

## **5-YEAR REVIEW**

Short Form Summary

**Species Reviewed:** *Cyanea procera* (haha)

**Current Classification:** Endangered

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

[USFWS] U.S. Fish and Wildlife Service. 2012. Endangered and threatened wildlife and plants; 5-year status reviews of 46 species in Idaho, Oregon, Washington, Nevada, Montana, Hawaii, Guam, and the Northern Mariana Islands. Federal Register 77(44):13248-13251.

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

Region 1/Pacific Islands Fish and Wildlife Office (PIFWO), Honolulu, Hawaii

### **Name of Reviewer(s):**

Chelsie Javar-Salas, Plant Biologist, PIFWO  
Maui nui and Hawaii Island Team Manager, PIFWO  
Marie Bruegmann, Plant Recovery Coordinator, PIFWO  
Recovery Program Lead, PIFWO  
Kristi Young, Programmatic Deputy Field Supervisor, PIFWO

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

This review was conducted by staff of the Pacific Islands Fish and Wildlife Office of the U.S. Fish and Wildlife Service (USFWS), beginning on March 6, 2012. The review was based on a review of current, available information since the last 5-year review for *Cyanea procera* (USFWS 2009). The evaluation by Chelsie Javar-Salas, Plant Biologist, was reviewed by the Island Team Manager, and Plant Recovery Coordinator, followed by the Recovery Program Lead. It was subsequently reviewed and approved by the Programmatic Deputy Field Supervisor.

### **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 ([http://ecos.fws.gov/tess\\_public](http://ecos.fws.gov/tess_public)).

### **Review Analysis:**

Please refer to the previous 5-year review for *Cyanea procera* published on January 18, 2008 (available at [http://ecos.fws.gov/docs/five\\_year\\_review/doc1773.pdf](http://ecos.fws.gov/docs/five_year_review/doc1773.pdf)) for a complete review of the species' status, threats, and management efforts. No significant new information regarding the species' biological status has come to light since listing to warrant a change in the Federal listing status of *C. procera*.

This short-lived perennial is endangered and is endemic to Molokai (USFWS 1996). The current status and trends for *Cyanea procera* are provided in the tables below.

New status information:

In 2012, one to two individuals of *Cyanea procera* were reported at Kawela on Molokai (USFWS 2012). Overall, *C. procera* has increased from a single individual reported in the last 5-year review to two individuals (Plant Extinction Prevention Program [PEPP] 2013).

New threats:

- Climate change destruction or degradation of habitat – Climate change may pose a threat to this species. Fortini *et al.* (2013) conducted a landscape-based assessment of climate change vulnerability for native plants of Hawaii using high resolution climate change projections. Climate change vulnerability is defined as the relative inability of a species to display the possible responses necessary for persistence under climate change. The assessment by Fortini *et al.* (2013) concluded that *Cyanea procera* is moderately vulnerable to the impacts of climate change. Therefore, additional management actions are needed to conserve this taxon into the future.
- Landslides and flooding destruction or degradation of habitat – The single population is threatened by landslides and erosion (PEPP 2009). Flood is a threat to this species (PEPP 2010).
- Slug herbivory – Herbivory by slugs have been reported as a new threat to this species (PEPP 2010).
- Invertebrate predation or herbivory – In 2012, an unknown invertebrate reportedly damaged the fruit and leaves of the remaining wild individuals (PEPP 2013).
- Loss of mutualists – Monitoring of wild individuals indicated a threat of lack of pollinators or fruit set related to absence of viable seeds and aborted fruit set (PEPP 2010).

