

Wheeler's Peperomia (*Peperomia wheeleri* Britton)

**5-Year Status Review:
Summary and Evaluation**



Photo by: Carlos Pacheco, USFWS Biologist

**U.S. Fish and Wildlife Service
Southeast Region
Caribbean Ecological Services Field Office
Mayagüez, Puerto Rico**

August 2025

5-YEAR REVIEW

Wheeler's peperomia (*Peperomia wheeleri* Britton)

GENERAL INFORMATION

Current Classification: Endangered

Lead Field Office: Caribbean Ecological Services Field Office, Mayagüez, Puerto Rico

Lead Author: Desirée I. Nieves Canabal

Lead Regional Office: Atlanta Regional Office, Carrie Straight

Date of original listing: January 14, 1987 (52 FR 1459)

Methodology used to complete the review:

In accordance with section 4(c)(2) of the Endangered Species Act of 1973, as amended (Act), the purpose of a status review is to assess each threatened species or endangered species to determine whether its status has changed and if it should be classified differently or removed from the Lists of Threatened and Endangered Wildlife and Plants. The U.S. Fish and Wildlife Service (Service) evaluated the biology, habitat, and threats of Wheeler's peperomia to inform this status review.

In conducting this 5-year status review, we relied on the best available information pertaining to historical and contemporary distribution, life history, genetics, habitat, and threats of this species. On June 6, 2024, we published in the Federal Register a notice for the initiation of this 5-year status. ([89 FR 48440](#)). A 60-day comment period was opened, and no comments were received from the public during this period. The primary sources of information used in this analysis were the original final listing rule for the species (Service 1987), the recovery plan for the species, peer-reviewed literature, personal communications with qualified biologists and experts on the species, and unpublished reports from field visits and recovery activities conducted by Service biologists. This 5-year status review was prepared by Service biologists and all recommendations resulting from this review are the result of thoroughly reviewing the best available information Wheeler's peperomia.

FR Notice citation announcing the species is under active review:

June 6, 2024 ([89 FR 48440](#))

Species' Recovery Priority Number at start of 5-year review (48 FR 43098): 8. Wheeler's peperomia is now recognized as a species with moderate degree of threat and high recovery potential.

Review History:

Previous 5-year reviews, recommending no change needed, were published on March 12, 2014 (Service 2014) and June 29, 2020 (Service 2020).

REVIEW ANALYSIS

Listed Entity

Taxonomy and nomenclature

Some species experts believe that *Peperomia wheeleri* is not a distinctive species from *Peperomia myrtifolia* because the major difference between the two species is the leaf shape and leaf apex (Axelrod 2011). However, no genetic studies have been conducted to demonstrate that *Peperomia wheeleri* is not a valid species. *Peperomia wheeleri* is still considered a valid taxonomic entity by most experts, and we will treat it as a valid species, until additional research assesses and results in an accepted taxonomic change (Acevedo-Rodríguez and Strong 2012, Integrated Taxonomic Information System 2025, Kew Royal Botanic Gardens 2025).

When the recovery plan for *Peperomia wheeleri* was approved in 1990, no common name was recognized for the species. Presently, the name Wheeler's peperomia is widely accepted. This common name has been adopted by the USDA PLANTS database, the Integrated Taxonomic Information System (ITIS) and the IUCN Red List. Therefore, the Service intends to use this common name for this federally listed plant.

Distinct Population Segment (DPS)

The Act defines species as including any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate wildlife. This definition limits listing of a DPS to only vertebrate species. Because the species under review is a not a vertebrate, the DPS policy does not apply.

Recovery Criteria

Recovery Plan

Recovery Plan for the *Peperomia wheeleri* (Service 1990)
Amended Recovery Plan for *Peperomia wheeleri* (Service 2019)

Recovery plans are not regulatory documents and are intended to provide guidance to the Service, States, and other partners on methods of minimizing threats to listed species and on criteria that may be used to determine when recovery is achieved. If the recovery criteria defined in the plan are still valid, meeting recovery criteria can indicate that the species no longer requires protections under the Endangered Species Act. However, when recommending whether a listed species should be delisted, the Service must apply the factors in section 4(a) of the Act (84 FR 45020).

