

**50 CFR Part 17**

RIN 1018-AB66

**Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for *Schwalbea americana* (American chaffseed)****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Proposed rule.

**SUMMARY:** The Service proposes to determine *Schwalbea americana* (American chaffseed), a perennial herb of the figwort family (Scrophulariaceae) to be an endangered species pursuant to the Endangered Species Act of 1973 (Act), as amended. Eighteen extant populations of this species are found in open pine flatwoods, savannas, and other open areas, in moist to dry acidic sandy loams or sandy peat loams in Florida, Georgia, Mississippi, New Jersey, North Carolina, and South

Carolina; the species is also known historically from Alabama, Connecticut, Delaware, Kentucky, Maryland, Massachusetts, New York, Tennessee, and Virginia. The species is threatened by widespread habitat destruction due to development and from fire suppression, which allows invasion of vegetation that competes with it. This proposal, if made final, would extend the Federal protection and recovery provisions afforded by the Act to *Schwalbea americana*. The Service seeks data and comments from the public on this proposal.

**DATES:** Comments from all interested parties must be received by November 12, 1991. Public hearing requests must be received by October 28, 1991.

**ADDRESSES:** Comments and materials, and requests for public hearing concerning this proposal should be sent to the New Jersey Field Office, U.S. Fish and Wildlife Service, 927 N. Main Street, Bldg. D-1, Pleasantville, New Jersey 08232. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

**FOR FURTHER INFORMATION CONTACT:** Dana M. Peters at the above address (telephone: 609/646-9310).

**SUPPLEMENTARY INFORMATION: Background**

*Schwalbea americana* (American chaffseed), a perennial member of the figwort family (Scrophulariaceae), was described by Linnaeus in *Species Plantarum* in 1753, and named for Christian Georg Schwalbe, an eighteenth century botanical writer. Pennell (1935) recognized a southern and a northern species, *S. australis* and *S. americana* respectively. He distinguished *S. australis* by a pubescence of mostly upcurved hairs and leaves up to 1.5 cm (0.6 inches) wide, and *S. americana* by mostly recurved hairs and narrower leaves up to 1 cm (0.4 inches) wide or less. However, Fernald (1937) found characters of leaves and calyx lobes to vary over the total range so that recognition of two species was unwarranted. Following an examination of herbarium material, Musselman and Mann (1977) concurred that there was little taxonomic merit in recognizing more than a single species. Therefore, for the purposes of listing, *S. americana* and *S. australis* are considered one species (*S. americana*) and will be referred to as the monotypic genus *Schwalbea*.

*Schwalbea* is an erect herb with unbranched stems or branched only at

the base and grows to a height of 3 to 8 decimeters (12 to 31 inches). It is densely but minutely hairy throughout, including the flowers. The leaves are alternate, lance-shaped to elliptic, stalkless, 2 to 5 cm (1 to 2 inches) long, and entire; the upper leaves are reduced to narrow bracts. Large, purplish-yellow, tubular flowers borne singly on short stalks in the axils of the uppermost, reduced leaves (bracts) form a many-flowered, spike-like raceme. The showy flowers have a high degree of bilateral symmetry elaborated for pollination by bees (Pennell 1935). The fruit is a long and narrow capsule, enclosed in a loose-fitting sac-like structure that provides the basis for the common name, chaffseed (Musselman and Mann 1978). Flowering occurs from April to June in the South, and from June to mid-July in the North (Johnson 1988). Fruits mature from early summer in the South to October in the North. *Schwalbea* is a hemiparasite, that is, a plant that is partially dependent on its host. Like most hemiparasitic Scrophulariaceae, it is not host specific, and its rarity, therefore, is not due to its preference for a specialized host.

