

Core Map Documentation for the Lo'ulu (*Pritchardia maideniana*)

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

Draft Core Map Developer: Tessengerlo Kerley Inc./GESTF

Date Uploaded to EPA's GeoPlatform: October 2025

FWS has reviewed the core map for this species

EPA 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 draft 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 the U.S. Fish and Wildlife Service (FWS) and made available to the public and has been reviewed by FWS. This core map may be revised in the future as new information becomes available for this species.

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 range and supported by textual descriptions of suitable habitat.

Level of Best Professional Judgement (EPA scale): 2-Limited. The core map is based directly on the range without additions or subtractions.

Uncertainties/Needs: Little supporting data was found to narrow down species locations/important habitat. The most recent (2025) 5-year review notes that there are an estimated 42 wild plants (40 mature, 2 immature) across 16 sites. More specific information regarding where these sites are located within the range could help to further refine the core map.

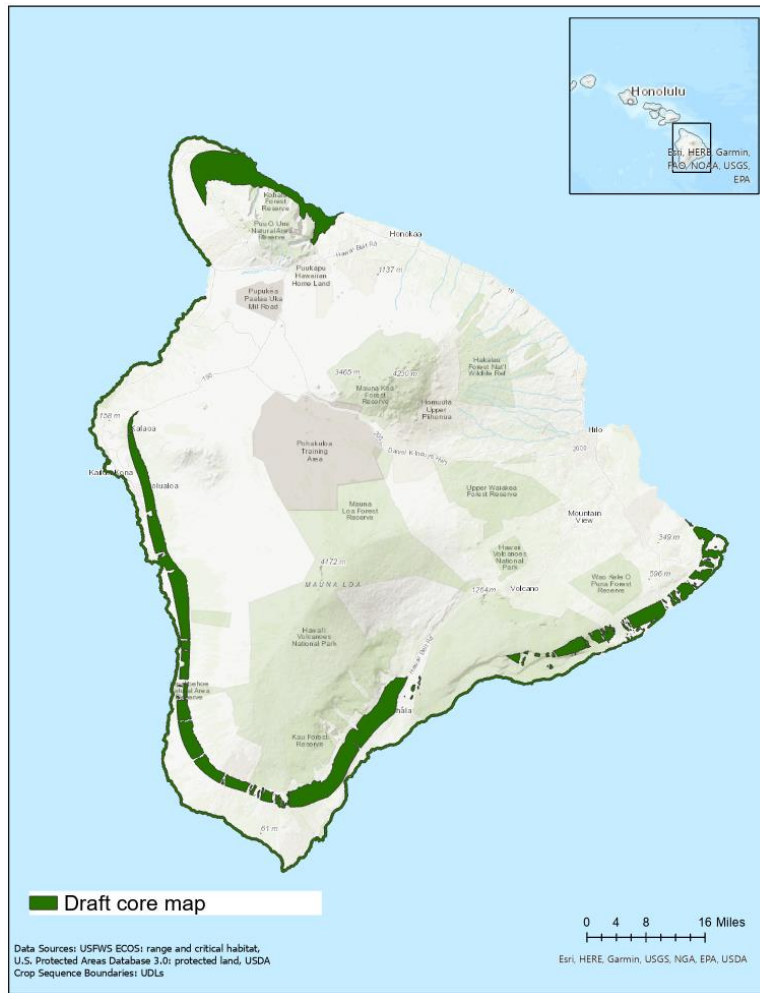


Figure 1. Core map for the Lo'ulu based on range.

Table 1. Percentage of Core Map Represented by Hawaii CCAP¹ 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	37
Forestry	Evergreen Forest (42)	37	37
Forestry	Mixed Forest (43)	0	37
Agriculture	Pasture/Hay (81)	13	22
Agriculture	Cultivated Crops (82)	9	22
Mosquito adulticide, residential	Open space, developed (21)	1	5
Mosquito adulticide, residential	Developed, Low intensity (22)	3	5
Mosquito adulticide, residential	Developed, Medium intensity (23)	1	5
Mosquito adulticide, residential	Developed, High intensity (24)	0	5
Invasive species control	Woody Wetlands (90)	0	34
Invasive species control	Emergent Herbaceous Wetlands (95)	0	34
Invasive species control	Open water (11)	1	34
Invasive species control	Grassland/herbaceous (71)	7	34
Invasive species control	Scrub/shrub (52)	12	34
Invasive species control	Barren land (rock/sand/clay; 31)	14	34
Total Acres	Core Map Acres	~190,000 acres	

¹ Hawaii CCAP Land Cover <https://coast.noaa.gov/digitalcoast/data/ccapregional.html>

