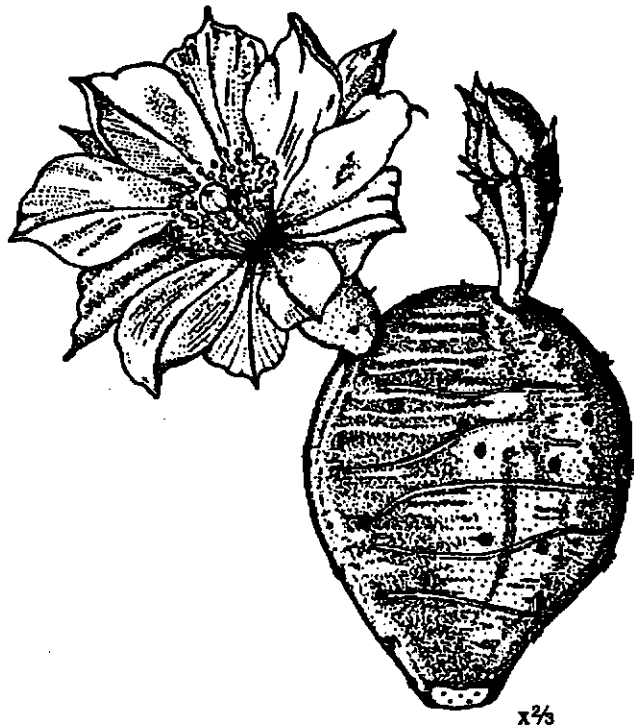


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Update COSEWIC STATUS REPORT

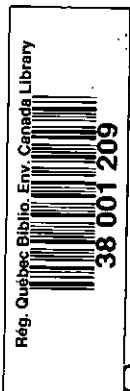
on

Eastern Prickly Pear (*Opuntia humifusa*)

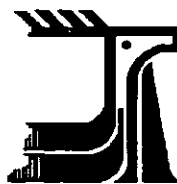


David J. White

ENDANGERED
Update, 1998



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AU CANADA



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Eastern Prickly Pear Cactus

Reason for status: Two existing natural populations with one near extirpation and continued threats from collection. [Designated endangered in 1985 and reconfirmed as endangered in 1998.]

Occurrence: Ontario

NOTES

COSEWIC status reports are working documents used in assigning status. Reports are released in their original form in the interest of making scientific information available to the public.

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White, David J. 1998. Update COSEWIC Status report on Eastern Prickly Pear Cactus, *Opuntia humifusa*. Committee on the Status of Endangered Wildlife in Canada. 15 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

Eastern Prickly Pear Cactus
(Opuntia compressa)

by

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

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

Executive Summary

Description

Eastern Prickly Pear (*Opuntia humifusa*) is a low, spreading, succulent cactus with jointed, roundish but flattened green stems. Leaves are generally absent but the stems are sparsely covered with clusters of barbed bristles and spines. Large, waxy, yellow flowers with red centres appear in June. The edible fruit are oblong and turn red when mature. Prickly Pear occurs as small patches or large scattered colonies of thousands of stems.

Distribution

The cactus occurs in the United States from New England and Wisconsin south to Texas and Florida. Its only Canadian occurrence is in southwestern Ontario at Point Pelee National Park and the southern tip of Pelee Island.

Habitat

Prickly Pear Cactus requires a dry substrate that is in the early stages of succession. Both sites are on sand spits that jut into Lake Erie.

General Biology

This is a low-growing cactus that is of interest to many gardeners. It is easy to remove and conceal a stem segment, transport it, and root it in the garden, thus putting the original colony at risk.

Population Size and Trends

In 1985, the cactus was known from four stations in southwestern Ontario. Since that time, two of the stations have been shown to be transplants and the third has declined and is now very precarious. The fourth station is robust and occurs in a national park.

Limiting Factors and Threats

The main limiting factor is the lack of dry, sandy, open habitat in the warm climate of extreme southwestern Ontario. Such areas receive much recreational use and are at risk from vegetation succession.

