

# Core Map Documentation for the Puerto Rican Crested Toad (*Peltophryne lemur*)

Core map development for the species; no designated critical habitat  
ArcGIS Pro 3.3 was used to perform all spatial operations.

## Version 2

**Review Completed:** February 2026

**Core Map Developer:** Tessengerlo Kerley Inc./GESTF

**The core map for this species has been reviewed by the U.S. Fish and Wildlife Service (FWS).**

## Review Notes

The developers created this core map using the U.S. Environmental Protection Agency's (EPA) process available at: <https://www.epa.gov/endangered-species/process-epa-uses-develop-core-maps-pesticide-use-limitation-areas>. EPA reviewed the map and documentation and evaluated if: (1) the map and documentation are consistent with the agency's process; (2) areas included or excluded from the core map are consistent with the biology, habitat, and/or recovery needs of the species; (3) data sources are documented and appropriate; and (4) the GIS data and mapping process are consistent with the stated intention of the developer. EPA agrees that this map is a reasonable depiction of core areas for this species and was consistent with the agency's mapping process. This documentation was not prepared by EPA, and EPA may have edited this documentation for clarity or other purposes. Some views included in this documentation may not necessarily be the views of EPA or its staff.

EPA intends to use this core map to develop pesticide use limitation areas (PULAs). This core map incorporates information developed by FWS and made available to the public as well as input from FWS species expert(s). This core map may be revised in the future as additional relevant information becomes available.

This core map does not replace or revise any range or designated critical habitat developed by FWS.

**Basis for Core Map:** The core map for this species is based on species range and known locations (two areas were removed during review by FWS).

**Level of Best Professional Judgement (EPA scale):** 1-None. The core map is based directly on a refined range with FWS species expert review.

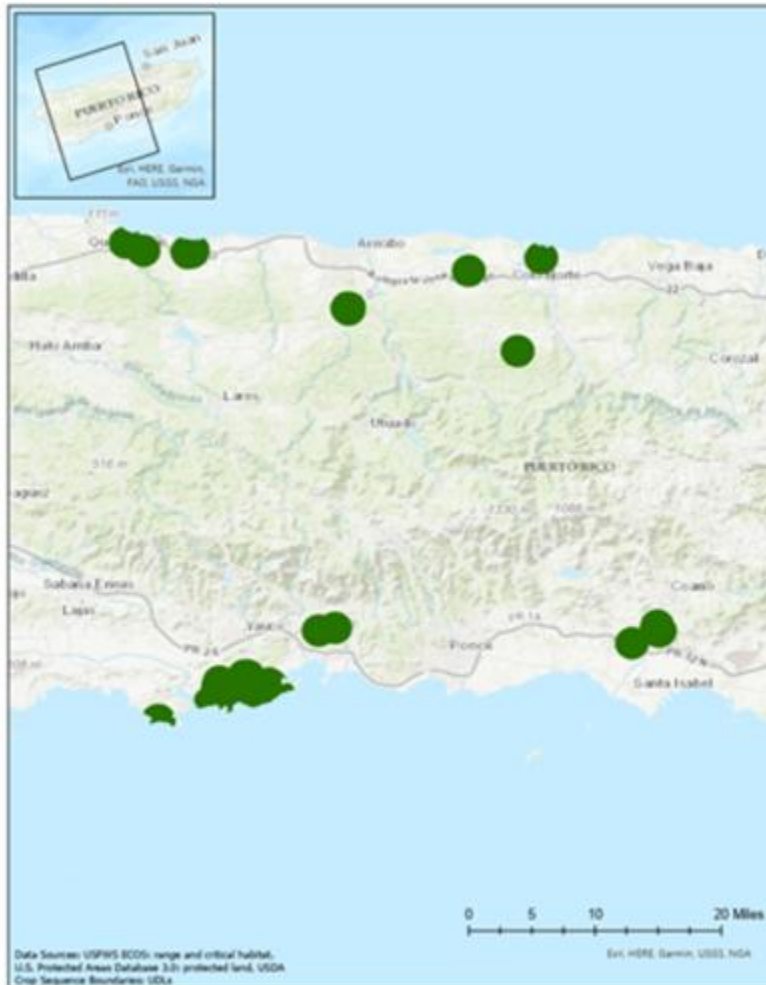


Figure 1. Core map for the Puerto Rican crested toad (in green) based on range with some subtractions per species lead request.

