Overview: Distribution, Abundance, Environmental Setting, Ecological Processes

Wet Prairie is a minerotrophic wetland community dominated by tall grasses and sedges that occupies the wettest portion of the five-segment soil moisture continuum described for prairies by Curtis (1959). Distribution of the type is limited almost entirely to areas south of the Tension Zone, where lowland (wet and wet-mesic) prairies are associated with landforms such as glacial outwash or poorly drained ground moraine. Sites occupied by Wet Prairie often border rivers, streams, or lakes. In southwestern Wisconsin’s unglaciated Driftless Area, most of the known Wet Prairie occurrences are within or on the margins of large river floodplains. The prevalent natural disturbances are periodic inundation and wildfire. The latter would have been most common in late summer through fall and most likely to occur in dry years.

Soils are saturated, and sites may be at least seasonally inundated. Mineral soils predominate, but some stands have been reported on organic soils such as azonal peats. Important moisture sources include groundwater seepage, high water table, precipitation, spring runoff, and floods affecting river and stream floodplains.

In southeastern Wisconsin, the glacial landforms and calcareous nature of the glacial deposits create generally favorable conditions for plants preferring or adapted to alkaline environments. In the Southeast Glacial Plains and Southern Lake Michigan Coastal ecological landscapes, Wet Prairie may share species with other wetland communities, such as Calcareous Fen, Wet-mesic Prairie, Southern Sedge Meadow, and Emergent Marsh. Differences in topography, hydrology, soil type, and disturbance history can result in the often complex and patchy distribution of herbaceous wetlands within individual drainage basins, creating a mosaic of intertwined wetland communities. Delineating these with precision can be an exercise in futility. Adjoining upland vegetation tended to be fire-prone, with mesic prairie, oak savanna, oak woodland, and oak forest the most characteristic terrestrial communities.

Within large river floodplains, prairie cord grass may grow in distinct zones, as many plants found in emergent marshes do. In such situations, prairie cord grass may be dominant to the near exclusion of other plant species.

If the combined sedge cover exceeds 50%, the stand might best be classified as Southern Sedge Meadow rather than Wet Prairie; when deep-rooted tall grasses such as big blue-stem and yellow Indian grass have more than an incidental presence (of roughly 10% cover or more) and a rich complement of prairie forbs (Cochrane et al. 2008), then the community should be classified as Wet-Mesic Prairie. Calcareous Fens may occur on peaty substrates rather than mineral soils, but this is not a foolproof attribute. The presence of fen specialists, especially when they are dominant or co-dominant, active areas of groundwater discharge, and unusual landforms such as peat mounds and “hanging” or perched wetlands, are more reliable characteristics that indicate the presence of a fen.

As is now the case for all of Wisconsin’s tallgrass prairie communities, Wet Prairie has become very rare. There are probably fewer than 1,000 acres remaining in the entire state. Wherever it is feasible, protection efforts should be offered to Wet Prairie remnants, especially where they are associated with other non-forested natural communities such as Emergent Marsh, Wet-mesic Prairie, Southern Sedge Meadow, and Calcareous Fen.

Community Description: Structure and Composition

The dominant grasses are most often prairie cord grass (Spartina pectinata) and blue-joint grass (Calamagrostis canadensis). Other grasses may be present but do not typically achieve high cover values. These include fringed brome (Bromus ciliatus), marsh muhly (Muhlenbergia glomerata), big blue-stem (Andropogon gerardii), yellow Indian grass (Sorghastrum nutans), and occasionally southern wild rice (Zizania aquatica). Other graminoids, especially sedges, are also important members of the Wet Prairie community. Sedge diversity can...
be high, especially in situations where Wet Prairie is closely associated with sedge meadows, fens, and marshes. Among the sedges occurring in wet prairies are tussock sedge (*Carex stricta*), Bebb’s sedge (*C. bebbii*), long-scaled tussock sedge (*C. haydenii*), slough sedge (*C. atherodes*), hairy-fruit sedge (*C. trichocarpa*), prairie sedge (*C. prairea*), common lake sedge (*C. lacustris*), and Emory’s sedge (*C. emoryi*).


