent a potentially large percentage of the statewide total because more than 8,000 waterways or portions of waterways have been so designated. For projects in many other wetlands, DNR cannot issue permits unless applicants satisfactorily demonstrate that their projects cannot avoid disturbing a wetland, regardless of whether compensatory mitigation is proposed. As a result, it is unlikely that an applicant would voluntarily incur compensatory mitigation costs for projects that would be permitted anyway.

Applicants are required to provide financial assurances before undertaking compensatory mitigation.

DNR does not track the actual costs of constructing, managing, and monitoring compensation sites. Instead, applicants proposing compensatory mitigation are required to provide DNR with financial assurances for the construction and long-term maintenance of the compensation site in the form of a performance bond, an irrevocable letter of credit, an irrevocable trust account, or an irrevocable escrow account. According to DNR, the required level of financial assurance is based on the estimated initial construction costs and long-term operation, monitoring, and maintenance costs of the compensation site.

The amount of financial assurance required for the 17 project-specific compensation sites ranged from $10,000 to $687,500 per project, with larger projects generally requiring more financial assurance. However, as shown in Table 30, the required financial assurance averaged $48,309 per credit for compensation sites generating 1.0 credit or less, compared to $12,680 per credit for compensation sites generating more than 3.0 credits. While a number of factors might influence the cost of a project, these differences suggest that smaller compensation sites require more financial assurance per acre.

Table 30

Amount of Financial Assurance Required
(17 On- and Off-Site Projects)

Credits Generated	Projects	Average Financial Assurance Required per Credit
1.0 Credit or Less	8	$48,309
1.1 to 3.0 Credits	5	18,592
More than 3.0 Credits	4	12,680
Total	**17**	30,115

General use mitigation bank prices ranged from $19,000 to $35,000 per credit.

We were unable to determine the cost of credits for projects using mitigation banks, because this information is not reported to DNR. Nonetheless, the general use mitigation bank sponsors we interviewed stated that their prices ranged from $19,000 to $35,000 per credit during our audit period. By comparison, DOT officials reported that in 2005, the average cost per credit from its mitigation bank was $3,570.

Applicants requesting permits for small wetland fills may be discouraged from proposing compensatory mitigation because they are required to evaluate more costly options before purchasing mitigation bank credits. As a result, Wisconsin's program may provide flexibility only to those with sufficient financial resources and technical expertise to carry out a compensatory mitigation project. Increasing the use of mitigation banking could improve regulatory flexibility by providing a less-costly source of credits for individuals with projects resulting in small wetland disturbances, such as those proposed by many private landowners.

Proponents argue that mitigation banks offer administrative, economic, and ecological advantages.

Proponents of mitigation banking argue that it offers additional economic, ecological, and administrative advantages over smaller project-specific compensation sites. First, mitigation banks provide economies of scale by consolidating financial and technical resources at a single site, potentially reducing construction, maintenance, and monitoring costs. Second, because mitigation banks must meet performance standards before credits are released, wetland gains are realized in advance of any permitted wetland losses. Finally, consolidating compensation efforts at mitigation banks could reduce the number of sites that need to be monitored, freeing up DNR staff to work on other permit and compliance issues.

Some wetland advocates question the effectiveness of mitigation banking in preserving wetland functions and values.

However, some wetland advocates believe that expanding the use of mitigation banks will circumvent laws designed to protect existing wetlands, both by allowing the exchange of high-quality wetlands for lower-quality wetlands and by increasing the number of permitted disturbances that would otherwise be prevented under existing policies. Although the number of wetland acres may be increased through mitigation banks, these banks are often located miles from the disturbed wetland, and studies have demonstrated the importance of maintaining diverse wetlands throughout a watershed to preserve wetland functions such as water quality protection and flood water storage. Further, concerns remain about the effectiveness of current wetland creation and restoration practices in duplicating the functions of natural wetlands.

Despite these limitations, extensive mitigation banking is already occurring in Wisconsin for wetland losses associated with DOT projects and for some federally approved wetland permits. Because administrative code discourages the use of mitigation banking by requiring applicants to first evaluate on-site and off-site compensation options, Wisconsin may be missing an opportunity to replace permitted wetland losses, especially when wetland disturbances are likely to be approved anyway. Providing applicants with greater flexibility to use mitigation banks could increase the use of compensatory mitigation in Wisconsin.

☑ Recommendation

We recommend the Department of Natural Resources report to the Joint Legislative Audit Committee by December 31, 2007, on the advantages and disadvantages of increasing the use of wetland mitigation banks for those projects in which wetland losses are likely to be approved.

■ ■ ■ ■

Wetland Regulation in Other States ■

Although the federal Clean Water Act provides the basic framework for most states' wetland regulatory programs, each has implemented its requirements differently. These differences affect not only the extent to which wetlands are regulated, but also the manner in which regulation occurs. For example, some states regulate activities in non-federal wetlands, while others continue to regulate only wetlands subject to federal permitting requirements. The wide variation in programs and the absence of consistent information make comparisons difficult, but Wisconsin generally regulates more activities than surrounding states, while other states, including Minnesota, use compensatory mitigation to a greater extent.

Program Variations

We compared wetland regulatory programs, policies, and procedures in Illinois, Indiana, Iowa, Michigan, Minnesota, and Wisconsin. We reviewed state wetland permitting and compensatory mitigation activities but did not review federal permitting activities or local regulatory efforts except in Minnesota, where local governments are responsible for overseeing state-mandated wetland programs.

Four of the five other states we reviewed have lost more than 50.0 percent of their historic wetland acreage.

Like Wisconsin, the other five states have experienced extensive wetland losses. The Fish and Wildlife Service estimates that Iowa has lost 89.5 percent of its historic wetlands, Indiana has lost 86.6 percent, Illinois has lost 84.7 percent, Michigan has

lost 50.2 percent, and Minnesota has lost 42.3 percent. As shown in Table 31, estimates of remaining wetlands vary from less than 0.5 million acres in Iowa to 8.7 million acres in Minnesota. While 15.0 percent or more of the land area in Minnesota, Michigan, and Wisconsin is classified as wetland, the percentage is much lower in Illinois, Indiana, and Iowa.

Table 31

Estimated Wetland Acreage in Midwestern States

State	Wetland Acres	Percentage of Land Area Classified as Wetlands
Illinois	1,255,000	3.5%
Indiana	751,000	3.2
Iowa	422,000	1.2
Michigan	5,583,000	15.0
Minnesota	8,700,000	16.2
Wisconsin	5,385,000	15.5

Sources: United States Fish and Wildlife Service National Wetland Inventory and DNR Wisconsin Wetland Inventory

As the primary tool for regulating activities that disturb wetlands nationally, the federal Clean Water Act provides states with considerable authority by allowing them to certify that federally issued permits comply with state water quality standards. Further, states may choose to regulate activities that disturb non-federal wetlands, or to enact alternative regulatory programs. As shown in Table 32, this flexibility has resulted in fundamental program differences in each of the states we reviewed. For example, all of the states except Iowa regulate activities in non-federal wetlands to some extent. In addition, three of the six states have enacted state policies that support a no-net-loss goal, which means that each acre of wetland lost must be replaced with one or more wetland acres.

Table 32

Selected Aspects of Wetland Programs in Midwestern States

State	State No-Net-Loss Policy	State Certifies Federal Wetland Permits	State Issues Federal Wetland Permits	State Regulates Non-Federal Wetlands
Illinois[1]	✓	✓		✓
Indiana	✓	✓		✓
Iowa		✓		
Michigan			✓	✓
Minnesota	✓			✓
Wisconsin		✓		✓

[1] Illinois regulates activities in non-federal wetlands only if they are conducted by or financed through a state government agency.

Michigan assumed the authority to issue federal wetland permits in 1984.

Four states—Illinois, Indiana, Iowa, and Wisconsin—work closely with the Corps to review projects affecting wetlands subject to federal jurisdiction. These states use their water quality certification authority to approve or deny wetland permits issued by the Corps. Michigan and Minnesota have taken different approaches. In 1984, Michigan became the first state to assume the authority to issue wetland and waterway permits under the Clean Water Act. Although the Corps retains its traditional jurisdiction over navigation on the Great Lakes and other waterways historically used in interstate commerce, the Michigan Department of Environmental Quality has exclusive authority to issue permits for activities in the majority of that state's wetlands. To date, New Jersey is the only other state to have assumed this authority.

