

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for *Cirsium Pitcheri***AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

SUMMARY: The Service determines *Cirsium pitcheri* (Pitcher's thistle), to be a threatened species under the authority contained in the Endangered Species Act (Act) of 1973, as amended. The species occurs on the shores of the Great Lakes in Indiana, Michigan, and Wisconsin in the U.S., and Ontario Canada. Development, loss, and disturbance of dunelands by the public are the principal threats to the species. This final rule will implement the protection provided by the Act for *Cirsium pitcheri*.

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 (see ADDRESSES section) at 612/725-3276 or FTS 725-3276.

SUPPLEMENTARY INFORMATION:**Background**

Cirsium pitcheri (Pitcher's thistle) was first discovered by Z. Pitcher in the 1820's and first described by Eaton as *Cnicus pitcheri* in the 5th edition of his manual (Eaton 1829); the first use of the current binomial was by Torrey and Gray ca. 1843. *Cirsium pitcheri*, a member of the composite or sunflower family, Asteraceae, possesses densely white-wooly and deeply divided leaves

with long petioles (Smith 1966, Alverson 1981). Other general characteristics include cream-colored or yellowish flowers in heads borne singly or few together on numerous stem branches up to 30 inches (0.76 meters) tall (Alverson 1981). Flowering occurs in June and may continue until mid-August; seed dispersal begins in late July (Keddy and Keddy 1984).

Cirsium pitcheri occurs primarily in the dry sand of stabilized, well developed dunes along the shorelines of the Great Lakes. It is also found in dry areas of loose sand ("sand blows" or "blowouts") behind main dunes in open areas of older dunes from higher Pleistocene lake levels (Alverson 1981). Plants are infrequently found on the lower, moist areas of the beach which are more frequently inundated and disturbed by storm wave action (Alverson 1981). Apparently, *Cirsium pitcheri* can tolerate infrequent disturbance to its habitat (i.e., once every 5-10 years) and it has been known to colonize disturbed areas. Periodic disturbance of this species' habitat apparently helps maintain an earlier successional stage of sparsely vegetated, open dunes; colonies of these plants appear to thrive on sites with these ecological conditions. The earlier-to mid-successional stage sites are well drained and support dry sand prairie-like vegetation communities; sites are sunny and open (Nepstad 1981). However, colonies of this plant do not tolerate frequent (i.e., monthly to annual) modification or disturbance to their habitat (see discussion below).

This plant appears to have originated in the Great Plains area and migrated east to its present range through suitable sandy habitats as the last ice age receded approximately 8,000 years ago (Moore and Frankton 1963). *Cirsium pitcheri* is closely related to *Cirsium canescens*, a plant characteristic of the western U.S. sand hills flora (Ownsby and Hsi 1963).

The greatest part of the species' range is in Michigan where it is found at about 100 sites in 25 counties along Lakes Huron, Michigan and Superior (Sue Crispin, Michigan Natural Heritage

Program, pers. comm. 1987). Although the plant is still widespread in Michigan, it depends on dynamic dune processes which have largely disappeared. In Wisconsin the species currently exists at eight sites in three counties on the Lake Superior shoreline (Alverson 1981). No known historic colonies of *Cirsium pitcheri* in Wisconsin have been extirpated but present activities have reduced existing colonies and threats continue (Alverson 1981). In Indiana, *Cirsium pitcheri* is known from seven sites along Lake Michigan (John Bacone, Indiana Division of Nature Preserves, pers. comm. 1987). The species is extirpated in Illinois. It occurs at 12 sites in Ontario, where it is found on the sandy shores of Lakes Huron and Superior (Keddy 1987). This plant occurs on public lands managed by the U.S. National Park Service (NPS) (Indiana Dunes National Lakeshore in Indiana and Sleeping Bear Dunes and Pictured Rocks National Lakeshore in Michigan), the U.S. Forest Service (FS) (Huron-Manistee National Forest), on small (100 yard or 91 meter) stretch of shoreline on Lake Michigan in Wisconsin, that is managed by the U.S. Coast Guard, and on Strawberry Island, which is administered by the Bureau of Land Management (BLM). It also occurs on State owned lands at sites within State parks in Indian, Michigan, and Wisconsin.

Cirsium pitcheri reproduces only sexually, and requires 3-10 years between germination and flowering; seeds are dispersed by a pappus which acts like a parachute for wind dispersal (Keddy 1987, Keddy and Keddy 1984). Most seeds are dispersed and settle downwind (inland) from parents, and seedling clusters appear to result from seeds that are dispersed with entire heads rather than separate achenes (Keddy and Keddy 1984). Because of their weight, entire seed heads are also more likely to be buried in the sand than are individual seeds. Keddy and Keddy (1984) suggest that dispersal of entire heads rather than separate achenes may be the mechanism which restricts seedlings establishment to a narrow

band of open beach rather than having all seeds blow inland to shrub and forest habitats. The combination of these reproductive factors, and other life-history requirements, may restrict these plants to clusters in narrowly-defined microhabitats along shorelines of the Great Lakes. These reproductive limitations may also affect the selection of conservation strategies that might be used to protect this species (see discussion in Factor E of the "Summary of Factors Affecting the Species" section).