Existing Protection

The species is protected under the Ontario Endangered Species Act. The station in Point Pelee National Park now has a management plan to protect and maintain the cactus. The other site has been designated a Nature Reserve. Some management has been carried out in the Nature Reserve to curtail the succession of woody vegetation but there is no formal management plan.

Evaluation and Status

Prickly Pear is considered an endangered species in Canada because of its occurrence at only two sites, one of which has declined.

Résumé

Description

La raquette de l'Est (*Opuntia humifusa*) est une cactée grasse, basse, étalée, pourvue de tiges vertes articulées, rondes et aplaties. En général, il n'y a pas de feuilles, mais les tiges sont clairsemées de groupes de poils barbelés et d'épines. De grandes fleurs cirées, jaunes au cœur rouge, fleurissent en juin. Les fruits comestibles sont oblongs et rougissent à maturité. La raquette de l'Est pousse en petits bosquets ou en grandes colonies disséminées comptant des milliers de tiges.

Distribution

Le cactus pousse aux États-Unis de la Nouvelle-Angleterre et du Wisconsin vers le sud jusqu'au Texas et en Floride. Au Canada, il n'est connu que dans le sud-ouest ontarien, au parc national de la Pointe-Pelée et à l'extrémité méridionale de l'île Pelée.

Habitat

La raquette de l'Est exige un substrat sec, dans un des premiers stades de succession. Les deux sites se trouvent sur des pointes de terre sablonneuses s'avancant dans le lac Érié.

Biologie générale

Ce cactus bas intéresse de nombreux jardiniers. Il est facile de casser, de dissimuler et de transporter un bout de tige pour le planter dans un jardin; cette pratique met en danger la colonie d'origine.

Taille et tendances de la population

En 1985, on connaissait quatre colonies de cactus dans le sud-ouest ontarien. Depuis, on a démontré que deux d'entre elles avaient été transplantées; une troisième a dé péri et sa situation est précaire. La quatrième colonie est vigoureuse et pousse dans un parc national.

Facteurs limitants et menaces

Le principal facteur limitant est le manque d'habitat sec, sablonneux et ouvert, dans le climat chaud à l'extrême sud-ouest de l'Ontario. Ces régions sont souvent utilisées pour des activités de loisir et peuvent subir une succession de végétation.

Protection existante

La *Endangered Species Act* de l'Ontario protège cette plante. Au parc national de Pointe-Pelée, un plan de gestion du peuplement en assure maintenant la protection et la conservation. On a désigné l'autre site réserve naturelle. Dans cette dernière, on a pris des mesures d'aménagement afin de limiter la succession par la végétation ligneuse, mais il n'y a pas de plan de gestion officiel.

Évaluation et statut de l'espèce

La raquette de l'Est est considérée comme une espèce en danger de disparition au Canada, car elle n'est présente que dans deux sites, dont l'un est en déclin.

Introduction

Eastern Prickly Pear Cactus (*Opuntia humifusa* (Raf.) Raf.) was designated as endangered in 1985 due to its limited number of locations in Canada, its decline at most sites, and the continued threat posed by horticultural collectors (Klinkenberg & Klinkenberg, 1985). Prior to 1985, the plant was known from a small population on Pelee Island, from 13 sites within Point Pelee National Park, and from two small, inland populations in Kent County. Prickly Pear Cactus requires dry, sandy habitats in an early successional stage (Klinkenberg & Klinkenberg, 1985).

Field work at the Pelee Island site in 1984 by the status report authors, just prior to designation, discovered that the colony had been greatly reduced—apparently by winter storms—from the 18 patches seen in 1981 to only 4 patches (Klinkenberg & Klinkenberg, 1985). In Point Pelee National Park, 19 separate sites were reported in 1976 but only 13 could be confirmed in 1983 (Klinkenberg & Klinkenberg, 1985). Some of the sites within the Park are the result of transplantations and hence are not native locations. Although the populations within the Park are ostensibly protected from horticultural collectors, evidence at the time of the status report indicated that cacti were still being removed from the Park (Klinkenberg & Klinkenberg, 1985). The two Kent County sites—documented in the 1985 status report—were later determined to be transplants from Point Pelee Park (Klinkenberg, 1987).