The Corps still requires a federal permit for projects in Minnesota, but the State of Minnesota generally waives its authority to review these permits. Instead, activities that affect wetlands are regulated by two state agencies under separate programs. The Minnesota Department of Natural Resources regulates activities that affect public waterways, which are identified on maps and include wetlands that are defined as "public waters wetlands." This program is similar to Wisconsin's issuance of waterway permits under chs. 30 and 31, Wis. Stats., which regulate alterations to and the placement of structures within navigable waterways.

Local governments in Minnesota are responsible for approving projects that affect wetlands.

Most other wetlands in Minnesota are regulated under its 1991 Wetland Conservation Act, which established shared state and local responsibility for wetland regulation. In general, this Act prohibits the draining, filling, or excavating of wetlands unless losses are replaced with created or restored wetlands of at least equal public value. Local governments, with the assistance of review panels that include state authorities, are responsible for approving wetland permits—known as wetland replacement plans—for projects that disturb wetlands within their jurisdictions. The Minnesota Board of Water and Soil Resources—an independent agency overseen by 17 members appointed by the governor—is responsible for developing administrative rules and program guidance, managing Minnesota's mitigation banking program, providing technical assistance to local governments, and distributing state funding to implement the program. As of June 2006, more than 300 Minnesota counties, municipalities, watershed management districts, and soil and water conservation districts were authorized to administer this program.

All but one of the states we reviewed regulate some activities in non-federal wetlands.

Although a 2001 decision by the United States Supreme Court limited the federal government's jurisdiction over isolated intrastate wetlands, four of the five other states we reviewed have enacted laws to regulate non-federal wetlands to some extent. Indiana, Michigan, and Wisconsin have programs that are modeled after the federal Clean Water Act's permitting program. In Illinois, activities that affect federal or non-federal wetlands and that are conducted through or financed by a state agency require approval from the Illinois Department of Natural Resources, but privately funded activities affecting non-federal wetlands are generally not regulated by state law. Minnesota's program regulates many activities that affect wetlands, regardless of whether the Corps has jurisdiction. Iowa does not regulate non-federal wetlands.

We reviewed the number of wetland permits issued in Wisconsin, Minnesota, and Michigan from 2001 through 2005. We were unable to obtain comparable data from Illinois, Indiana, and Iowa. As shown in Table 33, the Minnesota Board of Water and Soil Resources reported that 12,471 permits were issued under the Wetland Conservation Act, compared to 7,232 permits issued in Michigan and 3,325 permits issued in Wisconsin during this five-year period. The variation in the number of permits issued results, in part, from programmatic and reporting differences. For example, Minnesota and Michigan include state transportation projects in their wetland permit data, while Wisconsin does not.

Table 33

Number of Wetland Permits Issued

Calendar Year	Michigan	Minnesota[1]	Wisconsin[2]
2001	1,434	2,688	589
2002	1,521	2,701	743
2003	1,351	2,805	627
2004	1,399	2,333	610
2005	1,527	1,944	756
Total	**7,232**	**12,471**	**3,325**

[1] Includes permits issued under the Minnesota Wetland Conservation Act only.
[2] Does not include state-administered transportation projects.

Extent of State Wetland Regulations

Other states define wetlands similarly but have different classifications and regulatory priorities.

Although their definitions of wetland are nearly identical, each of the states we reviewed identifies and classifies its wetlands somewhat differently and has different regulatory priorities. For example, some use a tiered approach that establishes more stringent restrictions for activities occurring in areas they classify as high-quality wetlands, or in wetlands located in areas that have experienced greater wetland losses. Further, each exempts different types of wetlands or activities from state permit requirements. Consequently, activities that are regulated in Wisconsin may not be regulated in other states.

Wetland Identification and Delineation

As noted, wetlands are defined by the presence of wet soils, plants adapted to wet conditions, and the presence of surface water sufficient to support wetland-specific plants during at least a portion of the year. Their boundaries are transitional zones with a mix of wetland and non-wetland characteristics, rather than discrete lines, and can change depending on flooding, drought, and the time of year at which they are measured. Therefore, identifying the boundary between wetland and non-wetland areas is complicated and often controversial. Furthermore, states have adopted different approaches for approving wetland boundaries.

Wetland boundaries are determined using guidelines developed by the Corps.

Identifying the precise location of wetlands is important because, in every state we reviewed, landowners must demonstrate that they have avoided and minimized adverse wetland impacts before they can receive permits. Landowners therefore often seek approval of wetland boundaries from regulatory agencies before submitting permit applications. All of the states we reviewed rely on the same 1987 wetland delineation manual developed by the Corps to determine wetland boundaries, although some have made modifications that address unique wetland conditions in their states. Because of the technical expertise required, wetland regulatory agency staff, wetland scientists, or trained environmental consultants typically delineate wetland boundaries.

In Minnesota, local governments are responsible for approving wetland boundaries, and Minnesota law requires that boundary determinations requested by landowners be approved within 60 days. Once approved, the boundaries remain effective for up to three years. To address concerns raised by local governments and landowners regarding the competency of wetland delineators, Minnesota's Board of Water and Soil Resources established a professional wetland delineator certification program in 2005. Certified delineators must meet minimum educational and professional experience requirements, and in some cases pass an exam. Although not required by state law, an increasing number of local governments require that wetland boundaries be delineated by certified individuals. As of October 2006, Minnesota had certified 121 individuals under this program.

DNR is responsible for approving wetland boundaries in Wisconsin.

In Wisconsin, DNR has discretion in determining wetland boundaries for the purpose of its permit program, but it is not required to approve wetland boundaries upon request from landowners and local governments for purposes such as local building permits or shoreland-wetland zoning ordinances. Wisconsin law also allows, but does not require, DNR to accept boundary determinations made by other government agencies, such as the Corps, or by private consultants. DNR's regional staff may therefore approve wetland boundaries using information submitted as part of an application for a wetland permit, or they may revise the boundaries based on their own observations. According to DNR officials, the review of wetland boundaries that are not submitted as part of a permit application is a lower priority than issuing wetland permits and other water management activities.

To reduce the need to review wetland boundaries, DNR began publishing a list of assured wetland delineators in 2006. The list includes individuals who meet specific educational and professional experience requirements and who have demonstrated competency in completing wetland delineations. DNR officials noted that

assured status is not a certification program. Instead, the list is intended to help landowners and local governments obtain wetland delineations of known quality for their own purposes. Boundary delineations submitted as part of a wetland permit application are still subject to DNR review and approval, regardless of whether they have been completed by an assured wetland delineator. However, work performed by assured wetland delineators is typically reviewed less thoroughly than work performed by non-assured professionals. As of June 30, 2006, only four individuals had been granted assured status in Wisconsin.

Wetland Classification

Indiana and Minnesota regulate different types of wetlands differently.

Some states classify wetlands according to their physical and biological characteristics, although Wisconsin does not. For example, Indiana classifies its non-federal wetlands as low-, medium-, or high-quality based on the degree of past disturbance, hydrology, wildlife habitat, and the presence of non-native plant species. Class I wetlands are significantly disturbed and provide limited ecological benefits, Class II wetlands may be somewhat disturbed but still provide moderate ecological benefits, and Class III wetlands include undisturbed or minimally disturbed wetlands and rare or ecologically sensitive wetland types. In general, Indiana has more stringent permitting requirements for activities in Class II and Class III wetlands.

Similarly, Minnesota groups wetlands into eight categories based on hydrology and the types of vegetation present: seasonally flooded wetlands, fresh meadows, shallow marshes, deep marshes, open water wetlands, shrub swamps, wooded swamps, and bogs. In addition, Minnesota has established three geographical zones based on the extent of historic wetland losses: areas with less than 50.0 percent of historic wetlands remaining; areas with 50.0 to 80.0 percent of historic wetlands remaining; and areas with more than 80.0 percent of historic wetlands remaining. Minnesota exempts different amounts of wetland disturbances from regulation depending on the type of wetland disturbed and its zone, and regulations are more stringent in areas that have experienced greater historic wetland losses.

