

## [Calypttranthes thomasiana \(Thomas' Lidflower\) Recovery Plan](#)

**Original Approved:** September 30, 1997

**Original Prepared by:** Susan Silander

### **DRAFT AMENDMENT 1**

We have identified best available information that indicates the need to amend recovery criteria for *Calypttranthes thomasiana* (Thomas' Lidflower) since the recovery plan was completed. In this proposed modification, we synthesize the current information available, show amended recovery criteria, and the rationale supporting the proposed recovery plan modification. The proposed modification will be shown as an addendum that supplements the recovery plan (USFWS 1997), superseding only Part II A page 7 of the recovery plan. Recovery plans are a non-regulatory document that provides guidance on how best to help recover the species.

**For  
U.S. Fish and Wildlife Service  
Caribbean Ecological Services Field Office, Region 4  
Boquerón, Puerto Rico**

**September 2018**

**Insert Signature Lines (for final modification)**

### **METHODOLOGY USED TO COMPLETE THE RECOVERY PLAN AMENDMENT**

The proposed amendments to the recovery criteria are based on a recent review of existing records and correspondence regarding the species. This information was prepared by the U.S. Fish and Wildlife Service (Service) biologists and managers in the Caribbean Ecological Services Field Office (CESFO) in order to develop the delisting criteria for Thomas' Lidflower.

### **ADEQUACY OF RECOVERY CRITERIA**

Section 4(f)(1)(B)(ii) of the Endangered Species Act (Act) requires that each recovery plan shall incorporate, to the maximum extent practicable, "objective, measurable criteria which, when met, would result in a determination...that the species be removed from the list." Legal challenges to recovery plans (see *Fund for Animals v. Babbitt*, 903 F. Supp. 96 (D.D.C. 1995)) and a Government Accountability Audit (GAO 2006) also have affirmed the need to frame recovery criteria in terms of threats assessed under the five delisting factors.

### **Recovery Criteria**

See previous version of criteria in [Calypttranthes thomasiana \(Thomas' Lidflower\) Recovery Plan](#) on page 4.

## Synthesis

At the time of listing, Thomas' Lidflower was described from four islands in the West Indies: St. Thomas and St. John in the U.S. Virgin Islands (USVI), Virgin Gorda in the British Virgin Islands (BVI), and Vieques Island in Puerto Rico (PR) (USFWS 1997). Currently, the known species occurrence is restricted to the USVI and BVI: St. John and St. Thomas (USVI), and Virgin Gorda and Tortola (BVI). The species is no longer thought to be present on Vieques due to a misidentification of the originally described individuals (*Myrciantes fragans*) as *Calyptantes thomasiana*. Although the population on St. Thomas was believed to have been extirpated due to urban development (USFWS 2013), USVI plant experts stated that the species was rediscovered on this island (Ray, 2018, personal communication). In addition, surveys recently conducted in the BVI confirmed the occurrence of the species on Virgin Gorda and described a new population discovered on Tortola in the BVI (Barrios et al., 2017; Hamilton 2018).

The species is estimated to be between 1,000 and 2,000 mature individuals (IUCN 2018). To date, the only known assessment of the population on St. John, USVI was conducted in 1986 (USFWS 2013). This population was originally described as containing approximately 100 individuals in a small area on Bordeaux Mountain within the Virgin Islands National Park administered by the U.S. National Park Service (USNPS) (USFWS 1997). The 2013 5-year Status Review did not update the population number information from the 1997 Recovery Plan and reported 100 adult plants. Recently, the IUCN Red List states that the population had been previously documented to be composed of about 1,100 saplings and mature individuals on Bordeaux Mountain and an area southeast of the Park boundaries (ICUN 2018). In St. Thomas, the species was rediscovered by local plant experts and occurs at possibly two locations with an estimated population of 30 to 45 individuals between the two sites (IUCN 2018). In BVI, the population is estimated to be less than 100 mature individuals (ICUN 2018). The two known populations in the BVI are located in the Gorda Peak National Park (GPNP) at Virgin Gorda with an estimated population between 80 and 100 mature individuals, and 10 mature individuals at a new location on Tortola in the Sage Mountain National Park (SMNP) (Barrios, et al., 2017; Barrios 2018). Although post hurricane rapid assessments were conducted at these locations (Hamilton 2018), the abundance of this species remains uncertain with no complete assessments having been conducted.

