Zapata Bladderpod Interim Core Map Documentation

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Interim Core Map Developer: U.S. Environmental Protection Agency (EPA), Office of Pesticide Programs

Species Summary

The Zapata bladderpod (*Physaria thamnophila,* synonym: *Lesquerella thamnophila;* Entity ID #569) is a trailing perennial plant that is a member of the Brassicaceae family (50 CFR Part 17, 2000; FWS, 2024). It was listed as endangered in 1999 (FWS, 2024). This species thrives in the unique ecological setting of the Tamaulipan thornscrub, primarily above the Rio Grande floodplain (FWS, 2024). A designated critical habitat was published in 2000 (50 CFR Part 17, 2000). Additional information is provided in **Appendix 1**.

Description of Core Map

The core map for the Zapata bladderpod is biological information type based on the designated critical habitat (which includes several distinct segments along the Rio Grande River in Starr County, Texas, below the Falcon Reservoir) as well as additional known locations that lie outside of the critical habitat. Additional known populations exist along the reservoir, but the latest observations of known populations occurred in 2007. This species is highly geoendemic, therefore, habitat requirements were used to expand the core map beyond the critical habitat and to encompass known locations. These areas are highly refined and represents areas important for this species' conservation. There are only ten known populations of this species, and they are all located within this area. **Figure 1** depicts the interim core map for Zapata bladderpod. The core map represents approximately 399,221 acres across Zapata and Starr counties in Texas. Landcover categories within the core map area are included in **Table 1.** Landcover is predominantly scrub/shrub, which is consistent with the habitat of this species.

The core map developed for the Zapata bladderpod is considered interim. This core map will be used to develop pesticide use limitation areas (PULAs) that include the Zapata bladderpod. This core map incorporates information developed by FWS and made available to the public; however, the core map has not been formally reviewed by FWS. This interim core map may be revised in the future to incorporate expert feedback from FWS.

This interim core map has a "limited" best professional classification because it consists of the species' critical habitat with the addition of habitat requirements to encompass known locations that lie outside of the designated critical habitat. The core map represents areas important for this species' conservation and contains all known populations of this species. This core map does not replace or revise any range or designated critical habitat developed by FWS for this species.

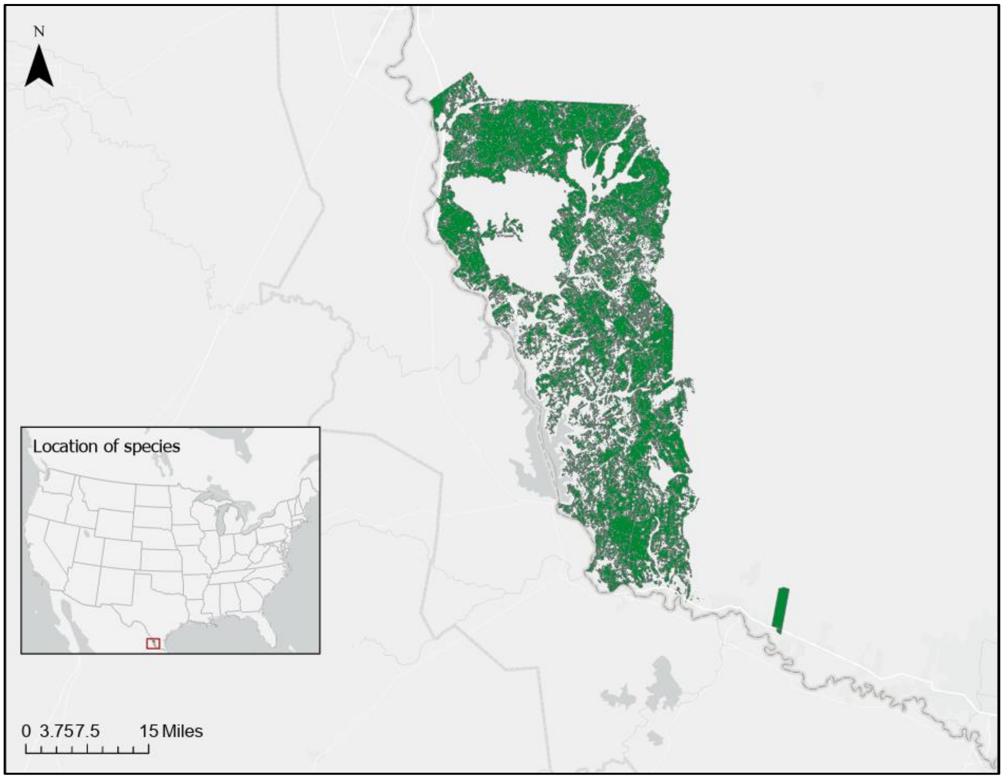

Figure 1. Interim core map for the Zapata bladderpod. The total acreage of the interim core map is approximately 399,221 acres.

Table 1. Percentage of Interim Core Map Represented by NLCD[1] Land Covers and Associated Example Pesticide Use Sites/Types.

Example pesticide use sites/types	NLCD Class/Value	% Area	Total area for landcover type
Forestry	Deciduous Forest (41)	0%	0%
Forestry	Evergreen Forest (42)	0%	0%
Forestry	Mixed Forest (43)	0%	0%
Agriculture	Pasture/Hay (81)	1%	1%
Agriculture	Cultivated Crops (82)	0%	1%
Mosquito adulticide, residential	Open space, developed (21)	0%	1%
Mosquito adulticide, residential	Developed, Low intensity (22)	0%	1%
Mosquito adulticide, residential	Developed, Medium intensity (23)	0%	1%
Mosquito adulticide, residential	Developed, High intensity (24)	0%	1%
Invasive species control	Woody Wetlands (90)	0%	99%
Invasive species control	Emergent Herbaceous Wetlands (95)	0%	99%
Invasive species control	Open water (11)	0%	99%
Invasive species control	Grassland/herbaceous (71)	5%	99%
Invasive species control	Scrub/shrub (52)	93%	99%
Invasive species control	Barren land (rock/sand/clay; 31)	0%	99%
Total Acres	Interim Core Map Acres	399,221	

Evaluation of Known Location Information

There are five datasets with known location information for this species:

- Descriptions of locations provided by FWS;
- Descriptions of locations provided by TXNDD;
- Occurrence locations included in iNaturalist;
- Occurrence locations included in the Global Biodiversity Information Facility (GBIF); and
- Occurrence locations included in NatureServe.

