# U.S. Fish and Wildlife Service
# Proposal to Reclassify the Virgin Islands Tree Boa and the *Eugenia woodburyana* tree from Endangered to Threatened


## Welcome!

The hearing will begin soon.
Thank you for your patience
as we wait for others to join.


*Please join using computer audio
*For English language closed captioning, click on the Closed Caption icon at the bottom of your Zoom screen

***PARA TEXTO EN ESPAÑOL***

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12 May 2021

# We will now begin with the information for the Virgin Islands Tree Boa.


## PREVIOUS FEDERAL ACTIONS

The Virgin Islands tree boa was listed as an endangered subspecies in 1970.

A recovery plan for this species was completed in 1986 and amended in September 2019 to include delisting criteria.

In 2009, the Service completed the five-year status review and recommended reclassifying the Virgin Islands tree boa to a threatened species.

Based on this recommendation, the Service initiated a Species Status Assessment which was completed in 2018. This assessment is a thorough, detailed scientific report that gathers the best available scientific information, and then goes through a peer review process.

# SPECIES DESCRIPTION AND BIOLOGY

The scientific name of the Virgin Islands tree boa is *Chilabothrus granti*.

The Virgins Islands tree boa is a nonvenomous snake that feeds mostly on small lizards, small birds, mice and rats.

It grows on average to about three feet in length, has a slender body, and arrow shaped head with a blunt nose. It has a grey brown color with brown black blotches and silvery eyes.

The Virgin Islands tree boa is considered mostly nocturnal and arboreal, but may also disperse along the ground and seek ground refugia.

Females do not lay eggs, but rather give birth to live young from August to October. Litter sizes can be from two to 10 snakes. Actual life span in the wild is unknown, but in captivity boas may live 20 or more years.

# HISTORY OF KNOWN POPULATIONS

In 1986, only two populations were known, one from Diablo Cay in Puerto Rico and one in eastern St. Thomas.

By 2009, there were two additional populations from reintroduction recovery efforts into small offshore cays.

The species is known to occur in Puerto Rico, the US Virgin Islands, and the British Virgin Islands.

**The negative influences on the viability of the species include factors such as:**

Development, habitat loss and fragmentation, and mortality associated to roads;

Predation by exotic mammals such as cats and competition for prey items;

Effects of climate change and sea-level rise;

Persecution by the public;

Low genetic variability.

**The positive influences on the viability of the species include factors such as:**

Habitat protection;

Captive breeding and reintroductions;

Education, outreach, and research.

# SPECIES STATUS ASSESSMENT

The current and future condition of the Virgin Islands tree boa was assessed for six populations: four that occur within Puerto Rico and two within the US Virgin Islands.

A seventh population is known to occur in Tortola, British Virgin Islands, but a lack of information did not allow proper assessment of that population.

The current population trend estimates of these seven populations are either declining, potentially declining, considered rare, or unknown, and most population are considered small.

## CURRENT CONDITION

Of the six populations assessed, only the Diablo Cay population has moderately high current resiliency. The USVI Cay population was determined to have a moderate current resiliency.

Of the other four populations assessed, the Culebra Island population has moderately low current resiliency, while the Rio Grande, St. Thomas, and Ratones Cay populations have low current resiliency.

The Ratones Cay population may be extirpated due to rats, but more information is needed to confirm its possible extirpation.

Lastly, the current number and distribution of populations, as well as the adaptive capacity, are considered low.

# FUTURE CONDITION

The future condition of the six populations was assessed under three scenarios thirty years into the future, and considered impacts from development, habitat protection, reintroductions, sea level rise, and education.

In the most likely status quo scenario, development continues to threaten populations on developed islands, no new habitat is protected, and one new reintroduction takes place.

The other two future scenarios denoted the pessimistic and the conservation future scenarios, were considered less likely to occur than the status quo scenario.

In 30 years under the status quo scenario, the Diablo Cay and the USVI Cay populations are predicted to remain with the same current moderately high and moderate resilience. If successful, the reintroduced population would have a high resilience.

In 30 years under the status quo scenario, the other four populations, that is, Rio Grande, Ratones Cay, Culebra, and St. Thomas, are all predicted to have a low resilience or potentially be extirpated.

Lastly, in 30 years, sea level rise alone is unlikely to significantly impact the six populations. The small low lying Diablo Cay, USVI Cay and Ratones Cay are the most at risk from hurricane storm surges on top of sea level rise.