The 2013 5-year Status Review determined that Thomas' Lidflower continues to be threatened by Factor A (present or threatened destruction, modification, or curtailment of its habitat or range) and Factor E (other natural or manmade factors affecting its continued existence). Despite limited information available on the status or threats to the populations, these are believed to still be threats to the species. Although the population in St. John is located on protected lands owned and managed by the USNPS, the main threat to this population remains maintenance and construction of a dirt road that runs through it (USFWS 2013). Road development has been reported to have impacted plants on St. John and decreased the number of mature individuals (ICUN 2018). Local plant experts have also identified predation by exotic animals (i.e., white-tail deer and wild hogs) (Factor C) as a current threats to this species in St. John (USNPS, USFWS, and Gary Ray, personal communication, 2018). Also, as several insect pests known as 'scales' have been identified as damaging plants of this species (IUCN 2018).

*Ceroplastes rubens* (Pink Wax Scale), *C. stellifer* (Stellate Scale), *Paratachardina pseudolobata* (Lobate Lac Scale) and an undetermined asterolecaniid (pit scale) have been identified on mature plants and may directly lead to plant damage through phloem feeding and indirectly by promoting sooty mold on the leaves which may limit photosynthetic efficiency (ICUN 2018).

The population in Gorda Peak National Park might also be threatened by habitat modification because it has a hiking trail that runs through the population and with an increase in visitation, may lead to unintentional trampling (particularly of seedlings). Following hurricane Irma in 2017, this population was described as battered and the canopy opened up with some trees snapped but generally healthy or structurally intact. Portions of the forest that had not previously been disturbed fared better than the forest that had been previously degraded due to former deforestation and subsequently invaded with invasive species and non-native grasses (Hamilton 2018). The population on Tortola was described as showing relatively little wind damage after the hurricane Irma hit Tortola in 2017, again illustrating the resilience of intact forests compared with fragmented forests. Hamilton et al. (2018) recommend: complete assessments be carried out, seed collections performed when available, tagging individuals and ongoing monitoring on Virgin Gorda and Tortola with additional assessments on Tortola to find out if the population extends outside the park boundaries.

Hurricanes, tropical storms, and climate change are also considered threats to the species. No current information is available regarding direct impacts to the species. However, Eleonor Gibney (local botanist and expert in the flora of St. John) stated that following hurricane Irma, native vegetation was overgrown by weedy vines (e.g., *Cayaponia americana*) (The St. John Source 2018). General information regarding the overall local effects to the habitat can be concluded from climatic modelling such as: an increase in hurricane frequency and intensity, extended drought conditions, and the potential to be out competed by invasive species adapted to drier conditions. Currently, there is a long-term monitoring project in place on the Tortola and Virgin Gorda populations led by the Royal Botanic Garden (KEW) at.

## **AMENDED RECOVERY CRITERIA**

Recovery criteria serve as objective, measurable guidelines to assist in determining when an endangered species has recovered to the point that it may be downlisted to threatened, or that the protections afforded by the Act are no longer necessary and the Thomas' Lidflower may be delisted. Delisting is the removal of a species from the Federal Lists of Endangered and Threatened Wildlife and Plants. Downlisting is the reclassification of a species from an endangered species to a threatened species. The term "endangered species" means any species (species, sub-species, or DPS) which is in danger of extinction throughout all or a significant portion of its range. The term "threatened species" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Revisions to the Lists, including delisting or downlisting a species, must reflect determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is an endangered species or threatened species (or not) because of threats to the species. Section 4(b) of the Act requires that the determination be made

“solely on the basis of the best scientific and commercial data available.” Thus, while recovery plans provide important guidance to the Service, States, and other partners on methods of minimizing threats to listed species and measurable objectives against which to measure progress towards recovery, they are guidance and not regulatory documents.

