Protecting Your Community's Wetlands

Wetlands are important resources that provide local benefits and need local protection. This guide describes the role that local planning and ordinances can play in providing this protection and includes information about a model wetlands ordinance developed by the Huron River Watershed Council.

What are wetlands?

Wetlands are unique ecosystems located in the transitional zone between upland and aquatic habitats. Wetlands provide habitat for many unique plant and animal species, absorb excess stormwater runoff, and contribute to the recharge of underground aquifers.

Threats to wetlands

Over 50% of Michigan's original wetlands have disappeared since European settlement due to filling, draining and ditching for agriculture and development.

Wetland loss continues today as residential and commercial development spreads out from urban areas. Conversion of wetlands and upland forests and fields to roads, lawns, rooftops and parking lots prevents the infiltration of rain and snow into the ground where plants take up water through their roots. Instead, rain and snowmelt, often carrying with it pollutants and eroding soils, runs off directly into waterways and wetlands, which significantly changes their hydrology and water quality.
Non-native plants such as purple loosestrife follow development and crowd out native plants, reducing plant diversity and wildlife habitat.

The tiger swallowtail butterfly relies on native wetland plants like the joe pye weed.

The Need for Local Protection

Michigan's wetlands protection law requires a permit to drain, dredge, fill, or construct or maintain use in a wetland, but it only applies to wetlands that are contiguous to waterbodies or waterways, or are over 5 acres in size. Yet, studies have found that smaller, isolated wetlands can provide as many ecological and water quality benefits as larger wetlands.

Also, it is difficult for State staff alone to monitor all the activities that can occur in wetlands throughout the entire State.

"Wetland loss continues as residential and commercial development spreads out from urban areas."

Local communities can enact ordinances that protect smaller, isolated wetlands and provide local oversight over development activities that impact wetlands.

A Model Ordinance

To help local governments to enact their own ordinances to supplement the State program, the Huron River Watershed Council (HRWC), with funding from the Michigan Department of Environmental Quality, has developed a model wetlands ordinance that is consistent with the State law. The ordinance will provide local governments with a legally sound tool to protect their wetlands and property owners with consistent, predictable treatment throughout the State.

The ordinance is available from HRWC at 734-769-5123 or www.hrwc.org.

The Local Wetlands Ordinance

The scope

The model ordinance requires landowners to obtain a permit for depositing material, removing soil, dredging, filling, draining, or constructing developments or other structures in wetlands.

As required by State law, the ordinance exempts farming, grazing, lumbering, drain maintenance, fishing, hunting, trapping, boating and other recreational activities.

The model ordinance covers all wetlands already regulated by the state -- those over 5 acres or contiguous to a waterway -- plus those under 5 acres. For wetlands under 2 acres, State law requires the municipality to determine that they are essential to preservation of the municipality's natural resources, and it provides criteria for this purpose.

The map

The municipality must create a map showing the location of wetlands in its jurisdiction. Many communities have obtained maps from their County planning department, others from planning consultants, and others from local colleges. The map serves as a general guide to alert the community when a proposed activity may impact wetlands -- it is not a legally enforceable delineation. Precise wetland boundaries are determined during a wetland application review process. Changes can be made to the map (either adding or removing wetlands) as more information becomes available.

The wetland administrator

In most communities, the zoning officer performs this function, which is to ensure proper review of proposed activities that may impact wetlands.

The wetland consultant

The municipality may hire a consultant who maps wetlands and creates reports regarding potential impacts of proposed activities on wetlands. Permit application fees help offset costs for this.

The application process

A landowner considering a change to his/her land that might affect wetlands must contact the wetland administrator. If the proposed activity may impact wetlands, the property owner and the municipality can discuss alternative plans, such as locating buildings away from wetlands. This would eliminate the need for a wetlands permit at all. If the property owner still wishes to change the wetlands, he/she must apply for a wetland permit and pay a fee to the municipality to cover administrative costs, including costs to delineate wetlands boundaries.

Planning for Growth

The most effective way a community can protect wetlands and other open spaces is to plan properly for growth. Sprawling land use patterns degrade and destroy wetlands and other wildlife habitat. By targeting areas in your community for more compact development and allowing higher density neighborhoods and towns in smaller areas, your community will preserve open space and farmland in the surrounding countryside. In contrast, traditional large lot zoning spreads out development and quickly consumes large amounts of open space and wetlands.

Sprawling land use patterns are the number one threat to our wetlands today. Photo source: Huron River Watershed Council

The delineation

As part of the application, the municipality will require a "delineation". The wetland consultant will walk the site and delineate the exact boundaries of the wetland.

The review

The wetland consultant then prepares a report about the impacts of the proposed activity on the wetlands. The community bases its decisions on this report, and upon a set of criteria listed in the ordinance, which includes the need for the proposed activity, whether a feasible alternative is available, the extent of the impact on the wetlands, the importance of the wetlands in question, and so on.

If the activity proposed also requires site plan review (e.g., it is a large development), the planning commission will decide whether or not to grant the permit. If the application involves a re-zoning petition or conditional use permit, the board of trustees or council will decide (after a recommendation from the planning commission). If no other review is required (e.g., if the property owner is constructing a new garage), the wetland administrator makes a decision.

Public comment

The clerk provides public notice of application and accepts public comments. The applicant erects a sign on the property announcing the permit application. In the case of site plan, rezoning, or conditional use permit reviews, the community will hold a public hearing.

Mitigation

The municipality may approve permits with the property owner replacing any lost wetlands at a minium of 1.5 acres for every 1 acre impacted on the site.

