FACT SHEET

WETLANDS

Why Are Wetlands Important?
Once regarded as wastelands needing to be drained or filled, wetlands are now recognized as important features in the earth's landscape that provide numerous benefits for people, fish and other wildlife.

Wetland Functions

Wetlands are known to be the most biologically productive ecosystems in the temperate regions of Earth. Their biological productivity rivals that of the tropical rainforest and involves complex nutrient and energy cycles. An immense variety of microbes, plants, insects, amphibians, reptiles, birds, fish, and mammals are part of a wetland ecosystem.

Healthy wetlands are vital because they

- Clean the water
- Recharge water supplies
- Reduce flood risks
- Provide valuable fish and wildlife habitat

In addition, wetlands provide recreational opportunities, aesthetic benefits and sites for research and education.

BENEFITS OF WETLANDS

Fish and Wildlife Habitat	Wetlands provide critical habitat for wildlife by providing spawning and breeding grounds, sources of food, migratory resting places, and safety zones for fish and wildlife.
Threatened and Endangered Species Habitat	More than one-third of all threatened and endangered animal species in the United States are either located in wetland areas or dependent on them. Examples of Michigan's threatened or endangered animals that rely on wetlands include the Bald Eagle, Osprey, Common Loon and King Rail.
Water Pollution and Sediment Control	Wetlands function like a living filter by removing excessive nutrients, sediments, and other pollutants (like heavy metals) from the water.
Flood Control and Storage	Wetlands act like a sponge, temporarily holding large quantities of flood water and releasing them slowly, preventing flooding in downstream areas.
Barrier to Waves and Erosion	The root systems of wetland plants at the water's edge stabilize soil and reduce erosive wave action.

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What Are the Different Kinds of Wetlands?

In general, a wetland is a place where water covers the soil for all or most of the year, or at least long enough to develop an ecosystem with plants and animals that need characteristics of both water and land environments to survive. Common types of wetlands in Michigan are:

- Marshes
- Swamps
- Bogs/Fens
- Ponds
- Emergent Coastal Wetlands

Marshes are usually found in shallow, stagnant water beside ponds, or lake bays. The water is shallow, but deep enough to attract waterfowl that use the marsh for nesting and raising their young. Grassy vegetation such as cattails, reeds, and arrowhead may be found. In deeper marshes, floating plants such as water lilies, lotus bloom, and pondweed provide an important source of food for young ducklings and other water birds. Fish also use shallow areas of marshes for breeding and protection. The habitat also suits frogs, snakes and turtles.

Swamps resemble flooded forests. They contain several types of trees and shrubs with submerged root systems and include willows, cottonwoods, cedar, and red and silver maples. Wildflowers like the yellow lady slipper are typically found in swamps. Many of the animals found in marshes also live in swamps, in addition to tree frogs, salamanders, raccoons, and water shrews.

Bogs are formed when vegetation gradually fills in the edges of a lake. Decomposing sphagnum mosses and sedges create an acidic mat of peat moss, which supports unusual plants such as the carnivorous pitcher plant and sundews. These plants trap insects and digest them for the nourishment they are unable to receive from the bog's nutrient-poor soil. A ***fen*** is another type of bog which has a more alkaline soil content due to underlying calcareous deposits. Because fens have more nutrients, they can support many more plants than bogs.

Vernal ponds are low lying areas that collect rainwater in the spring. These ponds produce many of the frogs which disperse to other areas when the pond dries up in the summer.

Emergent coastal wetlands are found along the coast of Michigan's Great Lakes. These types of wetlands function as a barrier to erosion because the root systems of its plants stabilize soil at the water's edge and enhance soil accumulation at the shoreline. The wetland vegetation reduces wave action and slows the water down. With the lower water levels in Lake Michigan, many emergent wetlands are forming along the shoreline. These plants will help protect the shoreline when the waters begin to rise again.

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How Do I Know If I Have a Wetland On My Property?
On the state level, the Michigan Department of Environmental Quality (MDEQ) is responsible for determining wetland boundaries pursuant to Michigan's Wetland Protection statute. On the Federal level, the Environmental Protection Agency, Army Corps of Engineers, Fish and Wildlife Service, and the Natural Resources Conservation Service all play a role in delineating wetlands in the administration of Federal laws that address wetlands.

According to Michigan's wetland delineation methods, there are two primary ***indicators*** of wetlands:

1. The predominance of plants adapted for living in saturated conditions.
2. The presence of water at or near the land surface throughout the year or for some portion of the year, which is commonly indicated by the presence of distinctive soils that develop under saturate conditions (hydric soils).

Common ***field indicators*** of wetland hydrology include:

- Oxidized (rusty colored) root channels
- Water marks on woody vegetation
- Drift lines of debris that were deposited as a result of water movement.
- Water-stained leaves- generally gray/ black from being underwater
- Surface scoured areas without leaf litter

How Are Wetlands Protected?
Laws and regulations that protect wetlands can be implemented at the local, state or federal level. State and local regulations can only be more stringent, not less, than federal law. In Michigan, in the absence of more strict local ordinances, the primary regulatory responsibility for protecting wetlands is shared by the Michigan Department of Environmental Quality and the Army Corps of Engineers (for wetlands contiguous to the Great Lakes and navigational channels).

There are many laws that affect wetlands, but the primary tool in Michigan's wetland regulatory structure is Part 303, Wetland Protection of the Natural Resources and Environmental Protection Act (NREPA, Act 451, 1995). This law protects the public from wetlands loss, establishes a permit program, provides enforcement language, establishes penalties, and authorizes regulation of wetlands by local government.

Wetland protection laws have many components but the basics are simple. Michigan law requires a permit for the following wetland activities:

- depositing fill material
- dredging or removing material
- construction within or development of a wetland
- draining wetlands.

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Whether or not a wetland is regulated depends on its size and whether or not it is contiguous to a water body. ***Contiguous wetlands*** are those in close proximity to a lake, stream or pond, or that have a direct hydraulic relationship to it. In Michigan "***close proximity***" means within 500 feet of an inland lake, stream, or pond and within 1,000 feet of a Great Lake. ***Non-contiguous wetlands*** are isolated from lakes and streams hydraulically, and usually geographically.

Activities in contiguous wetlands are regulated no matter what size they are. However, only non-contiguous wetlands that cover more than five acres are protected by state law. Under state law, in counties of less than 100,000 people – which includes Leelanau, Grand Traverse, Kalkaska, and Antrim Counties, non-contiguous wetlands are not regulated at all until a wetland inventory is completed.

So, if you're wondering why some wetland fills seem to garner more attention than others, consider the size and location of the site. Many small wetlands are disappearing because they do not fall under the protection of current laws. In addition, some agricultural activities affecting wetlands are exempt from regulation under Michigan's "Right to Farm" provisions.

Websites for More Information:

- EPA Wetlands Office: www.epa.gov/owow/wetlands
- MDEQ Wetlands Info: www.michigan.gov/deq (follow link to Water, then select Wetlands Protection)
- National Wetlands Inventory: wetlands.fws.gov
- Ecosystem Valuation: www.ecosystemvaluation.org
- The Economic Value of Wetlands: www.ramsar.org/lib_val_e index.htm