Based on the 2019 Recovery Plan Amendment (Service 2019), Wheeler's peperomia will be considered for delisting when the following criteria are met:

1. Existing populations of Wheeler's peperomia in Culebra Island (2 populations) and Puerto Rico (2 populations) exhibit a stable or increasing trend, evidenced by natural recruitment, and multiple age classes (addresses Factors A, C, and E).
2. Establish or discover two (2) additional populations (as defined in criterion 1) of Wheeler's peperomia on lands protected via a conservation mechanism on Culebra Island (Addresses Factors A and E).
3. Establish two (2) additional populations of Wheeler's peperomia (as defined in criterion 1) on lands protected via a conservation mechanism on mainland Puerto Rico (Addresses Factors A and E).
4. Threats have been addressed and/or managed to the extent that the species will remain viable into the foreseeable future (addresses Factor C and E).

The first criterion has not been met. Since 2007, the Service has visited the Culebra Island populations and has confirmed species persistence in the areas of the radio tower and Playa Brava of Monte Resaca. Although there is confirmation of the species' presence, we do not have updated abundance information for any of the locations in Culebra since 2007. The Service also visited the population at El Costillar in the Municipality of Isabela in January 2020, and confirmed that the species persisted post Hurricane María, but did not report on species abundance (Service 2020). There is no evidence that these populations exhibit a stable or increasing population trend, evidenced by natural recruitment, and multiple age classes (addresses Factors A, C, and E).

The second criterion has not been met.

The third criterion has been initiated. Since 2009, ten additional Wheeler's peperomia populations have been planted throughout the Puerto Rico. The Service has worked with the Puerto Rico Department of Natural and Environmental Resources and the non-government organizations Ciudadanos del Karso, Para la Naturaleza and Envirosurvey, Inc. to conduct plantings in private and Commonwealth lands managed for conservation along the municipalities of Isabela, Arecibo, Ciales, Florida, Lares, and Manatí in northern Puerto Rico. Three planting events were conducted in the Guajataca Commonwealth Forest in Isabela where two of the three populations have been reported to exhibit a high survival rate (Envirosurvey 2023). The rest of the introduced populations in Puerto Rico have not been monitored since planted. Thus, we cannot confirm if the populations exhibit a stable or increasing trend, evidenced by natural recruitment, and multiple age classes.

The fourth criterion has not been met. Two of the natural populations (i.e., El Costillar and Monte Resaca south) are not adequately protected because they occur in privately-owned land subject to urban development and agricultural practices such as cattle and goat grazing. As for disease and predation, the white-tailed deer, and other mammals such as feral goats (*Capra aegagrus hircus*), and domestic fowls (*Gallus gallus domesticus*) are found throughout the range of Wheeler's peperomia in Culebra Island. These species have resulted in habitat degradation, soil erosion and possible elimination of Wheeler's peperomia individuals (Service 2020). In January, 2024, the Service, in collaboration with Island Conservation, conducted a study to

determine the presence of white-tailed deer and goats and their impacts on Wheeler's peperomia in Culebra Island. No hard evidence was found of deer and goats feeding on Wheeler's peperomia. However, they found evidence of soil compaction, trampling and habitat degradation caused by these ungulates (Island Conservation 2025). The rest of the natural or introduced populations occur in private and Commonwealth lands managed for conservation.

Biology and Habitat Summary

A detailed review of the species' biology, distribution, abundance, and its habitat can be found in the previous Wheeler's peperomia 5-year status reviews (Service 2014 and 2020). Below is a summary of our current knowledge of the species' distribution and abundance.

Species Distribution and Abundance

Wheeler's peperomia has a limited distribution and highly specialized ecological requirements. Available data on the habitat and distribution of the species suggests that, in the island of Culebra, it occurs on granodiorite boulders in mesic forested drainages within a semi-evergreen seasonal open forest (Service 2020). In Puerto Rico, at the Costillar hill area in the municipality of Isabela, the species grows in humus accumulated on limestone boulders in subtropical wet forest (Service 2020).