Characteristically, the species occurs in sandy (sandy peat, sandy loam), acidic, seasonally moist to dry soils. It is generally found in habitats described as open, moist pine flatwoods, fire-maintained savannas, ecotonal areas between peaty wetlands and xeric sandy soils, and other open grass-sedge systems. One population, however, occurs in a heavy clay soil in a hayfield. *Schwalbea* is dependent on factors such as fire, mowing, or fluctuating water tables to maintain the crucial open to partly-open conditions that it requires. The species appears to be shade intolerant. Historically, the species existed on savannas and pinelands throughout the coastal plain and on sandstone knobs and plains inland where frequent, naturally occurring fires maintained these sub-climax communities. Under these conditions, herbaceous plants such as *Schwalbea* were favored over trees and shrubs. Most of the surviving populations, and the most vigorous, are in areas that are still subject to frequent fire. These fire-maintained habitats include plantations that are prescribed burned for management of quail, an army base impact zone that burns regularly because of live artillery shelling, forest management areas that are burned to maintain habitat for wildlife including the red-cockaded woodpecker, and various other private lands that are burned to maintain open fields. Fire may be important to the species in ways that

are not yet documented or understood. Two small populations, one in New Jersey (along a roadside in Lebanon State Forest) and one in Mississippi (in a hayfield on the Noxubee National Wildlife Refuge) survive in frequently mowed areas that are not burned.

As indicated by Kral (1983), *Schwalbea* occurs in species-rich plant communities where grasses, sedges, and other colorful savanna dicots are especially numerous. One South Carolina population co-occurs with two other plant species being considered for listing under the Act, *Parnassia caroliniana* and *Eulophia ecrinata* (Rawinski and Cassin 1986).

In 1986 the Fish and Wildlife Service (Service) contracted with The Nature Conservancy's Eastern Regional Office to conduct status surveys for *Schwalbea* (Rawinski and Cassin 1986). More recently The Nature Conservancy's New Jersey Field Office prepared an Element Stewardship Abstract for *Schwalbea* (Johnson 1988). Based on these reports and additional input from various sources in the respective States, it is known that the species occurred historically in fifteen States including Alabama, Connecticut, Delaware, Florida, Georgia, Kentucky, Maryland, Massachusetts, Mississippi, New Jersey, New York, North Carolina, South Carolina, Tennessee, and Virginia at a total of approximately seventy-eight sites. One historic record from Louisiana is considered erroneous (Annette Parker, Louisiana Heritage Program, *in litt.*, 1986).

Today, eighteen populations of the species are known in six States including:

One on the Lebanon State Forest in New Jersey (Burlington County).

One on Fort Bragg, North Carolina (Hoke County).

One on the Noxubee National Wildlife Refuge in Mississippi (Noxubee County).

Four on the Francis Marion National Forest in South Carolina (Berkeley and Charleston Counties).

Three on private land in Georgia (Baker and Dougherty Counties).

One on private land in Florida (Gadsen County), and

Seven on private land in South Carolina (Berkeley, Horry, Jasper, Sumter, and Williamsburg Counties).

It is extirpated from Alabama, Connecticut, Delaware, Kentucky, Maryland, Massachusetts, New York, Tennessee, and Virginia, nine of the fifteen states where it was historically reported. This plant, always considered rare, appears to have suffered a drastic decline in populations and range. The one small population in New Jersey is

the only population north of North Carolina. Despite intensive searches of historic stations and potentially suitable habitat, this species remains very rare, and many historic populations are confirmed as extirpated due to habitat destruction, mostly by development (Rawinski and Cassin 1986).

Federal consideration of this plant for listing began with acceptance by the Service of *Endangered and Threatened Plants of the United States* (Ayensu and DeFilipps 1978) as a listing petition within the context of section 4 of the Act. This report recommended *Schwalbea americana* for threatened status. The Service's subsequent actions in relation to the Smithsonian petition are explained in detail in the "Relationship to Petition Requirements" section of the February 21, 1990 (55 FR 6184) comprehensive plant notice of review.