Ferns frequently occurring in or strongly associated with Wet Prairie are sensitive fern (*Onoclea sensibilis*) and marsh fern (*Thelypteris palustris*). Small, permanently inundated pools may occur as inclusions within low prairie complexes, and these will support marsh plants such as broad-leaved cat-tail (*Typha latifolia*), broad-leaved arrowhead (*Sagittaria latifolia*), common water-plantain (*Alisma subcordatum*), spike-rushes and bur-reeds.

Rare plants associated with Wet Prairie are swamp agrimony (*Agrimonia parviflora*), flat-stemmed spike-rush (*Eleocharis compressa*), prairie Indian-plantain (*Arnoglossum plantagineum*), small white lady’s-slipper (*Cypripedium candidum*), and mat muhly (*Muhlenbergia richardsonis*). Several of these species, such as swamp agrimony, prairie Indian-plantain, and small white lady’s-slipper, are more strongly associated with Wet-mesic Prairie and Calcareous Fen than Wet Prairie, but the communities and these species may occur in the same wetland complex.

Animals of conservation concern known to inhabit Wet Prairie include Blue-winged Teal (*Anas discors*), Bobolink (*Dolichonyx oryzivorus*), Le Conte’s Sparrow (*Ammodramus lecontei*), Northern Harrier (*Circus cyaneus*), boreal chorus frog (*Pseudacris maculata*), northern leopard frog (*Lithobates pipiens*), pickerel frog (*L. palustris*), queensnake (*Regina septemvittata*), eastern massasauga (*Sistrurus catenatus catenatus*), Blanding’s turtle (*Emydoidea blandingii*), and the liatris borer moth (*Papaipema beeriana*).

**Conservation and Management Considerations**

Wet Prairie is now a rare community, and many of the remaining examples are degraded. Among the important factors that have damaged lowland prairies are hydrologic
disruption; excessive inputs of sediments, nutrients, and pollutants; the spread and increase in abundance of invasive species; fire suppression; and prolonged periods of grazing by confined livestock.

Wetland drainage has resulted in outright destruction when Wet Prairies are converted to croplands, industrial uses, or residential developments. Dike construction raises water levels, increasing areas of marsh and open water at the expense of prairie, sedge meadow, and fen. Runoff from agricultural fields may include sediments, nutrients, herbicides, pesticides, and invasive plant propagules. Most Wet Prairie remnants are now very small. Their isolation makes recovery of lost species difficult, if not impossible, without direct and expensive intervention.

Among the invasive plants that are especially problematic are purple loosestrife (Lythrum salicaria), reed canary grass (Phalaris arundinacea), narrow-leaved cat-tail (Typha angustifolia), hybrid cat-tail (Typha x glauca), and common reed (Phragmites australis). Sites that have been hydrologically altered, especially those that have been drained, are often invaded by both native and nonnative shrubs and trees, and their ultimate control will depend on restoration of site hydrology and controlled fire.

The best opportunities for management and restoration are scattered across southern Wisconsin, including in the South Unit of the Kettle Moraine State Forest, in the Mukwonago River watershed, as part of the extensive lowlands drained by the White and Puchyan rivers, and in the Rush Lake basin in east central Wisconsin. There are also management opportunities within the complex floodplains of the major rivers in the southwestern and west central parts of the state. These river systems include the Mississippi and lower reaches of the Wisconsin, Chippewa, Black, and St. Croix.

Additional surveys to identify and better document occurrences of Wet Prairie are needed, and these should include quantitative vegetation sampling and analysis and the measurement of various physical factors, especially those related to hydrology and soil characteristics. This will further our understanding of the community, document its statewide variability and management needs, more precisely identify the best restoration and management opportunities, and refine and improve the classification of Wisconsin's natural communities.

**Additional Information**

For information on similar communities, see the descriptions for Wet-mesic Prairie, Southern Sedge Meadow, Calcareous Fen, Shrub-carr, and Southern Hardwood Swamp. Wet Prairie most closely resembles the U.S. National Vegetation Classification types CEGL002224 Central Cordgrass Wet Prairie and CEGL005109 Lakeplain Wet Prairie (Faber-Langendoen 2001). Lakeplain Wet Prairie could occur only in the extreme southeastern corner of the state, on the subdued swell and swale topography within or very close to Chiwaukee Prairie in Kenosha County.

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For a list of terms used, please visit the [Glossary](#).

For a reference list, please see the [Literature Cited](#).