At time of listing, the known distribution of Wheeler's peperomia was restricted to Culebra Island. Based on review of literature and herbarium materials the current distribution of the species was expanded to include the main island of Puerto Rico, Culebra Island, Puerto Rico, Virgen Gorda, British Virgin Islands, and St. Marteen, Dutch West Indies (Service 2014). We have no information on its current status in areas outside of Puerto Rico. We have no new information for some populations. We determined population's current species abundance as "unknown" if they had not been monitored for five years or more (Table 1). We expect that individuals are still at some of these locations and the overall abundance may be artificially reduced.

Culebra Island Populations

There are three Wheeler's peperomia natural populations in Monte Resaca area, Culebra Island (Figure 2):

- two within the Culebra National Wildlife Refuge: one at the Radio Tower area, with 722 individuals and one at Playa Brava, with 511 individuals.
- third population at Monte Resaca South with 1,079 individuals.

In May 2023, Service staff conducted a rapid assessment of the population in Monte Resaca (Radio Tower) and found approximately 1,230 shoots (individuals) (Pacheco pers. comm. 2025). Since 2007, we do not have abundance information for the two other locations in Culebra (i.e., Monte Resaca South and Playa Brava). In December 2023, Island Conservation staff visited all three Culebra populations as a part of an assessment of the occupancy of deer and goat and their impacts on Wheeler's peperomia (Island Conservation 2025). Although they did not provide an estimate of population size, they confirmed that all three natural populations persisted; where they observed clusters of different sizes that grew between large boulders (Arocho pers. comm. 2025).