Additional petition findings involving *Schwalbea* were published on January 20, 1984 (49 FR 2485), May 10, 1985 (50 FR 19761), January 9, 1986 (51 FR 996), June 30, 1987 (52 FR 24312), July 7, 1988 (53 FR 25511), December 29, 1988 (53 FR 52746), and April 25, 1990 (55 FR 17475). This proposal to classify *Schwalbea americana* as endangered constitutes the final required petition finding for this species.

#### Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. *et seq.*) and regulations promulgated to implement the listing provisions of the Act (50 CFR part 424) 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 application to *Schwalbea americana* L. (American chaffseed) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* *Schwalbea* has been and continues to be endangered by destruction and adverse alteration of its habitat. Since discovery of this species, sixty (three-fourths) of the known populations have been extirpated due to conversion of the habitat to residential and commercial purposes, incompatible agriculture and forestry practices, and succession of the vegetative community due to fire suppression. Sandy pineland communities where the species exists have proven to be especially vulnerable to development because soils are level, deep, and suitable as building sites. Also, many *Schwalbea* populations

where or are very near the Atlantic coast where development pressures are severe (Rawinski and Cassin 1986). Habitat destruction presently taking place on Cape Cod, Massachusetts, exemplifies the situation throughout much of the range of *Schwalbea*. None of the ten historic Massachusetts populations of this plant have been relocated and other potentially suitable habitat is being destroyed at a rapid rate. In Florida, four of the seven historic sites are confirmed extirpated because of habitat destruction (Rawinski and Cassin 1986). In New Jersey, a population was extirpated in 1988 by the construction of a street for new housing (D. Snyder, New Jersey Natural Heritage Program, *in litt.*, 1988). Development was a factor in the demise of at least 15 other populations rangewide (Johnson 1988).

Current threats to extant populations include destruction of habitat due to development, agriculture, or forestry practices, succession of vegetation, and improper management that renders the habitat unsuitable. Impending development is an immediate threat to two of the extant populations. Development or succession of habitat is a potential threat to five other populations on private land. Development adjacent to extant populations may also pose a threat since urbanization generally results in fire suppression and thus possible succession of field habitats. The threats due to fire suppression will be discussed in more detail under Factor E.

**B. Overutilization for commercial, recreational, scientific or educational purposes.** One extant population has been adversely affected due to removal of plants by an employee of a botanical garden for transplanting to the garden. This population was also adversely affected by a local photography club that dug up plants to photograph them under studio conditions, and by careless photographers and onlookers who have trampled the site. Attention due to listing could result in further threats to accessible populations due to collection and trampling from curiosity seekers and vandals.

**C. Disease or predation.** Disease and predation have not been documented as factors in the decline of this species.

**D. The inadequacy of existing regulatory mechanisms.** Currently, in the State of Mississippi, *Schwalbea* is not on an official list and there is no protection for the species.

In Florida, *Schwalbea* is listed as endangered under The Preservation of Native Flora of Florida Act, section 581.185-187, Florida Statute. This Act prohibits removal of State-listed plants from public lands or from private lands

without written permission of the landowner.

In Georgia, *Schwalbea* is currently being proposed as endangered on the official State list. If this listing is completed, the species will receive protection under The Georgia Wildflower Preservation Act of 1973. This Act prohibits digging, removal, or sale of State-listed plants from public lands without the approval of the Georgia Department of Natural Resources. However, the three *Schwalbea* populations in Georgia are on private land and would benefit minimally from the protection of this Act. These populations receive limited protection through voluntary, informal landowner agreements with The Nature Conservancy.

The official status of *Schwalbea* in North Carolina is endangered. North Carolina General Statute 19-B, 202.12-202.19, provides State-listed plants protection from intra-state trade without a permit, provides for monitoring and management of listed populations, and prohibits taking of plants without a State permit and written permission of landowners.

In South Carolina, *Schwalbea* is recognized as "of national concern" by the South Carolina Advisory Committee on rare, threatened, and endangered plants; however, this State offers no legal protection to recognized species.