Activities Exempted from State Regulations

Different activities may be exempted from each state's wetland permitting requirements, but it is difficult to compare these exemptions because of each program's complexity. Nonetheless, like Wisconsin, Indiana and Michigan generally exempt activities that

are not regulated under the federal Clean Water Act—such as normal farming, forestry, and ranching practices and the maintenance of transportation structures, dikes, dams, levees, and shoreline riprap—from state wetland permit requirements. In contrast, Minnesota's Wetland Conservation Act exempts ten categories of activities, some of which differ from those exempted under the Clean Water Act. We did not review exemptions in the other two states because Iowa does not issue state wetland permits, and Illinois regulates activities in non-federal wetlands only if they are conducted by or financed through a state government agency.

Other states have established size-based permit exemptions.

Further, Indiana, Michigan, and Minnesota have established size-based exemptions for activities regulated under state law. Specifically, Michigan exempts most activities that occur in wetlands smaller than 5.0 acres that are not contiguous to the Great Lakes or other navigable waterways, unless the wetland supports endangered species, is a rare wetland type, or provides documented water quality benefits. Indiana exempts activities that disturb Class I wetlands smaller than 0.5 acre or Class II wetlands smaller than 0.25 acre from state permit requirements. Minnesota exempts activities that disturb between 400 to 10,000 square feet of wetlands, depending on the wetland type and its location, although local governments can choose to regulate activities with disturbances below these thresholds. Wisconsin does not have a size-based permitting exemption.

Finally, some states issue general permits for certain types of activities, including some that may be exempt in other states. For example, Michigan issues general permits for activities that result in minor wetland impacts such as wildlife ponds, driveways, utility projects, access roads, storm water and wastewater management activities, septic system replacement, and private residential projects that disturb less than 0.25 acre of wetlands. Similarly, Indiana issues general permits for most activities in Class I wetlands and for activities that would be eligible for federal general permits in Class II wetlands. In addition, Wisconsin and Michigan issue general permits for conservation projects in state-regulated wetlands. Minnesota does not issue general permits.

Use of Compensatory Mitigation

We compared the use of compensatory mitigation in Indiana, Michigan, Minnesota, and Wisconsin. Iowa and Illinois are excluded from our review because Iowa does not issue state wetland permits, and Illinois requires compensatory mitigation for activities in non-federal wetlands only if they are carried out or funded by state agencies.

Indiana, Michigan, and Minnesota require compensatory mitigation to offset wetland losses.

Indiana and Minnesota require compensation for all state-permitted losses, while Michigan requires compensatory mitigation for activities that disturb more than 0.33 acre of wetlands, unless authorized under a general permit. Like Wisconsin, these states require applicants to demonstrate that they have avoided and minimized adverse wetland effects before compensatory mitigation can be considered. However, in these states, unlike Wisconsin, compensatory mitigation is intended to offset permitted wetland losses rather than to provide regulatory flexibility. Because of this difference, compensatory mitigation is more widely used in other midwestern states.

As shown in Table 34, Minnesota and Michigan reported that wetland gains through compensatory mitigation exceeded permitted wetland losses from 2001 through 2005. In contrast, DNR-approved compensatory mitigation generated only 93 credits for 697 acres of permitted wetland losses during this period. Comparable information was not available for Indiana.

Table 34

Wetland Gains and Losses
January 2001 through December 2005

State	Authorized Wetland Losses in Acres	Estimated Wetland Gains in Credits
Wisconsin		
DNR Permits	697	93
DOT Projects	963	1,197
Wisconsin Total	**1,660**	**1,290**
Michigan[1]	2,725	4,895
Minnesota[2]	1,606	2,376

[1] Includes two large projects: a peat mining operation that disturbed 1,034 wetland acres and a Corps dredge spoils disposal facility that disturbed 280 wetland acres.
[2] Excludes projects undertaken by the Minnesota Department of Transportation, as well as local road projects, because this information was not available.

Each state has established different criteria for awarding wetland mitigation credits, depending on the wetland conservation activity used and the type of wetland restored or created. For example, both Minnesota and Wisconsin award 1.0 credit per acre for wetland

restoration, but Minnesota awards only 0.25 credit per acre for wetland enhancement, compared to as much as 1.0 credit per acre for enhancement in Wisconsin. In contrast, Michigan and Indiana generally do not allow the use of wetland enhancement to meet compensatory mitigation requirements. Another difference is that all of the states except Wisconsin allow the use of wetland preservation to generate credits in limited circumstances. Wetland preservation generally includes protecting existing high-quality or ecologically important wetlands through legal or physical mechanisms, such as land purchases or conservation easements.

The number of credits needed to compensate for each wetland acre disturbed also differs among the states we reviewed. As noted, Wisconsin generally requires a compensation ratio of 1.5 credits per acre, regardless of the location or quality of the disturbed wetland, but may allow as little as 1.0 credit per acre if a mitigation bank is used. Other states place varying emphasis on replacing disturbed wetlands with similar types of wetlands located in the same county or watershed.

Compensation ratios range from 1.0 to 5.0 credits per acre among the states we reviewed.

As shown in Table 35, states calculate compensation ratios based on the type of wetland disturbed, the quality of the wetland disturbed, the location of the disturbed wetland, the location of the compensation site compared to the disturbed wetland, and whether the compensation project is completed before the permitted disturbance, such as at a mitigation bank. Ratios vary from 1.0 credit per acre to more than 5.0 credits per acre, but most states require between 1.5 to 2.0 credits per acre under most circumstances. For example, the compensation ratio in Minnesota ranges from 1.0 to 2.5 credits per acre, depending on the location of the disturbed wetland, whether credits are obtained through project-specific compensation or a mitigation bank, and whether the created or restored wetland is the same type as the disturbed wetland.

Table 35

Factors Used to Determine Compensation Ratios under State Wetland Permit Programs

Factors Considered	Indiana	Michigan	Minnesota	Wisconsin
Type or Quality of Disturbed Wetland	✓	✓		✓
Location of Disturbed Wetland			✓	
Type of Wetland at Compensation Site	✓	✓	✓	
Location of Compensation Project			✓	
Timing of Compensation Project	✓		✓	✓

All four states allow permittees to purchase credits from mitigation banks. As in Wisconsin, the use of mitigation banks has been limited in Michigan and Indiana because each had approved only one mitigation bank as of June 2006. In contrast, Minnesota has one of the largest and most active mitigation banking programs in the United States. Since 1994, when its mitigation banking program began, more than 4,500 wetland credits have been developed at both publicly and privately owned banks in Minnesota. As of October 2006, at least 112 mitigation banks with 957 credits were located in 64 of that state's 87 counties.

As noted, state-administered transportation projects in Wisconsin are exempt from wetland permitting requirements if they follow the cooperative agreement between DOT and DNR, but local road projects are still subject to state wetland permit requirements. In contrast, Minnesota has created a local roads wetland replacement program to address concerns about the cost of its program to local governments. Under this program, wetland losses caused by county or municipal road improvement projects that are needed to meet state or federal safety standards can be offset with credits from a state-administered mitigation bank at no cost to the local government. New roads or roads expanded solely to increase capacity do not qualify. The local roads wetland replacement bank is financed, constructed, and managed by the Board of Water and Soil Resources, with cooperation from the Minnesota Department Natural Resources.

The most recent data available indicate that between June 1996 and February 2005, 1,032 individual road projects affecting 1,228 wetland acres were reviewed by local governments in Minnesota and reported to the Board of Water and Soil Resources. According to Minnesota officials, 39 wetland bank sites with more than 1,000 credits have been constructed since the program began, and another 14 sites representing more than 1,500 credits are being developed. Officials of the Board of Water and Soil Resources reported that Minnesota's Legislature provides approximately $2.0 million per year for this program and estimated total program costs through February 2005 at $17.5 million.

Minnesota officials identified a number of advantages to their local roads wetland replacement program. First, state management of the wetland bank eliminates the need for local governments to undertake and finance their own compensatory mitigation projects. Second, the Board of Water and Soil Resources is able to maximize wildlife habitat, water quality, and other wetland benefits by consolidating projects at a limited number of bank sites, rather than having numerous fragmented wetland compensation sites. Finally, the location of mitigation banks can be chosen in a manner that is consistent with state and federal wetland protection goals.

A robust wetland banking market has developed in Minnesota.

Minnesota's development of a more robust, entrepreneurial wetland banking market than those in Wisconsin and other midwestern states can be attributed to the need for wetland credits because of mandatory replacement requirements, and to policies that encourage the development and use of mitigation banks to achieve wetland replacement in advance of permitted losses. As a result, credits are more likely to be available from a bank that is located in the same county or watershed as the disturbed wetland. In addition, because of greater competition among mitigation banks, the cost of mitigation credits is generally lower in Minnesota than in Wisconsin. Minnesota officials reported that the cost of bank credits purchased from January 2006 through September 2006 ranged from $4,050 to $87,120, with an average of $14,870.

