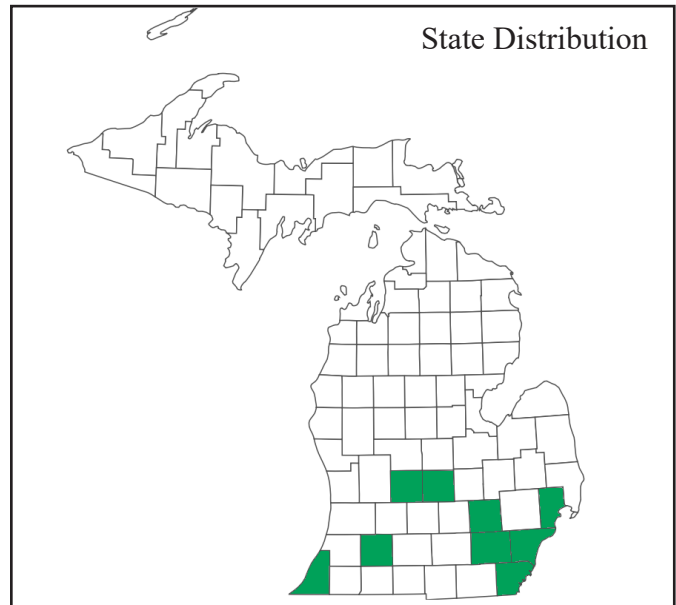
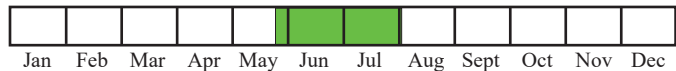


Photograph by [Samuel Brinker](#), Ontario Ministry of Natural Resources



Best Survey Period



Legal status: State Special Concern (SC)

Global and state rank: G5 (Secure), SNR (State Not Ranked)

Other common name(s): Prairie wedgescale

Family: Poaceae – the grass family

Synonyms: *Aira obtusata*, *Eatonia obtusata*, *Graphephorum obtusatum*, *Reboulea obtusata*, *Sphenopholis obtusata* var. *lobata*, *Sphenopholis obtusata* var. *obtusata*

Taxonomy: The genus *Sphenopholis* is within the subfamily Pooideae and tribe Poeae. This is the largest tribe within the grasses, consisting of 115 genera and 2500 species, although its taxonomy is unclear and may be para or polyphyletic (Barkworth 2021). Originally, species of *Sphenopholis* were placed across seven other genera, but they were coalesced and described under the single genus by F. Lamson-Scribner in 1906. There are six extant *Sphenopholis* species including prairie wedgrass (*Sphenopholis obtusata*), longleaf wedgescale (*S. filiformis*), slender wedgrass (*S.*

intermedia), prairie false oat (*S. interrupta*), shining wedgrass (*S. nitida*), and swamp wedgescale (*S. pensylvanica*). There is a single known hybrid between prairie wedgrass and swamp wedgescale known as *Sphenopholis* x *pallens* (pallid wedge grass). Other than prairie wedgescale, there are two other *Sphenopholis* species that occur in Michigan: slender wedgrass and shining wedgrass.

Prairie wedgrass was previously described as having several varieties, specifically variety *obtusata*, variety *lobata*, and variety *major*. Varieties *obtusata* and *lobata* are no longer recognized, and their characteristics have been subsumed into the overall description of the main species. Variety *major* is now recognized as slender wedgrass.

Total Range: Prairie wedgrass is a widespread grass species that occurs throughout most of North America. It ranges from the west coast of North America, north to British Columbia, east to Ontario in Canada, northeast to New England in the United States of America, south throughout the United States of America, and southwest to the state of Oaxaca in Mexico. It also occurs on the island of Hispaniola in the Caribbean Sea. It has been intro-



duced to Germany and Japan. It is listed as Secure (S5) in Kentucky, Pennsylvania, Virginia, and South Carolina; Apparently Secure (S4) in Montana, Iowa, Kansas, West Virginia, North Carolina, New Jersey, and Saskatchewan; Vulnerable (S3) in Wyoming, Colorado, Illinois, Alberta, and Manitoba; Imperiled (S2) in Oregon, California, and Nevada; Critically Imperiled (S1) in Ohio, New York, Massachusetts, and Ontario; and Possibly Extirpated (SH) in Vermont, New Hampshire, and Maine (NatureServe 2023).

