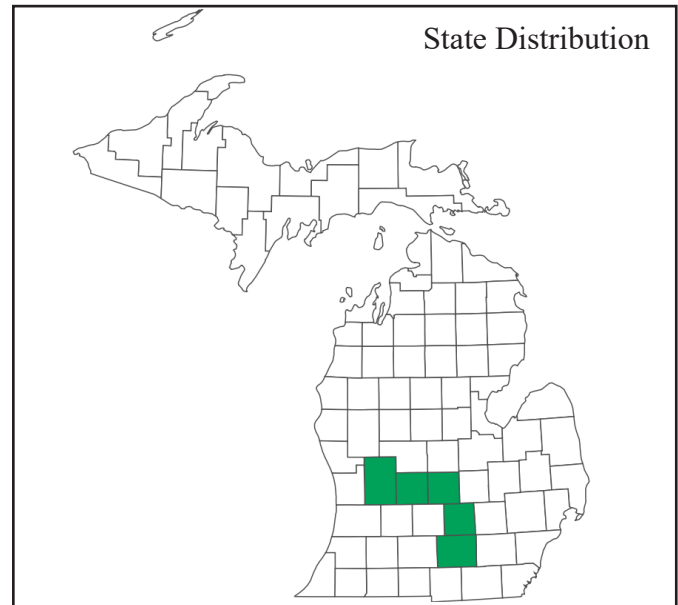
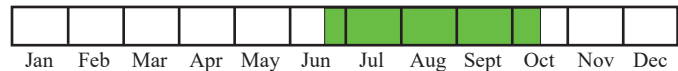


Photograph by [Nate Martineau](#), iNaturalist



Best Survey Period



Legal status: State Threatened

Global and state rank: G5 (Globally Secure) / S1 (Critically Imperiled)

Other common name(s): Cat-tail sedge, common cattail sedge

Family: Cyperaceae – sedge family

Synonyms: *Carex squarrosa* var. *typhina* (Michx.) Nutt.

Taxonomy: *Carex* genus belongs to the order Poales—which includes grasses, sedges, and rushes—and to the family Cyperaceae (i.e., sedges) (Stevens 2026). *C. typhina* is placed within *Carex* Section *Squarrosae*, a group distinguished by its glabrous (i.e., hairless), inflated perigynium body that is obovoid to obconic in shape (i.e., inverted egg or cone) and abruptly contracted into a distinct, slender beak. Species in this section also characteristically have a terminal spike that is predominantly pistillate, bearing staminate flowers only at the base (i.e., gynecandrous; Arsenault and Haines 2004, Reznicek et al. 2026, Rothrock 2021).

Total range: *Carex typhina* occurs widely across eastern North America, extending from the Canadian provinces of Ontario and Quebec southward through the Appalachian and eastern United States to Florida and Georgia, west to Texas and Oklahoma, and north through the Midwest to Wisconsin and Minnesota. The species is more secure in the southern part of its range than in the north and east. In Canada at the Federal and Province level, the species is Imperiled (N2, S2). In the United States at the federal level, it is Secure (N5), but at the State level, its status varies. In Michigan, Connecticut, Maine, and Oklahoma, it is Critically Imperiled (S1). In Massachusetts, New Jersey, New York, Pennsylvania, and West Virginia, it is Imperiled (S2). In Vermont, it is Imperiled or Vulnerable (S2S3). In Delaware and Minnesota, it is Vulnerable (S3). In Illinois, it is Potentially Vulnerable (S3?). In Indiana, Maryland, North Carolina, and Virginia, it is Apparently Secure (S4). In Arkansas, Mississippi, and South Carolina, it is Secure (S5). In Alabama, Florida, Georgia, Louisiana, Missouri, Ohio, Tennessee, Texas, and Wisconsin, it is Unranked (SNR), and in the District of Columbia it is Possibly Extirpated (SH) (NatureServe 2025).



State distribution: Michigan is in the northern part of *Carex typhina*'s range. In Michigan, it is known from 10 occurrences across five counties in the southern half of the Lower Peninsula: Kent, Jackson, and Ingham counties each have a single, extant occurrence, while Ionia County has three and Clinton County has four documented occurrences. Of the ten state occurrences, one is categorized as Excellent estimated viability (A), three are Good estimated viability (B), one is Fair estimated viability (C), two are Fair or Poor estimated viability (CD), one is Verified extant, viability not assessed (E), and two are Historical (H) (MNFI 2026).

