

CANDIDATE ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: Platanthera integrilabia (Correll) Leur

COMMON NAME: white fringeless orchid

LEAD REGION: 4

INFORMATION CURRENT AS OF: February 2003

STATUS/ACTION (Check all that apply):

New candidate

Continuing candidate

Non-petitioned

Petitioned - Date petition received: \_\_\_\_

No finding yet

90-day positive - FR date: \_\_\_\_

12-month warranted but precluded - FR date: \_\_\_\_

Is the petition requesting a reclassification of a listed species?

Listing priority change

Former LP: \_\_\_\_

New LP: \_\_\_\_

Latest date species first became a Candidate: \_\_\_\_

Candidate removal: Former LP: \_\_\_\_ (Check only one reason)

A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

F - Range is no longer a U.S. territory.

M - Taxon mistakenly included in past notice of review.

N - Taxon may not meet the Act's definition of a species. @

X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Plant - Orchidaceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia

CURRENT STATES/COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE: Alabama, Georgia, Kentucky, South Carolina, Tennessee

LEAD REGION CONTACT (Name, phone number): Richard Gooch, 404/679-7124

LEAD FIELD OFFICE CONTACT (Office, name, phone number): Asheville, North Carolina Field Office, Robert R. Currie, 828/258-3939, extension 224

SUPPORT FIELD OFFICE(S): Daphne, Alabama Field Office; Athens, Georgia Field Office; Cookeville, Tennessee Field Office; Jackson, Mississippi Field Office; Charleston, South Carolina Field Office; Abingdon, Virginia Field Office; Frankfort Kentucky Field office

BIOLOGICAL INFORMATION (Describe habitat, historic vs. current range, historic vs. current population estimates (# populations, #individuals/population), etc.):

White fringeless orchid was first recognized as a distinct taxon in 1941 when D.S. Correll described this plant as a subspecies of *Habenaria* (*Platanthera*) *blephariglottis* (Correll 1941). C.A. Leur elevated the taxon to full species status in 1975 (Leur 1975). The currently accepted binomial for the species is *Platanthera integrilabia* (Correll) Leur.

White fringeless orchid is a perennial herb with a light green, 60 centimeter (cm) (23 inches (in)) long, stem that arises from a tuber. The leaves are alternate with entire margins and are narrowly elliptic to lanceolate in shape. The lower leaves are 20 cm (8 in) long and 3 cm (1 in) wide. The upper stem leaves are much smaller. The white flowers are borne in a loose cluster at the end of the stem. The upper two flower petals are about 7 millimeters (mm) (0.3 in) long and the lower petal (the lip) is about 13 mm (0.5 in) long. The plants flower from late July through September and the small narrow fruiting capsule matures in October (Shea 1992).

*Platanthera integrilabia* grows in wet, boggy areas at the head of streams and on seepage slopes. It is often associated with *Sphagnum* in partially, but not fully, shaded areas. The species currently occurs within the Appalachian Plateau Physiographic Province in Kentucky, Tennessee, and Alabama, the Coastal Plain Physiographic Province in Alabama, and the Blue Ridge Province in Georgia and Tennessee (Shea 1992).

Historically, there were at least 90 populations of *Platanthera integrilabia*. Currently there are only 53 extant sites supporting the species. The species was originally known from Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia. It has been extirpated from Mississippi, North Carolina, and Virginia. The following summary of the current distribution of the species is from Medley (1980), Shea (1992), White (1998), Deb White (Kentucky State Nature Preserves Commission, personal communication, 1999), and Andrea Shea (Tennessee Department of Environment and Conservation, personal communication, 1999).

Alabama currently supports eight populations of *Platanthera integrilabia*. Marion County has two sites for the species, both of which are privately owned. One of these sites supported 40 flowering plants in 1991, and the other was estimated to support 1,000 to 3,000 in 1998. Tuscaloosa County has one privately owned site with 17 flowering plants. Winston County has one privately owned site that had 31 flowering plants in 1991 and 1 plant in 1998. Jackson County has one privately owned site that was estimated to support 6 to 12 plants in 1998. Calhoun County has two populations that are on the Department of Defense's Fort McClellan. In 1998, one of these sites had 500 to 750 plants and the other had 75 plants. The lands supporting the species on Ft. McClellan are considered excess by the Department of Defense. It is not currently known who will eventually be responsible for these sites. Claiborne County has one site that supported about 100 plants in 1998; this site is on lands managed by Talladega National Forest.