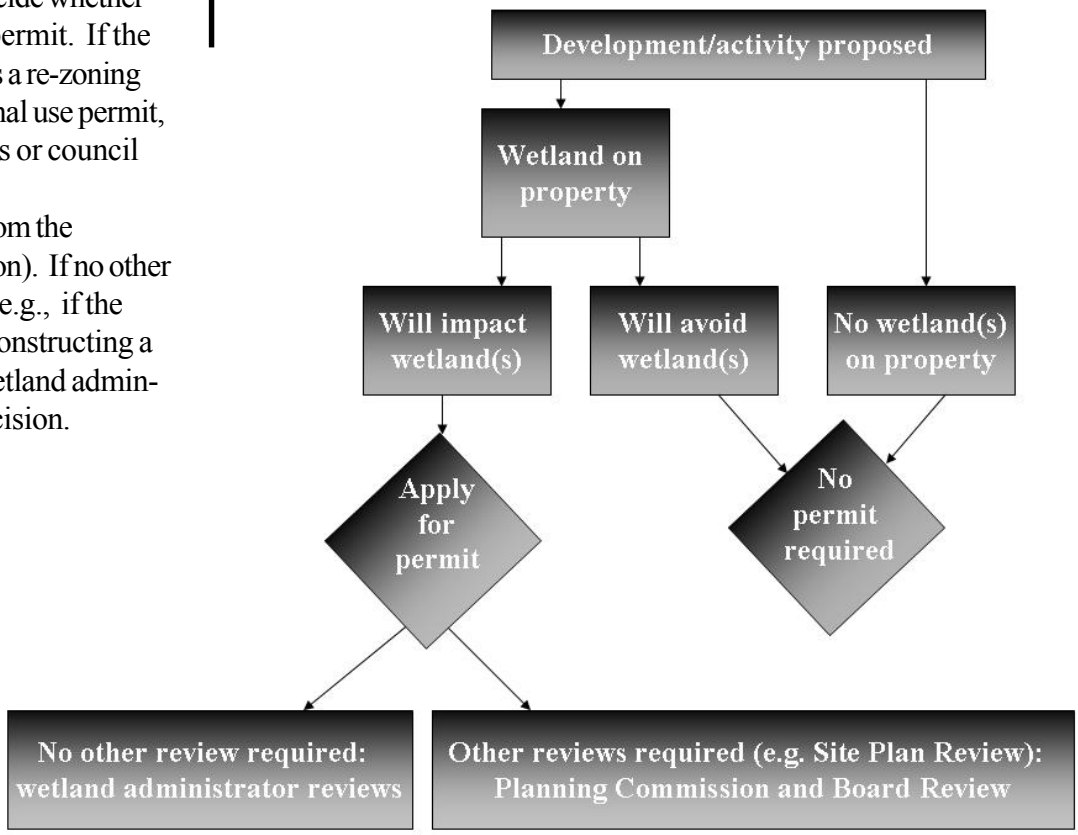
Appeals

The ordinance may provide an appeal process.

Lessons learned from other communities:

- 43 communities in Michigan have enacted wetland ordinances.
- Most developers elect to design their projects away from wetlands to avoid the permitting process altogether.
- Townships surveyed by HRWC experienced very little controversy after enactment of an ordinance.
- Many developers find that the value of a developed parcel increases if it contains a protected wetland.
- Ordinance administration costs have been minimal because the applicant typically covers them through permit fees.

The Wetlands Review Process



The Values of Wetland Protection

Photo: Huron River Watershed Council

Studies have found that smaller wetlands isolated from lakes and streams can serve as many ecological functions as larger ones.

Most species of amphibians and reptiles rely on these smaller isolated wetlands for their survival. Without a local ordinance, these wetlands are vulnerable to development.

Wetlands provide valuable functions and aesthetic benefits to a community:

Water quality protection

Acting as living filters, wetlands filter pollutants from rain water and snow melt that flows off of developed areas and farm fields. Wetland plants remove phosphorus and nitrogen from the water. Wetlands also absorb bacteria, toxic metals, pesticides, and grease.

Protection from shoreline/ streambank erosion

Wetland plant roots stabilize soil and help prevent soil erosion. Vegetation dampens wave action along lakes and slows the current of rivers.

Aesthetics and recreation

Wetlands provide recreation such as hiking, birdwatching, nature photography, canoeing, hunting, fishing, and trapping, and generate revenues to the local community through these activities. Wetlands greatly enhance the value of neighboring properties.

Wildlife & plant habitat

Over half of Michigan's wildlife depends upon wetlands for food, shelter, or nesting habitat, including endangered and threatened species like the bald eagle, osprey, loon, and sandhill crane. Wetlands support some of the most diverse plant communities of all ecosystems.

Nearly all fish species and amphibians require wetlands for food and shelter, and they are the preferred habitats of muskrat, otter, beaver, mink, and raccoon.

Flood & stormwater control

Wetlands hold rainwater and snow melt during wet times, decreasing flooding. They release the water in dry times, thus helping creeks maintain steady flows.

Groundwater recharge

Just as wetlands can hold water in wet times, they become sources of water during dry periods. They can serve as recharge areas to area aquifers, keeping our groundwater supplies constant.

The ordinance (and more information about wetlands) is available from:

- Huron River Watershed Council at www.hrwc.org
- East Michigan Environmental Action Council at www.emeac.org
- Tip of the Mitt Watershed Council at www.watershedcouncil.org
- Michigan Department of Environmental Quality at www.michigan.gov/deqwetlands

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