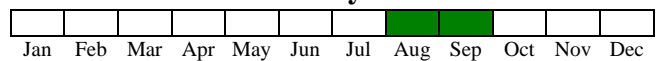




**Best Survey Period**



**Legal status:** Endangered in Canada. Protected under the Canadian Species at Risk Act. Endangered in Michigan.

**Global and provincial rank:** G4/S1

**Other Common names:** Yellowish gentian, white gentian, yellow gentian.

**Family:** Gentianaceae. The gentian family.

**Total range:** The distribution of White Prairie Gentian is centred in plains of the mid-western US. It has a scattered distribution from southern Ontario, Pennsylvania and North Carolina west to Minnesota, eastern Nebraska and Kansas and south to Arkansas. It is never common throughout its range.

**Provincial distribution:** In Ontario *G. alba* is now found only at Walpole Island where it grows in three populations in two areas.

In the late 1800s it was recorded from two other sites in Ontario, one in Northumberland County and one in Essex County.

**Recognition:** White Prairie Gentian is a perennial herb and one of the coarsest gentians. The stout stems are un-branched unless they are damaged. They grow in clusters from the rootstock and can reach almost 1 m tall, but are generally shorter. Plants often sprawl against other vegetation.

Leaves are opposite, large and oval to lance-shaped, pointed at the tip and smooth margined, slightly fleshy and rather yellowish green, often with 3 distinct nerves.

Flowers are produced in tight clusters at the top of the stem and occasionally in the leaf axils. Flowers are large, 3-5 cm long, spindle shaped, and slightly open at the end. They are greenish white to yellowish white.

**Habitat:** This species most commonly grows in prairies, meadows, savannas and open woods. Prairie grasses such as Big Bluestem, Little Bluestem and Indian Grass are common associates. On Walpole Island *G. alba* is found in oak-hickory savannas under partial shade, on sandy, well drained soils rich in calcium. These savannas are maintained by fire.

In Michigan it grows on sand and gravel river terraces with partial shade from American Hazel. It has also been found in woodland in a clay ravine.

**Biology:** White Prairie Gentian is a herbaceous perennial. Stems grow singly or in clumps of mixed flowering and vegetative stems. It prefers calcium-rich soil. Flowers appear in late summer and seed is produced in October.

The closed “bottle” flowers of the group to which it belongs are structurally adapted to bumble bee pollination. Bumble bees are almost the only insects strong enough to force their way into the closed flowers. It is unclear whether the species is self fertile in the absence of pollinators.

The tiny seeds germinate quite readily after cold stratification and the plants are fairly easy to cultivate. Seedlings have not been observed in the wild, but the plants are difficult to spot unless they are flowering. White Prairie Gentian may have been neglected as a horticultural species because of its sprawling and untidy habit. The prospects for reintroduction and dissemination are probably good.

**Conservation/management:** Loss of habitat is the main threat to White Prairie Gentian. Much of its previous habitat has been lost or severely degraded. Early collections show that it used to be more widespread on Walpole

Island. Fires during the late spring and summer may kill above ground parts, but plants are more vigorous after early spring or fall fires. Occasional fire is important as a natural disturbance regime. Suppression of fire in its natural habitat threatens the species because it becomes overgrown by woody plants.

Trampling, ATV traffic and development also threaten plants of White Prairie Gentian on Walpole Island.

Flowering times and habitat overlap with the much more common *Gentiana andrewsii* and hybrid plants are present on Walpole Island. It is unclear how much contamination of the gene pool this has caused. Seed predation has been observed.

**Comments:** This species is also known as *Gentiana flavida* A. Gray. There is debate about which name is legal under the International Code of Botanical Nomenclature. It has been claimed that the original publication of the species epithet *alba*, meaning “white”, by Muhlenberg was invalid, but it was listed under this name in Thomas Nuttall’s “*Genera of North American Plants*” published in 1818. This predates Asa Gray’s 1846 description of the plant as *G. flavida*, meaning “yellowish”.

Gentians were named for Gentius, King of Illyria, who first discovered the tonic qualities of the genus. Gentian species have long been recognized as medicinal herbs and appear in Arabic and Greek herbals. Tonic was made by seeping dried roots in a mixture of alcohol and water for at least two weeks.

Among Catawba Indians roots of certain gentians were seeped in hot water and the decoction applied as a remedy for backache. The Pottawatomie also use an infusion of the root.

**Research needs:** Walpole Island First Nation monitors the populations of White Prairie Gentian.

More research is needed to establish the feasibility of recovery and reintroduction of the species, but the prospects for some recovery are good.

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**Abstract citation:**

Bowles, J.M. 2004. Special plant abstract for *Gentiana alba* Muhl. ex Nuttall (White Prairie Gentian). Walpole Island Heritage Centre, ON and Michigan Natural Features Inventory, Lansing, MI. 2 pp.