

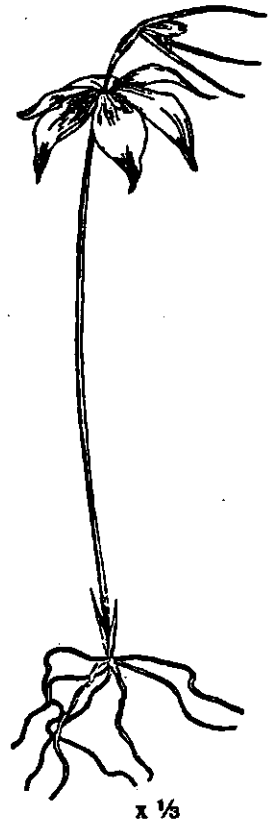


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Update COSEWIC STATUS REPORT

on

Large Whorled Pogonia (*Isotria verticillata*)



David J. White

ENDANGERED
Update, 1998



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COMITÉ SUR LA SITUATION
DES ESPÈCES EN PÉRIL
AU CANADA



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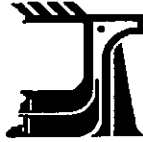
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Large Whorled Pogonia

Reason for status: Only three remaining populations, with substantial declines at all sites. [Designated endangered in 1986 and reconfirmed as endangered in 1998.]

Occurrence: Ontario

NOTES

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White, David J. 1998. Update COSEWIC Status report on Large Whorled Pogonia, *Isotria verticillata*. Committee on the Status of Endangered Wildlife in Canada. 13 pp.

COSEWIC

A committee of representatives from federal, provincial and private agencies that assigns national status to species at risk in Canada and the chairs of the scientific species specialist groups

COSEPAC

Un comité de représentants d'organismes fédéraux, provinciaux et privés qui attribue un statut national aux espèces canadiennes en péril ainsi que des président(e)s des groupes des spécialistes scientifiques.

Update
COSEWIC Status Report

on

Large Whorled Pogonia
(Isotria verticillata)

by

David J. White
RR #3, Lanark, Ontario, K0G 1K0

**Funding provided by Canadian Wildlife Service
Environment Canada**

Executive Summary

Description

Large Whorled Pogonia (*Isotria verticillata*) is an orchid that has a single whorl of five to six leaves at the top of the stem. The leaves may be overtopped by a single yellowish-green flower. The five narrow, purplish sepals are much longer than the petals.

Distribution

The orchid occurs in the United States from New England and Michigan south to Texas and Georgia. Its only Canadian occurrence is in southwestern Ontario.

Habitat

This plant requires rich, moist, deciduous or mixed forest on sandy soil with a thick leaf litter, lots of humus, and a relatively open canopy.

General Biology

Large Whorled Pogonia is a relatively small and inconspicuous plant that is very similar to non-flowering shoots of the common Indian Cucumber-root (*Medeola virginiana*). This similarity could cause the orchid to be trampled inadvertently by those trying to find the species.

Population Size and Trends

In 1986, the orchid was known at two sites. Since that time it seems to have disappeared at one of the sites and only one plant has been seen at the other site. A third station was found after the status report was written, however, it seems to have been eliminated recently.

Limiting Factors and Threats

The main limiting factor is the lack of suitable mixed forest habitat with an acidic substrate in the heavily-developed Carolinian Zone of southwestern Ontario. The species is at risk from trampling by those who would like to find or photograph this rare orchid.

Existing Protection

The orchid is protected under Ontario's Endangered Species Act. The only station known to be extant is on private property.

Evaluation and Status

Due to its decline and occurrence at only one site, Large Whorled Pogonia is considered an endangered species in Canada.

Résumé

Description

La pogonie verticillée (*Isotria verticillata*) est une orchidée qui comporte un verticille unique de cinq ou six feuilles au sommet de sa tige. Les feuilles peuvent être surcimées par une fleur unique vert jaunâtre. Les cinq sépales étroits et violacés sont beaucoup plus longs que les pétales.

Distribution

Cette orchidée pousse aux États-Unis, de la Nouvelle-Angleterre et du Michigan vers le sud jusqu'au Texas et en Géorgie. Au Canada, elle n'a été observée que dans le sud-ouest ontarien.

Habitat

Cette plante se retrouve dans les forêts riches, humides, caducifoliées ou mixtes, au couvert relativement ouvert, et pousse sur un sol sablonneux contenant beaucoup d'humus et recouvert d'une épaisse couverture de feuilles.

Biologie générale

La pogonie verticillée est une plante relativement petite, qui passe inaperçue et qui est très semblable aux tiges non florifères du concombre sauvage (*Medeola virginiana*). À cause de cette similitude, les gens qui essayent de trouver l'orchidée peuvent la piétiner par inadvertance.