EPA evaluated these five sets of data to inform or support the core map. FWS, relying on the Texas Natural Diversity Database, provided the most refined descriptions of the occurrence information and confirmed that all known locations of extant populations are located within the range. iNaturalist had 33 research grade observations, which occurred either within the species critical habitat or slightly north of it, along the Rio Grande River, consistent with the species range. GBIF's occurrence data consisted solely of occurrences that had also been accounted for in iNaturalist. NatureServe included three documented areas, all of which were consistent with the location of the species range. **Appendix 1** includes more information on the available known location information.

[1] Dewitz, J., 2023, National Land Cover Database (NLCD) 2021 Products: U.S. Geological Survey data release, https://doi.org/10.5066/P9JZ7AO3

Approach Used to Create Core Map

EPA compiled available information for the Zapata bladderpod from FWS and TXNDDB, as well as observation information available from various publicly available sources (including iNaturalist, GBIF and NatureServe). The information compiled for the Zapata bladderpod is included in **Appendix 1**. Influential information that impacted the development of the core map included:

- There are 10 known populations in FWS documentation, several of which occur outside of the critical habitat.
- TXNDD lists two source features and ten element occurrences, several of which occur outside of the critical habitat.
- Occurrence data from other sources are generally consistent with a very limited species range; and
- Known locations encompassed a fraction of what FWS considers the species range.

EPA used the compiled information to identify the core map type. EPA compared known location data to the critical habitat and found that at times known locations occurred outside the critical habitat. However, while still presume extant, known locations of the species had not been updated since 2007. Based on the highly geoendmic nature of this species, EPA selected the critical habitat with the addition of suitable habitat to use as the species core map, which encompassed the known locations. EPA used the ECOS species critical habitat for Zapata bladderpod.

Discussion of Approaches and Data that were Considered but not Included in Core Map

Both using only the critical habitat and the critical habitat with the addition of known locations as the core map was considered. However, the critical habitat on its own did not include several known locations. Furthermore, updated information about the known locations was not available. Therefore, suitable habitat in addition to the critical habitat was chosen for this core map.

Appendix 1. Information Compiled for Species

1. **Recent FWS Documents/Links**
   - 5-Year Review (2024)
   - 5-Year Review (2015)
   - Recovery Plan (2004)
   - Recovery Plan Amendment (2019)
   - Listing rule & critical habitat (2000)

2. **Background information on Species**
   - **Status:** Federally listed as endangered on November 22, 1999

   - **Taxonomy**:
     Kingdom: Plantae – plantes, Planta, Vegetal, plants
     Subkingdom: Viridiplantae – green plants
     Infrakingdom: Streptophyta – land plants
     Superdivision: Embryophyta
     Division: Tracheophyta – vascular plants, tracheophytes
     Subdivision: Spermatophytina – spermatophytes, seed plants, phanérogames
     Class: Magnoliopsida
     Superorder: Rosanae
     Order: Brassicales
     Family: Brassicaceae – mustards, moutardes, crucifers
     Genus: Physaria (Nutt. ex Torr. & A. Gray) A. Gray – twinpod
     Species: Physaria thamnophila (Rollins & E.A. Shaw) O'Kane & Al-Shehbaz – Zapata bladderpod

   - **Resiliency, Redundancy, Representation**
     These metrics were not discussed explicitly in any FWS documents reviewed.

   - **Habitat Description**
     The Zapata bladderpod is known to occur on upland terraces above the Rio Grande flood plain (FWS, 2004). The known populations of the Zapata bladderpod occur within a community of shrub species (FWS, 2004). The Zapata bladderpod is a geoendemic, found only on friable, gypseous soils overlying sandstone of the Eocene Laredo, Yegua, and Jackson geologic formations. Contrary to statements in the federal listing, critical habitat designation, and recovery plan, the species does not occur on Jimenez-Quemado soils or in association with caliche.

- **Relevant Life History Information & Ecology:**
  FWS (2015) synthesizes the 5-Year review of the species as follows:

  > Zapata bladderpod is a geoendemic, found only on friable, gypseous soils overlying sandstone of the Eocene Laredo, Yegua, and Jackson formations. Contrary to statements in the federal listing, critical habitat designation, and recovery plan, the species does not occur on Jimenez-Quemado soils or in association with caliche. Most of the Element Occurrences (EOs) are immediately down-slope from fossil oyster shell strata. These soils are extremely prone to sheet and gully erosion. Historically, these areas had abundant

grasses and herbaceous plants, and wildfires may have played an important role in shaping the plant composition. During the last 250 years, trees and shrubs have become more abundant and grasses and forbs less abundant as a consequence of poor rangeland management. Shredding or cutting of shrub vegetation above the ground stimulates increased Zapata bladderpod frequency; this effect decreases as shrubs regrow. However, Zapata bladderpod seed germination appears to be facilitated by leaf litter beneath shrub canopies.

The observable portion of Zapata bladderpod populations fluctuates dramatically from year to year in apparent response to rainfall amounts and patterns. However, the plants are able to survive for an undetermined length of time as dormant caudices. Hence, surveys taken over relatively short time frames cannot accurately estimate the actual size of populations or detect trends in population sizes. Consequently, the frequency of recruitment is a more appropriate measure of demographic trends than changes in observed population size.

- **Relevant Pesticide Use Sites**
  No available information on pesticide use sites is included in FWS documents. FWS (2004) states that the identification of pollinators would help management of the species, in part by allowing the evaluation of pesticide threats to pollinators.

- **Threats**
  FWS (2024) discusses the multiple threats facing Zapata bladderpods. Overall threats to the species are destruction, modification and curtailment of the species habitat and range. These threats include habitat loss and fragmentation caused by urban development, agricultural expansion, and infrastructure projects, including road and border wall construction. Invasive grasses, particularly buffelgrass (*Cencrhus ciliaris*), guineagrass (*Megathrysus maximus*), and Kleberg bluestem (*Dichanthium annulatum*), further threaten the species by competing for resources.

  Because the Zapata bladderpod receives a range of pollinator visitors such as beetles, various flies, bees, and wasps, climate change may impact environmental conditions for these pollinators and affect this species.

  Multiple populations exist within highway rights-of-way. Therefore, highway maintenance activities along highways and utility rights-of-way may adversely affect Zapata bladderpod populations within these rights-of-way. The existence in a highway right-of-way increases a species' vulnerability to accidental and deliberate action including mowing, road traffic, chemical road runoff, accidental herbicidal treatments, vehicular accidents and plant collection.

- **Reclassification Criteria**
  FWS (2019) states that this species may be reclassified to threatened when the following criteria are met:
  1. Maintain or establish 12 geographically distinct, self-sustaining populations located within the species' historical range in the U.S., with at least one population in each of the three geologic formations from which the species is currently known to occur. Each population should consist of at least 2,000 reproductive individuals (have flowered at least once or are capable of flowering) as determined during years when precipitation

patterns have stimulated growth and reproduction. The numbers of reproductive individuals at each of the 12 population sites must be stable or increasing.

