

Core Map Documentation for the Yellow-shouldered Blackbird or Mariquita (*Agelaius xanthomus*)

Core map development for the species and 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

This core map has been reviewed by 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 core 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 in this documentation may not necessarily be the views of EPA or its staff.

The core map developed for this species can be used to develop pesticide use limitation areas (PULAs). This core map incorporates information developed by FWS and made available to the public and has been reviewed by FWS. This core map may be revised in the future to incorporate additional information for this species as it 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 the species range.

Level of Best Professional Judgement (EPA scale): 1-None. The core map is based directly on the range with no additions or subtractions. The range is refined, was recently evaluated by FWS, and is supported by occurrence data and habitat needs.

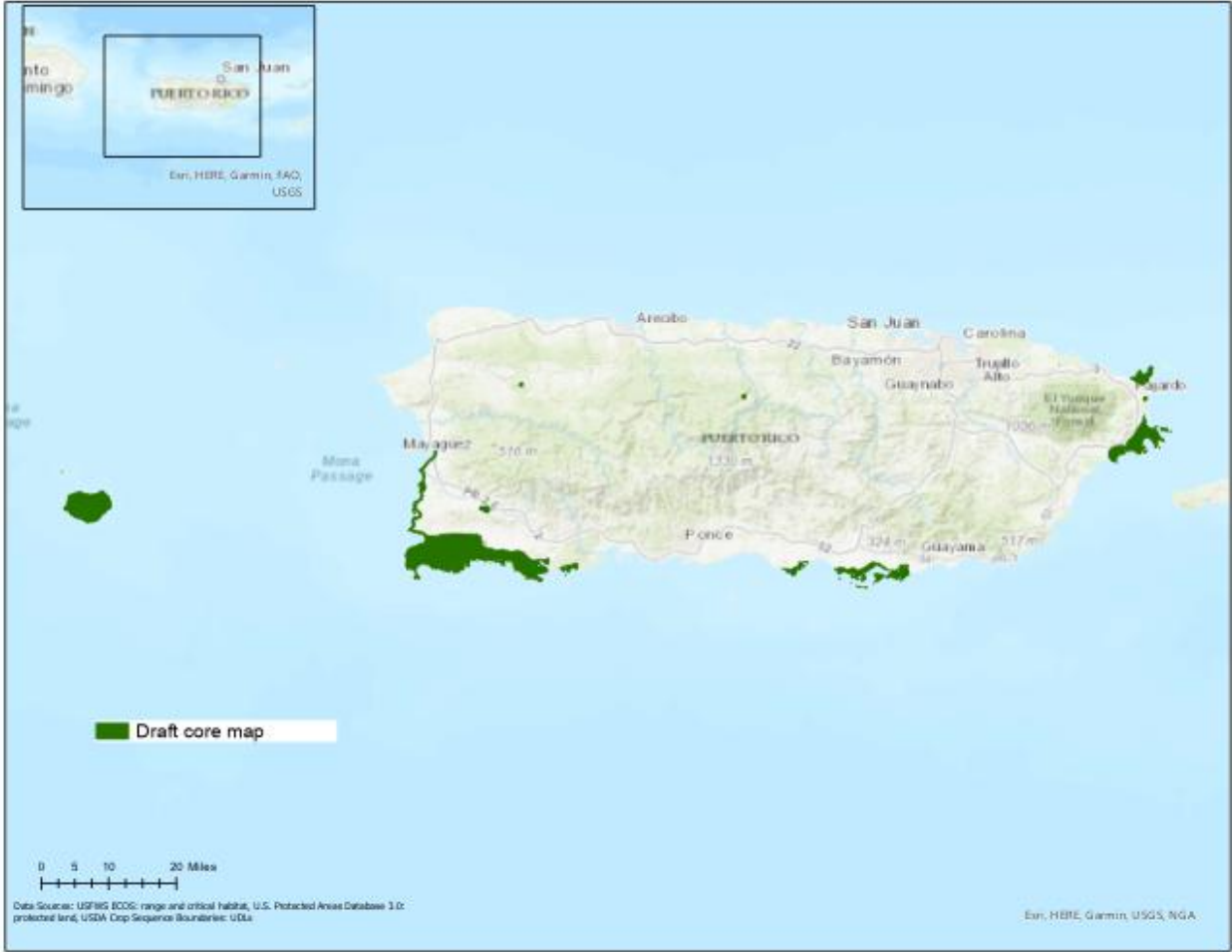


Figure 1. Core map for the yellow-shouldered blackbird.