Recognition: *Carex typhina* is a caespitose, short-rhizomatous perennial graminoid with culms 30–80 cm (11.8–31.5 in) long. **Leaves are glabrous and 5.3–7.5 mm (0.21–0.30 in) wide.** It has 2–4 erect spikes. Lateral spikes are typically pistillate. **Terminal spikes are typically gynecandrous** (i.e., pistillate flowers located above staminate flowers). Pistillate scales with apex acute, sharp or blunt and concealed by perigynia. Staminate scales with apex acute, sharp or blunt. **Perigynia are appressed and ascending** and measure 5.5–7.8 mm (0.22–0.31 in) long and 2–3 mm (0.08–0.12 in) wide and smooth. Perigynia beaks often scabrous. **Achene sides are often concave, 2–2.6 mm (0.08–0.10 in) long and 1.4–1.7 mm (0.06–0.07 in) wide** and 1.2–1.9 times as long as wide. Styles are deciduous and straight (Ball and Reznicek 2023, Reznicek et al. 2026). In Michigan, there are two other members of section *Squarrosae*, *C. frankii* and *C. squarrosa*. *C. typhina* can be distinguished from *C. frankii* by its **awnless pistillate scales and longer achenes** (2–2.6 mm [0.08–0.10 in]), whereas *C. frankii* has pistillate scales with a long awn that exceeds the perigynium beak and shorter achenes.

Carex typhina differs from *C. squarrosa* by its **broad ellipsoid achenes** (1.4–1.7 mm [0.06–0.07 in]) wide while *C. squarrosa* exhibits slender ellipsoid achenes. In *C. typhina*, **even the lowest perigynia beaks point up and outward** towards the tip of the spike, while in *C. squarrosa*, the perigynium beaks radiate out in all directions at maturity. De-

spite some overlap, *C. typhina* generally has **wider leaves (5.3–7.5 mm [0.2–0.3 in])** than those of *C. squarrosa* (3.1–5.7 mm [0.1–0.2 in]) (Reznicek et al. 2026).

Best survey time/phenology: The best time to survey for *C. typhina* is from the fourth week of June to the second week of October when it is blooming or fruiting. This species is known to fruit later than other members of genus *Carex*, with fruits maturing into September (MNFI 2026, Reznicek et al. 2026).

Habitat: Across its range, *Carex typhina* primarily occurs in shaded forestlands, wet woods, bottomland forests, and swamp forests. In Michigan, *C. typhina* occurs in floodplain forests, southern hardwood swamp and mesic southern forest natural community types. Specifically, it grows on relatively flat, flood-prone sites within rocky to wet swampy woods, bottomland forests within the first or second bottom and edges of forested vernal pools. Three records state it was found growing in disturbed habitats such as a recently logged wet forest, along a roadside ditch and at the edge of a seasonally wet, rocky forested depression within an abandoned field. It is often found near rivers or creeks such as the Grand River, Maple River and Sebewa Creek. It is also known from the Huron and Rogue River watersheds (NatureServe 2025, MNFI 2026, Reznicek et al. 2026).

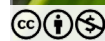
Common woody associates include sugar maple (*Acer saccharum*), silver maple (*Acer saccharinum*), red maple (*Acer rubrum*), shagbark hickory (*Carya ovata*), buttonbush (*Cephalanthus occidentalis*), dogwoods (*Cornus* spp.), hawthorns (*Crataegus* spp.), white ash (*Fraxinus americana*), green ash (*Fraxinus pennsylvanica*), Kentucky coffee-tree (*Gymnocladus dioica*), spicebush (*Lindera benzoin*), cottonwood (*Populus deltoides*), swamp white oak (*Quercus bicolor*), bur oak (*Quercus macrocarpa*), red oak (*Quercus rubra*), basswood (*Tilia americana*), American elm (*Ulmus americana*), and prickly-ash (*Zanthoxylum americanum*) (MNFI 2026).