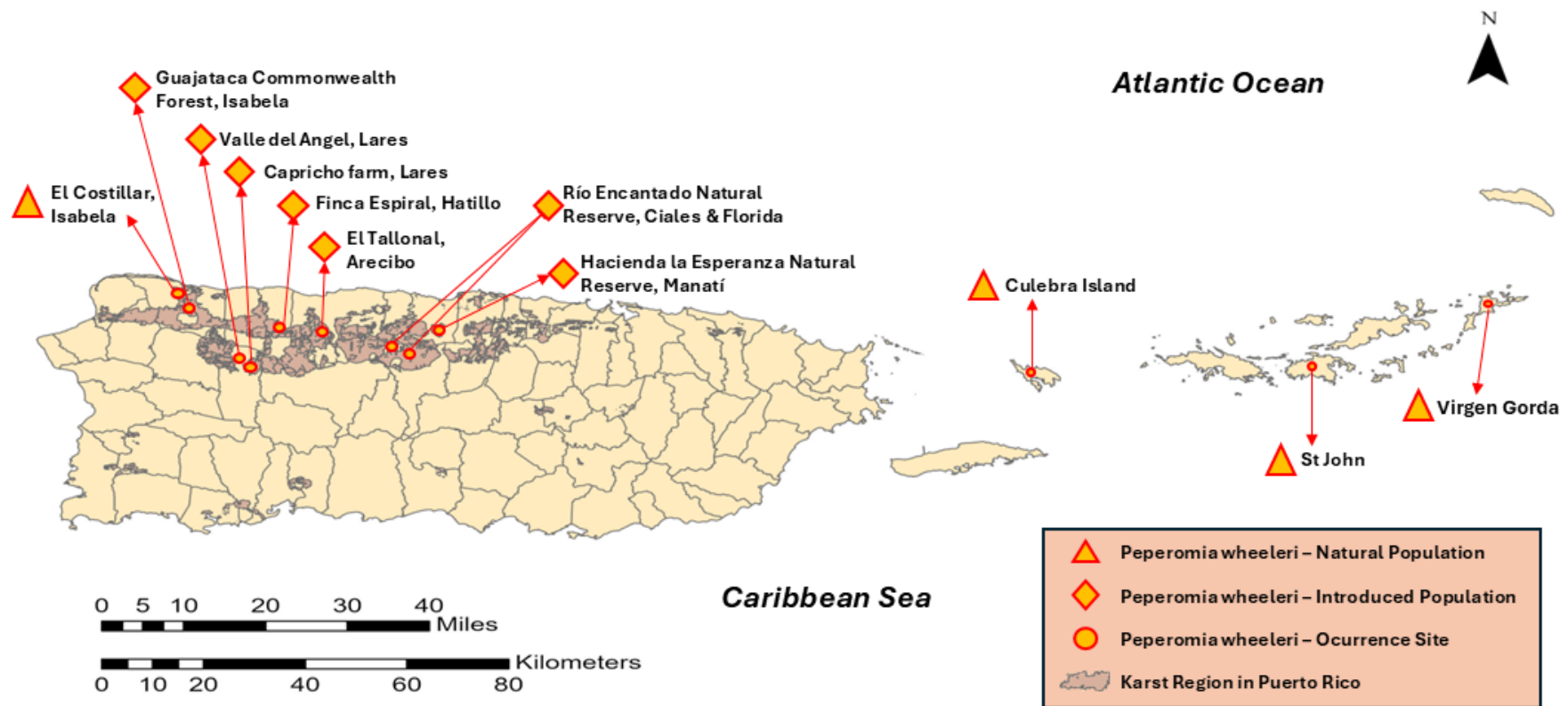


Figure 1. Current populations of Wheeler’s peperomia in Puerto Rico, U.S. Virgin Islands, and British Virgin Islands.



Figure 2. Current distribution of Wheeler's peperomia in Culebra Island (Pacheco 2007).

El Costillar Populations

Also, in 2007, service staff documented approximately 154 Wheeler's peperomia individuals at El Costillar in Isabela (Service 2014). The population at El Costillar has been poorly monitored and has not been assessed since 2007; thus, no current information is available on the status of this natural population.

In January 2020, the population at El Costillar was visited and it seemed to be larger in size than during the previous visit in 2007, but no count of individuals was conducted (Service 2020). Currently, the status of the El Costillar population is unknown.

U.S. Virgin Islands

A new natural population of Wheeler's peperomia was discovered in the island of St. John (U.S. Virgin Islands) in December 2019. This population was located in an unmarked trail near a central road in St. John within the National Park. Although there is no species abundance information, this population appears to be stable and recruiting after Hurricane Irma struck that Island in 2017 (Table 1; Service 2020).

Conservation Efforts

Several Wheeler's peperomia planting efforts have been conducted in the past several years to augment current populations and to establish new populations in protected areas. From 2009-2013, the Service and partners planted 129 individuals in plots within plots in the Guajataca Commonwealth Forest, El Tallonal, and Río Encantado Natural Reserve (Table 1; Service 2020).

Planting efforts continue to increase the redundancy of the species. Since 2018, there have been a series of conservation agreements with private landowners to plant the species as part of the Service's Partners for Fish and Wildlife Program and other initiatives in collaboration with the non-governmental organizations Envirosurvey, Inc. and Para La Naturaleza and Forest managers and volunteers in the northern karst region of Puerto Rico. Detailed information is summarized, and sources are in Table 1.

- March 2018, Envirosurvey, Inc. conducted a post Hurricane María (2017) inventory of the Wheeler's peperomia population in the Guajataca Commonwealth Forest, recording 37 individuals. We do not know the exact effect that the hurricane had on the planted population, since we have no abundance data since the planting event in 2009. Nevertheless, they observed that the canopy had suffered significant impacts from the hurricane, where downed trees may have been compromising species recruitment and survival.
- July and September 2019: 50 individuals at Valle del Angel in the municipality of Lares.
- May 2022: 150 individuals planted in the Guajataca Commonwealth Forest. In September 2023, Envirosurvey and the Service returned to this location and recorded 147 live plants (98 percent survival).
- May 2023: 326 individuals planted in Hacienda La Esperanza Natural Reserve.
- June 2023: 174 individuals planted in the Río Encantado Natural Reserve. In September 2023, Envirosurvey, Inc. and Service personnel assessed the individuals at the Río Encantado Natural Reserve and recorded 172 live plants (99 percent survival.)
- August 2023, 32 individuals were planted at Capricho Farm.

- April of 2024: 15 individuals were planted at Capricho Farm. (Envirosurvey 2023).
- January 2025: 30 individuals planted at Finca Espiral.

Table 1. Estimated number of Wheeler's peperomia individuals per known population and locality.