Table 1. Percentage of Core Map Represented by Puerto Rico CCAP¹ Land Covers and Associated Example Pesticide Use Sites/Types

Example pesticide use sites/types	NLCD Class/Value	% Area
Forestry	Deciduous Forest (41)	0
Forestry	Evergreen Forest (42)	19
Forestry	Mixed Forest (43)	0
Agriculture	Pasture/Hay (81)	5
Agriculture	Cultivated Crops (82)	1
Mosquito adulticide, residential	Open space, developed (21)	4
Mosquito adulticide, residential	Developed, Low intensity (22)	7
Mosquito adulticide, residential	Developed, Medium intensity (23)	5
Mosquito adulticide, residential	Developed, High intensity (24)	0
Invasive species control	Woody Wetlands (90)	13
Invasive species control	Emergent Herbaceous Wetlands (95)	3
Invasive species control	Open water (11)	4
Invasive species control	Grassland/herbaceous (71)	27
Invasive species control	Scrub/shrub (52)	10
Invasive species control	Barren land (rock/sand/clay; 31)	1
Total Acres	Core Map Acres	~87,000 acres

¹ 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 2023
Critical habitat	Designated 1977
Suitable habitat	<p>5yr review (2018): Historically found in coastal forests of archipelago, coastal subtropical dry forests, during the non-breeding season, the species has been observed as far inland as the mountain towns of Lares and Ciales, and in subtropical wet forests.</p> <p>The species uses eight distinct nesting habitats: mud flats and salt flats, offshore red mangrove cays, black mangrove forest, lowland pastures (dry coastal forest), suburban areas, coconut plantations and coastal cliffs, but prefer black mangrove forests for nesting.</p>
Known locations (General Descriptions)	5yr review (2018): At present, the species is primarily limited to four areas: Mona and Monito islands, where a subspecies developed (<i>A. x. monensis</i>); and three populations in eastern, southern, and southwestern Puerto Rico.
Element occurrences	<p>1,318 occurrences found through the Global Biodiversity Information Facility (GBIF) between 1995 and 2025, locations fuzzed approx. 30,000 m</p> <p>GBIF.org (30 May 2025) GBIF Occurrence Download https://doi.org/10.15468/dl.t583wa; NatureServe was also referenced (natureserve.org).</p> <p>Occurrence data did not impact the core map.</p>
Relevant recovery criteria	<p>5yr review (2018): “Although the mariquita has a revised recovery plan, delisting recovery criteria could not be set when the recovery plan was finalized and approved, because critical demographic information for a reliable population viability model was lacking. However, the following interim recovery criteria for delisting were developed by Collazo et al. (1996): 1) enhance reproductive success to ≥ 0.96 daily survival for eggs and chicks; and 2) reduce shiny cowbird (<i>Molothrus bonariensis</i>) parasitism to ≤ 20 percent. These interim criteria should be maintained for at least 5 years in the artificial structures. Objective and measurable recovery criteria could be developed after modeling data are obtained from natural nests in the Boquerón Commonwealth Forest (BCF) administered by the Puerto Rico Department of Natural and Environmental Resources (PRDNER), and at least two additional areas in Puerto Rico, including Mona Island.”</p>

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
 - 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>
 - Yellow-Shouldered blackbird Recovery Plan Amendment 2019
https://ecos.fws.gov/docs/recovery_plan/Yellow-shouldered%20Blackbird%20Recovery%20Plan%20Amendment.pdf
 - Yellow-Shouldered blackbird 5-year status review 2023
https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/6546.pdf
 - Yellow-Shouldered blackbird 5-year status review 2018
https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/2599.pdf
 - Yellow-Shouldered blackbird 5-year status review 2011
https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/1698.pdf
- Other GIS Datasets:
 - Puerto Rico C-CAP Regional Landcover, NOAA Release 2011
<https://coast.noaa.gov/digitalcoast/data/ccapregional.html>

Deciding Factors for Core Map Formation

- The core map is the same as the species range due to the refined nature of the existing range which was recently updated in 2023. The critical habitat encompasses large swaths of the range as well (see Figure 2).
- Land cover datasets were explored to see if it was possible to isolate nesting related habitat, but current available data does not give this level of detail across the range.
- Aside from nesting, the species behaves in a generalist manner regarding diet and habitat usage, paired with broader flight range.
- GBIF occurrences, even when fuzzed, still reveal occurrences between 1995 and 2025 within all 4 primary areas of the range including Mona and Monito islands, Eastern, Southeastern, and Southwestern Puerto Rico (see Figure 3).

