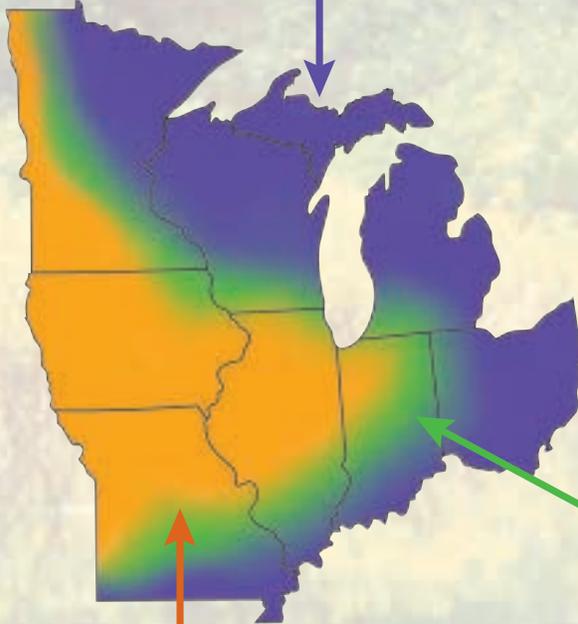


# MIDWESTERN EPHEMERAL WETLANDS

## *A Vanishing Habitat*



*Forest*



*Prairie/Grassland*

Ephemeral Wetlands may also be referred to as ephemeral ponds, seasonal ponds, temporary ponds or vernal pools.

Ephemeral Wetlands are depressional wetlands that temporarily hold water in the spring and early summer or after heavy rains. Periodically, these wetlands dry up, often in mid to late summer. They are isolated without a permanent inlet or outlet, but may overflow in times of high water. Ephemeral Wetlands are free of fish, which allows for the successful breeding of certain amphibians and invertebrates.



*Savannah/Open Woodland*

### **INSIDE :**

- *The treasured wildlife that depend on Ephemeral Wetlands.*
- *Threats facing Ephemeral Wetlands.*
- *How you can help.*

## EPHEMERAL WETLANDS: *Change Through the Seasons*

Spring



Summer



Snow melt and spring rains fill Ephemeral Wetlands, providing breeding habitat for many amphibians and aquatic invertebrates. The developing larvae provide an important food source for migrating birds.



In early spring wood frogs migrate from their nearby woodland habitat to Ephemeral Wetlands in search of mates.



Female wood frogs lay up to a thousand eggs in rounded masses about the size of a tennis ball. The eggs are attached to small twigs and branches, just under the surface of the water (Tynning, 1990).



Wood frog tadpoles are in a race against time. They have to find food, grow, avoid predators and begin to develop into frogs before the wetland dries up (Tynning, 1990).



Once they emerge from the water the wood frogs will spend the rest of the year in the surrounding uplands or woodlands.

By mid-summer the wetland begins to dry out and the surrounding upland habitat becomes critical for the newly emerging amphibians.

Winter



Many amphibians over-winter in the surrounding upland habitat during the winter months.



Wood frogs over-winter in leaf litter, old logs and small burrows in the uplands. They avoid freezing due to an anti-freeze like compound in their bodies.

Fall



By fall there are very few traces of the once productive wetland. This dry phase eliminates fish and completes the life cycle for invertebrates like Fairy Shrimp whose eggs require a dry period to hatch in the spring.

## EPHEMERAL WETLANDS: *Surrounding Upland Habitat*

Although a wetland itself may not be altered, without the surrounding upland habitat the wetland will not continue to be productive and species such as reptiles and amphibians will eventually be lost. Many creatures that depend on Ephemeral Wetlands for some part of their life cycle need the surrounding habitat just as much. Frogs, toads and salamanders breed in the wetland but generally feed and spend most of the year in the upland. Turtles will feed in the wetland but require uplands for nesting.



Amphibians and reptiles that use Ephemeral Wetlands, such as the one circled in blue above, need intact upland habitat. Roads, cars, houses and buildings create barriers and hazards to migration for wildlife and directly impact important habitat. These wetlands need to remain linked by continuous upland habitat to other wetlands and wildlife populations.



Upland habitat usage for a typical amphibian is represented by the green circle in the photograph above. The population of spotted salamanders breeding in the wetland (circled in blue) also utilizes the surrounding upland up to 534 feet from the wetland edge (Semlitsch, 1998). This habitat is essential for feeding and over-wintering. Some species such as Blanding's turtles and leopard frogs may travel up to a mile or more away from the waterbody.

## EPHEMERAL WETLANDS: *Reasons For Concern*

### EPHEMERAL WETLANDS ARE:

- as small as six to twelve feet across.
- usually isolated from permanent waterbodies.
- linked to the surrounding upland habitat.
- critical habitat for many wildlife species.
- important to migrating birds.
- important for flood control and water quality.
- not well protected under current regulations.
- not well understood.
- difficult to identify when they dry out.
- threatened by invasive plant species.
- often converted to other uses such as detention ponds, fish ponds, agriculture, or dump sites.
- being lost across the Midwest.

### CONVERSIONS:



- Many of our small Ephemeral Wetlands have been drained and filled to facilitate agriculture, building new subdivisions or other development.

*This not only eliminates habitat, but also increases the risk of local flooding.*

- Others have been excavated to construct stormwater detention ponds.

*During rain storms pollutants are washed into these ponds.*

- Still others have been converted to permanent ponds for raising fish and other forms of aquaculture.

*Permanent bodies of water tend to support fish, which are known to significantly reduce successful breeding of amphibians and aquatic invertebrates.*



### PROTECTION ISSUES:

Ephemeral Wetlands are hard to define, identify and protect because they tend to be small, isolated and at certain times of the year do not hold water. These wetlands tend to be highly productive. They warm quickly in spring and produce abundant quantities of food for developing amphibians, reptiles and migrating birds, especially waterfowl. Even small sites, much less than an acre, can produce hundreds of frogs, toads and salamanders. They also provide critical links to other wetlands and wildlife populations. Establishing appropriate legal protection for resources of such immense ecological value is difficult, and the level of protection currently given to Ephemeral Wetlands varies from state to state.

## FOREST *Wood Ducks (left), Spotted Salamander (middle), Wood Frog (right)*

## SAVANNAH/OPEN WOODLAND *Great Egret (left), Devil Crayfish (middle), Cope's Gray Treefrog (right)*

## PRAIRIE/GRASSLAND *Pintail Duck (left), Ribbon Snake (middle), Eastern Tiger Salamander (right)*