2. To count toward reclassification, all populations must be appropriately protected and actively managed to reduce or eliminate threats to the species. Agreements for the protection and appropriate management of the 12 self-sustaining populations must be in place. Perpetual protection on public land will be assured via Service-approved management plans (e.g. National Wildlife Refuge Comprehensive Conservation Plans). Formal stewardship agreements (e.g. conservation easements or similar instruments) must be in place to ensure perpetual long-term, species-appropriate management on privately-owned land.

- **Delisting Criteria**
  FWS (2019) states that this species may be delisted when the following criteria are met:
  1. Over a 30-year period following reclassification of the species to threatened, monitoring of 12 fully protected, self-sustaining populations consisting of at least 2,000 reproductive individuals per population shows that the populations are stable or increasing. These populations will be located within the species' historical range in the U.S., with at least one population in each of the three geologic formations from which the species is currently known to occur.

  2. Populations continue to be protected through perpetual management agreements. Threats to each population have been reduced or eliminated through appropriate site management that may include such actions as limiting erosion by excluding vehicles, foot traffic, and/or eight overgrazing by livestock, diminishing woody vegetation using means that do not disturb the soil, or potentially controlling invasion by non-native grasses. The effectiveness of this management would be determined by monitoring the condition of habitat and the status of the species such that it is stable or increasing in number.

- **Recovery Actions**
  FWS (2004) states that the following actions are needed for the recovery of the Zapata bladderpod:
  1. Protect and manage existing Zapata bladderpod populations and habitat.
  2. Survey for new populations in the U.S. and Mexico.
  3. Gather biological information necessary for management and develop a population-monitoring program.
  4. Establish and maintain a botanical garden population.
  5. Establish new populations as necessary to meet downlisting criteria, through voluntary public or private partnerships with Federal and State agencies, local communities, and landowners.
  6. Develop a public education and awareness program.
  7. Develop delisting criteria and revise the Recovery Plan.

  FWS (2019) updated the recovery plan, to account for items 2 and 7 being met.

3. Description of Species Range

The Environmental Conservation Online System (ECOS) lists the current range of this species as encompassing all of Zapata and Starr Counties in Texas, for a total of 1,463,709 acres. However, the critical habitat covers only a small percentage of that area (**Figure 2**).

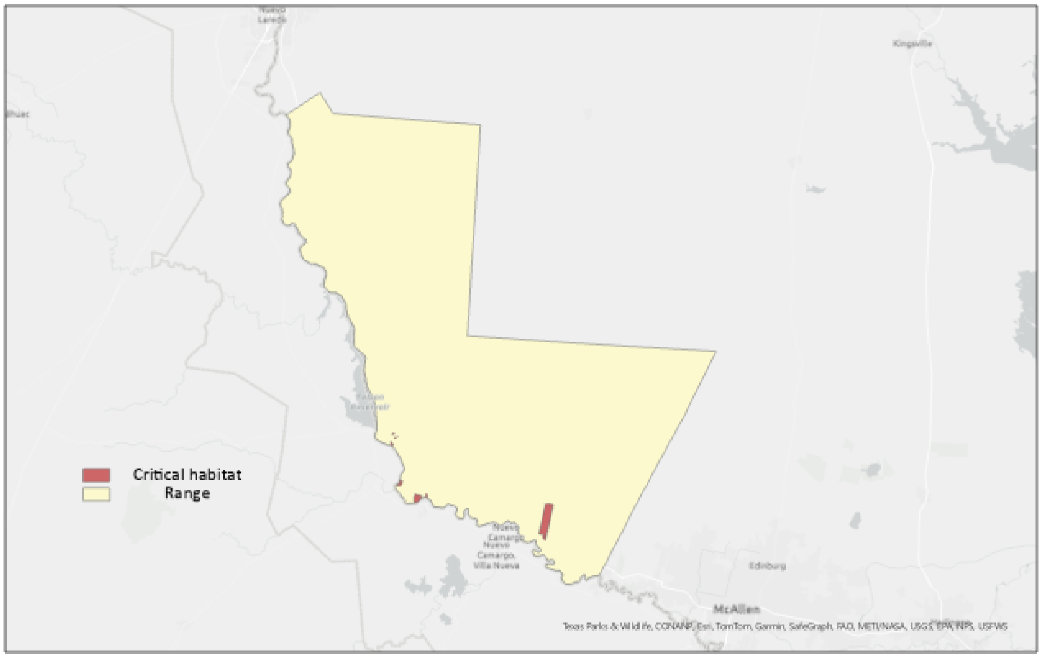

Figure 2. Species range (yellow), overlayed with species critical habitat (red).

In 2004, FWS stated that since critical habitat designation in 2000, a new population of Zapata bladderpod has been located on one of the designated refuge tracts, for a total of eleven documented occurrences. Thus, of the seven designated units on refuge property, Zapata bladderpod occurs on two (FWS, 2004). The remaining five refuge units possess the same vegetation and soil qualities as the known population sites and are considered essential for the conservation of the species (FWS, 2004). Critical habitat was not designated at the two occupied sites in Zapata County due to the low numbers of plants present and an unknown potential for long-term survival or sustainability of the populations (FWS, 2004).

In the amendment to the Recovery Plan (FWS, 2019), FWS states that since development of the Recovery Plan, surveys in Mexico and Texas produced records of new populations thereby dramatically expanding the species' geographic range to the south. The most complete recent surveys, in 2007, documented eight extant populations and two additional populations of unknown status in Texas (FWS, 2019). Of the eight, four have had maximum population counts of at least 2,000 individuals. Although four populations are considered protected, only two of these have had greater than 2,000 plants counted, therefore two populations met the requirements of both criteria as of 2015 (FWS, 2015).

According to FWS (2019), subsequent genetic analysis showed that the Mexican populations in the Loreto Sand Plain, formerly believed to be P. thamnophila, were instead more closely related to another Mexican Physaria species surface (FWS, 2015). Although the occurrence of suitable geology and soils in Mexico south of the existing Texas populations suggests that there is a possibility for the species to occur there, there are no records of the species in that part of Mexico (FWS, 2015). The lack of P. thamnophila occurrences in Mexico contracts the known native range, narrowing its distribution to Zapata and Starr counties, Texas.

