



Legal status: State threatened

Global and state rank: G4Q/S3

Family: Asteraceae (aster family)

Other common names: Huron tansy

Taxonomy: The taxonomy of *Tanacetum huronense* is very complex. Kartesz and Kartesz (1980) treated *Tanacetum huronense* as a distinct species. Other authors have treated *T. huronense* as a subspecies of the closely related Siberian and Alaskan *T. bipinnatum* L. (Gleason and Cronquist 1991), whereas Hultén (1971) includes *Tanacetum* within the genus *Chrysanthemum* and treats Great Lakes plants as a subspecies of *C. bipinnatum* L. As noted by Voss (1996), whatever the most appropriate treatment of this group may be, *Tanacetum huronense* at least includes the plants of the Great Lakes, from which the original taxon was described.

Total range: Lake Huron Tansy is a wide-ranging species distributed in North America from Alaska to British Columbia, Hudson Bay, and Newfoundland. Lake Huron tansy has a restricted distribution throughout the Great Lakes. It is found on the northern shores of Michigan, the Door Peninsula in Wisconsin,

and adjacent Ontario shores of Lake Superior (Voss 1996, Guire and Voss 1963). This species seems to prefer alkaline (i.e. calcium-rich) substrates throughout its range.

State distribution: Lake Huron Tansy is found in the calcareous dune and beach systems along the north coasts of Lake Michigan and Lake Huron, the southeast shores of Lake Superior, and the islands in northern Lake Michigan. Of the more than 100 known Michigan occurrences for this species, just over 60 have been discovered or confirmed extant since 1980.

Recognition: Lake Huron tansy is a strongly **rhizomatous** plant with 1-3 main stems that may range up to about 8 dm in height. Its leaves are **hairy**, **inconspicuously glandular-dotted**, and **deeply twice or more divided** (pinnatisect). The ultimate, finely divided segments of each leaf have a short, dull point (a mucro). The basal rosette leaves are persistent, and they are larger (23-36 cm long, 3-9 cm wide) than the successively smaller stem leaves (10-23 cm long, 3-8 cm wide). Lake Huron tansy produces a “daisy type” of flower head, which is composed of **numerous separate small flowers or florets**. There are two flower types that can be found on a head: **disk flowers**, the tubular flowers that form the majority of the flower head, and **ray flowers**, which form a small fringe of tiny



petals along the outer rim of the head. Each **yellow “petal”** on the outside of the head is a modified individual ray flower (2.5-4mm long). The yellow disk florets are tightly arranged in the center, forming a flower head that is about 13-19 mm in diameter. Each major stem produces about 3-12 heads, but a plant may produce up to 22 heads or more.

Lake Huron tansy is most likely to be confused with Michigan’s only other *Tanacetum* species, the common and widespread garden tansy, *T. vulgare*, a non-native species that invades a wide variety of habitats including coastal dunes. Garden tansy, however, is readily distinguished by its **smooth, non-hairy (i.e. glabrous) foliage that is less finely divided** and the **distinctly smaller flower heads (5-10 mm in width)** that are often more numerous than those found in Lake Huron tansy. Despite the ubiquitous nature of garden tansy and its proximity to some Lake Huron tansy populations, no hybrids have been reported to date.

Best survey time/phenology: This species blooms from approximately late June through August, although the peak blooming period is generally within July. Those experienced with this species can reliably identify it by its foliage over a broader period, from leaf emergence through senescence.

Habitat: Lake Huron tansy inhabits active dunes, old, stabilized dunes, and sandy or even substantially cobbly beaches. At times of high water periods, it can withstand wave action. Along foredunes and in other active dune areas, it commonly grows with such characteristic associates as *Ammophila breviligulata* (marram grass), *Calamovilfa longifolia* (sand reed grass), *Agropyron dasystachyum* (wheat grass), *Salix cordata* and *S. myricoides* (dune willows), *Prunus pumila* (sand cherry), *Juniperus horizontalis* (creeping juniper), *Lathyrus japonicus* (beach pea), *Elymus canadensis* (Canada wild rye), *Arabis lyrata* (lyre-leaved rockcress), and *Artemisia campestris* (wormwood). Rare associates that may occur with Lake Huron tansy include *Cirsium pitcheri* (Pitcher’s thistle), *Bromus pumpellianus* (Pumpelly’s brome grass), *Stellaria longipes* (stitchwort), *Orobancha fasciculata* (fascicled broom-rape), *Botrychium campestre* (dunewort), and *Solidago houghtonii* (Houghton’s goldenrod).

Biology: Lake Huron tansy is a perennial that forms colonies through rhizomatous growth. It blooms primarily from late June through July, fruiting from late July through September. In the fluctuating conditions of active dunes and shifting beaches, Lake Huron tansy uses two strategies for reproduction; abundant seed production and the asexual propagation of plants through its rhizomatous growth habit.

Conservation/management: Destruction or disturbance of natural habitat is the primary threat to Lake Huron tansy populations. Although Lake Huron tansy is well adapted to the natural disturbances that characterize and sustain its coastal habitats, it is vulnerable to a variety of threats such as erosion and direct impacts via excessive foot traffic and recreation, and especially the use of all-terrain vehicles. Landscape fragmentation and the direct destruction of the dunes through development activities also comprise ongoing threats. Lake Huron tansy and other coastal dune species are particularly vulnerable to much less obvious threats that may have a high impact on the function of coastal dune systems. This includes the use of a wide variety of shoreline stabilizing structures such as retaining walls, piers, and revetments, as well as the placement of beach armoring materials (e.g. rip-rap) to prevent erosion. These structures and practices, while understandably devised to protect property, also collectively impede natural sand movement and nourishment processes that maintain the integrity of coastal dune systems.

Lastly, owing to many forms of artificial disturbance, coastal dunes have been invaded by a number of highly invasive non-native plant species, including well known invaders such as *Centaurea maculosa* (spotted knapweed), *Gypsophila paniculata* (baby’s breath), *Saponaria officinalis* (soapwort), and *Populus nigra* var. *italica* (Lombardy poplar). Control measures for these species will become ever more important as a component of conservation and management.

Research needs: The life history of this species is relatively poorly known, and thus most investigations of the biology of this species would be highly useful, including studies of seed dispersal and ecology, pollination, and the response of this species to natural disturbance features of the dunes. It would be especially useful to study the ecology of this species in



relation to landscape fragmentation and the effects of human activities that affect the movement of sand along coastal regions.

Related abstracts: Open dunes, wooded dune and swale complex, dunewort, fascicled broom-rape, Houghton's goldenrod, Pitcher's thistle, Lake Huron locust, prairie warbler, dune cutworm, caspian tern, common tern, piping plover.

Selected references:

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