

## 50 CFR Part 17

**Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for *Solidago Houghtonii* (Houghton's Goldenrod)**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** The Service determines threatened status for *Solidago houghtonii* (Houghton's goldenrod), a perennial native to the sand beach flats of the northern shorelines of Lakes Michigan and Huron. This plant is threatened by residential development, hydrologic changes of the Great Lakes, destabilization of the shoreline sand dunes and beach flats, human disturbance, and the use of off-road vehicles. *Solidago houghtonii* is presently known to occur at 39 sites within eight Michigan counties. There are also several populations in Ontario, Canada. This action will implement Federal protection provided by the Endangered Species Act of 1973, as amended, for *Solidago houghtonii*.

**EFFECTIVE DATE:** August 17, 1988.

**ADDRESSES:** The complete file for this rule is available for inspection, by appointment, during normal business hours at the Service's Regional Office of Endangered Species, Federal Building, Fort Snelling, Twin Cities, Minnesota 55111.

**FOR FURTHER INFORMATION CONTACT:** James M. Engel, Endangered Species Coordinator, at the above address, (612/725-3276 or FTS 725-3276).

**SUPPLEMENTARY INFORMATION:****Background**

*Solidago houghtonii* (Houghton's goldenrod), a plant of the family Asteraceae, was discovered in 1839, by Douglass Houghton, Michigan's first State Geologist, along the north shore of

Lake Michigan in Mackinac County, Michigan, between what are now the communities of Naubinway and Epoufette (Guire and Voss 1963). This large-headed goldenrod, 8-30 inches tall, is characterized by its relatively large heads on slightly hairy stalks in a more or less flat-topped inflorescence. The stem is slender and smooth, with a few tiny hairs on the upper portions. Leaves are glabrous (without hairs), but may be scarbrous (with hairs) on the margins and linear, alternately arranged, and number 7 to 15. The basal and lower leaves are up to 8 inches long and 3/4 inches wide, tapering and partially clasping the stem. The upper leaves are similar but reduced upwards. All leaves are weakly triple veined and acute. Inflorescences, which appear from midsummer until fall, consist of a few somewhat flat-topped clusters of 5-30 heads containing relatively large flowers. Voss (University of Michigan, pers. comm. 1967) reports one specimen in Cheboygan County, Michigan, with 125 heads.

*Solidago houghtonii* typically occurs on the sparsely vegetated, moist calcareous sand beach shoreline flats, and the damp hollows or depressions between the foredune ridges of northern Lake Michigan and Lake Huron (Nepstad 1981). Its occurrence behind the lakefront dunes has also noted (Morton 1979). Two other species proposed for federal listing, *Cirsium pitcherii* (Pitcher's thistle) and *Iris lacustris* (Dwarf lake iris), occur in some of the same areas.

Nepstad (1981) described localities in six Michigan counties (Cheboygan, Chippewa, Crawford, Delta, Emmet, and Mackinac), where *Solidago houghtonii* is found in more or less continuous or semi-continuous populations along the Great Lakes shorelines. He noted that it may be misleading to count each population as an individual occurrence, as these populations are merely separated by local discontinuities in habitat. He considered there to be no more than 18 known populations of *Solidago houghtonii*. However, after later survey work, Crispin (Michigan Department of Natural Resources, pers. comm. December 1985 and February 1986) identified additional populations.

A review of data furnished by the Nature Conservancy indicates that within the general areas of the 18 populations noted by Nepstad (1981), about 39 sites now actually exist. *S. houghtonii* is currently known from about 37 sites in seven Michigan counties (Cheboygan, Chippewa, Delta, Emmet, Mackinac, Presque Isle, and Schoolcraft) along the northern shores of Lake Michigan and Lake Huron, and from 2 sites in inland Crawford county within the confines of the State-owned Camp Grayling military reservation (Nepstad 1981). The plant is also known from several sites in Canada, specifically the Manitoulin district and the Bruce peninsula near Cabot Head, in Ontario (Morton 1979). The taxon is considered rare in the province of Ontario (Semple and Ringius 1983).

An additional population of *S. houghtonii* was once reported to occur in Bergan Swamp, Genesee County, New York (Guire and Voss 1963). That population, however, is not now thought to represent the taxon and is undergoing further study.

*Solidago houghtonii* is threatened by residential development, lakefront dune destabilization because of hydrologic changes, human disturbance, and off-road recreational vehicle traffic (Nepstad 1981).

Federal actions involving this species began with section 12 of the Endangered Species Act of 1973 (Act) which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. On July 1, 1975, the Service published a notice in the *Federal Register* (40 FR 27823) of its acceptance of this report as a petition within the context of section 4(c)(2), now section 4(b)(3)(A) of the Act, and of its intention to review the status of the plant taxa named within. *Solidago houghtonii* was included in the Service's 1975 notice of review. *Solidago houghtonii* was also included as a category 1 species in an updated notice of review for plants published in the *Federal Register* of December 15, 1980 (45 FR 82480).