Key Core Area Inputs

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

Habitat	Descriptions/Datasets
Range	Updated 2021
Critical habitat	None
Suitable habitat	2012 5-year review: typically found from sea level to around 600 meters (0 to 1,969 feet) in leeward coastal sites and inland gulches in Puna, Kona, and Kau on the island of Hawaii...most individuals of <i>P. affinis</i> were found in areas of human habitation or development. Often found near brackish ponds.
Known locations (General Descriptions)	2020 5-year review: At the time of the 5-year review in 2012 there were an estimated 50 individuals in four populations of <i>Pritchardia affinis</i> on the island of Hawai'i. The 2020 5-year review notes that a summary of survey data indicates approximately nine mature wild plants known in seven locations, with almost 80 immature plants counted. The 2025 5-year review reports that an estimated 42 wild plants (40 mature, 2 immature) across 16 sites. More specific information regarding where these sites are located within the range were not included in the 5-year reviews. The 1996 Recovery plan includes a map showing populations (Fig 3).
Element occurrences	GBIF/iNaturalist includes 33 occurrence points with coordinates from past 30 years, locations are fuzzed by up to 30,598 meters GBIF.org (13 May 2025) GBIF Occurrence Download https://doi.org/10.15468/dl.4bw7j6 NatureServe was searched for occurrence data. The occurrences found did not impact the core map.
Relevant recovery criteria	2020 5-year review: minimum of three populations should be documented on the island of Hawai'i where they now occur or occurred historically and each of these populations must be naturally reproducing.

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
 - Lo'ulu (*Pritchardia maideniana*) 5-Year Review: 2025: https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/29781.pdf
 - Lo'ulu (*Pritchardia maideniana*) 5-Year Review: 2020 https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/3175.pdf
 - Lo'ulu (*Pritchardia maideniana*) 5-Year Review: 2012

https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/1964.pdf

- Recovery Plan for the Big Island Plant Cluster
https://ecos.fws.gov/docs/recovery_plan/960926a.pdf

Deciding Factors for Core Map Formation

- Range is fairly recent and refined to include only leeward coastal sites and inland areas up to 2,000 feet.
- The 2020 5-year review states that only 9 mature individuals and ~80 immature individuals currently exist. Additional data on the locations of these populations would be helpful to refine the core area.
- The range was used as the draft core area due to the absence of precise occurrence data. However, this map may be further refined upon species expert review.

Core Map Development

- The most recent range shapefile downloaded from ECOS is used as the core map.



Figure 2. Occurrence points from GBIF (sourced from iNaturalist and NTSRV), coordinate uncertainty up to 20 miles.

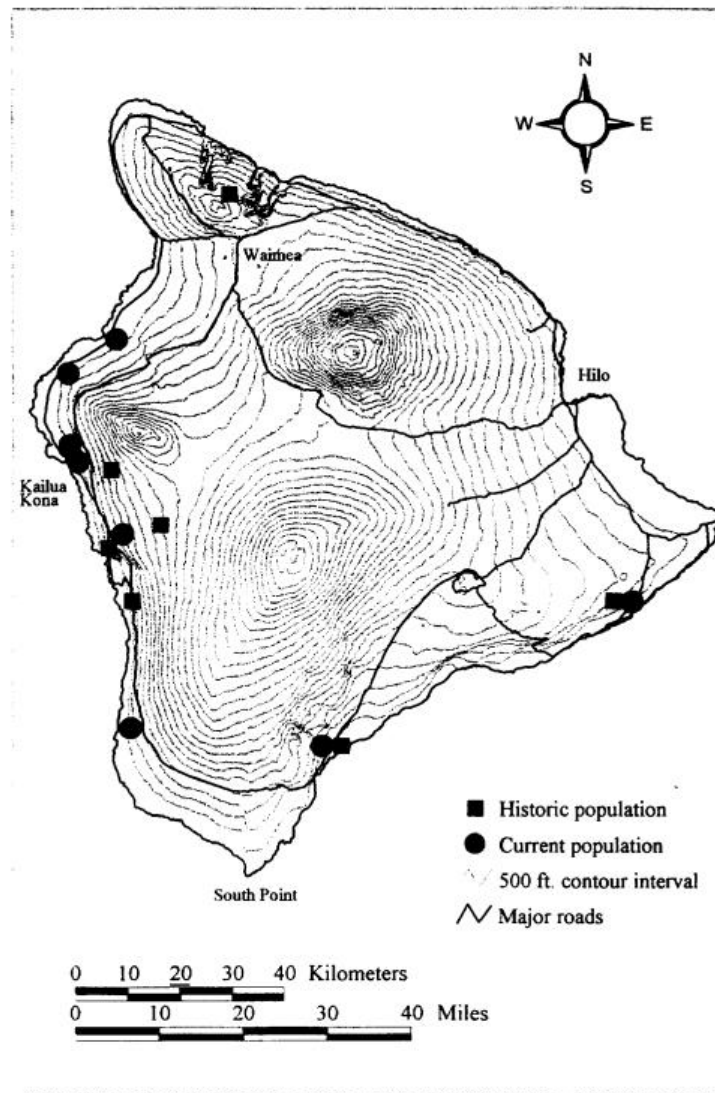


Figure 22. Distribution of *Pritchardia affinis*.

Figure 3. Map from species recovery plan document showing known populations (Recovery Plan for the Big Island Plant Cluster, 1996 [D-24, page 227]).