Funding Wetland Regulatory Programs

Because wetland permitting is part of a larger water regulatory program in most states we reviewed, we were unable to compare state spending for wetland permitting activities. However, we found that to fund these activities, three of the states—Illinois, Michigan, and Wisconsin—charge fees for wetland permits, and the local governments that implement Minnesota's wetland permitting program also may do so. Indiana and Iowa do not charge wetland permit fees. In states where fees are charged, fee revenue does not fund the entire cost of wetland permitting, but instead is supplemented by other sources.

State and federal agencies are exempt from wetland permit fees in Wisconsin.

In Wisconsin, DNR charges an application fee of $500 for most projects that require a wetland permit, regardless of the size of the wetland disturbance, the type of project, or whether the wetland is subject to federal jurisdiction. In addition, DNR may charge a supplemental fee of $2,000 for any project when the applicant requests an expedited review. DNR charges only $50 for wetland conservation permits, which are authorized under ch. NR 353, Wis. Adm. Code, and provide for a streamlined review of activities such as the restoration of wetlands where they previously existed. State and federal agencies, but not county and municipal governments, are exempt from any wetland permit fees under s. 281.22(3), Wis. Stats.

In most cases, Wisconsin applicants are required to pay only one wetland permit fee, even if their project affects multiple wetlands. For example, the fee for a proposed project that would disturb two distinct wetlands is $500 unless the applicant requests separate reviews of the proposed activities in each wetland. However, it is DNR's policy to charge $500 per county for projects that disturb wetlands in multiple counties, such as utility projects. For projects

requiring both wetland permits and waterway permits under chs. 30 or 31, Wis. Stats., applicants are required to pay only the single highest permit fee—which typically is the $500 wetland permit fee—rather than separate fees for each permit needed.

Other states' permit fees vary widely and may be based on project size, type, or cost.

Other states' fees for wetland permits vary widely. In Illinois, the fee is equal to 1.0 percent of the gross value of the proposed project, up to a maximum of $10,000 for individual permits. Michigan charges $100 for general permits; $500 for individual permits that authorize up to 10,000 cubic yards of fill in wetlands smaller than 1.0 acre; and $2,000 for individual permits that authorize golf courses, condominium and subdivision developments, other projects that require more than 10,000 cubic yards of fill, or any projects located in wetlands 1.0 acre or larger.

Local governments receive state funding to implement Minnesota's Wetland Conservation Act.

Local governments in Minnesota may charge fees for reviewing wetland permits, making boundary determinations, and other wetland-related services. Minnesota officials could not provide the number of local governments that charge fees but noted that in FY 2006-07, the Board of Water and Soil Resources awarded $2.2 million in state matching grants to counties and soil conservation districts for implementation of Minnesota's Wetland Conservation Act. Each received between $5,000 and $86,200, based on their wetland acreage, amount of shoreline, extent of wetland disturbance, number of enforcement cases, and population. Municipalities in Minnesota may receive a portion of these funds from their county or may fund their programs entirely with local revenue.

In addition, the Minnesota Board of Water and Soil Resources charges fees to mitigation bank sponsors and users for administration of that state's wetland banking program. These fees operate like a sales tax and include:

- bank establishment fees that are assessed at 6.5 percent of the value of credits deposited into a mitigation bank, not to exceed $1,000;

- withdrawal and transfer fees that are assessed at 6.5 percent of the value of credits withdrawn or transferred from a mitigation bank, not to exceed $1,000 for a transfer of credits; and

- mitigation bank maintenance fees assessed at 1.0 percent of the value of the credits in each bank annually, not to exceed $500.

DNR charges the same fee regardless of a project's size or type.

In Wisconsin, there has been concern that current law requires individual landowners to pay a disproportionate amount for permits. For example, applicants proposing projects that affect only a small area within a single wetland, such as a residential driveway, are charged the same fee as applicants proposing large projects that affect more wetlands or that require multiple permit approvals. However, DNR does not maintain the information necessary to readily determine the proportion of wetland permit fees paid by individual landowners. In addition, DNR does not segregate wetland permit revenues from other waterway permit revenues. Instead, it reported that combined wetland and waterway permit revenues totaled $953,700 in FY 2005-06.

In December 2006, the Natural Resources Board approved, as part of DNR's 2007-09 biennial budget request, a proposal to eliminate the statutory requirement that applicants pay only the single highest fee for wetland and waterway permits. DNR estimates that this change, which would allow it to charge more for projects that affect multiple wetlands, would generate an additional $173,500 in program revenue and would increase the fees paid by 200 applicants annually. DNR proposed using the additional fees to hire limited-term staff to help provide property owners with more accurate information about the location of wetlands and other waterways. However, this change was not included in the Governor's 2007-09 biennial budget proposal.

Although eliminating the single highest fee restriction could result in a more equitable fee structure, additional options could also be considered. For example, DNR could establish a tiered fee structure for wetland permits in administrative code, based on the size of the wetland disturbance or the type of activity being proposed. Applicants could pay a nominal fee with the initial application and additional fees before receiving permits, based on the number of wetland acres disturbed or the types of activities approved. This approach would increase the complexity of the fees and require additional tracking to ensure that appropriate fees were paid, but it would allow DNR to charge higher fees for larger projects, such as commercial developments, than for smaller projects by individual landowners.

☑ Recommendation

We recommend the Department of Natural Resources report to the Joint Legislative Audit Committee by December 31, 2007, with options for establishing wetland permit fees that better reflect the level of effort necessary to review permit applications.

Evaluating Regulatory Alternatives

Variations in the manner and extent to which states regulate wetlands reflect unique policy choices based on each state's regulatory history, geography, demographics, and natural resource management priorities. Each of the programs we reviewed offers advantages and disadvantages in terms of program costs, complexity, and wetland protection. Some aspects of wetland regulatory programs in other states might be considered to enhance regulatory flexibility, reduce program complexity, and minimize the duplication of state and federal efforts in Wisconsin.

Size-based exemptions may not protect small but ecologically important wetlands.

For example, policymakers in Wisconsin have decided to regulate most activities that affect wetlands, regardless of the size, type, or quality of the wetland that is disturbed. In contrast, both Minnesota and Michigan have exempted many activities that result in only small wetland disturbances or that occur in wetlands below certain size thresholds. The benefits of this approach include allowing small projects to proceed without extensive review or costs to the landowner. In addition, given the limited availability of resources, this approach allows regulatory agency staff to devote greater attention to larger projects that have more significant environmental effects. On the other hand, size-based exemptions may not adequately protect small but ecologically important wetlands and could result in significant cumulative losses.

Some criticize current law for protecting wetlands that provide little or no apparent value.

Some critics of current law have argued that DNR unnecessarily protects wetlands that provide little or no apparent value, such as those in previously farmed areas that do not display obvious wetland characteristics. Although Wisconsin officials noted that the permitting process for projects in low-quality wetlands has been streamlined, applicants still must demonstrate that there are no alternatives to constructing their projects in a wetland. Indiana's tiered permitting system may provide greater flexibility to allow disturbances to low-quality wetlands that have minimal ecological functions. Although a tiered approach could lead to fewer permitting disputes, it would require establishing consistent definitions for low- and high-quality wetlands. In practice, it is often difficult to determine the appropriate category for a wetland, and such a requirement may lead to higher costs for both applicants and the regulatory agency.

Minnesota and Michigan have attempted to simplify their regulatory programs by eliminating the need to coordinate efforts with the Corps. Minnesota officials believe that their program has public support because it allows for local decision-making, balances wetland protection with the interests of property owners, and is partially supported by state funding. However, the decentralized nature of the program increases program costs and makes it more difficult to ensure that permitting decisions are consistent. Further,

some have criticized Minnesota's Board of Water and Soil Resources for its oversight of local governments and mitigation banks.

Similarly, Michigan's assumption of the federal wetland permit program has simplified that state's permitting process because applicants typically need approval from only one agency. Although the program is still subject to federal oversight from EPA, in general Michigan has flexibility to implement policies and regulations that reflect its priorities. In contrast, most projects in Wisconsin require approval from both the Corps and DNR, which has resulted in an overlap of responsibilities and a duplication of efforts.