Category 1 comprises taxa for which the Service presently has sufficient biological information to support their being proposed to be listed as endangered or threatened species.

The Endangered Species Act Amendments of 1982 required that all petitions pending as of October 13, 1982, be treated as having been submitted by that date. Section 4(b)(3) of the Act, as amended, requires that, within 12 months of the receipt of a petition, a finding be made as to whether the requested action is warranted, not warranted, or warranted but precluded by other listing activity. On October 13, 1983, October 12, 1984, October 11, 1985, and October 10, 1986, the petition finding was made that listing *Solidago houghtonii* was warranted but precluded. A final finding, to the effect that the petitioned action was warranted, was incorporated in a proposed rule to determine threatened status for *Solidago houghtonii* issued in the Federal Register of August 19, 1987 (52 FR 31045).

#### Summary of Comments and Recommendations

In the August 19, 1987, proposed rule (52 FR 31045) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate state agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. Newspaper notices inviting public comment were published in the *Sault Ste. Marie News* on August 31, 1987, *The Cheboygan Daily Tribune* on September 2, 1987, *The Crawford Avalanche*, the *Manistique Pioneer-Tribune*, and *The St. Ignace News* on September 3, 1987, and the *Petoskey News Review* on September 8, 1987.

Six comments were received. Support for the proposal was expressed in three comments. A University of Michigan professor provided editorial suggestions, specific species information, and additional reference recommendations. The Michigan chapter of The Nature Conservancy confirmed taxonomic features, threats to the taxon, and that listing the plant is reasonable and necessary. A botanist from the National Museum of Natural Sciences, Canada, provided clarifying information regarding site locations in Canada. Three comments were received which did not take a position on the proposal, but did offer new species information. Two of these, one from the University of New York and the other from the Royal Botanical Gardens, Hamilton, Ontario,

provided thoughts on the taxonomic status of the species. The other response, from the Michigan Department of Military Affairs (National Guard) acknowledged that the presence of *S. houghtonii* within the boundaries of Camp Grayling has not been a problem. However, if the plant expands its range a conflict could arise with military training on adjoining lands. Restrictions associated with the plant's habitat which might affect activities within Camp Grayling are expected to be minimal. All comments are now incorporated into this rule and the Service appreciates the assistance of all parties.

#### Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Solidago houghtonii* should be classified as a threatened species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Solidago houghtonii* Gray are as follows:

A. *Present or threatened destruction, modification, or curtailment of its habitat or range.* *Solidago houghtonii* is presently threatened by the potential development of the shoreline along those portions of Lakes Michigan and Huron where the species is found (Nepstad 1981). Private development has already rendered some lakeshore areas unsuitable as long-term habitat for this species. Crispin (pers. comm. 1987) also reported that beachfront development has destroyed part of a *S. houghtonii* population in Cheboygan County, Michigan. In addition to current and potential shoreline development, *Solidago houghtonii* is threatened by disturbances to the lakefront dune habitat caused by recreational vehicles and by human activities. Nepstad (1981) stated that while the ability of *S. houghtonii* to tolerate changes in the habitat has not yet been determined, the narrow habitat requirements of the plant indicate that destabilization of the foredunes and beach flats could be detrimental to the species. High water levels of the Great Lakes are also a threat to *S. houghtonii*. This natural condition should not be exacerbated by human disturbance. Woivode (The Nature Conservancy, pers. comm. 1987) reports that continuous high water

levels at some lakeside *S. houghtonii* populations have reduced many of the plants to a vegetative state which does not induce flowering. He questions how long these non-flowering plants can continue to exist. Presently, *Solidago houghtonii* is found at about 37 sites in seven Michigan counties along the shores of Lake Michigan and Lake Huron, two sites inland in Crawford County, and several sites in Ontario. Of the 39 sites in Michigan, 14 are publicly owned; 11 by the State, two by the Federal Government, and one by The Nature Conservancy. The remaining 25 privately owned areas are not protected and are subject to various types of habitat alterations, which could adversely affect *Solidago houghtonii*.

Data does not indicate that this plant was ever more widespread geographically than it now is; however, some formerly known populations within the current range can no longer be relocated (Crispin pers. comm. 1987). Current information indicates that 10 populations (20 percent) may have been extirpated within the last 10 years. Crispin has further noted that several monitoring projects for *Solidago houghtonii* have been initiated by The Nature Conservancy. However, extensive knowledge of the species' ecological requirements are not known.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* There is no known trade in this species, and scientific or horticultural collecting is not known to pose any threat to it. The species is attractive, and publicity concerning its rarity could stimulate greater interest and collecting.