Federal government actions on this species began on December 15, 1980, when the Service published a revised notice of review for native plants (45 FR 82480). *Cirsium pitcheri* was included in that notice as a category 1 species. Category 1 includes those species for which the Service has sufficient biological data to propose to list them as endangered or threatened species. In subsequent notices published on November 28, 1983 (48 FR 53640), and September 27, 1985 (50 FR 39526), *Cirsium pitcheri* remained in Category 1 where development and publication of proposed rules are anticipated, but because of the large number of taxa, actual publication could take some time. The proposed rule of July 20, 1987 (52 FR 27229), constituted the Service's most recent findings.

Summary of Comments and Recommendations

In the July 20, 1987, proposed rule (52 FR 27229) 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 *Bay City Times* on August 6, 1987; *Alpena News*, *Cheboygan Daily Tribune*, *Door County Advocate*, *Manistique Pioneer-Tribune*, *Manitowoc Herald-Times-Reporter*, *Petoskey News-Review*, and the *Sault Ste. Marie News* on August 7, 1987; the *Sheboygan Press* on August 8, 1987; the *Gary Post Tribune*, *Muskegon Chronicle*, *Kalamazoo Gazette*, and the *Traverse City Record Eagle* on August 10, 1987; the *Munising News* on August 12, 1987; and the *Ludington Daily News* on August 20, 1987. No public hearing was requested or held.

Eleven comments were received. Of these, five respondents expressed support for the proposal and provided new status information, including the Wisconsin Department of Natural

Resources, the National Park Service (NPS), Indiana Department of Natural Resources, a private individual, and a university professor. The Indiana Department of Natural Resources also provided new occurrence and ownership information. The NPS advised that it expects to initiate mapping and monitoring of *C. pitcheri* colonies at Indiana Dunes, Sleeping Bear Dunes, and Pictured Rocks National Lakeshores. Six respondents did not take a position but did provide new information on several populations. The U.S. Forest Service (FS) advised us of an occurrence of *Cirsium pitcheri* within the Huron-Manistee National Forest. Two comments were received from the Michigan Department of Transportation (MDOT). One of these expressed reservations about the increased involvement MDOT will have through the Federal Highway Administration in the section 7 consultation process and indicated it would be difficult for MDOT to meet construction and roadside maintenance schedules because of the added time required for section 7. MDOT is also concerned that listing *C. pitcheri* might affect its ability to maintain new safety standards along coast roads. MDOT also expressed concern about its added responsibilities once *C. pitcheri* is listed, while adjoining landowners are not bound by the Act and sometimes destroy plants. Therefore, MDOT supports added protection for plants on private land and further suggests continued cooperation and early consultation under section 7 with the Federal Highway Administration. Since MDOT is currently complying with the Michigan Department of Natural Resources requirements for endangered and threatened species permits, the Service will endeavor to integrate these State requirements and actions into section 7 activities so as not to cause unnecessary delay or added work for MDOT. MDOT expressed a desire to cooperate with the Service, but admits it has limited control over some uses on the right-of-way. Because of the restrictive nature of seed dispersal for *C. pitcheri*, and the narrow habitat requirements, the number of instances in which *C. pitcheri* may be affected by MDOT actions may not be of the magnitude expected. MDOT also requested representation on the recovery team for *C. pitcheri*. The Service will consider the expertise of MDOT staff when formulating a recovery plan for this species. The other comment from MDOT provided additional status information and recommended the Service focus on

people management and habitat protection in the recovery of *C. pitcheri*.

Summary of Factors Affecting the Species

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 set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their applications to *Cirsium pitcheri* (Eaton) Torrey and Gray are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The development of beaches has and will continue to reduce the range of *Cirsium pitcheri*. In Michigan, approximately 5-10 percent of this species' suitable habitat has been lost due to construction of roads, houses, and other facilities (Sue Crisman, pers. comm. 1987). Although there has been little documented loss of *Cirsium pitcheri* from sites throughout this plant's range, many colonies have been reduced in size (Alverson 1981). The reduction of colony size may severely hamper the ability of the species to recolonize sites that are disturbed naturally (i.e., high water) (see discussion in Factor E of this section).

Historical records indicate that the plant occurred on the shores of Lake Michigan in Illinois (Paulson and Schwegman 1976), but recent surveys have failed to relocate any colonies in the State. There are no data to indicate how these colonies might have been lost.