State Distribution: Overall, the species appears to have a southern distribution in the Lower Peninsula of Michigan. Locations of prairie wedgegrass are only known from herbarium collections which have been made in Berrien, Clinton, Ionia, Kalamazoo, Livingston, Macomb, Monroe, Washtenaw, and Wayne counties. Collections have also been made in Keweenaw and Houghton counties, but these specimens are under scrutiny due to a possible labeling error (Reznicek et al. 2011).

Recognition: Prairie wedgegrass is a clump-forming grass that reaches 30–100 cm (11.8–39.3 in) in height. Leaves range from 4–14 cm (1.6–5.5 in) long and 2–8 mm (0.08–0.3 in) wide. They are usually flat but rarely can be somewhat involute (i.e., rolled). All specimens collected in Michigan to date bear glabrous or scaberulous, not pubescent, stems and foliage (Reznicek et al. 2011), but pubescent individuals are not uncommon elsewhere. The **glabrous panicle** is 5–15 cm (2–5.9 in) long and 0.5–2 cm (0.2–0.8 in) wide, and it is erect and spike-like with crowded, appressed branches. The spikelets are 2.5–3.5 mm (0.1–0.14 in) long, usually consisting of **two florets that are tightly arranged, more so than other species of *Sphenopholis***. The glumes are about 1–3 mm (0.04–0.12 in) long, but the first glume is usually slightly shorter and a third as wide as the second glume. The shape of the second glume is **very broad at the tip and rounded and cucullate (i.e., possessing a hoodlike curl)**. **Lemmas are awnless. Anthers are 0.3–0.7 mm (0.01–0.03 in) long, although usually not over 0.5 mm (0.02 in).**

Prairie wedgegrass is most likely to be confused with the other two species of *Sphenopholis* that occur in Michigan: shining wedgegrass and slender wedgegrass. It can be distinguished from them based on panicle shape and density, the shape of the second glume, width of the first glume, and length of the anther. Unlike the dense, erect, spike-like panicle of prairie wedgegrass, the panicles of slender wedgegrass and shining wedgegrass are lax, nodding, and have lower spikelet density. The shape of the second glume is one of the best diagnostic traits for the wedgegrasses, and the tip is distinctly hooded in prairie wedgegrass, acute in slender wedgegrass, and obtuse but not hooded in shining wedgegrass. The first glume of prairie wedgegrass, measured when folded, does not exceed 0.3 mm (0.012 in) in width, while it is larger than 0.3 mm (0.01 in) in shining wedgegrass. The anthers of prairie wedgegrass are typically much shorter in length [0.3–0.7 mm (0.01–0.03 in)] than in shining wedgegrass, which are greater than 0.7 mm (0.03 in). Prairie wedgegrass can also resemble June grass (*Koeleria macrantha*), but the panicle axis and branches in prairie wedgegrass are glabrous while those of June grass are pubescent.

Best survey time/phenology: The best time to survey for prairie wedgegrass is during late spring and early summer. The panicle quickly disintegrates when it matures, and once the spikelets drop, the grass is difficult to impossible to identify. In Michigan, most collections of prairie wedgegrass have been made between the first week of June and the second week of July (COMH 2026).

Habitat: Throughout its range, prairie wedgescale occurs in a variety of environments including dry to wet marshes, dunes, forests, prairies, shores, and anthropogenically impacted habitat. In Michigan, it occurs in dry to wet soils and is commonly found in open oak-hickory forests, sandy shores, and dry or wet prairies (Reznicek et al. 2011; COMH 2026).

In open, moist, sandy habitats associated species include red maple (*Acer rubrum*), quaking aspen (*Populus tremuloides*), Bebb's willow (*Salix bebb-*



biana), steeplebush (*Spiraea tomentosa*), broom sedge (*Carex scoparia*), tall tickseed (*Coreopsis tripteris*), and rough-leaved goldenrod (*Solidago rugosa*). In oak-hickory forest it is associated with smooth false foxglove (*Aureolaria flava*), Pennsylvania sedge (*Carex pennsylvanica*), and fescue (*Festuca saximontana*).

