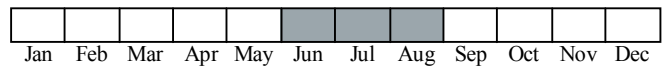


Best Survey Period



**Status:** State threatened

**Global and state rank:** G4G5/S2

**Other common names:** false dandelion

**Family:** Asteraceae (asters)

**Taxonomy:** Several infra-specific taxa have been designated in this wide-ranging and variable species. Our plants are considered var. *glauca*.

**Total range:** A transcontinental species primarily of the northern Great Plains, *A. glauca* ranges from Alaska eastward to northern Ontario, and south in the Rockies to Arizona. Its occurrence in Michigan represents a disjunction of about 600 miles from the main range.

**State distribution:** In Michigan, pale agoseris is confined to the adjoining portions of Montmorency, Otsego, Crawford, and Oscoda counties, a range very similar to that of the somewhat more broadly distributed rare grass, rough fescue (*Festuca scabrella*, state threatened). It is scattered throughout this area and often occurs semicontinuously in remnant complexes of pine barrens. Both Zimmerman (1956) and Mustard (1979) reported searching unsuccessfully for the species in apparently suitable habitat of surrounding regions.

**Recognition:** From a basal rosette of linear, fleshy, bluish-green (glaucous) leaves, which are toothless and range up to about 30 cm in length, pale agoseris produces leafless flower stalks about 20-40 cm tall,

terminating in single, large, yellow flower heads, similar to those of the common dandelion (*Taraxacum officinale*). Like the dandelion and other similar-looking species, such as the introduced yellow hawkweeds (*Hieracium* spp.) and goat's beard (*Tragopogon* spp.), it has milky sap and a spherical fruiting head of soft, fine bristles. The coarsely toothed leaves of the common dandelion readily distinguish it from pale agoseris. Hawkweeds can be distinguished by their multiple, distinctly smaller flower heads, whereas goat's beard has larger flower heads with long, narrow, leaf-like bracts and leafy flower stalks. Pale agoseris is unlikely to be confused with the diminutive native dandelion, *Krigia virginica*, a superficially similar but much smaller plant with coarsely-toothed leaves.

**Best survey time/phenology:** This species is most easily recognized when it flowers and fruits, typically in June and July, although flowering and fruiting may occur well into October in some populations. With experience the characteristic leaves are recognizable during other periods of the growth season.

**Habitat:** Pale agoseris is restricted in Michigan to dry, grass-dominated clearings (and frequently along roads) in jack pine barrens and savannas. Many sites where it grows show evidence of logging and fires, but none more recent than about 15 years. Soils are acidic, with a pH ranging from about 5 to 7, consisting of well-drained Grayling and Rubicon sands. Mustard (1979) found plants often concentrated in topographic depressions or "frost pockets", where the best populations of this species are known to occur. Common



associates include *Carex pensylvanica* (Pennsylvania sedge), *C. lucorum* (sedge), *Festuca scabrella* (rough fescue), *Cirsium hillii* (Hill's thistle), *Andropogon gerardii* (big bluestem), *Schizachyrium scoparium* [*Andropogon scoparius*] (little bluestem), *Vaccinium angustifolium* (lowbush blueberry), *Comptonia peregrina* (sweet-fern), *Hieracium aurantiacum* (devil's paintbrush), *Deschampsia flexuosa* (hair grass), *Prunus pumila* (sand cherry), *Pinus banksiana* (jack pine), and several characteristic lichens (especially *Cladonia* and *Cladina* species) and mosses.

**Biology:** *Agoseris glauca* is a perennial species with a deep taproot. It occurs sparsely within its Michigan range, characteristically as scattered individual plants. The fruits, with their long silky hairs (the pappus of the achenes) are wind-dispersed. The relative lack of variability in this wide-ranging species suggests that self-fertilization (apomixis) may be common.

**Conservation/management:** A large colony of *A. glauca*, reportedly the "best developed" in the state (Mustard, 1979) was destroyed by the creation of burial pits for PBB-tainted livestock. However, since other thriving colonies exist, this has not significantly altered the species' status in Michigan. Jack pine harvest, followed by prescribed fire, may benefit this species by perpetuating the open, early successional habitat it requires. Dedicated inventories in the general region have resulted in the discovery of significant pine barren remnants with populations of pale agoseris, rough fescue, and Hill's thistle, including some sites found and now being actively managed and restored in the Huron National Forest.

**Comments:** The native occurrence of *A. glauca* in Michigan has been questioned, since it was not collected until 1952, when the jack pine area of north-central Michigan was first intensively botanized by Zimmerman (1956). He suggested that *Agoseris*' existence here may be "the result of accidental introduction of seed or plants from farther west." Although the origin of this species in Michigan is somewhat problematic, the occurrence of pale agoseris with other western species such as rough fescue suggests that these species are indigenous remnants of a flora that migrated into the Great Lakes region during an abrupt warming period (the Hypsithermal) following Wisconsinan glaciation from approximately 11,000-8,000 years before present.

**Research needs:** It is suspected that disturbance events (e.g. wildfires) that encourage openings within the jack pine barrens system have a positive impact on this species and associated rarities such as rough fescue. These types of management should be investigated to study the possibilities of restoration.

**Related abstracts:** pine barrens, Alleghany plum, Hill's thistle, rough fescue, secretive locust

## Selected references

- Mustard, T.S. 1979. The distribution and ecology of *Agoseris glauca* (Asteraceae) in Michigan with recommendations for mitigation of future impacts. Unpub. report prepared for the Mich. DNR. 37 pp.
- Zimmerman, D.A. 1956. The jack pine association in the Lower Peninsula of Michigan: Its structure and composition. Unpub. Ph.D. Dissertation, U. of Mich., Ann Arbor, MI.

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## Abstract citation

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