## Amended Delisting Recovery Criteria:

Criterion 1: Existing two Virgin Islands boa populations with the highest resiliency, Diablo and USVI Cay, exhibit a stable or increasing trend, evidenced by natural recruitment and multiple age classes.
This criterion has been partially met.

Criterion 2: Establish three additional populations that show a stable or increasing trend, evidenced by natural recruitment and multiple age classes.
This criterion has not been met.

Criterion 3: Threats are reduced or eliminated to the degree that the species is viable for the foreseeable future.
This criterion has been partially met.

**Basis for reclassifying the species from endangered to threatened includes:**

The Virgin Islands tree boa has persisted with varying degrees of resilience since it was listed in 1970 and has persisted despite major hurricane events.

The Virgin Islands tree boa was historically known from two locations, and is currently known from at least six locations, although one is possibly extirpated.

There could also be additional locations in the British Virgin Islands and other areas in St. Thomas. Thus, we now know of more populations than at the time of listing.

At least three populations occur within protected areas.

In 30 years, we expect the species to maintain populations on two of the six islands, plus the one new reintroduced population.

Despite existing regulatory mechanisms and conservation efforts, the influencing factors will continue to affect the Virgin Islands tree boa.

## What is a section 4(d) rule?

Special rule to provide regulatory flexibility;

Applies to threatened species only;

Provides protections to threatened species;

Allows activities that cause minor adverse effects or beneficial effects to continue;

Focus efforts on the threats that make a difference to the species' conservation;

Streamlines compliance with the Endangered Species Act.

**Prohibitions in the 4(d) rule include:**

Import or export;

Take which includes capturing, handling, trapping, collecting, destruction, and modification of its habitat;

Possession and other acts with unlawfully taken specimens;

Deliver, receive, transport, or ship in interstate or foreign commerce in the course of commercial activity;

Sale or offer for sale in interstate or foreign commerce;

Introduction of exotic species that compete with, prey upon, or destroy the habitat of the Virgin Islands tree boa.

## Exceptions to the 4(d) rule include:

Conservation efforts by wildlife agencies such as control and eradication of exotic mammals, habitat restoration, collection of broodstock, genetic analysis, captive propagation, and reintroduction into currently occupied and unoccupied areas within the historical range of the species;

Nonlethal removal of boas from human-associated structures, and returning them alive to their natural habitat.

# We will now proceed with the information for the *Eugenia woodburyana* tree.


# Previous Federal Actions

*Eugenia woodburyana* was listed as an endangered in 1994.

Recovery plan was approved in 1998.

In 2017, the Service completed the five-year review, recommending reclassifying *Eugenia woodburyana* to a threatened status.

In 2019, the Service published the *Eugenia woodburyana* amended Recovery Criteria, establishing measurable delisting criteria.

# Taxonomy and description

*Eugenia woodburyana* is a small evergreen tree within the family Myrtaceae.

The fruit is an eight-winged, globose berry with a diameter of 0.08 in (2 cm) that turns red when ripe.

The fruit characteristics easily distinguish *Eugenia woodburyana* from other native *Eugenia* species.

# Reproductive Biology

*Eugenia woodburyana* flowers from February to October, depending on seasonal rains.

The flowers are typically visited by honeybees (*Apis mellifera*) which promotes the crosspollination and fruit production of the species.

# Distribution and Abundance

*Eugenia woodburyana* is endemic to the southern coast of Puerto Rico.

Known from the Guánica Commonwealth Forest and Sierra Bermeja (municipalities of Lajas and Cabo Rojo).

Additional populations have been located in Montes de Barinas (municipalities of Yauco and Guayanilla), and Punta Cucharas (municipalities of Ponce and Peñuelas).

# Distribution and Abundance

The range of the species expanded in 2008, when a new population was located at Almácigo Bajo Ward in the municipality of Yauco.

The species is also now known to extend to the Municipality of Salinas, within the boundaries of the Puerto Rico National Guard's Camp Santiago.