In the greater Chicago region, including Berrien County, Michigan, prairie wedgescale also occurs along beach ridges, railroads, and in old fields. In prairies and along beach ridges it is associated with yarrow (*Achillea millefolium*), woolly sedge (*Carex pellita*), common fleabane (*Erigeron philadelphicus*), flowering spurge (*Euphorbia corollata*), grass-leaved goldenrod (*Euthamia graminifolia*), Dudley's rush (*Juncus dudleyi*), Torrey's rush (*Juncus torreyi*), northern ragwort (*Packera paupercula*), common mountain mint (*Pycnanthemum virginianum*), prairie cordgrass (*Spartina pectinata*), New England aster (*Symphyotrichum novae-angliae*), and common spiderwort (*Tradescantia ohiensis*). Along lakeshores, it is associated with reedtop (*Agrostis gigantea*), prairie straw sedge (*Carex suberecta*), little green sedge (*Carex viridula*), brook nut sedge (*Cyperus bipartitus*), mat panicgrass (*Dichanthelium implicatum*), creeping spikerush (*Eleocharis palustris*), few-flower spikerush (*Eleocharis quinqueflora*), jointed rush (*Juncus articulatus*), Torrey's rush, switch grass (*Panicum virgatum*), blueleaf willow (*Salix myricoides*), seaside goldenrod (*Solidago sempervirens*), and heath aster (*Symphyotrichum ericoides*). (Wilhem and Rericha 2017)

Biology: Prairie wedgegrass is a cool-season grass and a short-lived perennial. It naturally occurs at low densities or in localized populations within the broader landscape. It is cespitose and non-rhizomatous. Fruits contain a liquid endosperm, which is less common than solid or semi-solid endosperm in grasses (Terrel 1971). It is a trait restricted to the tribe Poeae, to which *Sphenopholis* belongs (Watson-Lazowski et al. 2026).



Photograph by Samuel Brinker, Ontario Ministry of Natural Resources

Figure 2. Floret with the narrow first glume on the right and second glume with hooded shape on left.

In a study regarding the germination competitiveness of sparse versus common prairie grass species, it was found that the seedlings of sparse species, including prairie wedgegrass, exhibited a competitive advantage when grown with other common prairie grass species such as big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), and Indian grass (*Sorghastrum nutans*) (Rabinowitz et al. 1984). Seedlings of the same sparse grasses performed worse when grown together indicating a predisposition to low landscape density and diffuse populations. Another characteristic of prairie wedgegrass that aids in competitive ability is its flat, lightweight spikelets which allow for better dispersion compared to the larger and heavier seeds and spikelets of common grasses (Rabinowitz and Rapp 1981).

Research into the role of warming temperatures and light on the germination of native plant species in Canada revealed prairie wedgegrass responded positively to increased light availability and warmer temperatures, although the response was more significant to light (Dhar et al. 2025). Its germination response supports the hypothesis that prairie



wedgegrass may be somewhat tolerant to the effects of climate change.

Concerning fungal and faunal associates, prairie wedgegrass can form a symbiotic relationship with the fungal endophyte *Epichloë amarillans* (White 1994). This genus is associated with approximately 20-30% of grass species (Afkhami and Rudgers 2008). Like most other species of *Sphenopholis*, prairie wedgegrass is edible to livestock, although it is too sparse within the landscape to be a valuable forage species on its own. Little else is known about its interactions with other organisms.

Conservation/management: Little is practiced to conserve and manage prairie wedgegrass considering it is secure within most of its range and can grow in anthropogenically disturbed habitats. Populations are likely impacted by development, loss of viable habitat, fragmentation, and competition with invasive species, and fire suppression and exclusion. Since European colonization, Michigan's prairie and savanna habitats have been converted to agriculture, developed, fragmented, and encroached by woody species, reducing acreage to less than 1% of historic prairie habitat (Kost 2004). Most communities where prairie wedgegrass is found are fire-dependent systems. Alteration of historic fire regimes via removal and suppression of Indigenous people and culture result in succession of less fire-tolerant mesic forest species (Nuzzo 1986). Persistence of this species is owed to the restoration and management of the forests in which it resides. Habitat protection is also vital to the species survival in Michigan. Three extant occurrences are located on land managed and protected by the Michigan Department of Natural Resources and the University of Michigan, but most other occurrences are on private land.

Comments: The name *Sphenopholis* translates to "wedge scale" in Greek, referring to the larger of the two glumes within a spikelet. The epithet *obtusata* comes from Latin and means "blunt" or "blunted." It also refers to the second glume, which is broad and hooded.

Research needs: More research is needed to better understand aspects of the biology, ecology, and effective management strategies for prairie wedgegrass. Little is known of important faunal associates, potential threats, genetics, and population demographics within Michigan. Use of prescribed fire is likely effective treatment for combatting succession where extant populations occur, but research is needed to prove its efficacy. Status surveys are recommended to assess current population conditions and habitat viability at locations derived from herbarium collections. Additional surveys in surrounding areas with suitable habitat are also advised, as this species may be overlooked and undercollected where it occurs.

Related abstracts: Dry-mesic forest, dry southern forest, dry-mesic prairie, mesic prairie, mesic sand prairie, wet prairie, wet-mesic prairie

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