

LAND USE AND WETLANDS:

A Local Decision Makers' Guide to Wetland Conservation

All local decision makers, whether elected or appointed officials, volunteer committee members, or staff, face difficult questions about how to meet community needs for housing, public infrastructure, and economic development while also protecting sensitive natural resources. Land use conflicts are common, and in Wisconsin's wetland-rich landscape some of the most difficult cases involve wetlands.

Though wetlands were once perceived as wastelands, today the natural functions and public benefits of wetlands are well understood by both scientists and land managers. Wetlands now receive special protections under both state and federal law and public support for wetland preservation has increased tremendously in recent decades.

Despite these gains, large gaps still exist in the public's understanding of what and where wetlands are, why they matter, and how they are protected. These gaps fuel public controversies over wetland development proposals, and sometimes result in land use decisions being made without full or accurate information about the economic and ecological consequences of wetland loss.

The purpose of this publication is to improve wetland conservation and reduce wetland controversies by providing town, village, city and county land use decision makers with basic information about Wisconsin's wetland heritage (p. 2); the various community benefits of wetlands (pp. 3-4); wetland permit requirements (pp. 4-5); and practical steps that will help local land use officials consider wetland concerns in their decision making (pp. 6-7).

Thank you for your interest in protecting Wisconsin's wetland heritage. For more information on the wetlands of Wisconsin and Wisconsin Wetlands Association's outreach and policy programs, please visit www.wisconsinwetlands.org.

Who Should Use This Guide?

1. Land Use Decision Makers of Town, Village, City or County:

- Boards of Supervisors
- Boards of Adjustments or Appeals
- Planning, Zoning and Land Conservation Commissions or Committees

2. Town, Village, City or County Administrators and Staff Members

3. Citizens Interested in Influencing Local Land Use Decisions



Dennis Malleg

Hooded Merganser

Wisconsin Wetlands Association is dedicated to the protection, restoration and enjoyment of wetlands and associated ecosystems through science-based programs, education and advocacy. Wisconsin Wetlands Association is a non-profit 501(c)(3) organization.



Thomas Meyer

Crex Meadows - Burnett County



Gerard Fuehrer

American Bittern



Renak-Polak Woods - Racine County

I. WISCONSIN'S WETLAND HERITAGE

Wetlands are defined as areas where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic (water-loving) vegetation, and having soils indicative of wet conditions. Due to its geography, geology, and climate, Wisconsin has a large diversity and abundance of wetland ecosystems. However, nearly half of the original 10 million acres have already been drained or developed to make way for farms, cities, roads, and factories.

Most of Wisconsin's remaining 5.3 million wetland acres can be found directly adjacent to lakes, rivers, and streams, but approximately one million acres are considered geographically "isolated" from navigable waterbodies. With 12 types of wetland plant communities (see Box I), Wisconsin's wetlands vary in size and appearance, which sometimes renders them difficult to recognize. This may be particularly true of the many "ephemeral" or seasonally flooded wetlands, which often hold water for only a few weeks each year.

Unlike lakes and rivers, which are owned in common by all Wisconsin citizens under the state's Public Trust Doctrine, nearly 75% of Wisconsin's wetlands are privately owned. Even so, the courts have long provided state and local governments with the authority to restrict wetland development activities on private lands in order to preserve the important economic and ecological benefits wetlands provide to our communities.



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WHO SUPPORTS WETLAND CONSERVATION?

Constituents who support wetlands in your community include hunters and anglers and their local organizations, lakes and watershed associations, paddlers, bird watchers, and more. According to a 2008 University of Wisconsin Badger Poll, 84% of the 538 people randomly surveyed were concerned about the destruction of Wisconsin's remaining wetlands. More than 86% also supported giving tax breaks to private landowners who protect or restore wetlands.

BOX I. WETLANDS OF WISCONSIN*



Photos (left to right) - Top Row: Thomas Meyer, Drew Feldkirchner, Drew Feldkirchner, Thomas Meyer. Middle Row: Eric Epstein, Gary Shackelford, Drew Feldkirchner, Steve Eggers. Bottom Row: Drew Feldkirchner, Steve Eggers, Drew Feldkirchner, Thomas Meyer

II. HOW WETLANDS BENEFIT YOUR COMMUNITY

All communities need to control costs, improve efficiency, and provide quality services. Water-related services, including drinking and surface water protection, flood abatement, and stormwater management, represent a significant portion of municipal and county budgets. Wetlands, though best known for their natural beauty and wildlife habitat values, also naturally provide many water quality improvement and management services. Protecting and restoring wetlands can therefore contribute to the economic health, public safety, and quality of life in Wisconsin's communities in the following ways:



WETLANDS IMPROVE THE QUALITY OF LIFE IN YOUR COMMUNITY:

Wisconsin residents like to hunt, fish, paddle, bird watch, and connect with nature close to where they live. Children especially delight in being able to catch frogs, chase dragonflies, and get muddy in the wetlands in their backyards. School, youth, and community groups benefit from the use of local wetlands as living classrooms where students can enjoy an active learning experience. An abundance of protected landscapes also helps businesses attract and retain employees, and can make your community an attractive destination for tourists.