In New Jersey, *Schwalbea* is listed as endangered on the Endangered Plant Species List authorized by the Endangered Plant Species List Act (N.J.S.A. 7:5C). This list provides recognition to listed plants, but does not provide regulatory protection to the species from collection, habitat loss, or habitat degradation. The population in New Jersey occurs within the Lebanon State Forest and within the Pinelands Reserve. The State Forest does not provide any specific protection to the species. Pursuant to the policy to preserve, protect, and enhance the diversity of plant communities through regulation of development, the Pinelands Protection Act (N.J.S.A. 13:18-1 et seq.) states that no development within the Pinelands shall be carried out unless it is designed to avoid irreversible adverse impacts to the survival of populations of threatened or endangered plants listed therein. Despite the location of the New Jersey population within the Pinelands Reserve, it is still subject to severe adverse impacts. It is located next to a roadway in an area maintained by the highway department. This type of maintenance is exempt from the aforementioned protection of threatened or endangered species. Current management of this population consists

of yearly mowing and is conducted through an informal agreement between the New Jersey Department of Environmental Protection and the highway department. Protection of the site is inadequate. Vehicles routinely pull off of the road, damaging plants and disturbing the habitat.

Only North Carolina has legislation protecting *Schwalbea* from taking, and only New Jersey has some protection for its habitat. The primary threat to *Schwalbea* is habitat destruction and lack of habitat management, therefore, existing legislation is inadequate.

**E. Other natural or manmade factors affecting continued existence.** As mentioned in Factor "A", fire or another suitable form of disturbance, such as well-timed mowing, is essential to maintain the sub-climax community where this species exists. Although corroborating research is lacking, botanists familiar with the species believe that *Schwalbea* may be adapted to a regular fire regime. Historically, naturally occurring fires throughout *Schwalbea*'s range maintained these conditions. These naturally occurring lightning-strike fires were frequent enough that fuel did not accumulate and, thus, they were generally of low intensity. Herbaceous species were favored over tree and shrub species and thrived in these conditions. With the general suppression of natural fires in this century, the habitat for this species has been greatly reduced. Without fire, open grass-sedge communities proceed through seral stages and become dominated by trees, shrubs and dense herbaceous growth that overtops *Schwalbea*. The species appears to be shade intolerant. If fire is suppressed for more than three years, the *Schwalbea* population declines as other species shade and out-compete it (D. Rayner, Wofford College, pers. comm., 1991). Without naturally occurring fires, management in the form of prescribed burns or mowing may be necessary to maintain the sub-climax community and perpetuate *Schwalbea* populations. However, excessive mowing or disturbance could eliminate populations, and there are questions concerning the optimal timing and frequency of burning or mowing. Further research on the effects of prescribed burning and mowing, and/or soil moisture variation is needed to determine the best management techniques that will maintain viable populations of the species.

Ten of the eighteen known populations of *Schwalbea* contain fewer than one hundred plants with five of these populations having fewer than 20

plants. These isolated and critically small populations are highly vulnerable to extinction. Extreme isolation, whether by geographic distance, ecological factors or reproductive strategy, prevents the influx of new genetic material and can result in a highly inbred population with low viability or fecundity (Chesser 1983). In addition, current knowledge of the species biology and population dynamics is insufficient to assess whether *Schwalbea* could persist following a natural event such as drought or high-intensity fire.

The Service has carefully assessed the best scientific information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Schwalbea americana* as endangered. The species is extirpated from over half of its historic range. Only eighteen populations, approximately one-fourth of recorded historic populations, are known to persist. Existing populations are threatened by the continuation of fire suppression, development, and potential mismanagement of habitat. Specific habitat requirements and optimum management regimes are unknown; lack of such critical information greatly hampers efforts to protect and perpetuate this species. These factors support listing as an endangered species. 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 any habitat of a species that is considered critical habitat at the time the species is determined to be endangered or threatened. Designation of critical habitat is not prudent if one or both of the following situations exist: (1) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species, or (2) such designation of critical habitat would not be beneficial to the species (50 CFR 424.12(a)(1)).