Georgia currently supports eight populations of *Platanthera integrilabia*. Carroll County has two privately owned sites. In 1991, one of these had 31 flowering plants and an estimated 5 to 35 plants in 1998. The other had 1 flowering plant in 1991 and an estimated 5 to 15 plants in 1998. Cobb County has one privately owned site that had three flowering plants in 1991. Coweta,

Rabun, Forsyth, and Chattooga Counties each have one privately owned site. The most recent (1990 to 1998) records for these sites indicate that they supported 15 to 50, 39, 2, and a few flowering plants, respectively. The only Federally owned site is in Stephens County on the Chattahoochee National Forest. This site supported 11 flowering plants in 1991.

Kentucky is the only State where a majority of the sites are under Federal ownership. McCreary County has three sites for the species, all of which are within Daniel Boone National Forest. In 1991, the largest of these sites contained 96 flowering plants, one of the others had 3 plants and the last had 33 plants. Pulaski County has two known populations; one, supporting 104 flowering plants in 1991, is on the Daniel Boone National Forest, and the other, for which there are no recent estimates of population size, is small and privately owned. Whitley County has one small, privately owned site. There are no recent estimates of the size of this population. Laurel County has two sites for the species, the largest of these (1,745 plants in 1997) is completely on Daniel Boone National Forest land and the other is partially on Forest Service land and partially on privately owned land. There are no recent estimates of the size of this last small population.

There are two records for Platanthera integrilabia in Mississippi. One of these is a 1863 collection from Alcorn County and the other is a 1974 collection from Tishomingo County. The species has apparently been lost from these sites and is considered extirpated from the State.

Historically, North Carolina supported at least two populations of the species. One of these was in a Henderson County bog that has been almost completely destroyed and the other was in Cherokee County. The species is believed to be extirpated from North Carolina.

South Carolina supports one State owned site in Greenville County. This site is in an isolated location and has not been visited since 1989. During the last visit, the site supported 11 flowering plants.

In Tennessee, Franklin County supports five privately owned Platanthera integrilabia sites. Four of these are very small and contained 2, 3, 5 and 10 plants, respectively, in 1991. The fourth site is larger and contained 200 to 300 plants in 1998. Grundy County supports nine populations. Three of these are on State owned lands and in the most recent surveys contained 6, 6 and 34 plants, respectively. The remaining six sites are on privately owned land and in the most recent surveys contained 0, 4, 118, 150, 250, and 1,000+ plants, respectively. Sequatchie County has three privately owned populations, one of these had 7 flowering plants in 1991, the second had 12 in that same year, and the third had 91 plants in 1996. Marion County has three populations. Two of the Marion County sites are small and privately owned, one of these had 2 plants and the other 10 plants in 1991. The third site is State owned and supported 65 flowering plants in 1998. Van Buren County has four privately owned sites supporting P. integrilabia. In the most recent surveys of these populations, they contained 76, 86, 128, and 525 flowering plants, respectively. Bledsoe County has two State owned sites; one had 50 plants in 1989 and the other had 600 plants in 1998. There are two federally owned sites in the State, one is in McMinn County on land managed as a botanical area by the Cherokee National Forest. In 1998, thousands of plants were observed at this site. The other federally owned site is also on the Cherokee National Forest and is in Polk County. In 1996, this site contained 40 plants.

In 1942, Platanthera integrilabia was collected from Lee County in southwestern Virginia. The species not been seen in Virginia since then and is believed to be extirpated.

THREATS (Describe threats in terms of the five factors in section 4 of the ESA providing specific, substantive information. If this is a removal of a species from candidate status or a change in listing priority, explain reasons for change):