WETLANDS REDUCE FLOODING: Wetlands form in low spots on the landscape. Often likened to sponges and described as “nature’s hazard insurance,” wetlands store rain that runs off the land and slowly release it to the atmosphere, groundwater, and adjacent lakes, rivers, and streams. While the ability of any particular wetland to reduce flood damages varies, strategic wetland protection and restoration can help reduce flood peaks and damage, protect human health and safety, and reduce the need for expensive projects such as levees, detention ponds, and the reconstruction of flood-damaged roads.*



“The Pardeeville dam has breached...impacts to downstream communities in Portage are not expected due to a massive wetland complex between the two cities.”
~ From Wisconsin Emergency Management’s Situation Report on Storms # 37; June 14, 2008

The Greenseams Program, an innovative flood management initiative of the Milwaukee Metropolitan Sewerage District (MMSD) permanently protects key undeveloped lands in the region’s urbanizing watersheds. As of spring 2009, the 1,287 acres of hydric (wetland) soils protected or restored store an estimated 830 million gallons of water. These wetland acres are hard at work reducing flood risks and damages for the 1.1 million residents and 28 communities in the greater Milwaukee area.*



“Our local wetlands, surrounding Ashland and the Chequamegon Bay, the Kakagon Sloughs and Fish Creek Estuary, are vital in preserving the high water quality and healthy ecosystem for Ashland and its residents. We must be constantly aware of their fragile state and protect them from harm, for the good of us all.”
~ Mayor Ed Monroe, City of Ashland

WETLANDS IMPROVE WATER QUALITY: Healthy wetlands slow down and filter runoff from storms and snowmelt, sediment, and other pollutants to settle out before reaching our lakes, rivers, streams, and drinking water aquifers. Wetlands also have the ability to absorb and transform or metabolize nutrients and contaminants. Preserving these water purification functions of wetlands can save your community money by eliminating or reducing the need for costly upgrades to your community’s water management systems. Because water quality improves as wetland acreage increases in the watershed, and property values increase as water quality improves, preserving wetlands can help increase your community’s tax base.*

*Additional resources and supporting research are available at: www.wisconsinwetlands.org/localgovs.htm



Duck Hunting in Jefferson Marsh - Jefferson County

WETLANDS INCREASE HUNTING, FISHING AND RECREATION SPENDING: 75% of Wisconsin's wildlife species depend on wetlands for some portion of their life cycle, including important game species such as deer, bear, ducks, geese, woodcock, pheasant, grouse, walleye, and northern pike. Communities that maintain healthy wetlands on public and private lands can realize a greater portion of the \$3.8 billion dollars in annual retail sales and the 72,000 jobs associated with Wisconsin's hunting and outdoor recreation economy.*

Box II. RESTORING WETLANDS AND WETLAND FUNCTIONS

Wetland restoration is the act of returning a degraded or former wetland to a close approximation of its condition prior to disturbance. Many of the previously described wetland benefits (pp. 3-4) can be reestablished through the removal of drain tiles, filling or plugging of ditches, removal of fill or sediments, and control of invasive plants.

The benefits of wetland restoration are so widely acknowledged that state and federal agencies [e.g., Wisconsin Department of Natural Resources (WDNR), USDA Natural Resources Conservation Service (NRCS), US Fish and Wildlife Service], and private organizations (Ducks Unlimited, Pheasants Forever, Wisconsin Waterfowl Association), spend millions of dollars restoring wetlands on Wisconsin's public and private lands each year.



Many programs such as the NRCS Wetlands Reserve Program focus on restoring wetlands on privately owned lands. Communities interested in restoring wetlands specifically for water quality improvement purposes can apply for grants and low cost loans through Wisconsin's Clean Water Fund Program and state and federal runoff management programs. Applying for restoration grants and encouraging wetland restoration on private lands (see Section IV, p. 7) are two cost effective ways to reestablish the natural functions wetlands once provided to your community. Links to wetland restoration and grant program details and resources, including Wisconsin Wetlands Association's *Wetland Restoration Handbook for Wisconsin Landowners*, can be found at: www.wisconsinwetlands.org/localgovs.htm.