FWS (2019) states that refined mapping of population locations and field observations showed the Zapata bladderpod to be a narrow geoendemic, occurring only on soils overlying Eocene sandstone of the Laredo, Yegua, and Jackson formations. All the known populations occur in extremely friable, yellowish, sandy, often gravelly soil overlying sandstone, often just down-slope from overlying strata of fossil oyster shell. The porous shell strata perched above impermeable sandstone may create seepage 3 zones that concentrate gypsum through evaporation from the soil surface (FWS, 2015). The bladderpod's tight association with these soils and geology, in conjunction with its position on the landscape (affiliation with fossil oyster strata), further circumscribes, and helps to illustrate, the limited extent of the species' known range.

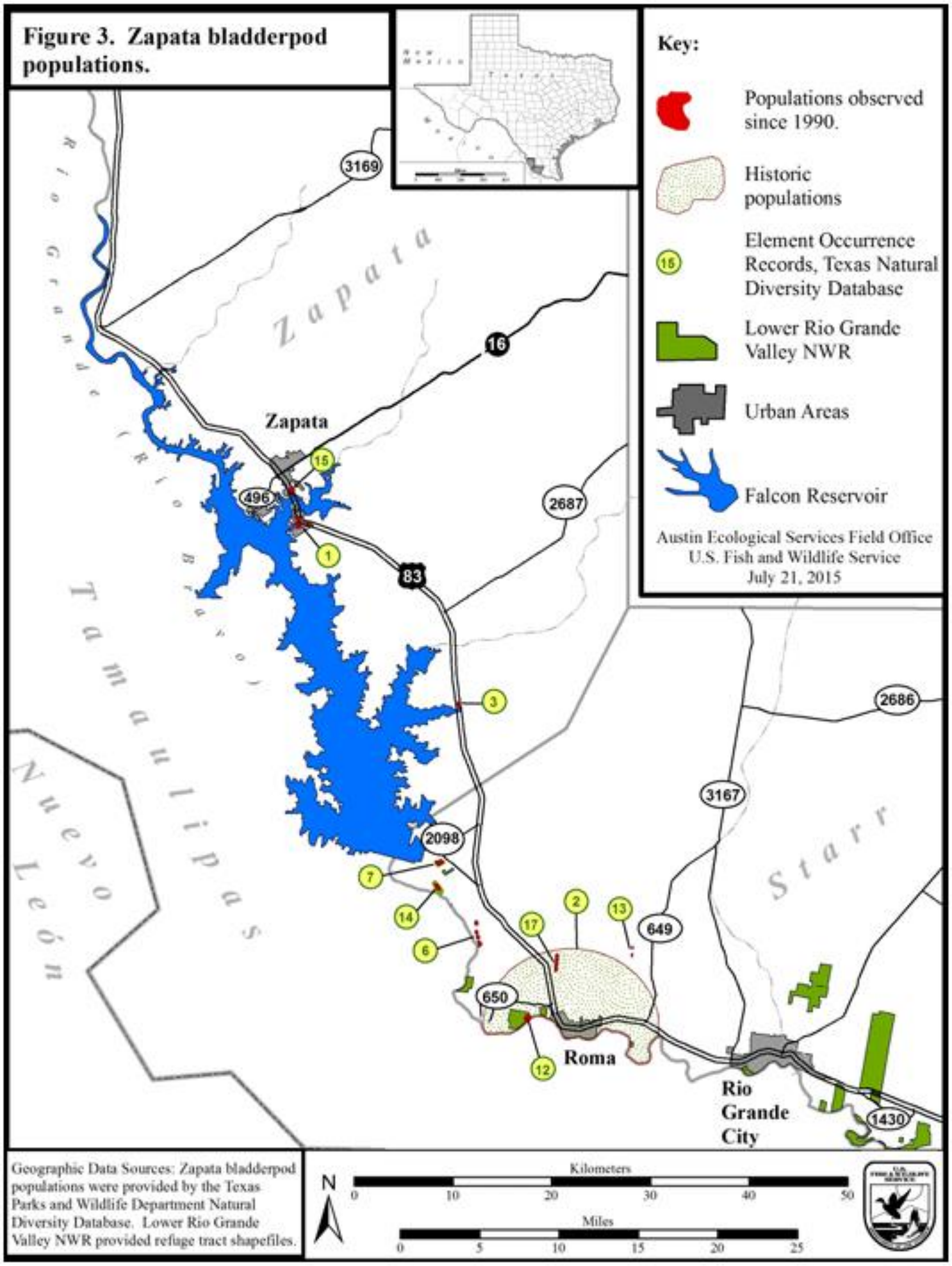

Figure 3. Known locations of Zapata bladderpod populations FWS (2015).

Table 2. Populations of Zapata bladderpod, taken from FWS (2015)

EO Name	EO_ID	Place Name	County	Largest Population	Current Status
1	7751	Siesta Shores	County	487	Partially intact, partially protected, vulnerable
2	5996	4 mi N Roma	Zapata	n/a	Unknown
3	2477	Arroyo Tigre Chiquito	Starr	5000	Intact, protected, vulnerable
6	7965	Santa Margarita Ranch	Zapata	6649	Intact, not protected
7	2223	Cuellar Tract	Starr	8351	Intact, protected
12	7381	Arroyo Ramirez Tract	Starr	1706	Intact, protected
13	8926	San Julian Rd – Martinez Ranch	Starr	370	Intact, protected
14	8927	Arroyo Morteros Tract	Starr	181,838	Intact, protected
15	8929	E Zapata	Zapata	200	Intact, not protected
17	8930	4 mi N Roma	Starr	n/a	Unknown

4. **Critical Habitat**

The critical habitat was designated on December 22, 2000 (50 CFR Part 17, 2000). FWS (2004) states that eight critical habitat units were designated in Starr County, Texas. Of the eight units, seven occur on 2,088 hectares (ha) (5,158 acres (ac)) of Lower Rio Grande Valley property, and one occurs on private property (0.55 ha (1.36 ac)). The critical habitat does not account for known occurrences in Zapata County.