A. The present or threatened destruction, modification, or curtailment of its habitat or range.

Shea (1992) reported that several populations have been lost to habitat altering activities such as road construction, residential and commercial construction, and soil and site hydrology altering projects that reduced site suitability for the species. She estimated that these activities continued to threaten at least 50 percent of the remaining populations in 1992. Several of the known populations are in or adjacent to powerline rights-of-way. Mechanical clearing of these areas may benefit the species by maintaining adequate light levels; however, the use of herbicides could pose a significant threat to the species. All-terrain vehicles have damaged several sites and pose a threat to most sites (Shea 1992). White (1998) notes that most of the known sites for the species occur in areas that are managed specifically for timber production. Timber management is not necessarily incompatible with the protection and management of Platanthera integrilabia. However, care must be taken during timber management to ensure that the hydrology of the bogs that support the species is not altered, that any heavy equipment used is kept out of the species= habitat, and that the vegetation is managed in a manner that maintains suitable light and moisture conditions. Natural succession can result in decreased light levels. This decrease can initially cause reduced vigor, flowering, and reproduction. If continued, it can make a site unsuitable for the species. Loss of sites to residential and other construction activities remains a threat to most of the privately owned populations. Timber management, if not carried out with the welfare of the species in mind, could negatively alter or destroy its habitat.

B. Overutilization for commercial, recreational, scientific, or educational purposes.

Collecting for commercial and other purposes is a threat to Platanthera integrilabia. Shea (1992) reports that the species may have been extirpated from its type locality by collecting and that, at that time, at least two Tennessee nurseries sold plants collected from wild populations. Because of the small size of many populations, collecting, even for scientific purposes, could easily extirpate the species from many areas.

C. Disease or predation.

Zettler and Fairey (1990) stated that herbivory and disease both threatened this species. They reported herbivore damage to Platanthera integrilabia, ranging from 11 percent to almost 24 percent of the plants present at the South Carolina and Georgia sites they studied. They also noted plant damage caused by several fungal pathogens. White (1998) reported that herbivory (primarily deer) continues to threaten the species at several sites, and that at one site it is threatened by wild boar rooting.

D. The inadequacy of existing regulatory mechanisms.

Some of the sites supporting Platanthera integrilabia are under the jurisdiction of State and Federal wetlands protection regulations such as those developed under the Clean Water Act. However, because of their size and isolation from larger aquatic systems, most sites are not under the jurisdiction of these programs. Additionally, many of the activities that threatened the species would take place in areas adjacent to, rather than in, the bogs supporting the species and, therefore, are not subject to wetlands regulations regardless of the size or location of the wetland.

Of the states currently having populations of Platanthera integrilabia, only Tennessee and Georgia have legislation that provides some protection for the species at the state level. These states regulate commerce and taking of the species without the permission of the landowner.

E. Other natural or manmade factors affecting its continued existence.

Little, if any, vegetative reproduction takes place in Platanthera integrilabia, and it is apparently primarily dependent upon sexual reproduction. Zettler and Fairey (1990) reported that only 2.8 percent to 4.6 percent of the plants within a population flower in any given year and of these, only 6.9 percent to 20.3 percent will set seed. This results in a very low production of seeds and, consequently, a limited ability to reproduce at most sites.

White (1998) notes that the recovery of this species will be dependent upon active management rather than just preservation of its habitat. Because of the species' dependence upon moderate to high light levels, some type of active management to prevent complete canopy closure is required at most locations. Invasive nonnative plants such as Japanese honeysuckle (Lonicera japonica) and kudzu (Pueraria lobata) threaten several sites and, if left uncontrolled, can extirpate the species (Zettler and Fairey 1990).

FOR RECYCLED PETITIONS:

- a. Is listing still warranted? \_\_\_\_
- b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? \_\_\_\_
- c. Is a proposal to list the species as threatened or endangered in preparation? \_\_\_\_
- d. If the answer to c. above is no, provide an explanation of why the action is still precluded.

LAND OWNERSHIP (Percentage Federal/state/private, identify non private owners):

Federal (U.S. Forest Service and Department of Defense) 23 percent, State (South Carolina State Parks, Tennessee State Parks and State Forests) 13 percent, and private 64 percent.

PRELISTING (Describe status of conservation agreements or other conservation activities):

The Nature Conservancy has registered one of the privately owned Grundy County, Tennessee, sites as a natural area. In 1980, this site supported 250 plants; however, the number of plants present in recent years has been greatly reduced and some active management of the site may be needed. One of the 12 sites in Federal ownership is designated as a Botanical Area by the U.S. Forest Service. The South Carolina site and several of the Tennessee sites are within State

parks. This provides these sites with some degree of protection, but does not necessarily ensure that they will receive the management that may be needed to maintain the species.