Population	Municipality (Ownership/Management) [Additional Information]	Species Abundance (first documented)	Species Abundance (current)	Reference
El Costillar	Isabela (private land)	154*	Unknown***	Service 2014
Culebra NWR- Radio tower	Culebra (federal)	722*	1,230	Service 2014; Pacheco pers. comm. 2025
Culebra NWR - Playa Brava	Culebra (federal)	511*	Unknown***	Service 2014
Culebra - Monte Resaca South	Culebra (private land)	1,079*	Unknown***	Service 2014
El Tallonal	Arecibo (private land managed for conservation)	57**	Unknown***	Service, 2014
Guajataca Commonwealth Forest	Isabela (protected land) [Planting Event #1]	32**	37***	Service 2014; Envirosurvey, Inc. 2018
Guajataca Commonwealth Forest	Isabela (protected land) [Planting Event #2]	150**	147	Envirosurvey Inc. 2023
Río Encantado Natural Reserve	Ciales, Florida (protected land) [Planting Event #1]	40**	Unknown***	Service 2020
Río Encantado Natural Reserve	Florida (protected land) [Planting Event #2]	174**	172	Envirosurvey, Inc. 2023
Valle del Angel	Lares (private land)	50**	50	Envirosurvey, Inc. 2022
Hacienda la Esperanza Natural Reserve	Manatí (protected land)	326**	326	Envirosurvey, Inc. 2023
Capricho Farm	Lares (private land) [Planting Event #1]	32**	32	Envirosurvey, Inc. 2023
Capricho Farm	Lares (private land) [Planting Event #2]	15**	15	Envirosurvey, Inc. 2023
Finca Espiral	Hatillo (private land managed for conservation)	30**	30	Trejo-Ricaño pers. comm. 2025
St. John, USVI	St. John, USVI (federal land) [new population found in 2019]	Abundance unknown*	Unknown***	Service 2020
Total		3,372	2,002	

*Natural population **Introduced populations ***Populations not monitored in five years or more

In summary, the Service has information about seven natural localities (populations) of Wheeler's peperomia: five localities in Puerto Rico, Culebra Island, Puerto Rico, and the island of St. John, U.S. Virgin Islands (Table 1). Regarding the status of the species in the islands of Virgen Gorda and St. Maarten, we have no information about their status. In addition, the species has been planted in seven other localities in Puerto Rico, expanding the species' distribution in the Island (Table 1). Currently, the Service, in collaboration with EnviroSurvey, Inc., are evaluating other private properties with appropriate habitat for species to continue introducing the species.

Threats (Five-Factor Analysis) Summary

The status of a species is determined from an assessment of factors specified in section 4 (a)(1) of the Act. A detailed review of the species' threats can be found in the previous 5-year status reviews (Service 2013, 2019b) and in the recovery plan (Service 1998) of the species. At the time of listing, the Service identified Factor A (modification and destruction of habitat) as one of the most important threats to the species (Service 1987). A summary of current threats is detailed below.

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

Wheeler's peperomia continues to be threatened by habitat destruction and modification, especially in locations that are not protected and managed for the conservation of threatened and endangered species.

On Culebra Island, Wheeler's peperomia occurs in mesic forested drainages within the semi-evergreen seasonal open forest. This type of forest in Culebra Island is being affected by deforestation and modification for residential and tourist development and some of these projects have resulted in the elimination of potential habitat for the species (Service 2012). One of the Wheeler's peperomia populations in Culebra Island is located within an area under current development pressure for residential lots and is adjacent (less than 100 meters) to the National Wildlife Refuge. These developments could be affecting the forest structure and suitable habitat for the species in Monte Resaca (Tillam-Marquez pers. comm. 2024). Furthermore, exotic mammals such as non-native white-tailed deer (*Odocoileus virginianus*) and domestic goats (*Capra hircus*) are found feral throughout the plant's range in Culebra and could be modifying the forest structure through overgrazing or altering habitat conditions (Service 2023). In January of 2024, the Service in collaboration with Island Conservation, assessed the occupancy of deer and goat and their impacts on Wheeler's peperomia in Culebra Island. Although the report did not provide strong evidence of impacts such as grazing of white-tailed deer and goats on Wheeler's peperomia, it provided evidence of soil compaction, trampling, and habitat degradation caused by these mammals (Island Conservation 2025).

The Wheeler's peperomia population in St. John is found within the National Park, however, its occurrence near a central road makes it vulnerable to habitat modification, such as road maintenance and vegetation clearing. In addition, white-tailed deer and goats also occur on St. John, and goats are prevalent on Virgen Gorda, which could impact the populations on those islands.

