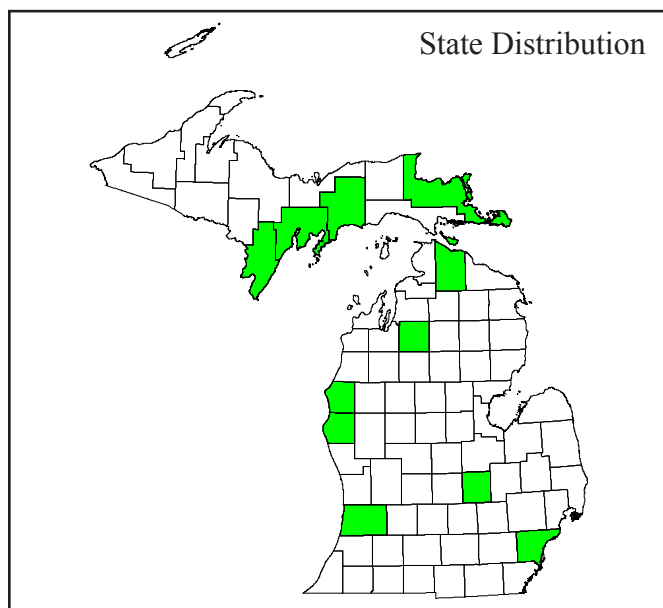




Photo by Daniel R. Spuhler, Univ. Wisc. Stevens Point



Best Survey Period



Status: State threatened

Global and state rank: G5?/S1S2

Other common names: rush

Family: Juncaceae (rush family)

Synonyms: *Juncus greenei* Oakes & Tuckerman var. *vaseyi* (Engelm.) B. Boivin

Taxonomy: Formerly treated as a variety of *J. greenei* (Flora of North American 2000).

Range: *J. vaseyi* is a boreal rush that ranges from Canada's Northwest Territories to Colorado, and eastward to Labrador, Maine, and New York, extending south into the Great Lakes states and New Jersey. It is considered rare in Alberta, Colorado, Illinois, Labrador, Maine, New Brunswick, Nova Scotia, Ontario, Quebec, Vermont, Wisconsin, and Wyoming, and is known only from historical records in North Dakota (NatureServe 2007).

State distribution: Vasey's rush, which is typically very localized, is known from 16 widely scattered stations, ranging from the central and eastern Upper Peninsula to northern, central, southwest, and southeast Lower Michigan. Prior to the mid-1980s it was known only from four collections.

Recognition: The stems of this perennial rush are stiffly erect and clumped, ranging from 1.2 to 8 dm in height. The leaves, which arise from the base of the stem, are slender, tubular, and **lack the hard inner cross partitions** common in several other species of *Juncus* (the presence of partitions can be checked by running a fingernail down the length of a leaf). Terminating the stems are the inflorescences, which have more than four flowers and are subtended by a stiff, slender, **erect bract 1-6 cm long** that emerges from the base of the compact, terminal flower cluster. **The tiny seeds have a pale, whitish tail at each end, the tail about half as long as the body of the seed.** *J. vaseyi* is most likely to be confused with the very similar *J. greenei*, with which it often grows. In contrast to *J. vaseyi*, *J. greenei* has more pronounced involucral (subtending) bracts that may range up to ca. 20 cm in length, darker, brownish capsules (versus the more pale, golden tan capsules in *J. vaseyi*), and seeds that usually lack tails or, when present, are much shorter than half the width of the seed.

Best survey time/phenology: Plants with mature fruits are necessary for reliable identification, and plants can be sought over a long survey window. Fruiting plants have been collected from late June in southern Michigan to late October elsewhere in the state, and thus the survey period is estimated to be from late June through October.



FQI Coefficient and Wetland Category: 10, FACW

Habitat: Moist, sandy barrens and open marshy flats or grassy swales--sometimes resulting from shallow excavations--constitute *J. vaseyi*'s habitat in Michigan. In Schoolcraft County, this species grows along a relict Great Lakes shoreline in spring runoff channels dominated by scattered jack pine. Associates at this site include *Toxicodendron radicans* (poison ivy), *Oenothera perennis* (evening-primrose), *Comandra umbellata* (bastard toadflax), *Antennaria neglecta* (pussy-toes), and *Hypericum kalmianum* (shrubby St. John's-wort). The Mason County population grows in deep muck over fine sand on the margin of a seasonally inundated swale flanked by low sand ridges supporting sparse jack pine and aspen. There *Juncus vaseyi* grows with *Spartina pectinata* (prairie cordgrass)--the dominant--and *Lobelia spicata*, (spike lobelia), *Viola lanceolata* (lance-leaved violet), *Aster tenuifolius* (salt-marsh aster), *A. simplex* (panicled aster), *Juncus effusus*, *J. canadensis*, *J. greenii*, *J. acuminata*, *J. brachycarpus* (rushes), *Scirpus atrovirens* (bulrush), *Ludwigia palustris* (marsh purslane), *Salix interior* (sandbar willow), *Ilex verticillata* (Michigan holly), and *Spiraea alba* (meadowsweet). In Crawford County within Camp Grayling, Vasey's rush inhabits unusual lakeplain wet-mesic prairie remnants occurring within a glacial lakeplain landscape, whereas in Wayne County it was discovered in low areas of a large lakeplain prairie complex where it was associated with a large number of rarities. Throughout its range, Vasey's rush typically inhabits seasonally moist, open areas on rocks and sand, usually in somewhat acidic substrates (Catling and Spicer 1987).

Biology: *J. vaseyi* is a perennial arising from a short rhizome.

Conservation/management: The marshy habitat of this rush is kept open by seasonal flooding. Hence, maintenance of the natural hydrologic regime is critical. In wet prairie and mesic sand prairie habitats, fire was undoubtedly a natural process, and thus prescribed fire is likely necessary in order to perpetuate and maintain these natural communities. The Schoolcraft and Menominee County stations lie on state forest land, and the Mason County locality occurs within a nominated Research Natural Area within the Huron-Manistee National Forest.

Research needs: Monitoring to determine the response of this species and its natural community to experimental restoration management is desirable. There is virtually no information on the life history, demography, and genetic diversity of this species in Michigan.

Related abstracts: Intermittent wetland, lakeplain wet prairie, lakeplain wet-mesic prairie, American bittern, Blanding's turtle, blazing star borer, eastern box turtle, king rail, northern harrier, short eared-owl, spotted turtle, black-fruited spike-rush, dwarf bulrush, eastern prairie fringed orchid, few-flowered nut-rush, Gattinger's gerardia, northern appressed clubmoss, rose-pink, panicled screw-stem, purple milkweed, round-seed panic grass, sand milkwort, Skinner's gerardia, Sullivant's milkweed, tall green milkweed, three-awned grass, whorled mountain-mint, and several other rare taxa of the above natural community types (see MNFI Rare Species Explorer for a comprehensive cross-listing).

Selected references:

- Catling, P. M. & K. W. Spicer. 1987. The perennial *Juncus* of section Poiophylli in the Canadian prairie provinces. *Can. J. Bot.* 65: 750-760.
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- Flora of North America Editorial Committee. 2000. *Flora of North America, North of Mexico*. Volume 22: *Magnoliophyta: Alismatidae, Arecidae, Commelinidae (in part), and Zingiberidae*. Oxford Univ. Press. New York, N.Y. 352 pp.
- NatureServe. 2007. NatureServe Explorer: an online encyclopedia of life [web application]. Version 6.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: September 11, 2007).

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