

CANDIDATE ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME:

Chromolaena frustrata (B.L. Rob.) R.M. King and H. Rob. (= Eupatorium frustratum B.L. Rob.)

COMMON NAME: Cape Sable thoroughwort

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: ____

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 *Species*.@

X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Plant - Asteraceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Florida

CURRENT STATES/COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE: Florida

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

LEAD FIELD OFFICE CONTACT (Office, name, phone number): South Florida Field Office, Paula Halupa, 772/562-3909 extension 257

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

Chromolaena frustrata is an erect fragrant herb up to about 8 inches tall with 1 to many stems and opposite leaves. Flower heads are in small clusters. Each head has 25 or more small flowers, with blue or violet petals. This herb has been observed most commonly in open sun to partial shade at the edges of rockland hammock and in coastal rock barren. It was historically known from coastal berm along the northern edges of Florida Bay. It is often found under other plant species, buffering it from full exposure to the sun. It has not been observed in disturbed areas. Coastal rock barrens are composed of exposed Key Largo Limestone with a diverse assemblage of herbaceous plant taxa, many of which are halophytes [salt-tolerant] (Bradley and Gann 1999).

Its historic range is on nine islands of the Florida Keys, from Key Largo to Boca Grande Key (12 miles west of Key West in Key West National Wildlife Refuge). Known localities include Boca Grande Key, Big Pine Key, Knights Key, Key Largo, Long Key, Plantation Key, Lignumvitae Key, Upper Matecumbe Key, and Lower Matecumbe Key. On the mainland, Chromolaena frustrata was historically reported from the Turner River (Bradley and Gann 1999, citing Moldenke 1944), the Ten Thousand Islands area, Cape Sable, along the Buttonwood Canal (east of Coot Bay, north of the Bear Lake Road), just south of West Lake, and in Madeira Hammock.

Chromolaena frustrata now occurs on two State parks (Long Key State Park and Lignumvitae Key State Botanical Park), and three non-conservation sites (Teatable Hammock on Upper Matecumbe Key, Big Munson Island (owned by a nonprofit organization), and North Layton Hammock on Long Key (Gann et al. 2002). It has been searched for on Knights Key but that island has been almost completely developed and it probably no longer exists there. It was not seen in a 1996 survey of Boca Grande Key. It has not been seen recently on Lower Matecumbe Key, Key Largo, or Plantation Key, but thorough searches have not been conducted (Bradley and Gann 1999). The total number of plants is estimated at fewer than 1,000 (Bradley and Gann 1999). Chromolaena frustrata's restricted ecological range, and its drastic loss of habitat suggest that the number of individuals is declining. The total known population is between 1,000 and 10,000 plants; it is not possible to make a more accurate determination because information is lacking on possible mainland occurrences. Gann et al. (2002) explain that this plant has been reported from the Cape Sable area of Everglades National Park, but its presence has not been confirmed. The best available report on this plant's status is in Gann et al. (2002).

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.

Habitat loss threatens Chromolaena frustrata. While more careful surveys might turn up a few more sites in the Keys, it is clear that Chromolaena frustrata has lost much of its habitat there, especially on heavily developed islands like Knights Key. It is now known in the Keys at only three non-conservation sites and two State Parks. While recent information is lacking from the

mainland (Ten Thousand Islands, Turner River, and Cape Sable), the prospects of it occurring there may not be good due to past farming in the Cape Sable area and the spread of exotic pest plants (discussed below). Its status in the Turner River area is unknown. Most Chromolaena frustrata habitat has been negatively altered or destroyed by human activity. Based on the number of people moving to Florida, pressures from development are not expected to diminish in the years to come. Florida had a 15.3 percent increase in the human population from April 1, 1990, to July 1, 1998, and was ranked as the fourth fastest growing state in the nation during 1998 (U.S. Census Bureau 1998).

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

None are known.

C. Disease or predation.

None are known.

D. The inadequacy of existing regulatory mechanisms.

The Florida Department of Agriculture and Consumer Services has designated Chromolaena frustrata (= Eupatorium frustratum) as endangered under Chapter 5B-40, Florida Administrative Code. This listing provides little or no habitat protection beyond the State=s Development of Regional Impact process, which serves to disclose impacts from projects, but provides no regulatory protection for State-listed plants on private lands. Without local or county ordinances preventing the destruction of the plant, conservation does not occur.

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

Exotic plant taxa negative affect Chromolaena frustrata wherever it occurs. ABrazilian pepper (Schinus terebinthifolius) occurs in all habitats where this species occurs and is currently a big problem in coastal rock barrens and rockland hammock ecotones. Latherleaf (Colubrina asiatica) is invading large areas of hammocks within Everglades National Park along the edge of Florida Bay. This species can radically change the structure of these hammocks and may be eliminating occurrences of this species.@Bradley and Gann 1999). Management of exotic plant invasion is crucial to the conservation of the species. Without proper control and eradication of these exotic plants, Chromolaena frustrata will become extirpated.

Over the long run, sea level rise is also threat to this species. All known populations are in low lying areas near the coast (Bradley and Gann 1999), where sea level rise in the twentieth century has been shown to cause changes to the native vegetation. Given the species= narrow range and the small number of individuals that exist, Chromolaena frustrata is extremely vulnerable to natural catastrophic events such as hurricanes and tropical storms. These natural events could extirpate existing populations.

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 (Estimate proportion Federal/state/local government/private, identify non-private owners):

Chromolaena frustrata has been found on two State parks (Long Key State Recreation Area and Lignumvitae Key State Botanical Site), and three unprotected sites. None of the populations appears to be large.

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

Although the Chromolaena frustrata populations located on public lands are protected from development, they are still under threat from exotic vegetation. There are no specific conservation activities for Chromolaena frustrata on public lands. There are no current conservation activities for the two, non-preserve Chromolaena frustrata populations.

The Service has developed a multi-species recovery plan for the threatened and endangered species of South Florida. This plan is ecosystem-based and includes many recommendations for conservation of the communities where Chromolaena frustrata occurs (U.S. Fish and Wildlife Service 1998).

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

Bradley, K. A. and G. D. Gann. 1999. Status summaries of 12 rockland plant taxa in southern Florida. Report submitted to U.S. Fish and Wildlife Service, Vero Beach, Fla. The Institute for Regional Conservation, 22601 S.W. 152 Ave., Miami, Florida 33170. 82 pp.

Gann, G.D., K.A. Bradley, and S.W. Woodmansee. 2002. Rare Plants of South Florida: Their History, Conservation, and Restoration. Institute for Regional Conservation, Miami. 1056 pages.

Moldenke, H.N. 1944. A contribution to the knowledge of the wild and cultivated flora of Florida. *Bull. Amer. Midl. Nat.* 32: 529-590 [Cited in Bradley and Gann 1999]

Small, J.K. 1933. Manual of the Southeastern flora. The University of North Carolina Press, Chapel Hill.

U.S. Census Bureau. 1998. State and Metropolitan Area Data Book 1997-1998.

U.S. Fish and Wildlife Service. 1999. South Florida multi-species recovery plan. Atlanta, Georgia. 2172 pp.

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: This plant is known only from two State Parks in the Florida Keys and from three other localities that are not managed as conservation lands.

Imminence: Little is known about this plant's ecological needs. Management in the parks is presumably sympathetic, while land use restrictions in the Keys have slowed the conversion of undeveloped land to housing or commercial development.

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:

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Date of annual review: February 2003

Conducted by: David Martin - South Florida Ecological Services Office

Comments:

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