LOCATION, LOCATION, LOCATION: The principal that location matters applies to wetlands too. Wetlands develop over thousands of years typically in low spots on the landscape, along the margins of rivers and lakes, or where groundwater discharges from springs and seeps. Wetland functions that develop under site-specific conditions over long periods of time can be difficult and very expensive to recreate elsewhere on the landscape. ***For this reason, protecting the location of existing wetlands is the most effective way to preserve the public benefits wetlands already provide to your community.***

III. COMMON QUESTIONS ABOUT WETLAND PERMITS

Though wetland laws grant state and federal agencies the final authority to approve or deny projects with wetland impacts, as the first point of contact for most development proposals local governments play a critical role in determining what projects advance for regulatory review. Local land use decision makers can help community supported projects get built more quickly, with less state and federal intervention, by steering landowners away from projects that require wetland permits. To do so, you will need to understand the following permit basics:

WHAT WETLANDS ARE REGULATED? Wisconsin law requires authorization by the Wisconsin Department of Natural Resources (WDNR) for all wetland fill activities, regardless of wetland size or location. Federal law requires permits from the U.S. Army Corps of Engineers (Corps) for construction activities in wetlands adjacent or hydrologically connected to lakes, rivers, and streams.

WHAT ACTIVITIES ARE REGULATED? Permits are required for the discharge of “dredged or fill” material into a wetland, and for major wetland disturbance, such as a pipeline or sewer construction. Fill includes materials such as asphalt, concrete, soil, sand, gravel, and even wood chips.

WHEN ARE WETLAND PERMITS APPROVED OR DENIED? Under both state and federal law, permits may only be granted for **unavoidable** wetland impacts that will not cause a significant adverse impact to wetland functions. Permit staff rely on the following information in their review:



1. A **wetland delineation** report to confirm the presence and boundaries of wetlands, and a **functional assessment** to describe and rate the wetland quality and functions. To be accepted, these reports must be completed by a qualified wetland consultant using procedures specified in state and federal rules.
2. An **alternatives analysis** describing how the developer designed the project to first avoid, and then minimize, wetland impacts. Alternate sites, smaller projects, and reconfigured site designs are all considered viable alternatives, even if the changes reduce profits. Agencies look for the least environmentally damaging “practicable alternative” to meet the basic project purpose.

DOES SHORELAND-WETLAND ZONING ADEQUATELY PROTECT WETLANDS? In short, no, but it does help landowners avoid mapped wetlands within the shoreland zone.* Required by the state and administered by the counties, shoreland-wetland zoning sets minimum standards for permitted and prohibited uses in shoreland wetlands. However, shoreland-wetland zoning fails to provide effective local wetland protection in two ways: 1) not all wetlands in the shoreland zone appear on Wisconsin Wetland Inventory maps, and 2) many wetlands fall outside the shoreland zone. Some counties exceed the minimums by requiring setbacks to all wetlands within the shoreland zone or all wetlands regardless of location. Door County, for example, requires a 35-foot setback for all shoreland and inland wetlands.



IS IT TRUE THAT ANY WETLAND CAN BE FILLED AS LONG AS ONE IS RESTORED NEARBY? Definitely not. The practice of restoring wetlands in one location to compensate for wetland destruction elsewhere (a practice known as wetland mitigation) is only accepted to compensate for **unavoidable** wetland impacts.

DO CONSTRUCTED (MITIGATION) WETLANDS ADEQUATELY REPLACE THE BENEFITS OF FILLED WETLANDS? No. It’s rarely a fair trade to destroy wetlands in one location and restore them in another. Reasons why include:

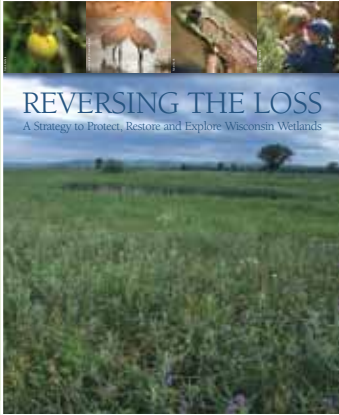
1. What takes thousands of years to naturally develop cannot be recreated in one or two years. Many constructed wetlands do not achieve the same degree of biological diversity and ecosystem functions found in natural wetlands. In some cases, mitigation projects fail and no wetlands are established.
2. Wetland benefits are site-specific. When a wetland is filled, associated benefits such as water purification, flood retention, and wildlife habitat are lost from that site forever.
3. Mitigation decreases the diversity of wetland community types. Many wetland types are difficult to recreate (e.g., wooded wetlands), so the restored wetlands are frequently a different type (e.g., marshes) than those destroyed. As a result, certain wetland types are lost in greater proportion than others.
4. Mitigation often results in the destruction of wetlands and an increase in impervious surface in urban areas (where wetland functions may be needed most) and the construction or restoration of wetlands in rural areas (where wetlands and wetland function may already be plentiful).

