

## 5-YEAR REVIEW

Short Form Summary

**Species Reviewed:** *Dubautia kenwoodii* (na‘ena‘e)

**Current Classification:** Endangered

### **Federal Register Notice announcing initiation of this review:**

[USFWS] U.S. Fish and Wildlife Service. 2020. Endangered and Threatened Wildlife and Plants; Initiation of 5-Year Status reviews for 129 Species in Oregon, Washington, Idaho, Hawaii, Montana, California, and Nevada. Federal Register 85(48): 14240–14243, March 11, 2020.

### **Lead Region/Field Office:**

Interior Region 12/Pacific Islands Fish and Wildlife Office (PIFWO), Honolulu, Hawai‘i

### **Name of Reviewer:**

Cheryl Phillipson, Biologist, PIFWO

Lauren Weisenberger, Plant Recovery Coordinator, PIFWO

Megan Laut, Conservation & Restoration Team Manager, PIFWO

### **Methodology used to complete this 5-year review:**

This review was conducted by staff of the Pacific Islands Fish and Wildlife Office (PIFWO) of the U.S. Fish and Wildlife Service (Service or USFWS) beginning in October 2021. The review was based on a review of current, available information since the last 5-year review for *Dubautia kenwoodii* (USFWS 2017). The evaluation by Cheryl Phillipson, Biologist, was reviewed by Lauren Weisenberger, Plant Recovery Coordinator, and Megan Laut, Conservation and Restoration Team Manager.

### **Background:**

For information regarding the species’ listing history and other facts, please refer to the Fish and Wildlife Service’s Environmental Conservation On-line System (ECOS) database for threatened and endangered species (<https://ecos.fws.gov/ecp/species/8953>).

### **Review Analysis:**

Please refer to the previous 5-year review for *Dubautia kenwoodii* published in the Federal Register on September 13, 2017 (available at [https://ecos.fws.gov/docs/tess/species\\_nonpublish/2434.pdf](https://ecos.fws.gov/docs/tess/species_nonpublish/2434.pdf)) for a complete review of the species’ status, threats, management efforts, and references cited. We are not aware of any significant new information regarding the species’ biological status since listing to warrant a change in the Federal listing status of *D. kenwoodii*.

This short-lived perennial shrub in the Asteraceae (sunflower) family is listed as endangered and is known from the island of Kaua‘i. The status and trends for *Dubautia kenwoodii* are provided in the tables below.

New Status Information:

- There are no known wild individuals of *Dubautia kenwoodii* (Wood et al. 2019, p. 7).

New Threats:

- None reported.

New Management Actions:

- None reported.

**Table 1. Status and trends of *Dubautia kenwoodii* from listing through current 5-year review.**

<b>Date</b>	<b>No. wild individuals</b>	<b>No. outplanted</b>	<b>*Preventing Extinction Criteria identified by HPPRCC</b>	<b>*Preventing Extinction Criteria Completed?</b>
2010 (listing and critical habitat)	1	0	All threats managed in all 3 populations	No
			Complete genetic storage	No
			3 populations with 100 mature individuals each	No
2017 (5-year review)	0	0	All threats managed in all 3 populations	No
			Complete genetic storage	No
			Reproduction (i.e., viable seeds, seedlings) at all 3 populations	No
			3 populations with 100 mature individuals each	No
2022 (5-year review)	0	0	All threats managed in all 3 populations	No
			Complete genetic storage	No
			Natural reproduction at all 3 populations	No

			3 populations with 100 mature individuals each	No
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\* The Preventing Extinction Stage was established in 2011. Prior to 2011, the Interim Stabilization Stage was the first stage towards recovery (now it is the second stage after Preventing Extinction).

**Table 2. Threats to *Dubautia kenwoodii* and ongoing conservation efforts.**

Threat	Listing factor	Current Status	Conservation/ Management Efforts
Degradation and destruction of habitat and herbivory by feral ungulates	A, C	Ongoing	None
Established ecosystem altering invasive plant species degradation of habitat and competition	A, E	Ongoing	None
Landslides and flooding destruction and degradation of habitat	A	Ongoing	None
Climate change degradation and destruction of habitat, including hurricanes	A	Ongoing	None
Inadequacy of existing regulatory mechanisms—lack of adequate hunting and biosecurity regulations	D	Ongoing	None
Reduced viability due to low numbers	E	Ongoing	None

**Synthesis:**

Currently there are no known wild individuals of *Dubautia kenwoodii* on Kaua‘i. No propagative or genetic materials are in storage or in propagation. Additional surveys in suitable habitat are ongoing.