**Table 1. Percentage of Core Map Represented by Puerto Rico CCAP<sup>1</sup> Land Covers and Associated Example Pesticide Use Sites/Types**

<b>Example pesticide use sites/types</b>	<b>NLCD Class/Value</b>	<b>% Area</b>
Forestry	Deciduous Forest (41)	0
Forestry	Evergreen Forest (42)	50
Forestry	Mixed Forest (43)	0
Agriculture	Pasture/Hay (81)	1
Agriculture	Cultivated Crops (82)	5
Mosquito adulticide, residential	Open space, developed (21)	3
Mosquito adulticide, residential	Developed, Low intensity (22)	7
Mosquito adulticide, residential	Developed, Medium intensity (23)	2
Mosquito adulticide, residential	Developed, High intensity (24)	0
Invasive species control	Woody Wetlands (90)	1
Invasive species control	Emergent Herbaceous Wetlands (95)	2
Invasive species control	Open water (11)	0
Invasive species control	Grassland/herbaceous (71)	26
Invasive species control	Scrub/shrub (52)	2
Invasive species control	Barren land (rock/sand/clay; 31)	1
<b>Total Acres</b>	<b>Core Map Acres</b>	<b>~52,500 acres</b>

<sup>1</sup> Puerto Rico C-CAP Regional Landcover, NOAA Release 2010

<https://coast.noaa.gov/digitalcoast/data/ccapregional.html>

C-CAP to NLCD crosswalk used: [Frequently Asked Questions: C-CAP Regional Land Cover](#) pg. 3

## Key Core Area Inputs

Sourced from most up-to-date documentation available on [ECOS](#).

Habitat	Descriptions/Datasets
Range	Last updated 2021
Critical habitat	None
Suitable habitat	Little information has been recorded about habitat preferences, but the 1992 recovery plan described habitat requirements as “low-elevation arid or semi-arid, rocky areas with an abundance of limestone fissures and cavities in well-drained soil”. Later documents reference that there is limited information and reference historical and current population ranges as suitable habitat.
Known locations (General Descriptions)	A single population composed of three wild subpopulations are naturally occurring (Guánica Commonwealth Forest, Punta Ventana pond, and Ciénaga wetland) as seen in Table 2. Additional efforts to establish new and reintroduce new populations have gone on since 1992. Successful reintroductions are in the two areas within the northern karst (El Tallonal in Arecibo and La Esperanza in Manatí), and two other locations in the southern karst (Manglillo Grande in the Guánica Commonwealth Forest and Cueva El Convento in Guayanilla). Additional reintroduction efforts are ongoing (see Table for details).
Element occurrences	23 occurrences found through GBIF from iNaturalist between 1995 and 2025, locations fuzzed up to 30,699 m. GBIF.org (9 June 2025) GBIF Occurrence Download <a href="https://doi.org/10.15468/dl.y8mhhm">https://doi.org/10.15468/dl.y8mhhm</a> No NatureServe occurrences were found.
Relevant recovery criteria	5-yr review (2022): “Delisting the Puerto Rican crested toad will be considered when at least three wild populations of 1,500 to 2,000 animals are established and maintained for each race, northern and southern, and at least five captive populations of 300 animals each have been established.”

## Datasets Used in Core Map Development

- ECOS Datasets:
  - Most recent species range:
    - [https://ecos.fws.gov/docs/species/shapefiles/usfws\\_complete\\_species\\_current\\_range.zip](https://ecos.fws.gov/docs/species/shapefiles/usfws_complete_species_current_range.zip)
  - Most recent species critical habitat downloaded via aggregate feature class, current update status checked on individual species page:
    - <https://ecos.fws.gov/ecp/report/critical-habitat>
  - Recovery Plan Puerto Rican Crested Toad
    - [https://ecos.fws.gov/docs/recovery\\_plan/920807a.pdf](https://ecos.fws.gov/docs/recovery_plan/920807a.pdf)
  - Puerto Rican Crested Toad (Peltophryne lemur) 5-year review 2022
    - [https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public\\_docs/species\\_nonpublish/3853.pdf](https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/3853.pdf)
  - Puerto Rican Crested Toad (Peltophryne lemur) 5-year review 2016
    - [https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public\\_docs/species\\_nonpublish/2349.pdf](https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/2349.pdf)

## Deciding Factors for Core Map Formation

Species range has been updated in 2021 based on the known locations of wild and reintroduced populations. Two areas were removed during FWS species lead review because the areas refer to historical/anecdotal records for the species.

## Core Map Development

- The most recent range shapefile was downloaded from ECOS.
- Two sections of the range identified were deleted from the core map per FWS species lead request.