# Summary of Current Distribution and Abundance

At present, a total of 2,751 individuals have been documented (including adults and saplings):

Sierra Bermeja (2,257 individuals)
Almácigo Bajo (346 individuals)
Guánica Commonwealth Forest (116 individuals)
Montes de Barinas (1 individual)
Punta Cucharas (30 individuals)
Salinas (1 individual)

# Threats affecting the viability of *Eugenia woodburyana*

Habitat loss and fragmentation due to development, and unsustainable agricultural practices

Human induced fires

Invasive plant species

Hurricanes

Climate change

# Amended recovery criteria for *Eugenia woodburyana* (2019)

Criterion 1: Threat reduction and management activities have been implemented to a degree that the species will remain viable into the foreseeable future.

This criterion has been partially met, about 47 percent of the currently known *Eugenia woodburyana* individuals occur within lands managed for conservation (e.g., Guánica Commonwealth Forest, Sierra Bermeja, and private lands under conservation easements).

# Amended recovery criteria for *Eugenia woodburyana* (2019)

Criterion 2: Existing natural populations of *Eugenia woodburyana* (6 populations) show a stable or increasing trend, as evidenced by natural recruitment and multiple age classes.

This criterion is ongoing. The presence of different size classes in three of the six existing *Eugenia woodburyana* populations, suggests their viability, and that the species has been resilient to past and current threats.

# Amended recovery criteria for *Eugenia woodburyana* (2019)

Criterion 3: Within the historic range, establish at least three (3) new populations of *Eugenia woodburyana* on lands protected by a conservation mechanism, and populations show a stable or increasing trend, evidenced by natural recruitment and multiple age classes.

This criterion is ongoing, the Service and other partners have initiated the establishment of a new *Eugenia woodburyana* population at the Cabo Rojo National Wildlife Refuge.

# Species Resiliency, Redundancy, and Representation

*Eugenia woodburyana* has demonstrated to be resilient to both natural and anthropogenic disturbances.

Seedlings remain susceptible to the effects of droughts and habitat modification, which can preclude natural recruitment and affect the long-term viability of the species.

# Species Resiliency, Redundancy, and Representation

The overall genetic representation, or adaptive capacity, of *Eugenia woodburyana* is low to moderate.

Its current representation likely relies on the genetic contribution of only two populations (Sierra Bermeja and Guánica Commonwealth Forest).

# Species Resiliency, Redundancy, and Representation

*Eugenia woodburyana's* redundancy, or number and distribution, has increased since the time of listing, but remains low to moderate as it is only known from six populations throughout its geographical range.

Three of these populations (Montes de Barinas, Punta Cucharas and Salinas) are composed of a small number of clustered individuals.

# Basis for reclassifying the species from endangered to threatened

Currently, *Eugenia woodburyana* occurs across a broader geographic range in six populations containing approximately 2,751 individuals (adults and saplings).

About 47 percent of the total known natural adults and saplings are found on Federal, Commonwealth, and private lands managed for conservation.

The species remains likely to become in danger of extinction in the foreseeable future throughout all of its range due to remaining threats that are expected to impact the species into the foreseeable future (30 years).

# What is a section 4(d) rule?

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Focus efforts on the threats that make a difference to the species' conservation

Streamlines compliance with the Endangered Species Act

# Prohibitions in the 4(d) rule include:

Import or export.

Remove and reduce to possession the species from areas under Federal jurisdiction.

Maliciously damage or destroy the species in areas under Federal jurisdiction, or remove, cut, dig up, or damage or destroy the species on any other area in knowing violation of any State law.

Engage in interstate or foreign commerce.

Sell or offer for sale in interstate or foreign commerce.

# Exceptions to the 4(d) rule include:

Any employee or agent of the Service or of a State or Territorial Conservation Agency covered by an approved cooperative agreement to carryout conservation programs, when acting in the course of official duties may remove and reduce to possession *Eugenia woodburyana* from areas under Federal jurisdiction.

Entities may engage in import or export of seeds of cultivated specimens, provided that a statement that the seeds are of “cultivated origin” accompanies the seeds or their container.

# Thank you!

The USFWS is available to accept verbal public comments until 8:00pm Atlantic Time.

*If you would like to offer a verbal public comment, please let us know by accessing the raise hand feature at the bottom of your participants list, in your Zoom reactions icon, or by pressing *9 on your phone keypad. You can also chat directly to Amy Lewis.*

Written public comments can also be submitted at www.regulations.gov at Docket No. FWS-R4-ES-2019-0069 for VI Boa and

Docket No. FWS-R4-ES-2019-0070 for *Eugenia woodburyana*

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