Stabilizing (interim), downlisting, and delisting objectives are provided in the Kaua‘i Islandwide Recovery Plan (USFWS 2021) and have been updated according to the draft revised recovery objective guidelines developed by the Hawai‘i and Pacific Plants Recovery Coordinating Committee (HPPRCC 2011). The HPPRCC identifies an additional initial objective, the Preventing Extinction Stage, in addition to the Interim Stabilization, Delisting, and Downlisting objectives. Furthermore, life history traits such as breeding system, population size fluctuation or decline, and reproduction type (sexual or vegetative), have been included in the calculation of goals for the number of populations and reproducing individuals for each stage. The goals for each stage remain grouped by life span defined as annual, short-lived perennial (fewer than 10 years), or long-lived perennial.

*Dubautia kenwoodii* is a short-lived perennial shrub and an obligate outcrosser. To prevent extinction, which is the first milestone in recovering the species, the taxon must be managed to control threats (e.g., fenced) and have 50 individuals (or the total number of individuals if fewer than 50 exist) from each of three populations represented in *ex situ* (secured off-site, such as a nursery or seed bank) collections that are well managed. In addition, a minimum of a total of three populations should be documented on Kaua‘i where this species now occurs or occurred historically and each of these populations must be naturally reproducing (i.e., viable seeds, seedlings) with a minimum of 100 mature, reproducing individuals per population.

The preventing extinction goals for *Dubautia kenwoodii* have not been met. Currently, there are no known wild individuals (Table 1). No propagative or genetic materials are in storage or in propagation (Table 1, Table 2). No other threats are being managed. Therefore, *D. kenwoodii* meets the definition of Endangered as it remains in danger of extinction throughout its range.

#### **Recommendations for Future Actions:**

No new threats and no significant new information regarding the species' biological status have been reported since the last 5-year review in 2017. Thus, the following recommendations for future actions are reiterated or updated for the 5-year review for 2022.

- Surveys and inventories—Continue to survey current and historical range and suitable habitat for individuals of *Dubautia kenwoodii*.
- Ungulate monitoring and control—If individuals are found, construct and maintain exclosures or strategic fencing to protect *D. kenwoodii* against habitat disturbance and herbivory by feral ungulates.
- Nonnative invasive plant monitoring and control—If individuals are found, control established ecosystem-altering nonnative invasive plant species and those that compete with *D. kenwoodii*.
- Climate change adaptation strategy—Research suitability of habitat for viability of species, if found, including where to conduct translocations in the future due to impacts of climate change.
- Captive propagation for genetic storage and reintroduction—Collect seeds and propagative materials if any individuals are found.
- Reintroduction and augmentation—Augment wild populations and establish new populations within protected suitable habitat if any individuals are found and propagative or genetic materials are available.
- Build resiliency and redundancy—If *D. kenwoodii* is found, increase numbers of individuals and populations through historic range to reduce impacts of landslides and hurricanes.
- Alliance and partnership development—If rediscovered, work with partners and other land managers in planning and implementation of ecosystem-level restoration and management to benefit this species.

## References:

- [HPPRCC] Hawai'i and Pacific Plants Recovery Coordinating Committee. 2011. Revised recovery objective guidelines. 8 pp.
- [USFWS] U.S. Fish and Wildlife Service. 2017. *Dubautia kenwoodii* 5-year review summary and evaluation. USFWS Pacific Islands Fish and Wildlife Office, Honolulu, HI. [https://ecos.fws.gov/docs/tess/species\\_nonpublish/2434.pdf](https://ecos.fws.gov/docs/tess/species_nonpublish/2434.pdf).
- [USFWS] 2020. Endangered and threatened wildlife and plants; initiation of 5-year status reviews for 129 Species in Oregon, Washington, Idaho, Hawaii, Montana, California, and Nevada. Federal Register 85(48): 14240–14243, March 11, 2020.
- [USFWS] 2021. Kaua'i Islandwide Recovery Plan. U.S. Fish and Wildlife Service, Portland, OR. 65 pp. + appendices.
- Wood, K.R., H. Oppenheimer, and M. Keir. 2019. A checklist of endemic Hawaiian vascular plant taxa that are considered possibly extinct in the wild, May, 2019. 17 pp.

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SIGNATURE PAGE for 5-YEAR REVIEW of *Dubautia kenwoodii* (na'ena'e)

**Pre-1996 DPS listing still considered a listable entity?**   N/A  

**Recommendation resulting from the 5-year review:**

- Delisting
- Reclassify from Endangered to Threatened status
- Reclassify from Threatened to Endangered status
- No Change in listing status

**For Field Supervisor, Pacific Islands Fish and Wildlife Office**

\_\_\_\_\_ Date \_\_\_\_\_