



a primer to site-level monitoring activities for volunteer coordinators

INTRODUCTION



From the spruce bogs of the north to the sedge meadows of the south, wetlands support more species of plants and animals than other habitats in Wisconsin. In addition to providing wildlife habitat, wetlands help purify water and control flooding. In recent years, the importance of wetland habitat and ecosystem services has gathered greater attention, and interest has grown among citizens to monitor wetlands to improve our understanding and management of them.

This publication series is written for volunteer coordinators who want to establish wetland monitoring projects at the site level. Using this manual can help coordinators establish monitoring activities that will accomplish one or more of the following three things – allow citizens to learn about and become engaged with local wetlands, characterize the wetland being monitored or contribute to statewide data about wetland species.



This publication introduces monitoring activities in the eight following areas – frogs and toads, invasive plants, dragonflies and damselflies, butterflies, birds, small mammals, macroinvertebrates and water quality. For the best results, choose monitoring activities that match your goals, resources, volunteer team skill level and wetland type.

To contribute to statewide data on wetland species distribution and habitat associations, choose butterfly monitoring over macroinvertebrate monitoring. Or to conduct a monitoring project with limited resources, choose frog and toad monitoring rather than small mammal monitoring. And if your wetland has saturated soils, but no standing water you won't be monitoring macroinvertebrates or water quality, but might consider butterflies or invasive plants.

Determining wetland type is also fundamental to wetland characterization, but can be tricky. Wisconsin includes landscapes readily recognized as wetland, such as swamps, marshes and bogs, as well as many less obvious wetland types such as forested and meadow areas that rarely, if ever, have standing water. Wetlands support a wide range of hydrological and biotic regimes, and detailed classification systems recognize more than 30 types in Wisconsin.

Major wetland categories in Wisconsin include shallow open-water wetlands, marshes, meadows, bogs, shrub swamps, wooded swamps, floodplain forests and ephemeral ponds. These categories recognize wetland types based on their plant communities and come from a well-accepted classification system developed by Steve Eggers and Don Reed.

Jeffrey J. Strobel photos



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A detailed breakdown of wetland types and Eggers and Reed's classification system can be found in *Wetland Plants and Plant Communities of Minnesota and Wisconsin*, available online (see Informational Resources below).

Wetlands are commonly distinguished by their vegetative and hydrological features. Wetland hydrological features include water quantity and timing, and duration of inundation or saturation. Some wetlands, including many marshes, have standing water throughout the year. Others such as sedge meadows have saturated soils, but typically no standing water. Wetlands also include ephemeral ponds, which contain standing water in the spring, but dry out by fall. Associations with other surface waters also influence wetlands. Wetlands found along rivers may have flowing waters, whereas wetlands associated with lakes tend to have standing water. Wetlands associated with neither lakes or rivers tend to have standing water - or more commonly - only saturated soils.

Precisely identifying wetland type is not critical to initiating monitoring activities, but we recommend you learn about the type of wetland you have to the greatest extent possible. Planned according to wetland type, defined goals, resources and volunteer skill level, wetland monitoring can provide a gratifying experience and foster a greater appreciation for wetlands.

The *Monitoring Your Wetland* series includes 9 sections:

▶ Introduction to Wetland Monitoring

- Birds
- Small Mammals
- Dragonflies & Damselflies (*Odonata*)
- Frogs and Toads (*Anurans*)
- Butterflies (*Lepidoptera*)
- Invasive Plants
- Water Quality
- Macroinvertebrates

Available online in pdf format at: wetlandmonitoring.uwex.edu

INFORMATIONAL RESOURCES

Wisconsin Department of Natural Resources

The WDNR has multiple resources on its Web site that can be used to identify wetland types. The WNDNR's Wetland Communities of Wisconsin Web page may be the most useful. The Web page lists 33 wetland community types found in Wisconsin. A click on any of the communities on the list directs users to a Natural Heritage Inventory Description of the wetland community, including color photos and distribution of maps of the counties in which the wetland community has been identified.

<http://dnr.wi.gov/org/land/er/communities/index.asp?mode=group&Type=Wetland>

Wisconsin Wetlands Association

The wetlands association has developed a guide titled Wetlands of Wisconsin for their GEMS program. The guide describes 12 general wetland category types. <http://www.wisconsinwetlands.org/Gems/WetlandTypes.pdf>

General wetland communities of Wisconsin guide. <http://www.wisconsinwetlands.org/wetlofwisc.htm>

Wetland Plants and Plant Communities of Minnesota and Wisconsin

1997 publication by Steve Eggers and Donald Reed <http://www.npwrc.usgs.gov/resource/plants/mnplant>

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