Core Map Development

- The most recent range was downloaded from ECOS and used as the core map.



Figure 2. Core map/range in relation to critical habitat.

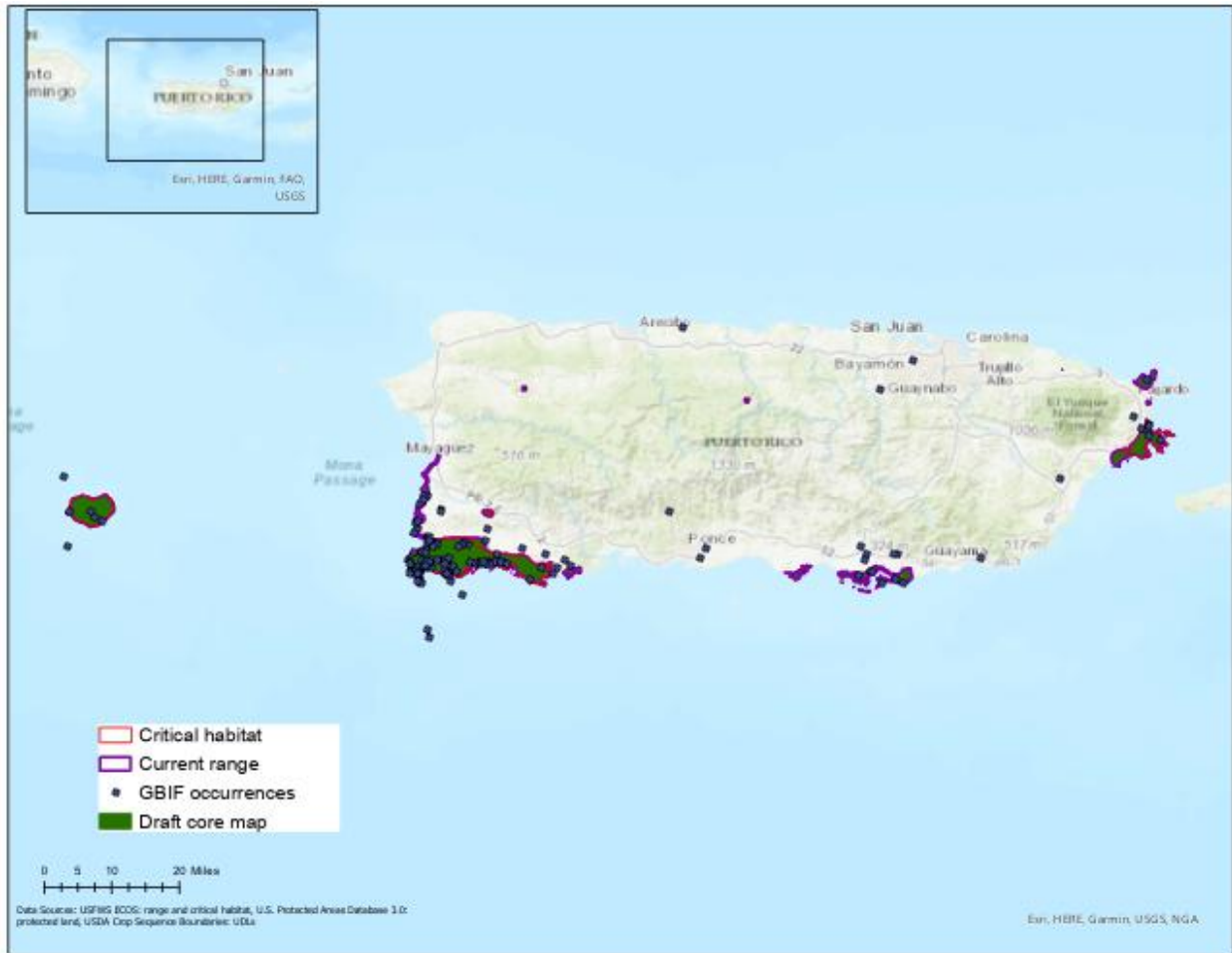


Figure 3. GBIF occurrences in the vicinity of the 4 main population locations despite the fuzzed coordinates of occurrences.