As indicated in the "Background" section, the species can withstand periodic disturbance to its habitat, and may colonize sites where disturbance creates an earlier successional stage (i.e., open grass dune). However, frequent disturbance and trampling destabilize dunes resulting in reduction or loss of *Cirsium pitcheri* colonies. In addition, road and housing construction result in the permanent loss of dune habitat. In some areas dunes have been bulldozed to reduce topographic relief in order to provide a better view of the lake for cottage residents (Alverson 1981). Some private landowners have attempted to eradicate the species because they believed it was a weed (Alverson 1981). As far as is known, all attempted eradications have been by mechanical means; there are no reports of chemical applications. These types of disturbance and habitat destruction

appear to be critical at several sites in Wisconsin (Ron Nicotera, Wisconsin Department of Natural Resources, personal communications 1987). There are sites within the range of *Cirsium pitcheri* that appear to be suitable habitat, but there are no individual plants or colonies on these sites (Nepstad 1981). Whether this is due to human disturbance, ecological limitations, or environmental factors is unknown.

As previously mentioned, this plant occurs on various public lands, including three National Lakeshores, a small stretch of shoreline managed by the U.S. Coast Guard, a National Forest, a small island administered by the BLM, several State parks, and within State highway rights-of-way. Although the maintenance of quality shoreline habitat is an objective of agencies that manage these lands, hikers, campers, swimmers, and others using beach areas unknowingly disturb or trample *Cirsium pitcheri*. Again, these activities appear to be detrimental only when they occur frequently (i.e., monthly to yearly) over a period of years. It appears that the most serious threat to this plant is the use of off-road vehicles (Edward G. Voss, University of Michigan, pers. comm. 1987). A recent study in Wisconsin reveals that the plant's habitat continues to be lost due to public use of sand dune areas (Nicotera, pers. comm. 1987).

The Indiana Dunes, Sleeping Bear Dunes, and Pictured Rocks National Lakeshores are managed by the NPS, and management plans for these sites contain provisions for protecting colonies of these plants. No other current or planned projects appear to threaten the existence of this plant on these National Lakeshores. The NPS is currently evaluating a request for road access through the Indiana Dunes National Lakeshore to a proposed marina on private land. However, neither the road nor proposed marina site has any known colonies of *Cirsium pitcheri* although some colonies occur in the general area. Prior to the publication of the proposed rule for *Cirsium pitcheri*, (52 FR 27229), the U.S. Department of Army, Corps of Engineers (COE), reviewed a light-draft vessel harbor project on the shoreline of Lake Michigan and concluded that the project would destroy some of the *Cirsium pitcheri* plants at the site. However, the project is not funded. The COE has discussed this with the Service. Once this rule is effective, the COE will initiate consultation with the Service under section 7(a)(2) of the Act, to insure that this activity is not likely to

jeopardize the continued existence of *C. pitcheri*. As mentioned in the "Summary of Comments and Recommendations" section, the Michigan Department of Transportation anticipates that several road maintenance projects may affect this plant, and it will be involved with the Federal Highway Administration consultation process under section 7 of the Act. It has been the experience of the Service that the majority of section 7 consultations are resolved so that the species is protected and the project can continue.

The Coast Guard operates a lighthouse on a 100 yard (91 meter) stretch of shoreline that contains a colony of *Cirsium pitcheri*. That agency neither currently conducts nor plans to conduct any activities that would threaten *Cirsium pitcheri* on this stretch of shoreline. It is anticipated that the BLM administered island will eventually be transferred to the State of Michigan; there are no plans for any type of development on the island.

B. Overutilization for commercial, recreational, scientific or educational purposes. Not applicable.

C. Disease or predation. White *et al.* (1983) report that total seed production of *Cirsium pitcheri* in Pukaskwa National Park, Ontario, is reduced by larvae of a plume moth (*Platyptilla cardvidactyla*), which feed on immature seeds, and Nepstad (1981) states that juvenile plants are lost due to herbivory by rabbits. It is not known if these forms of predation are a threat to *Cirsium pitcheri*. Loveless (1984) documents predation by several types of moths as well as goldfinches.

D. The inadequacy of existing regulatory mechanisms. Over one-half of the known *Cirsium pitcheri* populations occur on private lands and are offered no protection. Over one-fourth of the sites are on Federal lands; the remainder are found on various State lands. *Cirsium pitcheri* is listed as threatened by Indiana, Michigan, and Wisconsin, and rare in Ontario. However, State listing does not protect this plant's habitat, and habitat modification appears to be the principal reason for the plant's decline. Indiana's Nature Preserves Act protects endangered and threatened plants within Nature Preserves; endangered and threatened plants found within Indiana's State parks cannot be removed without a permit. Michigan law prohibits taking, possession, sale, purchase, and transport of plant species on the Federal and State endangered and threatened lists. Wisconsin regulations prohibit any person from removing or transporting any

endangered or threatened wild plant from its native habitat on public property, or from property he or she does not own or control, except in the course of forestry or agricultural practices, or in the construction or maintenance of a utility facility. The prohibitions in the Endangered Species Act will provide additional protection.