Recovery criteria should help indicate when we would anticipate that an analysis of the species’ status under section 4(a)(1) would result in a determination that the species is no longer an endangered species or threatened species. A decision to revise the status of or remove a species from the Federal Lists of Endangered and Threatened Wildlife and Plants, however, is ultimately based on an analysis of the best scientific and commercial data then available, regardless of whether that information differs from the recovery plan, which triggers rulemaking. When changing the status of a species, we first propose the action in the *Federal Register* to seek public comment and peer review, followed by a final decision announced in the *Federal Register*.

We provide new delisting criteria for the Thomas’ Lidflower, which were excluded from the original Recovery Plan. The recovery criteria presented below represent our best assessment of the conditions that would most likely result in a determination that delisting of Thomas’ Lidflower is warranted as the outcome of a formal five-factor analysis in a subsequent regulatory rulemaking. Achieving the prescribed recovery criteria is an indication that the species is no longer threatened or endangered, but this must be confirmed by a thorough analysis of the five factors.

### **Amended Delisting Recovery Criteria**

The amended delisting criteria for Thomas’ Lidflower are as follows:

1. The two (2) existing populations on the U.S. Virgin Islands, and two (2) existing populations on the British Virgin Islands show a stable or increasing trend, evidenced by natural recruitment and multiple age classes (addresses Factors A and E).
2. Populations that exists on privately owned lands on St. Thomas are protected and managed through a conservation mechanisms (addresses Factor A).
3. Establish two (2) new populations on lands protected by a conservation mechanism, and these populations show a stable or increasing trend, evidenced by natural recruitment and multiple age classes (addresses Factors A and E).
4. Threat reduction and management activities have been implemented to a degree that the species is viable (addresses Factor C).

### **Rationale for Amended Recovery Criteria**

The proposed recovery criteria reflect the best available and most up-to date information on the biology of the species, distribution, habitat, and threats. Thomas’ Lidflower is currently threatened by habitat destruction and modification (Factor A), predation by exotic invasive species (Factor C), and other natural or manmade factors (Factor E). The site where the species

occurs on St. John is managed by the USNPS for conservation, however, the species continues to be threatened by maintenance, construction, and land clearing associated with the Bordeaux Mountain road which runs through the population there. Conducting propagation to enhance the existing populations, control or eradication of exotic predators within the park, and the establishment of two additional populations within protected areas (e.g., Virgin Islands National Park and Vieques National Wildlife Refuge) would help address current threats in the USVI and would increase resiliency, redundancy and representation for the species. There are currently no eradication plans for exotic ungulates in the Park.

In order to determine when the species populations are stable, a long term monitoring program, similar to that of the Kew Royal Botanical Gardens and the National Park Trust of the BVI, would need to be initiated in the USVI. Monitoring for invasive pests would also be part of an ongoing monitoring program. Additional research in the areas of phenology, genetics and reproductive biology would also be necessary in the establishment of a propagation program.

### **ADDITIONAL SITE SPECIFIC RECOVERY ACTIONS**

Develop and implement ongoing monitoring protocols to ensure that the species' populations remain stable. This monitoring should include post disaster assessments. This recovery action will be coordinated with USFWS, USNPS, Puerto Rico Department of Natural and Environmental Resources, the Service's National Wildlife Refuge System and appropriate entities in the BVI. As suggested in the BVI, limit public access to known population centers should be considered in order to safeguard existing populations. Coordinate with BVI entities for the implementation of protection and management actions in BVI to ensure species' viability outside of U.S. jurisdiction.

### **LITERATURE CITED**

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