Distribution

Eastern Prickly Pear Cactus occurs in the United States from New England and Wisconsin south to Texas and Florida. Its only Canadian occurrence is in southwestern Ontario. There are two extant, native locations: Point Pelee National Park and the southern tip of Pelee Island (Figure 1).

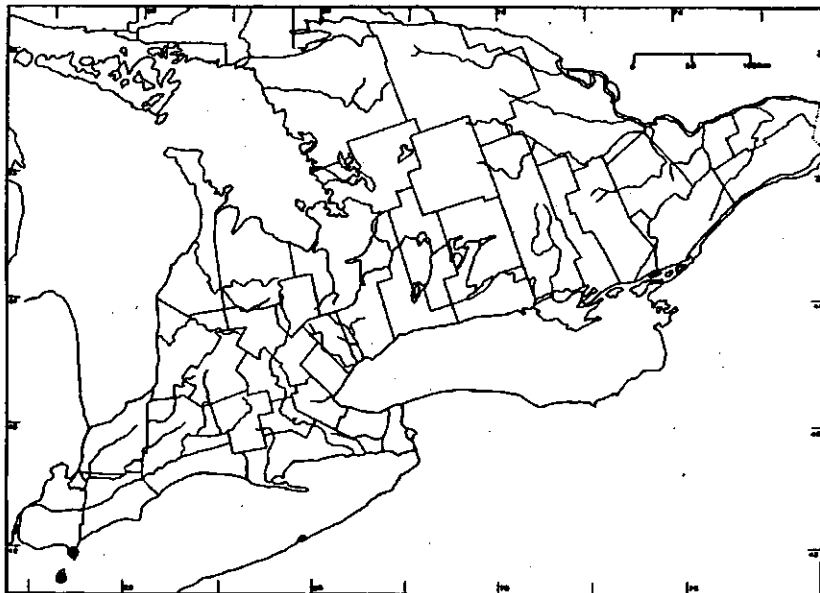


Figure 1. Extant locations for Eastern Prickly Pear Cactus (solid black circles).

Protection

Since the designation of Eastern Prickly Pear Cactus as an endangered species, steps have been taken—formally and informally—to enhance the species' chances of survival in Ontario. The cactus is protected under the Ontario Endangered Species Act. The Pelee Island station has been designated as the Fish Point Nature Reserve. The reserve is managed by the Ontario Ministry of Natural Resources and there has been much discussion among Ministry staff as to what steps are needed to maintain the Eastern Prickly Pear Cactus there. Allen Woodliffe is the District Ecologist for the Ontario Ministry of Natural Resources' Chatham District and he has been monitoring the Pelee Island population of *Opuntia* for a number of years. Although no formal recovery plan has been developed for the cactus on Pelee Island, Woodliffe has done some manual clearing of competing shrubby vegetation—Common Juniper (*Juniperus communis*), young Ash saplings (*Fraxinus* spp), and Fragrant Sumac (*Rhus aromatica*)—at the site in the last year or two (A. Woodliffe, pers. com., 1997).

Point Pelee National Park has taken steps to thoroughly inventory the cactus within the Park and has developed a management plan for the species within the Park. According to the Park's management plan, cactus sites that occur in communities to be maintained as open habitats, will be cleared of woody vegetation every 5-10 years; cactus sites that are at risk from shading in communities that are to be left to natural succession will be transplanted to sites that will be maintained as open communities; and cactus sites that are at risk from trampling or plant removal will have trails re-routed or public access curtailed (Canadian Parks Service, 1991). Since the 1995 inventory (Whitehead, 1995b), no further cactus monitoring or management has been done in Point Pelee Park (F. Michano, pers. com., 1997).