Based on the above information, the Service believes the present or threatened destruction, modification, or curtailment of the species habitat or range is a current threat to Wheeler's peperomia.

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

There is no information documenting over-utilization of Wheeler's peperomia for commercial, recreational, scientific or educational purposes as a present threat to the species.

C. Disease or predation:

Predation has been documented as factor contributing to the decline of the species in Culebra Island (Service 2020). Mammals such as white-tailed deer, feral goats, are found throughout the range of Wheeler's peperomia in Culebra Island, although the most recent study did not provide strong evidence of predation by deer and goats on the species (Island Conservation 2025). Nonetheless, predation is still a possibility since these herbivores still roam within Culebra Island.

D. Inadequacy of existing regulatory mechanisms:

Existing regulatory mechanisms not including the Endangered Species Act are insufficient to protect the species from threats occurring on private lands, threats associated with construction and development. Currently, Wheeler's peperomia is protected under Commonwealth's Law No. 241-1999 (12 L.P.R.A. Sec. 107), known as *Nueva Ley de Vida Silvestre de Puerto Rico* (New Wildlife Law of Puerto Rico) and Regulation 6766 or *Reglamento para Regir el Manejo de las Especies Vulnerables y en Peligro de Extinción en el Estado Libre Asociado de Puerto Rico* (Regulation 6766 to govern the management of threatened and endangered species in the Commonwealth of Puerto Rico). The provisions of Law No. 241-1999 and Regulation 6766 extend to private lands. However, the protection of listed species, especially plants, on private lands is challenging as landowners are unaware that they are a protected species and cause damage to them by cutting, pruning, and/or mowing. These measures provide some protections for the species on protected lands; however, they will be inadequate to protect the species on private lands or from invasive species and impacts from fire on any lands where the species and these threats co-occur.

Two of the three Wheeler's peperomia populations in Culebra Island are within the Culebra Island is a National Wildlife Refuge, hence protected by the U.S. Fish and Wildlife. The Comprehensive Conservation Plan (CCP) for the Culebra National Wildlife Refuge was published in September 2012 and includes measures for the protection and recovery of threatened and endangered species, including Wheeler's peperomia (Service 2012).

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

As described in the previous 5-year status reviews (Service 2014 and 2020), the species continues to be at risk due to its limited distribution, specialized ecological requirements, and likely limited genetic variation, making it difficult for the species to respond to catastrophic and stochastic events. In addition, the species is directly and indirectly impacted by hurricanes, and changes in temperature and precipitation.

Given the limited geographic distribution of Wheeler's peperomia, it is highly likely that its genetic variability is very low. Thus, to safeguard its remaining genetic diversity, the protection and monitoring of known adult individuals should be considered as a high priority for the conservation of the species. Hurricanes and tropical storms may also affect the continued existence of Wheeler's peperomia, although the long-term effects of those impacts have not been studied. The St. John population seems to be stable and recruiting after Hurricane Irma struck that Island in 2017 (Service 2020) and the Service confirmed the species persistence post Hurricane María at El Costillar during a site visit in 2020. However, the Wheeler's peperomia population at the Guajataca Commonwealth Forest seemed to be more affected as the canopy suffered significant impacts from this hurricane, where the downed trees may have compromised species recruitment and survival (Envirosurvey 2018). The rest of the introduced populations in Puerto Rico may have varied responses to hurricane impacts, depending on forest structure and efforts by the private landowners to maintain the species after catastrophic events. In Culebra Island, its occurrence on natural drainages or ravines, where significant water discharge through those drainages during heavy rain events, may place it at increased risk of destruction or covering of plants from movement of water or organic materials with high precipitation events or displacement of boulders and surrounding habitat that results in plant mortality. Models predict future increases in temperature (increases in extreme heat events), extreme precipitation and associated increases in intensity and frequency of flooding and increases in the number of strong hurricanes (Runkle et al. 2022).