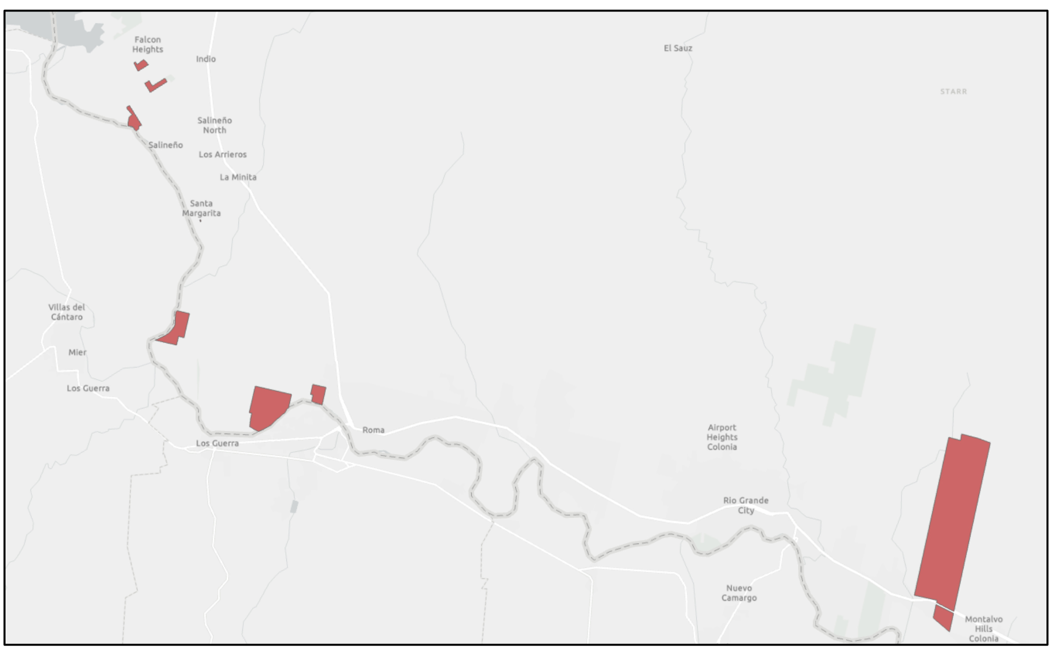

Figure 4. Critical habitat for the Zapata bladderpod.

5. **Additional Known Locations**

- **[iNaturalist](#)**:
  - Searched on April 15, 2025
  - 33 research grade and verifiable observations made between October 2020 – February 2025
    - Six observations occurred in Mexico

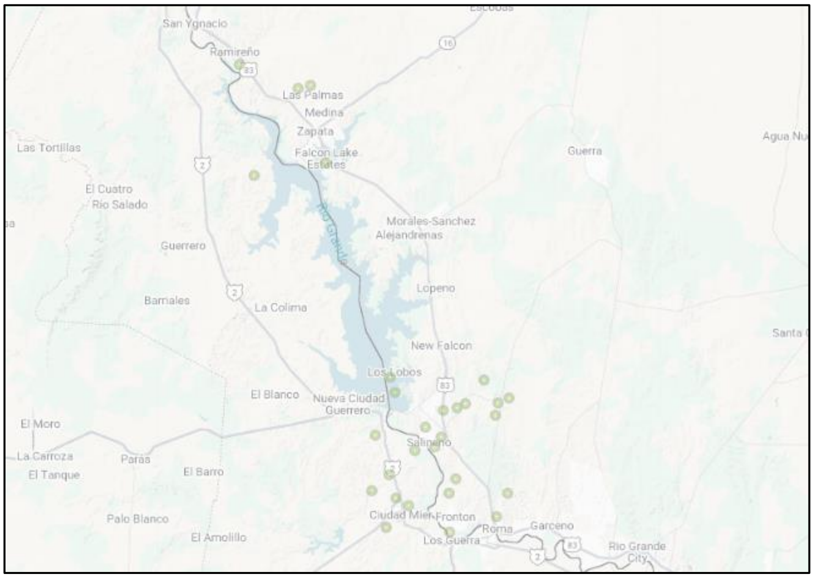

Figure 5. Screenshot of observations of the Zapata bladderpod in iNaturalist.

- **[NatureServe](#)**
  - Searched on April 16, 2025
  - NatureServe has several documented locations consistent with the known locations of the species that were consistent with the other occurrence data.

- **[GBIF](#)**
  - Searched on April 15, 2025
  - All observations were listed in iNaturalist

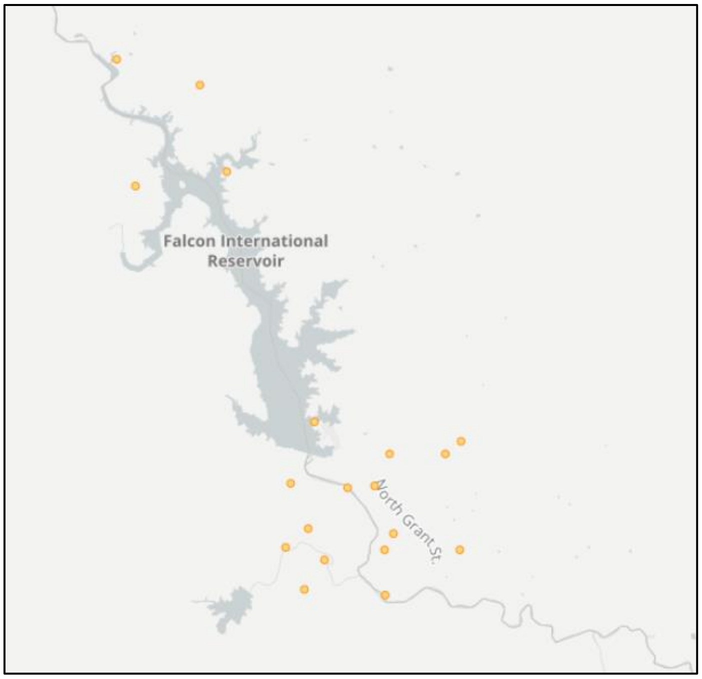

Figure 6. Screenshot of observations of the Zapata bladderpod from GBIF.

- **TXNDD**
  - Data received on April 28, 2025
  - TXNDD maintains records for 700 natural resource Elements (ex. species, native plant community). The TXNDD record for any Element is known as an Element Occurrence (EO). An EO is an area of land or water where an Element is or was present and has practical conservation value. Each EO is based on at least one observation, and potentially hundreds of observations, of an Element in a specified location.

    The observations that comprise each EO are submitted to the TXNDD from a variety of different sources, including TPWD personnel, conservation organizations, and consulting firms. In addition, TXNDD and Wildlife Conservation Program staff search published articles, project reports, museums, and herbaria for additional information. Each source of information is documented in a TXNDD Reference record and then archived. Each EO record includes a reference list documenting what information was used to create the record.

    Each EO consists of two parts: the geographic location of the observation and the data that goes along with the observation. The basic data needed to create an EO includes who observed the element, when was the element observed, where was the element observed, and how many of the element was observed. In addition to the basic data, a TXNDD EO record may contain information about the surrounding habitat, the condition of the habitat, the condition of the element, any possible threats to the long-term survival of the element in that location, and much more.

    A Source Feature is the mapped representation of one of more observations and are the components from which Element Occurrences are developed (NatureServe, 2002).