Coordination between DNR and the Corps often depends upon personal relationships among individual staff.

As noted, it is difficult to determine the extent to which DNR and the Corps have coordinated their efforts because of a lack of information about federal permitting, compensatory mitigation, and enforcement in Wisconsin. According to DNR, coordination between the agencies often depends on the personal relationships between individual Corps and DNR staff. DNR further acknowledged that the Corps generally defers to DNR staff on permitting decisions, although it assists with wetland boundary determinations and enforcement. Nonetheless, this results in a complex and cumbersome shared federal-state responsibility for wetland permitting.

DNR could assume responsibility for the federal wetland permitting program.

The Legislature may wish to consider whether DNR should assume responsibility for issuing federal wetland and waterway permits, as allowed under s. 404 of the federal Clean Water Act. Assuming control of the federal wetland permitting program has been studied in the past. Specifically, a 1993 DNR report noted that doing so would simplify the wetland permitting process. However, the report also identified several barriers, including the need for statutory changes to recognize the State's jurisdiction over non-navigable waters and a lack of federal funding to implement the program. Subsequent changes in Wisconsin Statutes, including authorization for DNR to regulate non-navigable, isolated wetlands under 2001 Wisconsin Act 6, may warrant a reconsideration of this alternative, as was proposed in DNR's six-year strategic wetlands plan.

☑ Recommendation

We recommend the Department of Natural Resources evaluate the feasibility and advantages of assuming the federal wetland permit program, as allowed under Section 404 of the Clean Water Act, and report to the Joint Legislative Audit Committee by December 31, 2007, with an estimate of the required staffing levels, anticipated program costs, and effects on wetland resources.

■ ■ ■ ■

Wetland Mapping ■

Wetlands are an important cultural and economic resource in Wisconsin.

Wisconsin's abundant rivers, lakes, and wetlands are an important part of its culture and economy. In recent years, the public has become increasingly aware of the economic value and ecological functions of wetlands, which include:

- providing recreational opportunities for canoeing, hunting, and fishing;
- protecting the water quality of lakes, rivers, and groundwater;
- minimizing damage from flooding; and
- providing habitat for endangered species such as the recently reintroduced whooping crane.

As a result, Wisconsin's citizens and policymakers have generally supported strong wetland protection laws. However, it is difficult to evaluate whether Wisconsin's wetland regulatory program has been effective in reversing wetland losses because basic management information about the amount, type, status, trends, and threats to wetlands in the state is inadequate. Specifically, existing wetland maps are outdated and insufficiently detailed to accurately identify the location of wetland boundaries and to assist with tracking wetland gains and losses statewide. Additional efforts are needed to provide accurate and current wetland maps.

As part of the wetland inventory required by s. 23.32., Wis. Stats., DNR maintains both digital and paper wetland maps that are derived from aerial photography, soil surveys, and wetland delineations. These maps are used to identify wetlands regulated by local governments under shoreland-wetland zoning laws, and they serve as a starting point to help landowners and local governments determine whether wetlands may be present at a particular location. However, DNR has noted that the maps are not sufficiently detailed to identify wetland boundaries at the scale needed to make permitting decisions.

DNR's wetland maps are outdated.

DNR is required to map wetlands that are larger than five acres, but in 36 counties it has mapped wetlands as small as two acres. However, even in these counties, the maps do not identify small isolated wetlands or ephemeral wetlands that may be only seasonally flooded. In addition, the wetland maps are based on outdated information. As shown in Figure 9, wetland maps for 33 counties are derived from photographs taken before 1986, and no wetland maps use photography more recent than 1999. Because the location and extent of wetlands changes over time as a result of human activities and environmental factors, it is likely that many wetlands are not accurately depicted on the maps.

Digital wetland maps are available for only 57 Wisconsin counties.

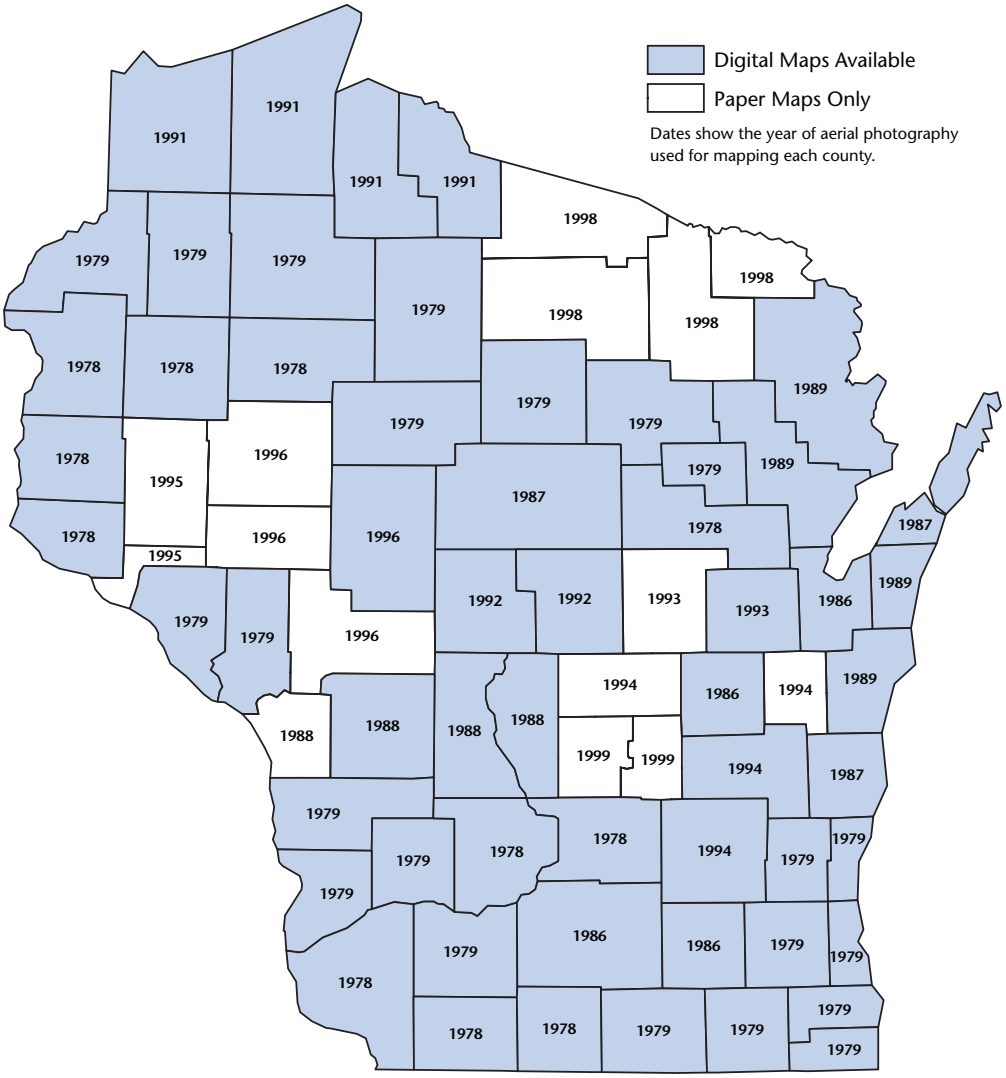
Further, the maps are not readily accessible to the public. Despite a DNR goal to complete statewide digital mapping by 2007, digital wetland maps are available for only 57 of 72 counties, while only paper maps are available in the remaining 15 counties. Moreover, DNR has not made the completed digital wetland maps available on the Internet. Instead, digital data and paper maps can be purchased directly from DNR, or copies of the paper maps can be viewed at DNR offices and some county government offices. Although some counties have made digital wetland maps available to the public through their own Web sites, most have not.

More accurate maps could help landowners to identify wetlands on their properties.

The lack of accurate and readily available information about the location of wetlands has resulted in frustration for some property owners who secure local building permits or other approvals but are not aware that they also need a state permit because their property contains wetlands. In March 2007, the Joint Legislative Council Special Committee on Navigability and Drainage Ditches recommended legislation to require that forms for local building permit applications and offers to purchase real estate include a notice that permits may be required for any project that results in disturbances to wetlands and navigable waterways. However, without improvements in the quality and availability of wetland maps, these efforts may not be sufficient to assist landowners in determining whether wetlands exist on their properties.

