

**Remarks by Peggy Bainard Acheson, Native Orchid Conservation Inc.**

**Brandon and Area Planning District By-Law No. 107/02/16**

**Critical Habitat for the small white lady's-slipper (*Cypripedium candidum*) and the rough agalinis (*Agalinis aspera*).**

**November 3, 2016**

My name is Peggy Bainard Acheson. I am President of NOCI, a non-profit, registered charity that is dedicated to the preservation and conservation of native orchids, other rare plant species and their unique ecosystems. There are 37 native orchids known in Manitoba and two are listed as endangered under Schedule 1 of the *Species at Risk Act* (SARA), and three are listed as endangered under the provincial *Endangered Species and Ecosystems Act*. The small white lady's-slipper (*Cypripedium candidum*) is listed as endangered on both of those lists.

Most of our orchid species grow in or adjacent to wetlands and since 1900 Manitoba has lost about 70% of its wetlands with untold impacts on the orchids that grow there.

The small white lady's-slipper is associated with the tall grass prairie and that habitat is less than 1% of its original area due to intensive agriculture and excessive drainage practices that have destroyed the native prairie. This has had a devastating impact on this orchid.

Although the largest population of the small white lady's-slipper is in the Tall Grass Prairie Preserve near Gardenton, Manitoba, it is known to grow at several sites in the Brandon area including on Crown land located immediately south of the proposed development area. The small white lady's-slipper (*Cypripedium candidum*) is a relative of the yellow lady's-slipper that you may be familiar with, and in fact, our two varieties of yellows often hybridize with the small white, mainly because they often grow in similar habitats.

This delicate little slipper may grow to between 10 and 30 cm (4-12 inches) with multiple stems arising from a single horizontal underground rhizome. Each stem has 2-4 elliptical leaves and one or sometimes two flowers. The flower has greenish yellow sepals and petals with the petals usually twisted. The lip is glossy white, translucent and egg-shaped. Small halictine and andrenid bees are known to pollinate this flower when it blooms in late May to early June.

### **Critical Habitat**

Under SARA critical habitat is defined as the habitat necessary for the survival or recovery of an endangered, threatened or extirpated species listed in Schedule 1.

The intent of SARA is to protect critical habitat as much as possible through voluntary actions and stewardship measures. If these measures are unable to protect the critical habitat, prohibitions against the destruction of that particular critical habitat can be applied.

SARA contains a prohibition against destroying any part of critical habitat. The Act requires that critical habitat on federal lands, be legally protected by stewardship agreements under SARA, or other legal means under SARA.

When critical habitat is located on private or provincial lands, and is not protected through stewardship agreements under SARA or other federal legislation or provincial laws, the prohibition may still be applied\*.

A Recovery Strategy for the Small White Lady's-slipper was developed in 2014 by Env. Canada that states that less than 10% of its range is in Canada where there are 18 populations known in Manitoba and 7 populations in Ontario. This species was listed as endangered in Canada under SARA in 2003 due to its disjointed distribution, its low genetic diversity and the threat of habitat degradation and loss. Six populations of SWLS have been listed as extirpated in Manitoba since 1995, four of which are in the Brandon area.

The major threats to this species include encroachment by trees and shrubs and thatch accumulation due in part to the suppression of fire; alteration of hydrology; infrastructure and residential development; and competition with invasive species, all of which have resulted in the decline of quality and amount of habitat. Other local threats include inappropriately-timed mowing or haying, trampling and poaching. Additionally, germination of SWLS is restricted to habitats that support specific species of soil fungi. It may take up to 16 years for lady's-slippers to produce a flower capable of reproduction. Note also that seed production is dependent on specific pollinators, in this case andrenid and halictine bees. Pollinators can be adversely impacted by agricultural pesticides and herbicides as well as by phenological changes related to climate change.

The Recovery Strategy indicates that the habitat where these 18 populations are found contain the necessary attributes for recovery; namely the habitat is moderately to imperfectly drained, open native prairie; or prairie openings with occasional sparse shrub cover; or prairie openings between tree "bluffs". Slopes are flat to undulating with ridge and swale topography. Habitat that contains these attributes is known as "critical habitat". This is certainly the case for the Crown land located immediately south of the proposed development area and indeed this area has been designated as critical habitat by Environment and Climate Change Canada.

Critical habitat for another Schedule 1 endangered species has also been designated in the Brandon area, the Rough Agalinis (*Agalinis aspera*), a slender annual member of the Broomrape family (Orobanchaceae) that often grows in the same habitat as the SWLS. In Manitoba, Rough Agalinis plants bloom in August, producing numerous purplish-pink, bell-shaped, 5-lobed flowers (up to 25 mm (1") long), arranged in a raceme on upward-angling stalks. The flower and reproductive organs are specialized for pollination by bees, but flowers might also be capable of self-fertilization.

Biodiversity is an important attribute for endangered species that depend on attracting foraging pollinators for their pollination and reproduction.

### **Conclusion**

Although there are no known colonies of SWLS or Rough Agalinis on the proposed development area, NOCI contends that the potential impact from developing this land, including the construction of roads, potable water wells, drainage and underground telephone services, etc. may cause changes to the existing groundwater regime on the south property causing destruction of the existing populations.

I believe that the maintenance of these surviving SWLS populations is important to Manitobans and we cannot allow the incremental chipping away of habitat to continue due to individual development projects. These types of projects need to be viewed from a regional and a provincial perspective if we are to have any hope of saving these legacy orchids.

\*See the attached Guide to the Species at Risk Act, Information for Private Land Owners



Small white lady's-slipper (*Cypripedium candidum*)