

Dwarf Lake Iris

(*Iris lacustris*)



Best Practice Guide: For Practitioners of Restoration or Construction Related Work in Michigan

Overview

Dwarf lake iris (*Iris lacustris*) is a rare, endemic plant found only along the shorelines of the Upper Great Lakes. It was listed by the United States Fish and Wildlife Service as a Federally threatened species in 1988 under the Endangered Species Act of 1973. It is also protected under state law, Part 365, Endangered and Threatened Species, of the Michigan Natural Resources and Environmental Protection Act (1994 PA 451). Dwarf lake iris recovery potential is high with shoreline development considered the primary threat to dwarf lake iris populations. Climate change is expected to have a negative impact on this species due to its specific habitat requirements, population fragmentation and limitations for range expansion. The purpose of this guide is to provide background information on this species and provide recommendations for the conservation and protection of this unique Great Lakes species.

Identify It

Dwarf lake iris is a perennial, miniature iris. The flowers are deep blue to purple with white and yellow crests and consist of three petals alternating with three petaloid sepals. Flowers range in size from 1 to 1.5 inches wide and 1.5 to 2.5 inches high on stalks that are about 2 inches tall. The leaves grow in clumps that surround the flowers and are sword shaped growing up to 6 inches long and 1/2 inch wide. Dwarf lake iris rhizomes are shallow, slender (less than 0.2 inches) and yellowish in color with visible growth rings.



Figure 1. Dwarf lake iris. Photo by V. Brotske.

Dwarf lake iris can be distinguished from most Michigan irises because of its short height and the presence of thin, shallow rhizomes. Similar species include dwarf bearded iris (*Iris pumila*) and sticky false asphodel (*Triantha glutinosa*). Dwarf bearded iris has been documented in Michigan and

can be distinguished from dwarf lake iris by the thick (much more than 0.2 inches) rhizomes. When not in flower, dwarf lake iris may be confused with sticky false asphodel which can be distinguished by their narrower leaves (0.25 inches wide). Dwarf lake iris is easiest to identify when it flowers, which can take place anytime from mid-May to early June. Flowers typically bloom and remain open for three days.

Habitat and Range

Populations can be found along the coastlines of Lake Huron, Northern Lake Michigan, Great Lakes islands and a few anomalous inland sites. Populations are restricted to Wisconsin and Michigan in the United States and Ontario, Canada.

The plant grows in shallow, moist soils consisting of limestone-rich sands and gravel. They typically grow at the edge of white cedar dominated woodlands often behind dunes or beach ridges.

Growth and reproduction are greatly dependent on light availability. Thriving populations are found in semi-open forested areas where the plants can receive direct sunlight for a portion of the day and leaf litter is minimal.



Figure 2. Michigan occurrences of dwarf lake iris. Data provided by Michigan Natural Features Inventory.

Restricted Activities

In Michigan, state law prohibits take of state-listed species including plants. Under Federal law, however, protections for plants are limited. Specifically, it is unlawful to remove and reduce to possession any plant from areas under Federal jurisdiction. These prohibitions apply to live or dead animals or plants, their progeny (seeds in the case of plants) and parts or products derived from them. Federal agencies have additional requirements under the ESA, so any project that receives Federal funding will have additional consideration of listed plants under section 7 of the ESA.

Procedural Guidance

1) Will your construction or restoration project take place in an area of a known dwarf lake iris population or an area of suitable habitat for dwarf lake iris?

- A) Yes - Go to step 2.
- B) No - this guidance document is not applicable.

2) Will the dwarf lake iris or its habitat be affected by the project?

A) Yes- Go to step 3.

B) No- See recommended strategies for restoration and protection below.

3) Contact the Michigan Department of Natural Resources office to discuss the proposed project (https://www.michigan.gov/dnr/0,4570,7-350-79134_82777-230551--,00.html). If there is federal funding or authorization required for your project, contact the USFWS Michigan Ecological Services Field office. Follow the recommended strategies below to protect this species and preserve suitable habitat.



Figure 3. a. *Hoplitis* bee visiting dwarf lake iris. b. Exposed dwarf lake iris rhizomes. c. Dwarf lake iris seed pod. Photos by V. Brotske.

Recommended Strategies for Protection and Restoration

- **Protect Habitat.** Consider all possible options before initiating work in an area of known dwarf lake iris or in suitable habitat. The best way to protect this species is to conserve and protect all habitat and habitat corridors. Dwarf lake iris populations are small and fragmented across its range. Care should be taken to protect areas where the plant may not occur but provides connectivity between populations. Habitat connectivity allows for populations to expand, shift, maintain gene flow and adapt to environmental change.

Road construction, residential development, disturbance by recreational vehicles and landscaping can destroy or modify the landscape making it unsuitable for the plant's growth. To maintain suitable habitat, construction projects and land management practices should avoid activities that destabilize the soil and the herbaceous ground layer near known dwarf lake iris populations. This includes, but is not limited to, bulldozing, furrowing, stump removal and the use of off-road vehicles. Avoid working in areas with dwarf lake iris to the extent possible. If it is necessary to work in areas with dwarf lake iris, management activities should take place on snow covered and frozen ground to reduce negative impacts (WI DNR).

- **Maintain semi-open canopy:** Since the iris depends on semi-open forest canopy to thrive, it may be necessary in some cases to reduce cover if the forest canopy gets too dense. While light disturbance regimes have been shown to be beneficial, soil disturbance and excavation can be detrimental to populations and special care should be taken using any large equipment.
- **Invasive species control:** Control non-native and invasive plants that outcompete native species to form dense stands. Common problem species that invade dunes and adjacent woodlands include spotted knapweed (*Centaurea stoebe*), Japanese barberry (*Berberis thunbergii*), honeysuckle (*Lonicera* spp.), autumn olive (*Elaeagnus umbellata*), bladder campion (*Silene vulgaris*), bouncing bet (*Saponaria officinalis*) and exotic hawkweeds (*Hieracium* spp.).
- **Support pollinators:** Pollinator visitation has been showed to be a limiting factor on dwarf lake iris reproduction. To increase pollinator populations, additional pollinator habitat should be maintained in areas near known dwarf lake iris populations. Landowners can support pollinator populations by planting a mixture of native plants at their homes that bloom throughout the spring, summer and fall and by reducing the use of pesticides.

Find Out More/Links

- **USFWS Dwarf Lake Iris Fact Sheet:**
<https://www.fws.gov/midwest/endangered/plants/pdf/dwarf-lake-iris.pdf>
- **USFWS Dwarf Lake Iris Recovery Plan:**
<https://www.fws.gov/midwest/endangered/plants/pdf/DLIRPDraftApril2012.pdf>
- **Michigan Natural Features Inventory:**
<https://mnfi.anr.msu.edu/species/description/15374/Iris-lacustris>

Regional Contacts

Huron Pines: Samantha Nellis, Watershed Planner, samantha@huronpines.org, (989) 448-2293

MI DNR: Dan Kennedy, Endangered Species Coordinator kennedyd@michigan.gov, (517) 284-6194

USFWS: Michigan Ecological Services Field Office, eastlansing@fws.gov, (517) 351-2555