C. *Disease or predation.* This species is not known to be threatened by disease or predation.

D. *The inadequacy of existing regulatory mechanisms.* *S. houghtonii* is officially listed as threatened in Michigan and afforded protection under State law which generally prohibits taking, possession, sale, purchase, and transport of plant species on the Federal and State endangered and threatened lists. Federal listing would reinforce and broaden protection for the species and its habitat.

E. *Other natural and manmade factors affecting its continued use.* Since many populations of this species occur on the lake beachfronts, the plants are subject to hydrologic changes, as well as human and vehicular disturbances. The fact that approximately 20 percent of the earlier known populations have not been found since 1975 (Crispin pers. comm.) points out the need for research

into the population dynamics of the taxon.

In determining to make this final rule, the Service has carefully assessed the best scientific information available regarding the past, present, and future threats faced by this taxon. Based on this evaluation, the preferred action is to list *Solidago houghtonii* as threatened. Although not thought to be in imminent danger of extinction, this plant is rare, has suffered the loss of many local populations, and faces the prospect of further losses occurring as a result of habitat alteration. For reasons detailed below, critical habitat is not being designated.

#### Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. The designation of critical habitat is not considered to be prudent when such designation would not be of net benefit to the species involved (50 CFR 424.12). In the present case, the Service believes that designation of critical habitat would not be prudent because no benefit to the taxon can be identified that would outweigh the potential threat of vandalism or collection, which might be exacerbated by the publication of a detailed critical habitat description.

#### Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups and individuals. The Endangered Species Act provides for land acquisition and cooperation with the States; it also requires that recovery actions be carried out for all listed species. These actions are initiated by the Service following listing. Management actions that may be of benefit to *S. houghtonii* include monitoring populations, obtaining protective easements at sites of occurrence, providing protection against human disturbance, investigating measures to prevent long-term habitat degradation, and State-Federal cooperation in habitat management and reintroduction projects. The protection required by Federal agencies and applicable prohibitions are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperative provisions of the Act are codified at 50 CFR Part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. Two of the sites at which *S. houghtonii* occurs are administered by Federal agencies, but no authorized activities, actually or potentially detrimental to the species, are known in these areas. The U.S. Bureau of Land Management has jurisdiction over a small island in Chippewa County, Michigan, where the plant is found. It is contemplated that ownership of this island will soon be transferred to the State of Michigan. Another small population is located on the Hiawatha National Forest in Mackinac County. Implementation of the management plan for this area, by the U.S. Forest Service, could involve *S. houghtonii* and its habitat.

Section 9 of the Act, and its implementing regulations found at 50 CFR 17.71 and 17.72 set forth a series of general trade prohibitions and exceptions that apply to all threatened plant species. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, or sell or offer for sale this species in interstate or foreign commerce, or remove it from land under Federal jurisdiction and reduce it to possession. Seeds from cultivated specimens of threatened plant species are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. Certain exceptions would apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving threatened species under certain circumstances. It is anticipated that few trade permits would ever be sought or issued, since this plant is not common in cultivation or in the wild. Requests for copies of the regulations on plants and

inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 27239, Central Station, Washington, DC 20038-7329 (703/343-4955).

#### National Environmental Policy Act

The Fish and Wildlife Service has determined that Environmental Assessments, as defined under the authority of the National Environmental Policy Act 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. The reasons for this determination were published in the Federal Register on October 25, 1983 (48 FR 49244).

#### References Cited

- Guire, K.E., and Edward G. Voss. 1963. Distributions of Distinctive Shoreline Plants in the Great Lakes Region. *The Michigan Botanist* 2:99-114.
- Morton, J.K. 1979. Observations on Houghton's Goldenrod (*Solidago houghtonii*). *The Michigan Botanist* 18:31-35.
- Nepetack, D.C. 1981. Status report on *Solidago houghtonii* Torrey and Gray. Department of Botany and Plant Pathology, Michigan State University. Unpubl. ms., 29 pp.
- Sampla, J.C., and G.S. Ringius. 1983. *Solidago houghtonii* Torrey and Gray. In G.W. Argus and D.J. White, eds., Atlas of the rare vascular plants of Ontario. National Museum of Natural Science, Ottawa.

#### Author

The primary author of this rule is William F. Harrison (see ADDRESSES section) (612/725-3276 or FTS 725-3276).

#### List of Subjects in 50 CFR Part 17

Endangered and threatened Wildlife, Fish, Marine mammals, Plants (agriculture).

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the CFR, is amended as set forth below:

#### PART 17—[AMENDED]

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93-206, 87 Stat. 894; Pub. L. 94-358, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-150, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*); Pub. L. 99-625, 100 Stat. 3500 (1986), unless otherwise noted.

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Asteraceae, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

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Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Asteraceae:						
<i>Solidago houghtonii</i> .....	Houghton's goldenrod .....	U.S.A. (MI), Canada (Ont.).....	T	314	NA	NA

Dated: June 24, 1988.

**Susan Recce,**

*Acting Assistant Secretary for Fish and Wildlife and Parks.*

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