However, sometimes Source Features can be retained in the database independently (i.e., without being linked to an EO) to represent discrete observations (NatureServe, 2002).

- Of the 10 EOs, EO2 is considered historical with the last observations made in 1966 (TXNDD, 2025)

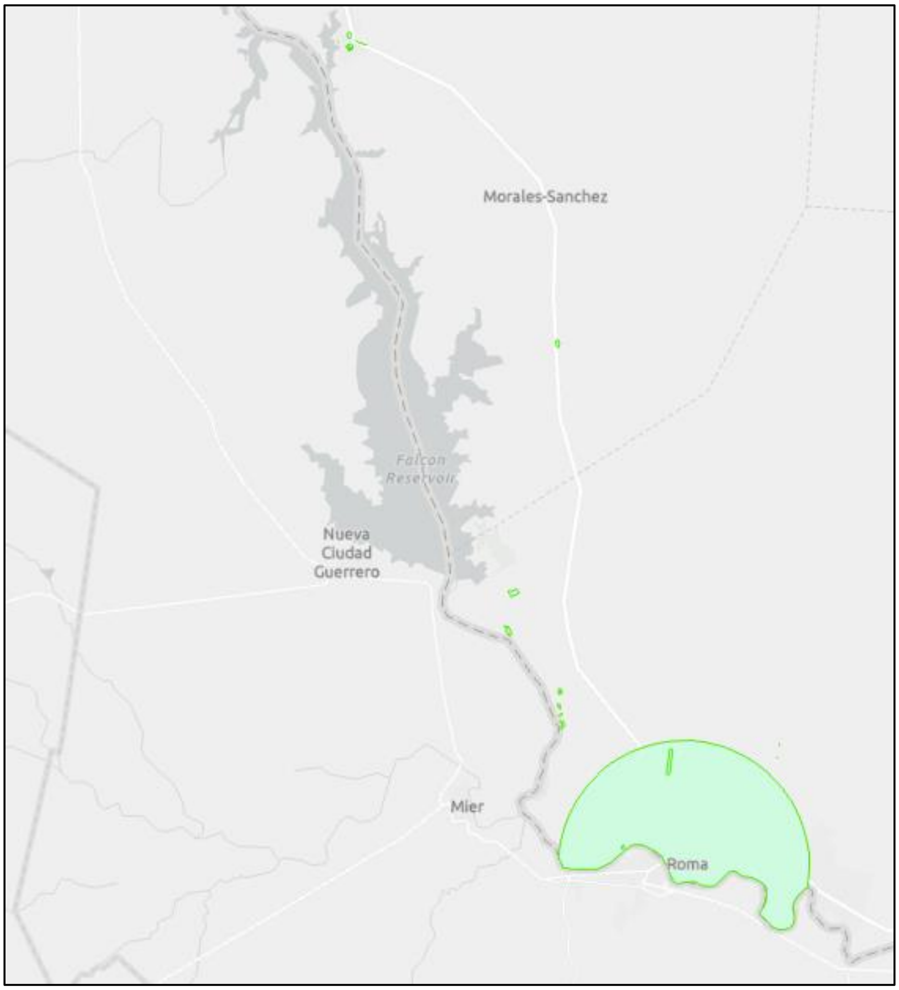

Figure 7. Screenshot of Element Occurrences and Source Features of the Zapata bladderpod from TXNDD (2025).

Appendix 2. GIS Data Review and Method to Develop Core Map

EPA developed the interim core map by refining the species range based on the geologic formations and land cover habitat requirements and combining that with the critical habitat and known locations. Further refinements using soils data was considered but ultimately determined to not be useful. GBIF, iNaturalist, and NatureServe data were considered and visually compared to the range and named locations, but not used to refine the interim core map since they were consistent with the range and named locations.

1. Datasets and Software

Datasets used:

1.1. FWS critical habitat
1.2. FWS species range
1.3. National Land Use Cover Dataset (NLCD)
1.4. State Geologic Map Compilation (SGMC)
1.5. Occurrences from Texas Natural Diversity Database, information received on April 24, 2025

Datasets considered but ultimately unable to make refinements from:

- World Soils Harmonized World Soils Database - Chemistry
- USA SSURGO – Erodibility Factor
- USA SSURGO – Hydrologic Group

Software used: ArcGIS Pro, version 3.1.0

2. Creating the core map

2.1. Verifying known locations occurrences outside of the critical habitat

As discussed in Appendix 1, FWS documentation discusses several known locations of the Zapata bladderpod outside of its critical habitat. A comparison of the critical habitat, readily downloadable from ECOS, and the occurrences provided by TXNDDB verified this. A review of the known locations in the FWS documentation and provided by TXNDDB showed that the species is known to occur outside of it's critical habitat **(Appendix 1)**. For this reason, the species range was used as the outer limits of the core map. The species range was readily available and able to be downloaded from ECOS.

2.2. Refining species range based on suitable habitat

A review of FWS's documentation discovered several key aspects of the suitable habitat for this species, these included:

- The known populations of Zapata bladderpod occur within a community of shrub species (FWS, 2004).
- The Zapata bladderpod is only found on soils overlying the Eocene Laredo, Yegua, and Jackson geologic formations (FWS, 2015)

This review also showed there was conflicting information about the soil requirements for the Zapata bladderpod. FWS (2015) states that the Zapata bladderpod is found only on friable, gypseous soils overlying sandstone of the Eocene Laredo, Yegua, and Jackson formations. Contrary to statements in the federal listing, critical habitat designation, and recovery plan, the species does not occur on Jimenez-Quemado soils or in association with caliche. Most of the

Element Occureences (EOs) are immediately down-slope from fossil oyster shell strata. These soils are extremely prone to sheet and gully erosion. This is restated in FWS (2019).

Therefore, the NLCD layer was refined to select all areas within the species range that had shrub/scrub landcover. Similarly, the SGMC was refined to select only the geologic formations where the Zapata bladderpod are known to occur (Laredo, Yegua, Jackson formations). These layers were overlayed to determine which areas within the species range met both requirements.

This was then combined with the species critical habitat and known occurrences (with the removal of the historic observation) to create the core map.

Further refinements using soil type/texture/erodibility were considered. However, either the dataset was not refined enough (in the case of attempting to gypsum soils using World Soils Harmonized World Soils Database – Chemistry) or there was too much variability across the locations of the known occurrences to refine further (as was the case with the US SSURGO – Hydrologic Group and Erodibility Factor layers).