*The shoreland zone is the land located within 1,000 feet of the ordinary high water mark (OHWM) of a lake, or within 300 feet of the OHWM of a river or stream.

PERMIT QUESTIONS? Each county has a WDNR Water Management Specialist and Corps District Engineer assigned for project review and questions. WDNR and Corps contact information is available at: www.wisconsinwetlands.org/localgovs.htm

IV. WHAT CAN LOCAL GOVERNMENTS DO TO PROTECT AND RESTORE WETLANDS?

Through comprehensive planning, zoning, subdivision regulations, codes and ordinances, local governments can have an enormous influence on the fate of wetlands in their communities. Opportunities to apply land use policy and planning tools to improve local wetland protection and restoration policies include:



REVERSING THE LOSS

A Strategy to Protect, Restore and Explore Wisconsin Wetlands

“Reversing the Loss” is Wisconsin’s strategy for wetland conservation. Local involvement can help the state achieve strategic goals, while simultaneously benefiting your community (See Section II, pp. 3-4). The RTL strategy is available at: www.dnr.state.wi.us/wetlands/strategy.html.

ESTABLISH “AVOID AND MINIMIZE” STANDARDS FOR PROJECT REVIEW

As described in Section III (pp. 4-5), if a developer fails to design a project to avoid and minimize wetland impacts, the project will not be eligible for state or federal wetland permits. Local land use decision makers can reduce development pressure on wetlands, and prevent time consuming and costly project delays, by amending local ordinances and codes to complement the wetland permit review criteria required under state and federal laws. Recommendations include:

1. Cultivate a basic understanding of the tools available to identify wetlands (see Box III, p. 8) and establish procedures to recognize projects with potential wetland impacts. For example, the use of the WDNR Wetland Indicator Map (www.dnr.wi.gov/wetlands/mapping.html) should be required as a screening device for all proposed land-disturbance activities.
2. Require a permit for any proposed land disturbing activity directly in or in close proximity to a wetland. Permits should include standards to deny approval of projects with **avoidable** impacts, and to protect the natural functions of wetlands near the project site.
3. Withhold final approval of projects with **unavoidable** wetland impacts until state or federal wetland permits have been issued. Alternatively, require notification in permit instructions and approval documents that locally-issued permits are conditional pending receipt of state or federal wetland permits.
4. Do not accept the promise of compensatory mitigation as justification for the destruction of wetlands. If mitigation is proposed, be sure to consult with state and federal wetland permit staff to verify that avoidance standards have been met. Remember that state and federal law only accepts mitigation as a means to compensate for **unavoidable** wetland losses.
5. Reduce impacts of adjacent development by establishing required development standards, such as wetland setbacks, vegetated buffers, and criteria to avoid altering the flow of water into or out of wetlands.*



Kyle Magyera

Residential development in the Village of Waunakee preserved wetlands through the incorporation of open space and proactive stormwater management.


IMPLEMENT WETLAND PROTECTION LAND USE CONTROLS

Beyond integrating avoid and minimize standards into the day-to-day review of proposed projects, various other land use policy and planning tools can be used to promote wetland conservation.* Practical options already adopted by local governments across the state include:

1. Adopt new wetland protection, wetland buffer, or conservation subdivision ordinances, or incorporate wetland conservancy or critical and sensitive area overlay zones into the existing zoning ordinance.
2. Amend subdivision regulations to require buildable, upland locations for parcels with wetlands (e.g., large-lot zoning). Provisions can also encourage the dedication of wetlands as park, conservancy, or open space.



Kyle Magyera

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3. Request an analysis of your community's existing codes and ordinances (e.g., road, driveway, stormwater management, erosion control, floodplain, stream corridor protection, sanitary systems, etc.) to identify gaps in wetland protection. Amend said ordinances to incorporate or improve wetland protection standards.
 4. Integrate wetland conservation goals and objectives into comprehensive or master planning programs for the community, neighborhoods, public lands, waterways, and watersheds.
 5. Keep in mind that local governments have the authority to adopt wetland protection standards that are more stringent than those required under state and federal laws.

