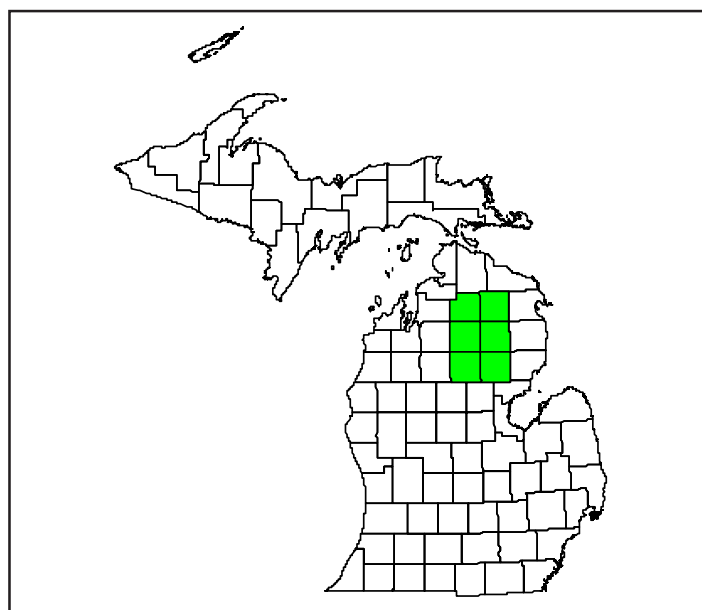
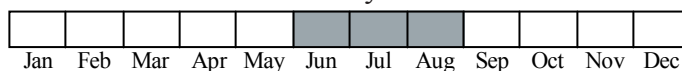


Photo by Phyllis J. Higman



Best Survey Period



**Status:** State threatened

**Global and state rank:** G5/S3

**Family:** Poaceae (grass family)

**Synonyms:** *F. altaica* Trin. ssp. *scabrella* (Torrey) Hultén; *F. altaica* Trin ssp. *altaica*; *F. altaica* ssp. *hallii* (Vasey) Harms; *F. hallii* (Vasey) Piper; *F. campestris* Rydberg var. *major* (Vasey) Gleason.

**Taxonomy:** Michigan plants were included in the western cordilleran variety *major* Vasey by Hitchcock (1951). *F. scabrella* is considered to be a subspecies of the transcontinental *F. altaica* by some authors (Harms 1984; Pavlick & Looman 1984) and Ontario plants have been assigned by various authors to *F. hallii* (Pavlick & Looman 1984; Aiken & Lefkovitch 1984), which is considered by Harms (1984) to be a subspecies of *F. altaica*.

**Total range:** *Festuca scabrella* ranges in the west from North Dakota and Colorado to Alaska. In the east it is found in isolated portions of Newfoundland, Quebec, Ontario, and Michigan. It is considered rare in Colorado (as *F. altaica* ssp. *scabrella*) and in Quebec and Ontario (as *F. hallii*).

**State distribution:** *F. scabrella* is narrowly restricted in the north central Lower Peninsula to adjacent areas of Crawford, Oscoda, Montmorency, Otsego, Roscommon, and Ogemaw Counties. It has not been collected in Roscommon County since the 1950s.

**Recognition:** Rough fescue usually forms **large, dense tussocks** with fertile stems reaching 3 to 8 dm in height.

Its leaves, which are mostly basal, are narrow (1.5-4 mm) with **sometimes inrolled margins and the lowermost blades breaking off easily to leave stiff, persistent sheaths**. The few inflorescence branches are erect to somewhat curving, bearing narrow spikelets 8-10 mm long in which the second glume is nearly as long as the spikelet itself and the **lemmas are finely scabrous**. This species can usually be readily distinguished from other fescues by its robust, strongly tufted growth habit and its leaves that break off at the sheath. *Bromus kalmii* (prairie brome) may superficially resemble rough fescue in overall aspect, but the former has more drooping inflorescence branches and longer spikelets (15-25 mm), with the second glume much shorter in length than the spikelet. The similar looking *Schizachne purpurascens* (false melic) can be distinguished by its long awns and dense beard of hairs at the base of the florets.

**Best survey time/phenology:** Rough fescue is best identified when inflorescences are developed, such that it can be definitively distinguished from other tussock-forming species. With experience, this species may also be sought during other periods of the growth season using detailed characteristics of the leaf as well as growth habit.

**Habitat:** *F. scabrella* grows in openings of sandy jack pine barrens with *Andropogon gerardii* (big bluestem), *Comptonia peregrina* (sweet-fern), *Deschampsia flexuosa* (hair grass), *Prunus pumila* (sand cherry), *Vaccinium angustifolium* and *V. myrtilloides* (blueberries), *Andropogon scoparius* (little bluestem), and *Agoseris glauca* (pale agoseris). It is often found growing at logged and burned sites which are now reverted to savanna. In the



western portion of the range, rough fescue inhabits prairies, hillsides, open woods, pine plains, peaty or rocky meadows and barrens, and mountain slopes from foothills to montane areas. In many of these sites it is often the dominant, turf-forming grass species.

**Biology:** This perennial grass often develops short rhizomes, and individual plants tend to form characteristic round clumps or “stools”. The spikelets mature in July. Rough fescue has a C-4 metabolism, and completes most of its growth in the cooler weather prior to midsummer.

**Conservation/management:** Many Michigan localities for rough fescue occur on state and federal lands. This species probably benefits from active management that promotes semi-open or savanna vegetation (such as that used to create Kirtland’s warbler habitat). Since this is a cool-season grass and commences growth early in the season, late spring burns should be avoided. Studies of aspen parkland in Alberta, where rough fescue often dominates, indicate that repeated fire does not favor this species, reducing both its cover and inflorescence production (Anderson and Bailey 1980; Bailey and Anderson 1978). In addition, it is highly palatable to cattle, and may be grazed out in the main portion of its range (Looman 1983). The species may be best managed by protecting it from excessive grazing and employing prescribed burns, where fire is suppressed, to determine the most appropriate fire regimes.

**Comments:** Johnston (1958) suggests that Michigan’s disjunct *F. scabrella* is a relict of the xerothermic post-glacial period, and migrated to our state via the Prairie Peninsula. Dore and McNeill (1980) regard Michigan’s *Festuca scabrella* as introduced, after inspection of an Otsego County site in 1964. They do, however, entertain the possible validity of an Ontario record from north of Lake Superior in “jack pine land” with “a few other species of prairie affinity”—habitat at least generally similar to that of rough fescue in Michigan. The fact that this species was first collected in Michigan in 1951 has also cast some doubt on its status as a native member of our flora.

**Research needs:** The primary research need concerning this species in Michigan is to determine the effects of various management practices. In particular the use of prescribed fire to maintain vigorous, viable colonies and the open, early successional habitat this species requires to perpetuate itself, should be investigated.

**Related abstracts:** dry northern forest, jack pine barrens, Alleghany plum, Hill’s thistle, pale agoseris, secretive locust

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### Abstract citation

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