Common herbaceous associates include sedges *Carex bromoides*, *C. crinita*, *C. grayi*, *C. intumescens*, *C. lupulina*, *C. muskingumensis*, wood reedgrass (*Cinna arundinacea*), stoneroos (*Collinsonia canadensis*), panic grass (*Dichanthelium* sp.), wild yam (*Dioscorea villosa*), Virginia wild-rye (*Elymus virginicus*), fowl manna grass (*Glyceria striata*), wood nettle (*Laportea canadensis*), moneywort (*Lysimachia nummularia*), sensitive fern (*Onoclea sensibilis*), reed canary grass (*Phalaris arundinacea*), wool-grass (*Scirpus* sp.), calico aster (*Symphotrichum lateriflorum*), early meadow-rue (*Thalictrum dioicum*), and poison ivy (*Toxicodendron radicans*) (MNFI 2026).

Biology: Limited information exists on the biology of *C. typhina* and much research is needed in order to explain this aspect of the species. In general, members of the genus *Carex* are herbaceous, perennial graminoids (i.e., grass-like plants) with 3-ranked leaves. *C. typhina* is a cespitose, clump-forming species that does not spread extensively by clonal growth like other members of genus *Carex*. It relies more on sexual reproduction and seed dispersal for population persistence and growth. This species, like other Carices, is wind-pollinated. *C. typhina* was described by Cromley (2005) to be primarily a self-fertilizing (self-compatible) species but also a species that utilizes cross-fertilization (out-crossing) as a means of reproduction. No apomixis (i.e., sexual reproduction without fertilization) has been observed in this species.

Carex typhina is known to fruit later than other Carices, with some fruits maturing late into September (Reznicek et al. 2026), after which dispersal into the surrounding environment occurs. Given the right circumstances, *C. typhina* expresses a high rate of reproductive success, producing large quantities of viable achenes. Annual flooding is an essential part of seed dispersal for this species and it is known that *C. typhina* diaspores (achenes with perigynia) can float for several weeks and then successfully germinate, making them well adapted for buoyancy and dispersal by water (i.e., hydrochory) (Cromley 2005).



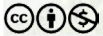
Photograph by [Nate Martineau](#), iNaturalist

Figure 1. Terminal reproductive spikes are typically gynecandrous with male flowers below the female.

Carex typhina has been shown to have an absolute light requirement in order to germinate and that it also benefits greatly by a cold stratification regime. No animal interactions have been documented, and no significant diseases specific to the species have been reported.

Conservation/management: *Carex typhina* faces threats of habitat destruction, degradation, invasive species, increased frequency of droughts, hydrological alterations, agricultural conversion, development and potential habitat destruction by work conducted within MDOT rightsofway where the species infrequently occurs. Conserving forested habitats and maintaining large, intact canopy tracts are critical for sustaining healthy populations. All extant occurrences are found on publicly owned lands with restricted access to one. Tract size is an important determinant of population size and overall health, as larger areas provide more suitable habitat for the species to occupy and expand without being constrained by surrounding development and other stressors (MNFI 2026). Extant occurrences of *C. typhina* occur in two large forest





Photograph by [Nate Martineau](#), iNaturalist

Figure 2. *Carex typhina* growing in a flooded forest.

tracks, one medium-sized track, and three in small, isolated tracks.

Although the species appears tolerant of some disturbance and temporary full sunlight exposure, it is not known to persist long in full sun conditions. Because *C. typhina* commonly inhabits floodplain forests and other mesic to wet sites, preserving natural hydrological systems is essential. Controlling woody encroachment and invasive species—such as garlic mustard (*Alliaria petiolata*), autumn olive (*Elaeagnus umbellata*) and multiflora rose (*Rosa multiflora*)—is a high priority to reduce competition for space and light and maintain suitable habitat.

Increased shading and leaf litter accumulation in this species habitat is a possible threat to its long-term persistence. Cromley (2005) recommends mechanical removal of dense leaf litter where populations are in decline to help provide space for germinating and population expansion. Cessation of flooding in this species habitat is a potential threat because this modifies the hydrological regimes and stabilizes or homogenizes leaf litter deposition which can lead to a reduction of seed dispersal by water and germination. This can also allow for woody encroachment, altering the avail-

ability of light exposure (Cromley 2005).