Figure 9

Status of Wisconsin Wetland Inventory
December 2006



Better maps could also reduce conflicts by allowing landowners to identify wetlands before designing projects on their properties. Although wetland delineations would still be required for many projects, the maps could help landowners and local governments determine the need for additional permits for projects that receive local zoning or building permit approvals. In addition, improved maps could help DNR and the public evaluate wetland trends, assess threats to wetlands located on private lands, and identify non-federal wetlands and wetlands located in areas of special natural resource interest.

Improving the accuracy and timeliness of wetland maps will require either a reallocation of existing resources or additional staff and funding, because existing map fees do not generate sufficient revenue to fund DNR's current wetland mapping program. DNR reported that wetland map sales generated only $10,375 in FY 2005-06, while program costs were estimated at $396,000. Since it is unlikely that additional funds will be available in the State's 2007-09 biennial budget, DNR may wish to continue existing partnerships and to establish new partnerships with other government agencies and private organizations that could assist with completing and updating Wisconsin's wetland maps.

Wisconsin wetland maps are not available on the Internet.

For example, DNR is coordinating with the federal Fish and Wildlife Service to make wetland data available on the National Wetlands Inventory Web site. Currently, Wisconsin is the only midwestern state that does not have statewide wetland maps available on the Internet. In the past, the Fish and Wildlife Service completed wetland maps for states, but it is no longer doing so. Instead, it provides technical assistance and funding for specific wetland mapping projects through grants to the states. Since 2004, the Fish and Wildlife Service has provided $50,000 annually, through a grant to St. Mary's College in Minnesota, to help DNR digitize existing paper wetland maps for two or three counties annually.

Local governments and nonprofit groups could assist with wetland mapping.

Similarly, local and regional government agencies may be able to help DNR collect aerial photography or create wetland maps within their jurisdictions. For example, the Southeastern Wisconsin Regional Planning Commission collects and maintains aerial photography that is updated every five years for the seven counties under its jurisdiction. The most recent aerial photographs were taken in 2005 and are available to the public on the Internet. The Commission is currently working to incorporate updated digital wetland boundary information on its Web site that is consistent with DNR's wetland inventory maps.

DNR could also consider partnering with private organizations interested in accurate and up-to-date wetland maps. For example, Ducks Unlimited, a nonprofit waterfowl and wetland conservation organization, completed a pilot project in 2005 that updated the National Wetland Inventory maps in Michigan using new technology, and it plans to expand its work to other Great Lakes states, including Wisconsin. Such organizations may be able to provide technical resources or other assistance in completing and updating Wisconsin's digital wetland maps.

Finally, the Legislature could consider alternative funding sources to support Wisconsin's wetland mapping and inventory program. For example, it could authorize DNR to charge fees for wetland mitigation bank transactions—similar to those charged in Minnesota—that could be dedicated to wetland mapping. Alternatively, the Legislature could fund wetland mapping as part of the State's larger land information and geographic data management efforts, which are currently coordinated through the Department of Administration under s. 16.967, Wis. Stats.

☑ Recommendation

We recommend the Department of Natural Resources report to the Joint Legislative Audit Committee by December 31, 2007, with time and cost estimates for:

- *completing digital wetlands maps for the entire state;*

- *obtaining current aerial photography and regularly updating wetland maps using the most efficient mapping techniques available, such as digital photographic interpretation methods; and*

- *increasing the availability of wetland maps to local governments and the public by making the maps readily available on the Internet.*

■ ■ ■ ■

Appendix 1

Wisconsin Wetland Acreage by County

County	Land Area in Acres[1]	Estimated Wetland Acres[2]	Percentage of Land Area Classified as Wetland
Adams	414,500	52,300	12.6%
Ashland	668,000	168,400	25.2
Barron	552,200	42,600	7.7
Bayfield	944,800	80,300	8.5
Brown	338,400	28,300	8.4
Buffalo	438,100	44,900	10.2
Burnett	525,800	122,200	23.2
Calumet	204,700	24,700	12.1
Chippewa	646,700	78,400	12.1
Clark	778,000	100,300	12.9
Columbia	495,200	75,400	15.2
Crawford	366,500	27,300	7.4
Dane	769,200	51,400	6.7
Dodge	564,700	110,600	19.6
Door	308,900	51,000	16.5
Douglas	837,800	194,200	23.2
Dunn	545,300	44,200	8.1
Eau Claire	408,100	43,600	10.7
Florence	312,300	50,000	16.0
Fond du Lac	462,700	69,100	14.9
Forest	649,000	161,100	24.8
Grant	734,600	22,900	3.1
Green	373,800	12,300	3.3
Green Lake	226,700	58,800	25.9
Iowa	488,100	16,500	3.4
Iron	484,600	151,100	31.2
Jackson	631,900	113,100	17.9
Jefferson	356,500	59,300	16.6
Juneau	491,300	122,500	24.9
Kenosha	174,600	17,000	9.7
Kewaunee	219,300	27,400	12.5
La Crosse	289,800	37,700	13.0
Lafayette	405,500	3,100	0.8
Langlade	558,500	108,800	19.5
Lincoln	565,300	121,500	21.5
Manitowoc	378,600	48,800	12.9
Marathon	988,800	172,300	17.4

County	Land Area in Acres[1]	Estimated Wetland Acres[2]	Percentage of Land Area Classified as Wetland
Marinette	897,100	213,000	23.7
Marquette	291,500	68,900	23.6
Menominee	229,100	33,500	14.6
Milwaukee	154,600	4,500	2.9
Monroe	576,500	56,800	9.9
Oconto	638,700	159,700	25.0
Oneida	719,700	237,500	33.0
Outagamie	409,800	74,200	18.1
Ozaukee	148,400	16,300	11.0
Pepin	148,700	7,200	4.8
Pierce	369,000	7,400	2.0
Polk	587,000	60,900	10.4
Portage	516,000	92,800	18.0
Price	801,600	253,000	31.6
Racine	213,200	13,500	6.3
Richland	375,200	15,200	4.1
Rock	461,100	19,400	4.2
Rusk	584,400	113,000	19.3
St. Croix	462,000	14,300	3.1
Sauk	536,100	32,100	6.0
Sawyer	804,100	162,600	20.2
Shawano	571,200	127,800	22.4
Sheboygan	328,700	40,500	12.3
Taylor	623,900	121,000	19.4
Trempealeau	469,800	43,400	9.2
Vernon	508,700	14,500	2.9
Vilas	559,200	116,900	20.9
Walworth	355,400	28,700	8.1
Washburn	518,200	79,100	15.3
Washington	275,700	42,700	15.5
Waukesha	355,600	54,900	15.4
Waupaca	480,700	112,800	23.5
Waushara	400,700	58,700	14.6
Winnebago	280,700	44,400	15.8
Wood	507,400	130,700	25.8
Total	**34,758,500**	**5,385,300**	15.5%

[1] Source: 2005-06 Wisconsin Blue Book, Wisconsin Legislative Reference Bureau
[2] Source: Wisconsin Wetland Inventory, Wisconsin Department of Natural Resources

Appendix 2

Wisconsin Wetland Water Quality Standards

Water quality standards are the mechanism used to implement the federal Clean Water Act's monitoring and permitting provisions for wetlands and other water bodies. These standards consist of designated uses, which relate directly to the ecological functions and economic values of wetlands, and criteria for protecting, maintaining, or enhancing the physical, chemical, and biological characteristics of wetlands. Wisconsin's wetland water quality standards are promulgated in s. NR 103.03(1), Wis. Adm. Code, and include the following designated uses:

- storing storm and flood water and moderating fluctuations in water levels;
- maintaining streamflows during dry seasons and regulating the flow of groundwater to and from wetlands;
- filtering or trapping pollutants, including toxic substances, that would otherwise negatively affect water quality in wetlands and other water bodies;
- protecting shorelines from erosion;
- providing habitat for plants and animals that live in wetlands or that use wetlands for breeding, protection, travel, or food; and
- providing opportunities for human recreation, education, scientific research, cultural uses, and aesthetic enjoyment.