Will stringent local initiatives raise “takings” concerns? No. Wetlands conservation is a legitimate tool to facilitate the protection of the public safety, health and welfare of communities. State and federal courts have strongly upheld the authority to control land use activities in or around wetlands. For example, in *Just v. Marinette County*, the Wisconsin Supreme Court ruled that wetland protection is not a taking because “an owner of land has no absolute right to change the essential natural character of the land so as to use it for a purpose for which it was unsuited in its natural state and which injures the rights of others.”

HELP LANDOWNERS AVOID UNAUTHORIZED WETLAND IMPACTS

Many landowners may not know that they have wetlands on their property or that construction in wetlands requires permits. This can lead to inadvertent or unauthorized wetland destruction. Local land use decision makers can help landowners avoid unauthorized wetland impacts by notifying permit applicants about state and federal wetland permit laws (see Section III, pp. 4-5) and encouraging them to use the wetland identification methods described in Box III (p. 8).

ENCOURAGE WETLAND RESTORATION

Promoting wetland restoration on public and private lands can help your community reduce floods and flood damages, improve surface and drinking water quality, increase hunting and fishing expenditures, and more. Simple opportunities include:

1. Request an analysis of your community's existing codes and ordinances to determine if permitting barriers exist that prevent or delay private and government-sponsored wetland restoration projects. Amending codes and ordinances to create permit exemptions or streamlined approvals for wetland restoration projects can increase the amount of wetlands in your community and the associated public benefits.
2. Prioritize strategic wetland restoration as part of the municipal budget and annual work plan. Communities that make a commitment to identify and acquire potentially restorable wetlands may be able to leverage state funds, such as Wisconsin Coastal Management grants or WDNR Lake Protection and River Planning grants, for restoration planning and construction.* Technical assistance and cost-share dollars for projects may also be available through other federal and state agencies and private organizations (see Box II, p. 4).
3. Provide tax incentives for landowners who voluntarily protect, restore, and enhance wetlands. The Burnett County Shoreline Incentives Program, funded by a WDNR Lake Protection Grant, provides an excellent model.*

*Detailed information about wetland restoration programs and funding opportunities can be found at: www.wisconsinwetlands.org/localgovs.htm

Box III. IDENTIFYING WETLANDS

While most Wisconsin residents recognize areas with cattails, open water, and ducks as wetlands, many do not know that Wisconsin has at least 12 wetland types (see Box I, p. 2). Some types are dry most of the year, have trees, and may have no visible connection to lakes, rivers, and streams. This diversity in physical appearance makes certain wetlands difficult to identify.

Though many communities rely on trained staff or consultants to confirm the presence of wetlands and wetland boundaries, all local land use decision makers should cultivate a basic understanding of the tools and information used to identify wetlands. This knowledge will help you set policies that more effectively identify and protect wetlands and ask the right questions when weighing the facts on wetland development proposals. Wetland identification basics include:

STEP 1. REVIEW MAPS.

Some wetlands can be found on maps. WDNR's Wetland Indicator Map (www.dnr.wi.gov/wetlands/mapping.html) shows wetlands included on the Wisconsin Wetland Inventory and areas that may be wetlands based on the presence of hydric soils. Alternatively, many counties provide web-mapping services through the planning, zoning or land conservation department websites.

NOTICE: Maps help evaluate the likelihood that an area contains wetlands, but should not be relied upon as a final determination. Many wetlands, such as those that are seasonally wet, wooded, or small, may not appear on maps. Wetland laws apply to all wetlands, regardless of whether they appear on a map.

STEP 2. LOOK FOR PHYSICAL CLUES.

The best way to identify wetlands is to walk the site and look for physical clues. The photos below show common examples of wetland indicators. WDNR's Wetland Clues Checklist (www.dnr.wi.gov/wetlands/clues.html) provides a more comprehensive list of things to look for and may be useful to bring along during a site visit.



Water-loving plants, such as tussock sedge, are found in wetlands.



Prolonged saturation periods generate dark-colored soils in wetlands.



Shallow tree roots are indicators of wet conditions.



Low, wet spots and stunted, yellowing crops are good indicators of wetlands.

STEP 3. CONSULT A PROFESSIONAL.

Because wetlands can be difficult to identify, the accurate identification of whether a parcel contains wetlands requires an assessment by a trained biologist or consultant. If a property contains wetlands and the landowner wants to proceed with a project, a wetland professional will also be needed to verify or "delineate" the wetland boundaries as part of the avoidance step of the wetland permit application process (see Section III, p. 5). Information on how to hire a wetland consultant can be found at: www.dnr.wi.gov/wetlands/pro.html.



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