Hand dispersal of *C. typhina* fruits in areas where the species is declining is a potential conservation method recommended by Cromley (2005) to support the persistence of diminishing populations.

Comments: *Carex* × *deamii* (Hermann 1938) is a sterile hybrid thought to result from a cross between *C. shortiana* and *C. typhina*, though its parentage remains unresolved (Ball and Reznicek 2023, McKenzie and Henry 2018). Although *C. shortiana* has not been recorded in Michigan, its presence in nearby states and in Ontario makes the hybrid's occurrence in Michigan a possibility.

Research needs: Although some work on the biology of *C. typhina* has been documented (Cromley 2005) more research on various aspects of this species could help in understanding its conservation needs: The classification and phylogenetics of genus *Carex* are not fully described and are the subject of much debate and the current evidence does not allow for definitive conclusions (Ball and Reznicek 2023). Potential herbivorous predators and biological pathogens are unknown. No studies have evaluated the species' response to transplanting, which could offer valuable insights



if relocation becomes necessary. Additionally, further research on artificial seed dispersal would provide important information for its conservation. Research is lacking on the species' potential responses to climate change, canopy manipulation, and research on variations in light and temperature are scarce. Its ecological interactions with other plants and its environments, including adaptation to non-native invasive species and woody encroachment, have not been fully examined. Status surveys and viability assessments should be conducted periodically to monitor the conditions of populations, particularly where populations are at a greater risk of extirpation due to small population size, poor habitat or nearby development or disturbances.

Additional surveys targeting this species and its habitat are strongly recommended to locate new populations and to enhance understanding of its conservation and management needs (Cohen et al. 2020, Cromley 2005, MNFI 2026).

Related abstracts: Floodplain forest, southern hardwood swamp, mesic southern forest.

Selected references:

- Arsenault, M. P. and A. Haines. 2004. Rediscovery of *Carex typhina* (Cyperaceae) in Maine. *Rhodora* 106: 52-54.
- Ball P. W. and A. A. Reznicek. 2023. *Carex typhina*. In: Flora of North America Editorial Committee, eds. 1993+. Flora Of North America North of Mexico [Online]. 25+ vols. New York and Oxford. Vol. 23. <http://beta.floranorthamerica.org/Carex_typhina>. Accessed 20 Jan 2026.
- Bernard J. M. 1990. Life history and vegetative reproduction in *Carex*. *Canadian Journal of Botany* 68: 1441-1448.
- Cohen, J. G., M. A. Kost, B. S. Slaughter, D. A. Albert, J. M. Lincoln, A. P. Kortenhoven, C. M. Wilton, H. D. Enander, and K. M. Korroch. 2020. Michigan Natural Community Classification [web application]. Michigan Natural Features Inventory, Michigan State University Extension, Lansing, MI. Accessed

26 Nov 2025.

- Cromley, S. 2005. Reproductive ecology of *Carex typhina* (Cyperaceae), a rare sedge in Maine. A Master of Science Thesis. The Graduate School, University of Maine.
- Hermann, F. J. 1938. New or otherwise interesting plants from Indiana. *Rhodora* 40: 77-88.
- Michigan Natural Features Inventory (MNFI). 2026. Michigan Natural Heritage Database, Lansing, Michigan, USA.
- McKenzie P. M. and B. Henry. 2018. Evidence that *Carex ×deamii* may be derived from a cross between *C. squarrosa* and *C. shortiana*. *Missouriensis* 35: 3-7.
- NatureServe. 2025. NatureServe Network Biodiversity Location Data accessed through NatureServe Explorer <<https://explorer.natureserve.org/>>. Accessed 20 Jan 2026.
- Reznicek, A. A., E. G. Voss, and B. S. Walters. 2026. Michigan Flora Online. University of Michigan <<https://michiganflora.net/>>. Accessed 20 Jan 2026.
- Rothrock, P. E. 2021. Sedges of Indiana and the Adjacent States. Indiana Academy of Science. Indianapolis, IN.
- Stevens, P. F. 2026. Angiosperm Phylogeny Website <<https://www.mobot.org/mobot/research/apweb/>>. Version 13. Accessed 20 Jan 2026.

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