

# PROPERTY PLANNING COMMON ELEMENTS

## COMPONENTS OF MASTER PLANS

### HABITATS AND THEIR MANAGEMENT

#### Sedge Meadow

##### *Description*

Sedge meadows are minerotrophic, open wetlands dominated by sedges with some grasses and forbs. They are most common in glaciated landscapes. In Wisconsin, there are northern and southern types that differ somewhat in species composition, although they also have species in common. The northern and southern types are described below.

#### Northern Sedge Meadow

Northern sedge meadows occur most commonly on glaciated terrain north of the Tension Zone. They are found on the shores of some drainage lakes, along the margins of low-gradient streams and rivers, and in shallow depressions in outwash and ground moraine where there is ground movement and internal drainage. Near the Great Lakes, they are often part of the wetland mosaic of coastal estuaries. Northern sedge meadows commonly form discrete patches or zones between wetter communities such as marshes and somewhat drier areas that support woody wetland vegetation like shrub swamps, hardwood swamps, or stands of swamp conifers. There are several sedge meadow subtypes recognizable by their dominant plants. Wire-leaved sedge meadows are dominated by narrow-leaved species such as woolly-fruit sedge and few-seeded sedge. Broad-leaved sedge meadows are dominated by broad-leaved species like robust lake sedge and common yellow lake sedge, and tussock sedge meadows are dominated by tussock sedge and Canada bluejoint grass. Common associates are northern blueflag, marsh fern, marsh bellwort, manna grass, panicled aster, spotted Joe-Pye-weed, and wool-grass. Sphagnum mosses typically are absent or occur in scattered, discontinuous patches.

Northern sedge meadows are influenced by direct contact with ground or surface water, with a hydrologic regime that can vary from seasonally flooded to permanently saturated. Site hydrology is the most important factor in the persistence of sedge meadows, although periodic wildfires likely played a key role historically in maintaining sedge dominance in certain landscapes (e.g., Northeast and Northwest Sands, Northern Highland) by creating niches used by less competitive plants and by limiting tree and shrub encroachment.

#### Southern Sedge Meadow

Southern sedge meadows are widespread across southern Wisconsin, occurring most commonly in poorly drained glacial terrain south of the Tension Zone, especially on landforms such as till plain, lake plain, and outwash (scattered outliers occur in northern Wisconsin). They are often associated with lake and stream margins. In the unglaciated Driftless Area, southern sedge meadows occur mostly along larger, low-gradient rivers and streams and sometimes along the upper reaches of smaller streams, including headwaters areas, where groundwater seepage can be an important water source. Tussock sedge and Canada bluejoint grass are the typical dominants in southern sedge meadows. Common associates in relatively undisturbed sites include other sedges (e.g., lesser panicled sedge, Sartwell's sedge, common lake sedge, water sedge, etc.), marsh bellflower, marsh wild-timothy, American water-horehound, panicled aster, swamp aster, southern blueflag, spotted Joe-Pye-weed, marsh fern,



and swamp milkweed. Sites that have been subjected to disturbances such as ditching or grazing often are dominated by the non-native invasive reed canary grass, sometimes to the exclusion of virtually all other species.

Historically, southern sedge meadows occurred within a mosaic of other wetland communities (often influenced by alkaline groundwater in the southeast part of the state) such as marsh, fen, low prairie, shrub swamp, and lowland forest. Adjoining uplands were vegetated with a mixture of prairie, savanna, woodland, and forest. Site hydrology, especially in the saturated or partially inundated conditions typically present in the spring, was a major factor that maintained southern sedge meadows and prevented them from succeeding to woody vegetation. Wildfires, which periodically burned the sedge meadows along with the fire-dependent prairies and savannas often found in the adjacent uplands, constituted another key disturbance. Droughts, particularly severe ones lasting several years, also influenced sedge meadows by allowing shrubs and trees to become established.

Sedge meadows in both northern and southern Wisconsin have been affected by hydrologic disruption, excessive inputs of sediments and nutrients, invasion by non-native exotic plants, and loss of historic disturbance regimes.