3. GIS processes used

3.1. Refining NLCD

The Zapata bladderpod thrives in the unique ecological setting of the Tamaulipan thornscrub and is known to cooccur with shrub/scrub species. These areas were identified using the National Land Cover Database (NLCD), applying the following steps:

Added the NLCD dataset to the map and clipped the rater to extent of the species range for efficient data processing:

Clip Raster (tool):

- Input raster: *USA NLCD Land Cover*
- Output extent: *Range*
- Processing extent (under Environments): *Range*
- Output: *USANLCDLandCover_Clip*

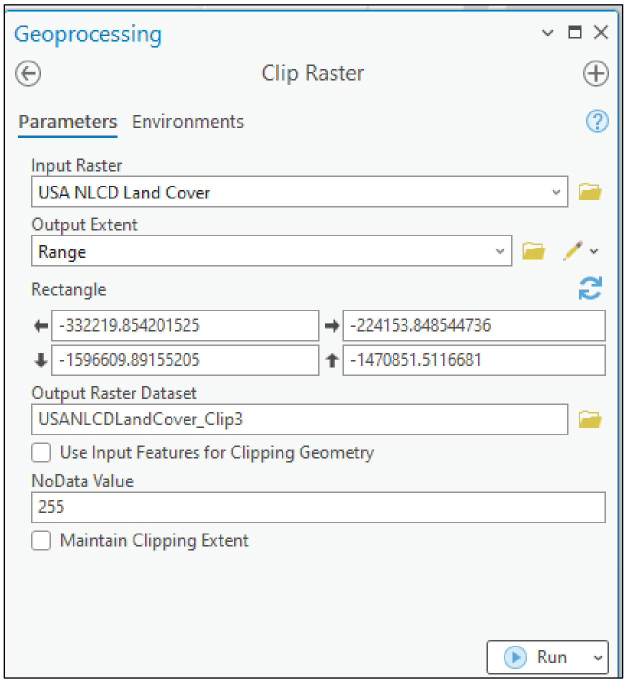

Figure 8. Screenshot of the setup for the Clip Raster tool.

The clipped NLCD raster was then converted to vector format (**Figure A2-2**), in order to be able to create a new layer that only represents the area within the extent of the combined range and named location layer:

Raster to Polygon (tool):

- Input raster: *USANLCDLandCover_Clip*
- Field: *Land Cover*
- Simplify polygons: yes
- Multipart features: no
- Output: *RasterT_USALCD1*

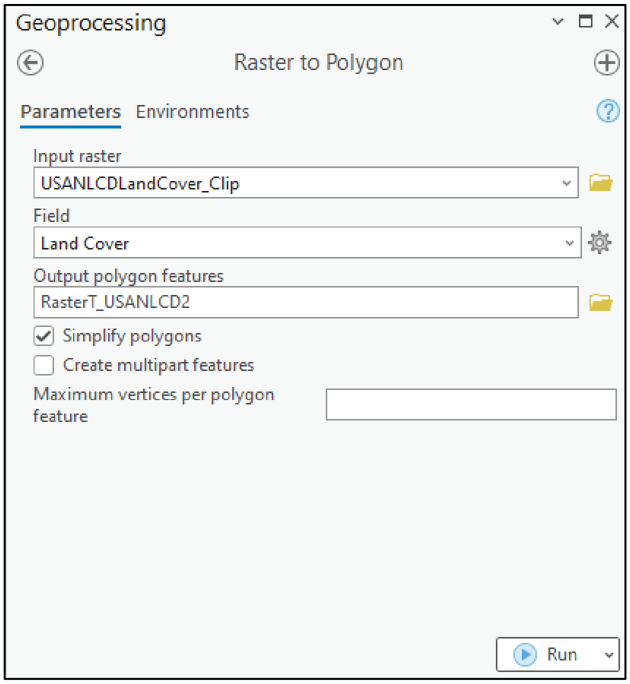

Figure 9. Screenshot of the setup for the Raster to Polygon tool.

Duplicate attributes were removed using the dissolve tool.
Dissolve (tool):

- Input: *RasterT_USALCD1*
- Output feature class: *RasterT_USALCD1_Dissolve*
- Dissolve fields: ClassName

Select the suitable NLCD land class (shrub/scrub) using “Select by Attributes” tool:
- Input rows: *RasterT_USALCD1_Dissolve*
- Selection Type: New Selection
- Expression structured as follows: Where ClassName is equal to Shrub/Scrub
- Output, saved by right clicking on the input layer, selecting “Data” from the dropdown menu, then “Export Features”: NLCD_Shrub

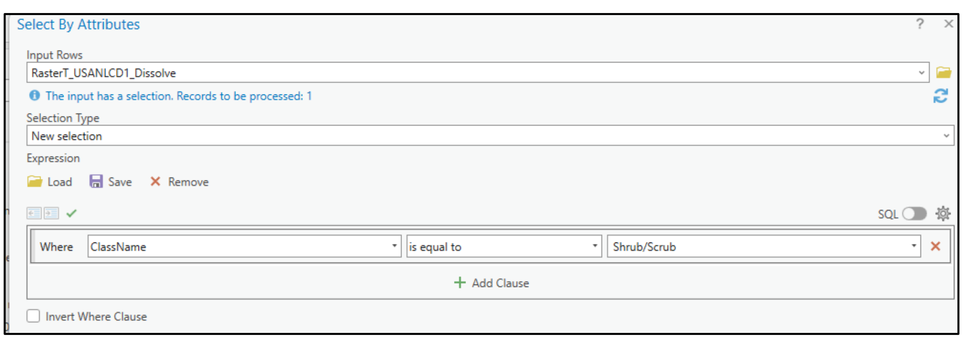

Figure 10. Screenshot of the setup for the Select by Attributes tool for the NLCD layer.

3.2. Refining SGMC

The process described in Section 3.1 was repeated with the SGMC layer, with the “Select by Attributes” tool used to select the Jackson, Yegua, and Laredo Formations. This output was saved as a separate layer: SGMC_Geology_A_ExportFeature

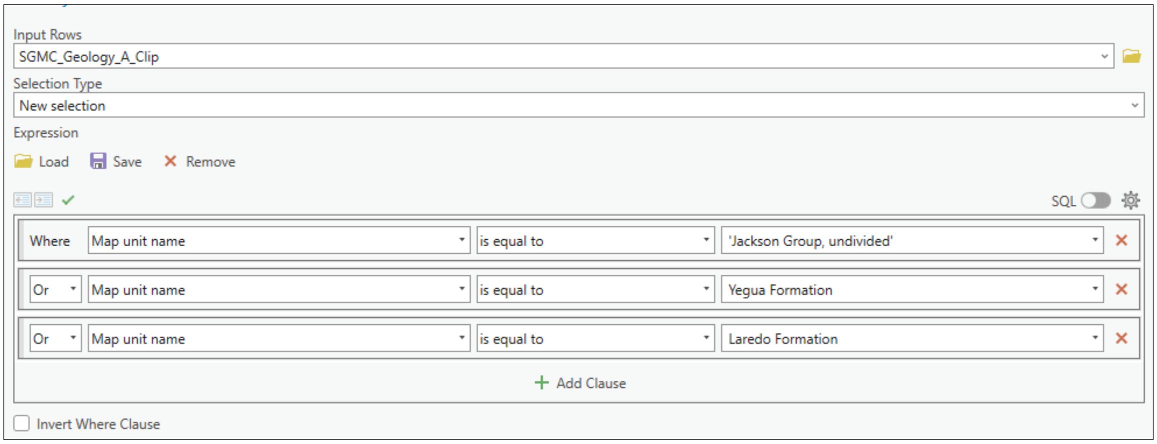

Figure 11. Screenshot of the setup for the Select by Attributes tool for the SGMC layer.