The criteria for protecting the designated uses of wetlands can include narrative statements or numerical values such as the maximum amount of pollutants that can be present. Wisconsin's criteria are promulgated in s. NR 103.03(2), Wis. Adm. Code, and include:

- no liquids, solids, or gases may be present in amounts that cause a significant adverse effect;
- no floating or submerged debris, oil, or other material may be present in amounts that interfere with public rights or interests or that cause a significant adverse effect;
- no materials producing odor, color, taste, or unsightliness may be present in amounts that cause a significant adverse effect;
- no substances harmful or toxic to humans, other animals, or plants may be present that individually or cumulatively cause significant adverse effects;
- wetland water levels and flows necessary to support the biological and physical characteristics naturally present in wetlands shall be protected to prevent significant adverse effects such as erosion, sedimentation, water temperature variation, or changes in chemical properties; and
- existing habitat and populations of wetland plants and animals shall be maintained by protecting food supplies, protecting areas important for reproduction, and preventing conditions conducive to the establishment or proliferation of nuisance plants and animals.

Appendix 3

Time Line of Wetland Regulations in Wisconsin

1972 Congress passes the Clean Water Act, which requires permits for the dredging of navigable waters and for the discharge of fill material into these waters. Section 404 of the Act gives permitting authority to the Corps and authorizes states to certify that proposed projects meet state water quality standards.

1975 United States Supreme Court extends the reach of the Clean Water Act by defining "navigable waters" to include more than just waters that are actually, potentially, or historically navigable. The Corps expands the Section 404 permit program to specifically include wetlands.

1977 Congress amends the Clean Water Act to exempt forestry, farming, and ranching from the Section 404 permit program.

1982 Wisconsin Legislature passes Chapter 330, Laws of 1981, which requires counties, cities, and villages to enact shoreland-wetland zoning ordinances.

1989 EPA issues guidance to states on using water quality certification to protect wetlands.

1990 EPA issues guidance to states on developing wetland water quality standards. A memorandum of agreement between EPA and the Corps allows for the use of compensatory mitigation to achieve no net loss of wetlands.

1991 DNR promulgates wetland water quality standards in ch. NR 103, Wis. Adm. Code.

1995 EPA, the Corps, and other federal agencies issue guidance on the establishment, operation, and use of wetland mitigation banks.

2000 Wisconsin Legislature passes 1999 Wisconsin Act 147, which establishes a state compensatory mitigation program.

2001 United States Supreme Court holds that federal jurisdiction over wetlands does not extend to isolated, non-navigable, intrastate waters. In response, 2001 Wisconsin Act 6 gives DNR authority to regulate wetlands that are no longer under federal jurisdiction.

2002 DNR promulgates ch. NR 350, Wis. Adm. Code, to implement the state compensatory mitigation program.

2003 Wisconsin Legislature passes 2003 Wisconsin Act 118, which creates additional exemptions and authorizes general permits for certain activities in navigable waters.

2006 United States Supreme Court overturns lower court decisions in two consolidated cases challenging federal wetlands jurisdiction. However, the cases are remanded to the lower courts, leaving unanswered the question of exactly which wetlands the federal government can regulate.

Appendix 4

Activities Authorized by Federal General Permits in Wisconsin

The federal Clean Water Act authorizes the Corps to issue general permits for categories of activities that are minor in scope, similar in nature, and have minimal individual and cumulative adverse effects on the environment. No public notice is required for activities authorized under general permits. However, these permits are valid only if applicants first demonstrate that they cannot avoid or minimize adverse effects to wetlands and that the project meets conditions established in federal rules. In most cases, general permits are available for the following:

- scientific measurement and surveying activities;
- fish and wildlife harvesting and attraction devices and activities, such as minnow traps, duck blinds, and clam digging;
- cleanup of oil spills or other hazardous or toxic substances;
- placement of outfall structures, bank stabilization devices, and boat ramps that are exempt from state law or approved by DNR under chs. 30 or 31, Wis. Stats.;
- maintenance of previously authorized structures in wetlands that disturb less than 0.5 additional wetland acre;
- bridges, piers, and temporary access fills that have been authorized as part of a U.S. Coast Guard bridge permit;
- temporary construction and access structures that have the appropriate authorizations;
- utility line construction, maintenance, and repair, excluding activities that drain wetlands;
- wetland conservation projects, including restoration, creation, and enhancement activities;
- construction of wildlife ponds intended to improve habitat and that disturb less than 1.0 wetland acre;
- minor fills that are exempt from ch. 30, Wis. Stats., and that disturb no more than 500 square feet of wetlands;
- commercial, residential, industrial, agricultural, recreational, and public development activities, including roads, that disturb less than 0.1 acre of wetland; and
- activities that disturb less than 2.0 wetland acres and that DNR has approved under ch. 30 or 31, Wis. Stats., or under the cooperative agreement with DOT for state transportation projects.

In addition, certain activities qualify for streamlined individual permits known as letters of permission. Unlike activities approved under general permits, these projects undergo a streamlined public interest review and public notice process from the Corps. In general, the following activities are eligible for letters of permission:

- any activity that disturbs less than 2.0 acres of wetland, including those conducted by local governments to maintain or upgrade existing public roads; and

- state administered transportation projects approved under the cooperative agreement between DNR and DOT that disturb less than 5.0 acres of wetland.

State of Wisconsin
Department of Natural Resources

APPLICATION FOR WETLAND WATER QUALITY CERTIFICATION
Form 3500-53N (R 1/2002)

Thank you for contacting the Wisconsin Department of Natural Resources.
Enclosed are the project application materials you have requested.

These forms can be used to file your permit application with both the U.S. Army Corps of Engineers and DNR.

If you propose to alter a wetland, you will need to an Army Corps permit. The type of permit needed, and the length of the Army Corps review of your proposal, will depend on the extent of wetland alteration you propose.

You will also need Wisconsin Department of Natural Resources certification in order to use your Army Corps permit in most cases. Your Army Corps permit will identify if DNR approval is required. State law requires landowners to avoid wetlands whenever possible. To obtain DNR approval, you will need to explain why you cannot avoid or minimize wetland impacts and that the project will not significantly impact wetland functions.

To help us make a decision in the shortest time possible, please prepare the following information and send to the Water Management Specialist covering the county where your project is located:

1. **A copy of your deed or similar proof of ownership** (e.g. land contract, current property tax receipt).

2. **Good photographs that clearly show the existing project area.** Remember, too much snow cover or vegetation may obscure important details. If possible, have another person stand near the project area for size reference.

3. **Five (5) copies of a completed application Form 3500-53N including applicant information page and project plans.** When completing your application, **please use a ballpoint pen with black ink.** The site location sketch and plan drawings should be clear and to scale and have enough detail to find the site and understand the project proposal. **Also, make sure your phone number (both business and home) and property address or fire number is on the application.**

4. **Five (5) copies of a narrative description and drawings of your proposal**, on a separate blank page. Please state:
   - What the project is including length, width and depth,
   - How you intend to carry out the project, including methods, materials (type and quantity) and equipment,
   - Your proposed construction schedule and sequence of work,
   - What temporary and permanent erosion control measures will be used and their locations,
   - The location of any disposal area for dredged or excavated materials,
   - Types of trees and other plants found in the wetland,
   - Distance from your project to the nearest lake, stream or pond,
   - Surface area of wetland to be filled or excavated (square feet or acres).

5. **Wetland boundary information**
   - Show location of wetland boundary on project plan,
   - Who determined the wetland boundary and a date of determination,
   - The Department may require additional information such as:
     - Wetland data forms,
     - A property survey showing wetland boundary and data points,
     - An assessment of wetland functions and project impacts.

   Please select the scale of the drawing carefully to fit all the necessary information on the application form. If necessary, use additional sheets. Be sure to draw all the plans as accurately as possible. The Department may require additional information to evaluate the project.

6. **A completed "Practicable Alternatives Analysis."**

7. **Five (5) copies of site maps.** Provide copies of relevant maps (when possible), such as USGS topographic map, Wisconsin Wetland Inventory map, FEMA floodplain maps, soil or zoning maps, with the project location clearly identified.

8. **Submit the appropriate application fee to DNR (complete Form 3500-53A)** if the Army Corps notifies you that you need DNR approval.

When you are finished compiling your application materials, remember to check your application for completeness. Then make copies of all materials so that you can submit **five copies** of the requested information to the Department. We also recommend that you keep a complete copy for your own records. Remember, incomplete applications may cause a delay in processing.

NOTE: Depending upon the type, complexity, and location of your proposed project, **processing can take 60 working days (3 months) or longer to complete a review, public notice and any required environmental analysis if your application is completed in detail.**

Please send the completed application to the Water Management Specialist for the county where your project is located (a complete listing of addresses by county can be found on the Waterway and Wetland Permits web page link below).

http://www.dnr.state.wi.us/org/water/fhp/waterway/wmscoun.htm

INFORMATIONAL REQUIREMENTS FOR PRACTICABLE ALTERNATIVES ANALYSIS

All of the questions must be answered in detail and supported with documentation (attach additional sheets if needed).