### ***Ecological Landscape Opportunities***

Ecological Landscape	Opportunity*	
	Northern Type	Southern Type
Central Lake Michigan Coastal	I	I
Central Sand Hills	I	M
Central Sand Plains	M	I
Forest Transition	I	P
North Central Forest	M	
Northeast Sands	I	
Northern Highland	M	
Northern Lake Michigan Coastal	M	
Northwest Lowlands	M	
Northwest Sands	M	
Southeast Glacial Plains	I	M
Southern Lake Michigan Coastal		I
Southwest Savanna		P
Superior Coastal Plain	I	
Western Coulee and Ridges	I	I
Western Prairie	P	P

\*M = Major; major opportunity exists in this Landscape; many significant occurrences are recorded, or restorations likely to be successful.

I = Important; several occurrences important to maintaining the community in the state occur in this Landscape.

P = Present; community is present in the Landscape but better opportunity exists elsewhere.

### ***Rare Species***

Many Species of Greatest Conservation Need (SGCN) are associated with sedge meadows based on the findings in [Wisconsin's 2015 Wildlife Action Plan](#). To learn more, visit the [Wetland communities page](#) and click on "Northern Sedge Meadow" and "Southern Sedge Meadow" under "Explore non-forested wetlands".



## **Threats**

- Draining, filling, dam or dike construction, beaver activity, construction of roads or rights-of-way, and excessive groundwater withdrawals can disrupt sedge meadow hydrology via lowering of the water table, inundation, or alteration of ground or surface water flow. These activities either fragment and destroy sedge meadows outright, or result in conversion of sedge meadows to other habitat types (marsh, open water, trees and shrubs).
- Adjacent agriculture, construction, or developed areas can introduce excess nutrients and sediments into sedge meadows.

Grazing by domestic livestock in sedge meadows can degrade habitat quality by compacting soil, breaking down sedge tussocks, altering drainage patterns, and introducing nutrients and weed propagules. Prolonged grazing often results in dominance by reed canary grass, which can form dense, monotypic stands with drastically reduced wildlife value.

- Fire suppression, particularly in landscapes where sedge meadows historically occurred in mosaic of fire-dependent communities, has facilitated invasion of shrubs and trees into sedge meadows.
- Non-native invasive plants can invade sedge meadows, altering and degrading habitat quality. These include reed canary grass, common reed, purple loosestrife, hybrid and narrow-leaved cat-tails, and Eurasian buckthorns and honeysuckles. Some native shrubs and trees are also capable of invading sedge meadows and can become serious problems, particularly in sites with altered hydrology, where fire has been excluded, or under prolonged drought conditions. These include dogwoods, ninebark, white meadowsweet, American elm, box elder, cottonwood, trembling aspen, willows, and ashes.

## **Management Techniques**

- [Prescribed fire](#)
- [Mowing/brushing and haying](#)
- [Pesticide treatments](#)
- [Water level manipulation](#)

## **Management Prescriptions**

- Consider landscape context (surrounding land uses and habitat types, watershed, etc.) and site factors (site hydrology, suitability to support sedge meadow vegetation, likelihood of reestablishment, etc.) when deciding whether restoration of sedge meadow through actions such as ditch filling, tile breakage, restoration of stream meanders, and modification or elimination of dams that maintain artificially elevated water levels is appropriate and feasible.
- Wherever possible, manage sedge meadows as part of a complex of interconnected, related habitats (e.g., wet prairie, fen, emergent marsh, peatlands, shrubs swamps, forested wetlands).
- Maintain site hydrology; restore where appropriate and feasible.
- Where possible, use buffers to protect sedge meadows from negative impacts of surrounding land uses (e.g., sedimentation, pollution).



- Use prescribed fire, brushing, tree cutting, mowing, and pesticide treatments to remove encroaching woody vegetation in sedge meadows.
- Reduce competition to native vegetation from reed canary grass using prescribed fire, mowing, herbicide treatments, or water level manipulation. Where opportunities exist, flooding can eliminate solid stands of reed canary grass, allowing native vegetation to reestablish. Mid-summer mowing followed by an intensive, hot fire after the grass has dried has also proved effective in reducing reed canary grass and increasing native sedges in some sites.