The Service finds that designation of critical habitat is not prudent for *Schwalbea americana* at this time because such designation will exacerbate threats from collecting and trampling. As noted under Factor "B", above, collecting and careless trampling by wildflower photographers have already adversely affected at least one population. The Act furnishes listed plants with very limited protection from take, prohibiting collection and harm

only when plants are located on federally administered lands or in situations where take is perpetrated in knowing violation of a State law or regulation. Only six *Schwalbea* populations are located on lands under Federal jurisdiction. Most populations are small to moderate in size and, therefore, even occasional collecting and trampling could exert significant adverse impacts on them. Publication of critical habitat descriptions and maps in the Federal Register could increase these threats to the survival of the species, overriding any protection that such designation might provide.

#### 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 Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants 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)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is subsequently listed, 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 such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. Federal activities that could impact *Schwalbea* and its habitat in the future include, but are not limited to, incompatible forestry and wildlife management practices, and construction of access roads to accommodate

changes in military bombing practice areas on lands under Federal jurisdiction. The Service will work with the involved agencies to secure protection and proper management of *Schwalbea* while accommodating agency activities to the extent possible.

Conservation and management of *Schwalbea* will likely involve a combination of site protection through acquisition or landowner agreements and habitat manipulation to maintain early successional habitats. Listing *Schwalbea americana* will encourage research on critical aspects of its life history and population ecology, and the effects of fire, mowing and soil moisture variation on population establishment and maintenance. This information is necessary to determine the optimal timing and frequency of these management techniques.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62 and 17.63 set forth a series of general prohibitions and exceptions that apply to all endangered plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, apply. 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, sell or offer for sale this species in interstate or foreign commerce, or to remove and reduce to possession the species from areas under Federal jurisdiction. In addition, for listed plants, the 1988 amendments (Pub. L. 100-478) to the Act prohibit the malicious damage or destruction on Federal lands and the removal, cutting, digging up, or damaging or destroying of listed plants in knowing violation of any State law or regulation, including State criminal trespass law. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances. It is anticipated that few trade permits would ever be sought or issued because 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, rm 432, 4401 N Fairfax Dr., Arlington VA 22203-3507 (703/358-2104).

**Public Comments Solicited**

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Schwalbea*;

(2) The location of any additional populations of *Schwalbea* and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;

(3) Additional information concerning the range, distribution, and population size of *Schwalbea*; and

(4) Current or planned activities in the subject area and their possible impacts on *Schwalbea*.

Final promulgation of the regulation on *Schwalbea* will take into consideration the comments and any additional information received by the Service, and such communications may lead to a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be received within 45 days of the date of publication of the proposal. Such requests must be made in writing and addressed to Field Supervisor, New Jersey Field Office, U.S. Fish and Wildlife Service (See "ADDRESSES" section).

**National Environmental Policy Act**

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of 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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 Rawinski, T., and J. Cassin. 1986. Final status survey reports for 32 plants. Unpublished report to U.S. Fish and Wildlife Service, Newton Corner, MA. Eastern Heritage Task Force of The Nature Conservancy.

**Author**

The primary author of this proposed rule is Dana M. Peters (see "ADDRESSES" section).

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

Endangered and threatened wildlife, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

**Proposed Regulation Promulgation**

**PART 17—[AMENDED]**

1. The authority citation for 50 CFR part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1544; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500; unless otherwise noted.

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

**§ 17.12 Endangered and threatened plants.**

(h)

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Scrophulariaceae—Figwort family:						
<i>Schwalbea americana</i>	American chaffseed	U. S. A. (AL, CT, DE, FL, GA, KY, MA, MD, MS, NC, NJ, NY, SC, TN, VA).	E		NA	NA

Dated: July 26, 1991.  
 Richard N. Smith,  
 Deputy Director, U.S. Fish and Wildlife Service.  
 [FR Doc. 91-21801 Filed 9-10-91; 8:45 am]  
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