I. Background/Description of Project

A. Describe the purpose and need for the project.

B. Is your project an expansion of existing work or is it new construction? Explain.

C. When did you start to develop a plan for your project?

D. Explain why the project must be located in or adjacent to wetlands.

II. Alternatives (your analysis should address the following questions).

A. How could you redesign or reduce your project to avoid the wetland, and still meet your basic project purpose?

B. Other sites

1. What geographical area(s) was searched for alternative sites?

2. Were other sites considered?

3. Have you sold any lands in recent years that are located within the vicinity of the project? If so, why were they unsuitable for the project?

C. For each of the alternatives you identified, explain why you eliminated the alternative from consideration (include cost comparisons, logistical, technological, and any other reasons).

D. What are the consequences of not building the project? (include social and economic consequences):

If you have chosen an alternative that would result in wetland impacts:

E. Summarize why your alternative was selected.

F. Explain what you plan to do to minimize adverse effects on the wetlands during your project (e.g. erosion control, best management practices, setbacks, etc.).

State of Wisconsin
Department of Natural Resources
(Return to appropriate DNR Regional/Service Center Office)

State / Federal Application for Water Regulatory Permits and Approvals

Form 3500-053 (R 4/01)

PLEASE COMPLETE BOTH PAGES 1 & 2 OF THIS APPLICATION. PRINT OR TYPE. The Department requires use of this form for any application filed pursuant to Chapter 30, Wis. Stats. The Department will not consider your application unless you complete and submit this application form. Personally identifiable information on this form will not be used for any other purpose, but it must be made available to requesters under Wisconsin's open records law [s. 19.31-19.39, Wis. Stats.].

1. Applicant (Individual or corporate name)

Address

City, State, Zip Code | Fire Number

Telephone No. (Include area code) | Tax Parcel Number

2. Agent/Contractor (firm name)

Address

City, State, Zip Code

Telephone No. (Include area code)

3. If applicant is not owner of the property where the proposed activity will be conducted, provide name and address of owner and include letter of authorization from owner. Owner must be the applicant or co-applicant for structure, diversion and stream realignment activities.

Owner's Name | Address | City, State, Zip Code

4. Is the applicant a business? ☐ Yes ☐ No

If YES, is the permit or approval you are applying for necessary for you to conduct this business in the State of Wisconsin?

☐ Yes ☐ No

If YES, please explain why (attach additional sheets if necessary):

5. Project Location

Address _____

Village/City/Town _____

Fire Number _____ Tax Parcel Number _____

Waterway _____

County _____

Govt. Lot _____ OR ____1/4,____1/4, of Section _____ ,

Township _____North, Range _____ (East) (West)

6. Adjoining Riparian (Neighboring Waterfront Property Owner) Information

Name of Riparian #1 | Address | City, State, Zip Code

Name of Riparian #2 | Address | City, State, Zip Code

7. Project Information (Attach additional sheets if necessary)

(a) Describe proposed activity (include how this project will be constructed)

(b) Purpose, need and intended use of project

(c) I have applied for or received permits from the following agencies: (Check all that apply)

☐ Municipal ☐ County ☐ Wis. DNR ☐ Corps of Engineers

(d) Date activity will begin if permit is issued _____; be completed: _____.

(e) Is any portion of the requested project now complete? ☐ Yes ☐ No

If yes, identify the completed portion on the enclosed drawings and indicate here the date activity was completed:

I hereby certify that the information contained herein is true and accurate. I also certify that I am entitled to apply for a permit, or that I am the duly authorized representative or agent of an applicant who is entitled to apply for a permit. Any inaccurate information submitted may result in permit revocation, the imposition of a forfeiture(s) and requirement of restoration.

Signature of Applicant(s) or Duly Authorized Agent | Date Signed

LEAVE BLANK - FOR RECEIVING AGENCY USE ONLY		
Corps of Engineers Process No.	Wisconsin DNR File No.	
Received By	Date Received	Date Application Was Complete

Drawings of proposed activity should be prepared in accordance with sample drawing.

Proposed Materials

Location Sketch (Indicate scale)
Show route to project site: include nearest main road and crossroad.

N 1" = _____ ft.

Fire Number _____

Project Plans (Include top view and typical cross sections. Clearly identify features and dimensions or indicate scale.)
Use additional sheets if necessary.

N 1" = _____ ft.

Top View

Cross Section

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary

Headquarters
101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579

May 15, 2007

Ms. Janice Mueller
State Auditor
22 East Mifflin Street, Suite 500
Madison, WI 53703

Dear Ms. Mueller:

We appreciate the professionalism of the audit staff and found the audit process complementary to our longstanding commitment to continually assess and improve our program. The audit confirms what we know from our own tracking. DNR's wetland protection program works: people are getting their permits much faster, approval rates have increased and permitted wetland loss has significantly decreased.

Since 2001, our streamlining efforts and our increased emphasis on meeting early and talking often with applicants has paid off:

- People now get their permits in half the time they used to.
- We approve the vast majority of projects – only 4.4% are denied.
- Our permit program has cut annual wetland loss by two-thirds.

Wisconsin Has General Permits that Work

We agree that general permits are a good approach for projects that result in minimal wetland impacts. In 2006, 83.7 percent of our decisions allowed people to receive a general permit with streamlined review.

Our general permits mirror those of the federal government. By using a joint form, applying the same standards, and regularly meeting to coordinate work, DNR and the U.S. Army Corps of Engineers issue consistent decisions quickly and avoid duplication of effort.

We agree with your recommendations that we need to provide better advice and more clearly-worded forms so that applicants understand when they can seek a general permit. We look forward to documenting our progress in this area in our report to the Legislature.

We want our permitting process to be as clear and expeditious as possible. The process minimizes impacts on development while recognizing that careful review of wetland applications are needed since wetland loss is permanent and effects Wisconsin's landscape, fish and wildlife habitat, water quality and water quantity.

Other States Moving in Wisconsin's Direction

Wisconsin's wetland program mirrors federal law so that applicants only work with one set of standards. This is why many states look to Wisconsin as a model for their wetland programs. Other states have created their own systems, differing from federal standards. In 2005, Minnesota's Governor asked for an assessment of Minnesota's wetland program. As a result, new regulations tightening up exemptions to better protect remaining wetlands will go into effect in August 2007.

Increased Wetland Mitigation Bank Investment Merits Study

We do not discourage the use of wetland mitigation banks, which are places where applicants can purchase credits from an already restored wetland. In fact, our applicants used wetland mitigation banks more than two-thirds of the time to compensate for wetland loss. Compensatory wetland mitigation is a tool that works in some situations to allow more flexibility for the applicant, but it is costly, requires a long-term commitment and may not replace some important wetland functions.

Our mitigation program is designed to avoid what the national reviews, such as the General Accounting Office and National Academy of Sciences, identified as the pitfalls of the federal and other state programs. These reviews show that mitigation, including banking, does not effectively remedy the very real impacts of wetland loss.

Wisconsin's remaining wetlands are naturally located to reduce flooding, provide fish and wildlife habitat, and keep our lakes and streams clean. We believe the best overall approach to protect our remaining wetlands is to avoid and minimize wetland impacts where possible. To reverse the loss of millions of wetland acres once found in Wisconsin, we believe the most cost effective way is by supporting voluntary wetland restoration, rather than through required compensatory mitigation. We will certainly analyze your policy recommendation and consider the advantages and disadvantages of increased wetland mitigation banking and report back to the Legislature with our findings this December.

On-going Program Improvements

Over the past several years, we have taken action on a number of areas outlined in your recommendations. In particular, we have:

- Increased the level of information we track about wetland decisions;
- More than tripled the number of compliance inspections from 2005 to 2006 – and increased the proportion of staff time spent on compliance monitoring and enforcement, and;
- Sought every opportunity to provide updated and easy-to-access map tools to help people identify wetlands on their property and avoid inadvertent wetland loss.

We are proud of our track record in balancing protection of Wisconsin's wetlands with the needs of property owners. We look forward to continued discussion of the issues and thank you for the opportunity to work with your fine staff to evaluate our wetland protection program.

Sincerely,

Scott Hassett
Secretary