Several years ago, we and the U.S. Forest Service initiated discussions on the feasibility of developing a conservation agreement to protect Platanthera integrilabia. No recent work has been devoted to this effort because of the large number of sites in private ownership and the inability to develop an agreement that would protect enough populations to ensure the long-term survival of the species.

The Service provided a grant to the Kentucky State Nature Preserves Commission to develop site conservation plans for the higher quality Platanthera integrilabia sites that remain in existence. A report containing conservation plans for 29 sites was prepared by White (1998). The threats to most sites and the active management needs identified in this report indicate that long-term protection of Platanthera integrilabia can best be achieved through the Federal listing process.

We have discussed this candidate elevation proposal with Dennis Krusac and Wayne Owen of the U.S. Forest Service's Southern Region. They support the elevation of this species to candidate status and have offered to work with us in protecting the populations that occur on Forest Service lands. The Department of Defense is aware of the presence of P. integrilabia on Fort McClellan and the need to provide for its protection as they consider various alternatives in the disposal of excess lands on this Army base. The Natural Heritage Programs and/or State Plant Protection Programs in Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia have all been contacted concerning elevation of this species to candidate status. All have supported this effort and offered their assistance in protective efforts in the future.

REFERENCES (Identify primary sources of information (e.g., status reports, petitions, journal publications, unpublished data from species experts) using formal citation format):

Correll, D. S. 1941. Two new American orchids. Harvard University Botanical Museum Leaflet 9:152-157.

Leur, C. A. 1975. The Native Orchids of the United States and Canada excluding Florida. The New York Botanical Garden. New York, New York.

Medley, Max E. 1980. Status Report on Platanthera integrilabia. Unpublished report to the U.S. Fish and Wildlife Service, Southeast Region. 34 pp.

Shea, Margaret M. 1992. Status Survey Report on Platanthera integrilabia. Unpublished report to the U.S. Fish and Wildlife Service, Southeast Region. 152 pp.

White, Deborah. 1998. Site Conservation Plans for Platanthera integrilabia (White Fringeless Orchid). Unpublished report to the U.S. Fish and Wildlife Service, Southeast Region. 106 pp.

Zettler, L. W. and J. E. Fairey, III. 1990. The status of Platanthera integrilabia, an endangered terrestrial orchid. *Lindleyana* 5:212-217.

LISTING PRIORITY (place \* after number)

THREAT
--------

Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5*
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

Rationale for listing priority number:

**Magnitude:** Several White fringeless orchid populations have been lost to road construction, residential and commercial construction, and soil and site hydrology altering projects that reduced site suitability for the species. Several of the known populations are in or adjacent to powerline rights-of-way. Mechanical clearing of these areas may benefit the species by maintaining adequate light levels; however, the use of herbicides could pose a significant threat to the species. All-terrain vehicles have damaged several sites and pose a threat to most sites. Most of the known sites for the species occur in areas that are managed specifically for timber production. Timber management is not necessarily incompatible with the protection and management of *Platanthera integrilabia*. However, care must be taken during timber management to ensure that the hydrology of the bogs that support the species is not altered. Natural succession can result in decreased light levels. This decrease can initially cause reduced vigor, flowering, and reproduction. If continued, it can make a site unsuitable for the species. Collecting for commercial and other purposes is a threat to *Platanthera integrilabia*. Herbivory (primarily deer) threatens the species at several sites. Protection and recovery of this species is dependent upon active management rather than just preservation of its habitat. Because of the species' dependence upon moderate to high light levels, some type of active management to prevent complete canopy closure is required at most locations. Invasive nonnative plants such as Japanese honeysuckle (*Lonicera japonica*) and kudzu (*Pueraria lobata*) threaten several sites and, if left uncontrolled, will extirpate the species.

**Imminence:** The threats faced by these species are significant, however, it is not anticipated that they will be subject to these threats in the immediate future (next 1-2 years).

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all additions of species to the candidate list, removal of candidates, and listing priority changes.

Approve: Linda Kelsey March 14, 2003  
Acting Regional Director, Fish and Wildlife Service Date

Concur: \_\_\_\_\_ Date \_\_\_\_\_  
Director, Fish and Wildlife Service

Do not concur: \_\_\_\_\_ Date \_\_\_\_\_  
Director, Fish and Wildlife Service

Director's Remarks:

-

-

Date of annual review: February 2003

Conducted by: Robert Currie - Asheville, North Carolina FO

Comments:

-

-

-