3.3. Combining Refined NLCD and SGMC layers

The Clip tool was used to select areas within the refined SGMC layer that had shrub/scrub landcover:

Clip (tool):

- Input: *SGMC_Geology_A_ExportFeatures*
- Clip features: *USANLC_Shrub*
- Output: SGMC_Geology_Shrub_ClipLayer

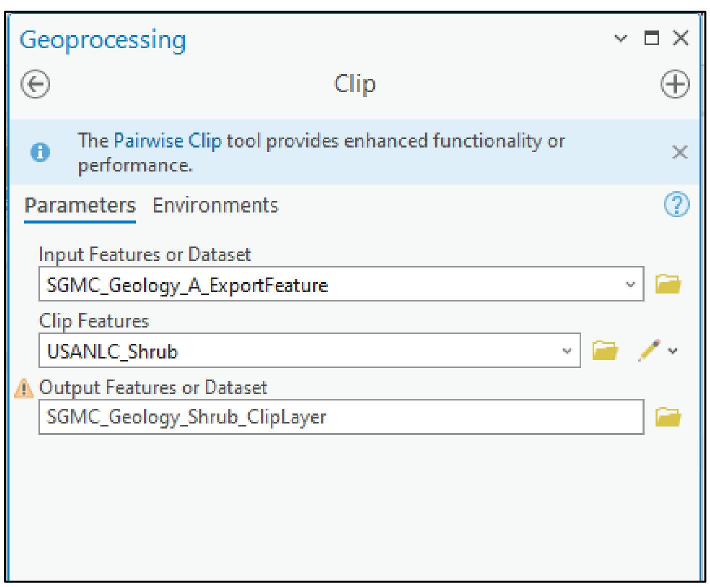

Figure 12. Screenshot of the setup of the Clip tool.

3.4. Removing Historical Observation

Made a copy of the EO shapefile and removed the historical observation (EO2) by deleting the row from the attribute table.

EO_SHAPE_2025_04_28_102621

Field: Add Calculate Selection: Select By Attributes Zoom To Switch Clear Delete Copy

	FID	Shape	FEATURE_ID	EO_ID	PRINCIPAL_	SHAPE_ID	ELCODE	EO_NUM	ELEMENT_SU	SNAME	SCOMNAME	BASIC_EO_R
1	0	Polygon	3506	2223	0	3506	PDBRA1N1M0	7	10025	Physaria thamnophila	Zapata bladderpod	Verified extant (viabilit...
2	1	Polygon	3760	2477	0	3760	PDBRA1N1M0	3	10025	Physaria thamnophila	Zapata bladderpod	Verified extant (viabilit...
3	2	Polygon	7279	5996	0	7279	PDBRA1N1M0	2	10025	Physaria thamnophila	Zapata bladderpod	Historical
4	3	Polygon	8664	7381	0	8664	PDBRA1N1M0	12	10025	Physaria thamnophila	Zapata bladderpod	Verified extant (viabilit...
5	4	Polygon	9034	7751	0	9034	PDBRA1N1M0	1	10025	Physaria thamnophila	Zapata bladderpod	Verified extant (viabilit...
6	5	Polygon	9248	7965	0	9248	PDBRA1N1M0	6	10025	Physaria thamnophila	Zapata bladderpod	Verified extant (viabilit...
7	6	Polygon	66411	8926	0	66411	PDBRA1N1M0	13	10025	Physaria thamnophila	Zapata bladderpod	Verified extant (viabilit...
8	7	Polygon	66437	8927	0	66437	PDBRA1N1M0	14	10025	Physaria thamnophila	Zapata bladderpod	Verified extant (viabilit...
9	8	Polygon	66519	8929	0	66519	PDBRA1N1M0	15	10025	Physaria thamnophila	Zapata bladderpod	Verified extant (viabilit...
10	9	Polygon	66536	8930	0	66536	PDBRA1N1M0	17	10025	Physaria thamnophila	Zapata bladderpod	Verified extant (viabilit...

Figure 13. Screenshot of the EO layer's attribute table with the historical observation highlighted.

3.5. Merging layers to create core map

Used the merge tool to merge the layers of known occurrences, refined range, and critical habitat to create the interim core map.

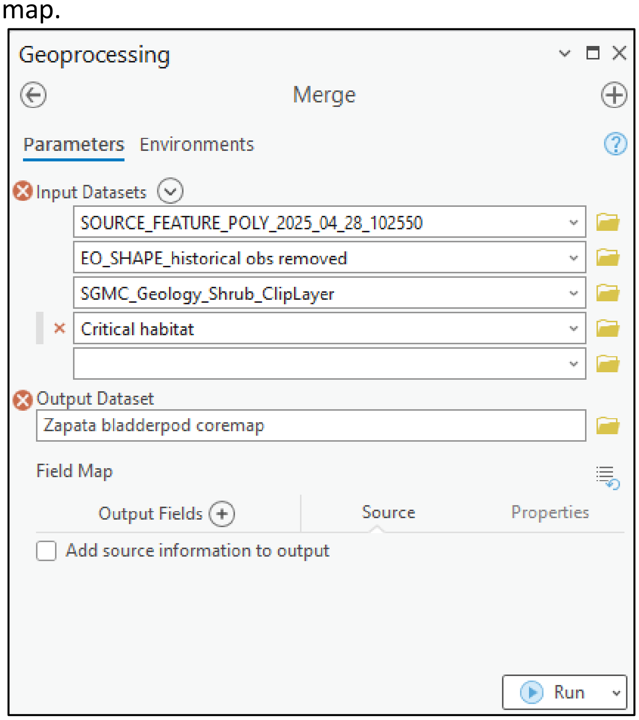

Figure 14. Screenshot of the setup of the Merge tool.

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