Taille et tendances de la population

En 1986, on ne connaissait que deux sites où poussait l'orchidée. Depuis, elle semble avoir disparu de l'un d'eux; dans l'autre, on n'a signalé qu'un seul spécimen. Après la rédaction du rapport de situation, on a découvert un troisième peuplement qui, cependant, semble avoir été éliminé récemment.

Facteurs limitants et menaces

Le principal facteur limitant est l'insuffisance d'habitat forestier mixte poussant dans un substrat acide dans la zone carolinienne, région fortement développée du sud-ouest de l'Ontario. Un autre risque que court cette orchidée rare est le piétinement de ceux qui aimeraient la trouver ou la photographier.

Protection existante

Cette orchidée est protégée par la *Endangered Species Act* de l'Ontario. Le seul peuplement connu se situe sur une propriété privée.

Évaluation et statut de l'espèce

À cause de son déclin et de sa présence dans un seul site, on considère que la pogonie verticillée est en danger de disparition au Canada.

Introduction

Large Whorled Pogonia (*Isotria verticillata* (Muhl. ex Willd.) Raf.) was designated as endangered in 1986 due to its very limited number of plants known in Canada (Klinkenberg, 1986a). Prior to 1986, the plant was known from small populations in Middlesex County and Haldimand-Norfolk. Large Whorled Pogonia requires rich, moist, deciduous or mixed forest on sandy soil with a thick leaf litter and lots of humus (Klinkenberg, 1986a).

Distribution

Large Whorled Pogonia occurs in the United States from New England and Michigan south to Texas and Georgia. Its only Canadian occurrence is in southwestern Ontario (Figure 1).

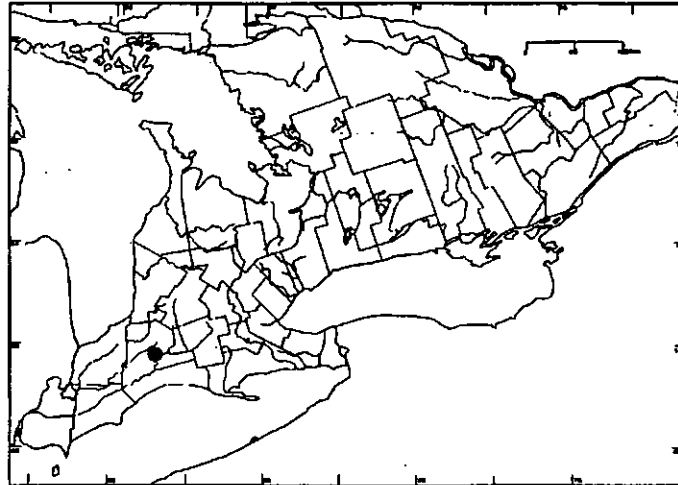


Figure 1. Location of the single location for Large Whorled Pogonia in Canada (solid circles).

Protection

The orchid is protected under the Ontario Endangered Species Act. The Large Whorled Pogonia site in the Backus Woods is in an Area of Natural and Scientific Interest that is owned by the Long Point Region Conservation Authority. The Fowlers Pond site is part of the Lockhart Ponds Wildlife Area that is managed by the Ontario Ministry of Natural Resources. The third site occurs in the Skunk's Misery Area of Natural and Scientific Interest and is on private property.

Population Size and Trend

Thorough inventories have not been undertaken to determine the extent and distribution of the orchid within the three known sites, however, a number of people have searched the areas at various times and recorded plant numbers (McLeod, 1986a, 1986b; Oldham, 1997). The last recorded sighting of the orchid at any of the three stations was in 1996 when a single vegetative individual was found at Skunk's Misery by Al Woodliffe and Dave McLeod (D. McLeod, pers. com., 1997). The present author searched this site

unsuccessfully in July 1997. The site at Skunk's Misery was discovered in 1984 and supported 4 plants (Klinkenberg, 1986b). By 1987, the colony had increased to 9 plants (Oldham, 1997). It has gradually declined to the 1996 sighting of one plant (D. McLeod, pers. com., 1997).

The Backus Woods colony was found about 1965 and supported 43 plants in 1966 (Oldham, 1997). Since that time, the colony has declined and the orchid was last seen in 1990 when 2 plants were found by Mike Oldham and Don Sutherland (Oldham, 1997). Others who know the location well, are convinced that it has disappeared there (D. McLeod, pers. com., 1997; M. Gartshore, pers. com., 1997; R. Brown, pers. com., 1997).

The Fowlers Pond site—first discovered in 1985—supported 106 plants in 1987 (Oldham, 1997) but this population has declined steadily and may now be gone. Dave McLeod has been monitoring the site since 1986 and could not find any plants there in 1996. Beavers have dammed the nearby pond in recent years and this has caused flooding of the orchid site that appears to have eliminated the *Pogonia* as well as other associated plants at the site (D. McLeod, pers. com., 1997). The present author searched the site unsuccessfully in July 1997.