Population Size and Trend

A thorough inventory was undertaken in 1984 to determine the extent and distribution of the cactus within Point Pelee National Park (Jock, 1984). This study located 31 patches but found many to be small and some of the previously-known patches had disappeared or were being crowded out by competing vegetation (Jock, 1984). Although the cactus is unquestionably native in the Park, some populations are the result of intentional introductions and transplants by Park staff and former cottage owners (Jock, 1984).

Further monitoring in the Park was conducted in 1992 (Chiarot, 1992) and located 42 patches. Although this appears to be a significant increase in patches from the count of 9 sites in 1971 and 31 sites in 1984, the apparent increase may be due to primarily to differences in methodology (Whitehead, 1995a). Whitehead (1995b) recorded 85,968 clades (commonly called "pads" or "links")—an apparently significant increase from the 1971 estimate of 24,000 links made by Ross (1971), however, the methods of Ross are not clear and the 1971 data are probably not comparable to the counts made by Whitehead in 1995 (Whitehead, 1995b). Overall, the Point Pelee populations appear to be in very good condition but it is not known whether the populations are stable, have increased, or have declined since the status designation (Whitehead, 1995b).

The Pelee Island population is much more precarious. From the 1984 count of 4 clumps, the cactus had increased to 7 or 8 clumps by the fall of 1996 but only about 4 plants could be found in 1997 (A. Woodliffe, pers. com., 1997).

Habitat

Eastern Prickly Pear Cactus requires a dry substrate that is in the early stages of succession (Chiarot, 1992). Both extant sites are on sand spits that jut into Lake Erie. Habitat changes that are detrimental to the cactus on Pelee Island and in Point Pelee Park are mainly habitat loss due to winter storms and natural succession by woody vegetation that shades out the cactus (A. Woodliffe, pers. com., 1997; Canadian Parks Service, 1991).

Biology

It is very easy to move or transplant Eastern Prickly Pear Cactus. The clades (flattened stem segments) detach easily and will root readily when placed on the ground (Klinkenberg & Klinkenberg, 1985). This ease of transplanting puts the plant at increased risk because would-be gardeners can easily conceal, transport, and plant viable propagules.

Limiting Factors

Natural succession by woody vegetation and shoreline erosion—especially during winter storms—are the main threats at both sites. Removal of plants for gardens is a continuing threat at both sites. Since the Pelee Island station is now so small, any plant removal could be catastrophic (A. Woodliffe, pers. com., 1997).

Evaluation and Status Recommendation

When the status designation of endangered was assigned in 1985, Eastern Prickly Pear Cactus was known from Point Pelee National Park, Pelee Island, and two small inland sites. Since that time, it has been shown that the inland sites are transplants from Point Pelee. The population in Point Pelee National Park is relatively large and healthy. The Park populations are at risk from habitat succession, storm damage, and such anthropogenic impacts as trampling and collecting, however, their relatively large size and the management plan developed for the Park offer some hope that the cactus there can be protected. The Pelee Island population is very precarious due to its small size. It is vulnerable to the same forces operating in the Park but because of the very low numbers of cactus at Pelee Island, the species is at grave risk of being extirpated unless significant efforts are undertaken.

There is reason for optimism in terms of the Point Pelee populations but the decline of the Pelee Island site and the realization of the non-native status of the two Kent County sites shows that if anything, conditions for the species in Ontario have declined since 1985. Thus, there is little reason to change the designation of endangered status for Eastern Prickly Pear Cactus.

Acknowledgements

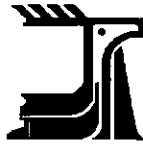
Allen Woodliffe, District Ecologist, Ontario Ministry of Natural Resources, Chatham District, provided information on the cactus on Pelee Island that he has been monitoring, at least annually, for a number of years. Dan Reive, Chief Park Warden, Point Pelee National Park, provided information and loaned background reports on the monitoring and proposed management of the cactus within the Park. Mike Oldham, Botanist, Natural Heritage Information Centre, Peterborough, provided a listing of known cactus specimens and records with details of recent confirmations.

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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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