E. Other natural or manmade factors affecting its continued existence. As previously mentioned, this plant appears to have reproductive characteristics that limit its establishment to clusters within narrow ecological conditions in open dunes along lakeshores. Because of its limited ability to disperse seeds and establish seedlings, this plant may require relatively large colonies to colonize effectively and recolonize naturally and artificially disturbed sites. Reduction of colony size due to frequent, human-induced disturbance may decrease the ability of this plant to recolonize sites that are disturbed by natural phenomena such as high water. For example, 100 acres (42 hectares) of habitat was recently lost in Wisconsin due to high water (June Dobberpuhl, Wisconsin Department of Natural Resources, pers. comm. 1987). The probability of successful recolonization of this site after the water recedes is greater if the colony size is large prior to inundation; however, small colonies are less likely to survive. Large colonies are especially important in areas where the plants are widely dispersed since this plant does not disperse seed over large distances. In addition to a lowered ability to survive catastrophic events, the fitness of smaller colonies is also more likely to be lowered by predators. Therefore, conservation strategies for this plant should include establishment and maintenance of large clusters rather than numerous small colonies spread out over the entire range of the species.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by the species in determining to make this final rule. Based upon this evaluation, the preferred action is to list *Cirsium pitcheri* as threatened as opposed to endangered because the species is not in immediate danger of extinction, but does have a restricted range and is confronted by a variety of problems. Critical habitat is not being designated for reasons discussed in the following section.

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 Service finds that designation of critical habitat is not prudent for *Cirsium pitcheri* at this time. Publishing a detailed description and map of this species' habitat might make this species more vulnerable to vandalism (see factor "D" in the "Summary of Factors Affecting the Species"). No benefit would be derived from designating critical habitat and so it would not be prudent or beneficial to determine critical habitat for *Cirsium pitcheri* at this time.

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 possible land acquisition and cooperation with the States and requires that recovery actions be carried out for listed species. Such actions are initiated by the Service following the listing. Some may be undertaken prior to listing, circumstances permitting. Potential habitat management actions that might benefit *Cirsium pitcheri* include: Increasing protection of shorelines within National Lakeshores, educating the public to the harmful affects of offroad vehicles, establishing large colonies of plants in areas with suitable habitat, and reducing frequent disturbance to the plant's habitat throughout its range. The protection required of Federal agencies and the prohibitions against taking 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 cooperation provision 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 is likely to affect a listed species, the responsible Federal agency must enter into formal consultation with the Service. *Cirsium pitcheri* is known to occur within the

Indiana Dunes, Sleeping Bear Dunes, and Pictured Rocks National Lakeshores, on a 100 yard (91 meter) stretch of Lake Michigan shoreline that is managed by the U.S. Coast Guard, and in the Nordhouse Dunes Area of the Huron-Manistee National Forest. Habitat management strategies currently employed on the National Lakeshores should eventually help improve the conditions of colonies on these sites. No Federal activities or projects are currently proposed on the National Lakeshores that would jeopardize this plant. As mentioned previously in this rule, the NPS is evaluating a request for road access through the Indiana Dunes National Lakeshore to a proposed marina. However, neither the use of the road, nor the construction of the proposed marina is expected to affect existing colonies of *Cirsium pitcheri*. Also, the aforementioned activities of the Michigan Department of Transportation, authorized in part, by the Federal Highway Administration may affect *C. pitcheri*. No current or planned activities of the U.S. Coast Guard, the U.S. Forest Service, or the BLM are expected to jeopardize any colonies of this plant.

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. With respect to *Cirsium pitcheri*, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71 apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export a threatened plant, transport it 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 areas 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 can 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 for *Cirsium pitcheri* since the species 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 27329, Central Station, Washington, DC 20038-7329 (703/343-4955).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined by the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

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Author

The primary author of this final rule is William F. Harrison (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

Accordingly, Part 17, Subchapter B of chapter I, Title 50 of the Code of Federal Regulations, is amended, as set forth below:

PART 17—[AMENDED]

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

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 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 alphabetic order under the

family Asteraceae, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

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(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Asteraceae—Sunflower family:						
<i>Cirsium pitcheri</i>	Pitcher's thistle	U.S.A. (IL, IN, MI, WI) Canada (ON).	T	315	NA	NA

Dated: June 24, 1988.
Susan Recce,
Acting Assistant Secretary for Fish and Wildlife and Parks.
 [FR Doc. 88-16061 Filed 7-15-88; 8:45 am]
BILLING CODE 4310-55-M