Detailed site information has been provided to the Chair, Subcommittee for Vascular Plants, Mosses and Lichens (COSEWIC).

Habitat

Large Whorled *Pogonia* requires rich, moist, deciduous or mixed forest on sandy soil with a thick leaf litter and lots of humus (Klinkenberg, 1986a). The forest canopy should be relatively open (Anderson & Britton, 1986).

Biology

Large Whorled *Pogonia* is a small and inconspicuous plant that is very similar to non-flowering shoots of the common Indian Cucumber-root (*Medeola virginiana*). This similarity could cause the orchid to be trampled inadvertently by those trying to find the species.

Limiting Factors

Rare orchids have a high profile and the Backus Woods site has been visited by many naturalists, orchid enthusiasts, and photographers. This attention puts Large Whorled *Pogonia* at risk from trampling and soil compaction (Anderson & Britton, 1986).

The Fowlers Pond site has probably been eliminated by flooding due to Beaver activity. The site in Skunk's Misery is marked for logging and although the immediate area around the orchid site has been marked as a no-logging zone (A. Woodliffe, pers. com., 1997), such activity close to the colony could eliminate the species.

Evaluation and Status Recommendation

When the status designation of endangered was assigned in 1986, Large Whorled Pogonia was known from one site in Middlesex County and one in Haldimand-Norfolk. Since that time, it has been discovered at one other station.

Unfortunately, only one plant was found in 1996 at the Middlesex County site, none have been seen since 1990 at the Haldimand-Norfolk site, and the orchid appears to have been eliminated at the most recently discovered site at Fowlers Pond. Thus, there is little reason to change the designation of endangered status for Large Whorled Pogonia.

Acknowledgements

Allen Woodliffe, District Ecologist, Ontario Ministry of Natural Resources, Chatham District, provided information on the orchid at Skunk's Misery and gave the author a detailed site map to the colony.

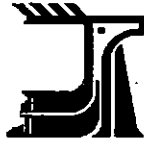
Mike Oldham, Botanist, Natural Heritage Information Centre, Peterborough, provided background reports and a listing of known orchid records with details of recent confirmations. Dave McLeod, formerly of Aylmer District office of the Ontario Ministry of Natural Resources, provided information on all three sites.

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Biographical Summary of Author

David J. White has a B.Sc. in biology and has been conducting natural area inventories and evaluating the status and significance of rare plants for more than 25 years. He began doing field surveys in 1972 for the International Biological Program. From 1973 to 1983, David was employed by the Canadian Museum of Nature as a research technician. During that period he co-authored a number of publications on rare plants, including the Atlas of the Rare Vascular Plants of Ontario. From 1984 to the present, David has worked as a self-employed life science consultant. He has completed projects ranging from natural area inventories and evaluations to reports on invasive species. David has previously written COSEWIC Status Reports on Ginseng (*Panax quinquefolium*), Golden-seal (*Hydrastis canadensis*), and Branched Bartonian (*Bartonia paniculata*).



MANDATE

COSEWIC determines the national status of wild species, subspecies, varieties and nationally significant populations that are considered to be at risk in Canada. Designations are made on all native species for the following groups: fish, amphibians, reptiles, birds, mammals, molluscs, lepidoptera, vascular plants, mosses and lichens.

MEMBERSHIP

COSEWIC is comprised of representatives from each provincial and territorial government wildlife agency, four federal agencies (Canadian Wildlife Service, Parks Canada, Fisheries and Oceans, Canadian Museum of Nature), three national conservation organizations (Canadian Nature Federation, Canadian Wildlife Federation, and World Wildlife Fund Canada) and the chairs of the scientific species specialist groups. The Committee meets annually in April to consider status reports on candidate species.

DEFINITIONS

Species	- Any indigenous species, subspecies, variety or geographically defined population of wild fauna and flora.
Extinct (X)	- A species that no longer exists.
Extirpated (XT)	- A species no longer existing in the wild in Canada, but occurring elsewhere.
Endangered (E)	- A species facing imminent extirpation or extinction.
Threatened (T)	- A species likely to become endangered if limiting factors are not reversed.
Vulnerable (V)	- A species of special concern because of characteristics that make it particularly sensitive to human activities or natural events.
Not at Risk (NAR)	- A species that has been evaluated and found to be not at risk.
Indeterminate (I)	- A species for which there is insufficient scientific information to support status designation.



The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) was created in 1977 as a result of a recommendation at the Federal-Provincial Wildlife Conference held in 1976. It arose from the need for a single, official, scientifically sound, national listing of wildlife species at risk. In 1978, COSEWIC designated its first species and produced its first list of Canadian species at risk. COSEWIC meets annually in April each year. Species designated at this meeting are added to the list.



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