Furthermore, hurricane events followed by extended periods of drought may result in changes in soil conditions and microclimate and may allow other plants (native or non-native, herbaceous or woody) adapted to drier conditions to become established (Lugo 2000). Invasive species (e.g., *Megathyrsus maximus*) may spread and colonize the Wheeler's peperomia habitat, and it could alter fire regimen, microclimate, and nutrient cycling of the habitat required by Wheeler's peperomia (D'Antonio and Vitousek 1992, Ellsworth et al. 2013). Due to its limited distribution and number of natural populations, we consider the cumulative effects by hurricanes, genetic variation, and exotic and invasive species (plants and animals) as detrimental to the Wheeler's peperomia across its range.

Synthesis

Wheeler's peperomia is an evergreen, hairless, erect herb, currently known to occur in the main island of Puerto Rico, Culebra Island, the island of St. John in the U.S. Virgin Islands, the island of Virgen Gorda in British Virgin Islands, and the island of St. Maarten in the Dutch West Indies. It naturally grows on granodiorite boulders in mesic forested drainages or in humus accumulated on limestone boulders in subtropical wet forest. As part of the recovery efforts, Wheeler's peperomia has been planted in Puerto Rico at private lands managed for conservation and one Commonwealth Forest. We have no current information on the status of the species in the islands Virgen Gorda and St. Maarten. The natural population at St. John, discovered in 2019, appears to be stable after Hurricane Irma, but the population abundance is unknown. Based on the latest available information, the current estimated number of Wheeler's peperomia individuals is approximately 2,002 across 9 localities in Puerto Rico and Culebra Island, including both natural and planted individuals. The 5-year review in 2020 reported 2,680 individuals of Wheelers peperomia in 8 localities. Although there is an increase in localities

where the species is found, the abundance is lower because we did not include counts from localities where no surveys were conducted in the last five years. Individuals are likely still at some of these localities, so this number may be artificially reduced. Threats to Wheeler's peperomia include habitat modification for urban and tourist development, as well as habitat modification and degradation and predation by white-tailed deer and goats (Factors A and C). Also, negative impacts to habitat and individuals caused by changes in precipitation, hurricanes, and droughts are likely to continue, (Factor E) further threatening the species. Based on the ongoing threats, the species' habitat requirements, limited geographic distribution, low number of individuals, and little evidence of natural recruitment, we recommend the Wheeler's peperomia remain listed as endangered.

RECOMMENDATIONS FOR FUTURE ACTIVITIES

A detailed discussion of recovery actions is presented in the Recovery Plan (Service 1990, Service 2019) and past 5-year status reviews (Service 2014, 2020). During this status review new and/or targeted potential recovery activities were identified and are included below.

Recovery Activities

- Continue working with landowners and other partners to enhance existing populations and establish new ones within protected areas that ensure their long-term protection.
- Continue propagating the Wheeler's peperomia for reintroduction purposes in protected areas or increase / augment existing populations.
- Evaluate the abundance and distribution of the species within traditional and non-traditional sites, using the best available plant survey methodology to determine current population numbers and to determine the number of populations necessary to protect and stabilize Wheeler's peperomia (wild, naturally reproducing populations large enough to maintain sufficient genetic variation and evolve and respond to natural habitat changes).

Research Activities

- Conduct genetic studies to verify if *Peperomia wheeleri* is a valid species or a synonym of *Peperomia myrtifolia*.
- Conduct studies on the biology and ecology of the Wheeler's peperomia to understand natural recruitment capacity and habitat requirement of this species.
- Quantify predation pressure on the species and determine if predation is a limiting factor for its recovery.

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RESULTS / SIGNATURES

**U.S. Fish and Wildlife Service
Status Review of Wheeler's Peperomia**

Status Recommendation:

On the basis of this review, we recommend the following status for this species ([50 CFR § 424.11](#)). A 5-year review presents a recommendation of the species status. Any change to the status requires a separate rulemaking process that includes public review and comment, as defined in the Act.

- Downlist to Threatened.
- Uplist to Endangered.
- Delist:
 - The species is extinct.*
 - The species is recovered.*
 - New information indicates the species does not meet the definition of an endangered or threatened species.*
 - The listed entity does not meet the statutory definition of a species.*
- No change needed.

FIELD OFFICE APPROVAL:

Field Supervisor, Caribbean Ecological Services Field Office, U.S. Fish and Wildlife Service

Approve _____