**Table 2. Summary of the status of the three subpopulations of the currently extant Puerto Rican crested toad (*Peltophryne lemur*) natural population in Puerto Rico (Service 2022, unpubl. data) extracted from 5-year review (2022).**

Subpopulation	Status	Highest Number of Toads Documented:	Monitoring Group	Source of Information
<b>Guánica Commonwealth Forest</b>	<b>Stable.</b> Since 2016, toad breeding events have been reported every year. Occasionally, multiple breeding events documented during a single year. Adult male and female toads often observed around breeding ponds.	168	Puerto Rico Department of Natural and Environmental Resources	López, PRDNER, 2021, pers. comm.
<b>Punta Ventana pond</b>	<b>Unknown.</b> No toad breeding events documented at this site since 2017. Since then, this population has been poorly monitored. Only two adult male toads found in this location during 2021 surveys. Suitability of the breeding site has been affected by loss of forested habitat and shelters, and rise in water salinity	134	Service	Service 2016. Service, 2021, unpubl. data. Barber 2021

Subpopulation	Status	Highest Number of Toads Documented:	Monitoring Group	Source of Information
	levels (Pacheco, Service, 2021, pers obs.)			
Ciénaga wetland	<b>Unknown.</b> Last visit to this subpopulation was in 2016, but the species was not found.	20	Puerto Rico Department of Natural and Environmental Resources	Service 2016 Martínez 2016 Rivera 2022, pers. comm.

\*Highest number of adult toad (male and female) observed in a single survey.

**Table 3. Summary of the status of the six Puerto Rican crested toad (*Peltophryne lemur*) introduced populations in Puerto Rico (Service 2022, unpubl. data) extracted from the 5-year review (2022).**

Introduced Populations	Status	Highest Number of Toads Documented	Monitoring Group	Source of Information
Manglillo Grande	<b>Stable.</b> Breeding events documented annually at this site during the past five years.	11	Puerto Rico Department of Natural and Environmental Resources	López, 2021, unpubl. data Barber 2021
Cueva El Convento	<b>Improving.</b> PLN reported several toad breeding events in 2016, 2020 and 2021. Adults and toadlets often observed in and around the release pond and surrounding areas. Crested toad tadpoles produced from the captive population are released here in yearly basis to augment this population.	12	Para La Naturaleza	Cruz-Serrano 2022 Rivera 2022, unpubl. data
Gabia Farm	<b>Unknown.</b> Poorly monitored, Releases at this site halted in 2017 due to the lack of resources to adequately manage the area.	5	Puerto Rico Department of Natural and Environmental Resources	Service 2016 Barber 2021 Rivera 2022, unpubl. data
El Tallonal	<b>Stable.</b> Adult and toadlet toads often found in and around the release pond area, and the surrounding habitat. The number and size of juvenile crested toads in the surrounding areas of the release pond suggest breeding events may have occurred but has not been documented.	10	Iniciativa Herpetológica	Vega, IH, 2021, pers. comm. Rivera 2022, unpubl. data
La Esperanza	<b>Improving.</b> Adults and toadlet toads often observed in the pond and surrounding areas. PLN has reported two to three toad breeding events per year in 2019, 2020 and 2021.	6	Para La Naturaleza	Santiago 2021 Rivera 2022, unpubl. data
Río Encantado	<b>Improving.</b> No breeding events have been reported at this site yet. Crested toad tadpoles produced from the captive population are released here in yearly basis to augment this population.	2	Para La Naturaleza	Santiago 2022 Rivera 2022, unpubl. data

\*Highest number of adult toad (male and female) observed in a single survey.

**Table 4. Number of Puerto Rican crested toad tadpoles and toadlets released at different sites in Puerto Rico since beginning of the project (Service 2022, unpubl. data).** Some releases were cancelled in 2017 due to hurricane events and in 2020 and 2021 because of COVID-19 pandemic.

*Table extracted from the 5-year review (2022).*

Re-introduction site	Amount of PRCT tadpoles released	Amount of PRCT toadlets released	Starting year	Current status
Manglillo Grande	160,902*	1026*	1992	Halted since 2016
El Tallonal	116,909*	520*	2006	ongoing
Gabia Farm	69,946*	-	2007	Halted since 2017
Río Encantado	80,300*	-	2012	ongoing
Cueva El Convento	137,434*	193*	2012	ongoing
La Esperanza	25,803*	-	2013	ongoing
<b>Total:</b>	<b>591,294*</b>	<b>1,739*</b>		

\*Total amount updated January 30, 2022.