New management actions:

- Captive propagation for genetic storage and reintroduction
  - In 2010, seed was collected from one of the two individuals of *C. procera* on Molokai that produced mature fruit for the first time (PEPP 2010). The fruit collected previously from this individual had aborted and did not contain viable seed. The seed was sent to Harold L. Lyon Seed Conservation Laboratory for storage.
  - A net was placed under one of the two individuals of *C. procera* to capture fallen seeds (PEPP 2010).
  - The Harold L. Lyon Arboretum Micropropagation Lab (2013) has an unknown number of propagules of *C. procera* in captive propagation.
  - There are more than 200 seeds in storage at the Harold L. Lyon Arboretum Seed Conservation Laboratory (2013).
  - The National Tropical Botanical Garden (2013) has 88 seeds in storage.
- Surveys / inventories – Surveys were conducted below known individuals for natural recruitment; none was observed (PEPP 2010).
- Population viability monitoring and analysis – The Plant Extinction Prevention Program (2009, 2010, 2011, 2012, 2013) monitored the wild population of *C. procera*.
- Predator / herbivore monitoring and control – Rat traps were used to control rats (*Rattus* sp.) around individuals of *C. procera* (PEPP 2009, 2010). Traps are reset

during every monitoring visit. A single rat was captured in January 2009 (PEPP 2009).

- Population biology research – An attempt was made to hand pollinate the flowers of *C. procera* but was unsuccessful due to weather conditions, inability to safely access flowers at great height, and flowers were past prime pollination period (PEPP 2013).
- Listing and critical habitat designation – Five units of unoccupied and occupied areas of critical habitat for *C. procera* was proposed in the lowland mesic, montane wet, montane mesic ecosystems on Molokai (USFWS 2012). The final rule for critical habitat designations has not been published at the time of this review.

### **Synthesis:**

Stabilizing, downlisting, and delisting objectives are provided in the recovery plan for Molokai plant cluster (USFWS 1996), based on whether the species is an annual, a short-lived perennial (fewer than 10 years), or a long-lived perennial. *Cyanea procera* is a short-lived perennial, and to be considered stable, this species must be managed to control threats (e.g. fenced) and be represented in an *ex situ* (at other than the plant's natural location, such as a nursery or arboretum) collection. In addition, a minimum of three populations should be documented on Molokai. Each of these populations must be naturally reproducing and increasing in number, with a minimum of 50 mature individuals per population.

The interim stabilization goals for this species have not been met, as currently no population of 50 mature individuals exists (Table 1) and all threats are not sufficiently managed throughout its range (Table 2). Therefore, *Cyanea procera* meets the definition of endangered as it remains in danger of extinction throughout its range.

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

- Captive propagation for genetic storage and reintroduction
  - Continue collection of genetic resources for storage, propagation, and reintroduction into protected suitable habitat within historical range.
  - Evaluate genetic resources currently in storage to determine the need to place additional genetic resources in long-term storage due to this species' vulnerability to climate change.
- Reintroduction / translocation – Augment current natural populations to increase numbers of individuals.
- Invasive plant monitoring and control – Control invasive introduced plant species within the vicinity of all known individuals.
- Predator / herbivore monitoring control – Control slugs and rodents within the vicinity of all known *C. procera* populations.
- Population viability monitoring and analysis – Continue to monitor the wild population on Molokai.
- Threats – predator / herbivore control research – Identify unknown invertebrate damaging the fruit and flowers of the remaining wild individuals.
- Population biology research – Conduct pollination or reproductive studies to determine cause of low seed viability.

- Climate change adaptation strategy – Research the suitability of habitat for reintroducing this species in the future due to the impacts of climate change.
- Alliance and partnership development – Initiate planning and contribute to implementation of ecosystem-level restoration and management to benefit this taxon.

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

<b>Date</b>	<b>No. wild indivs</b>	<b>No. outplanted</b>	<b>Stabilization Criteria identified in Recovery Plan</b>	<b>Stabilization Criteria Completed?</b>
1992 (listing)	4	0	All threats managed in all 3 populations	No
			Complete genetic storage	No
			3 populations with 50 mature individuals each	No
1996 (recovery plan)	8	0	All threats managed in all 3 populations	No
			Complete genetic storage	No
			3 populations with 50 mature individuals each	No
2003 (critical habitat)	10	Unknown	All threats managed in all 3 populations	No
			Complete genetic storage	No
			3 populations with 50 mature individuals each	No
2007 (5-year review)	1	0	All threats managed in all 3 populations	No
			Complete genetic storage	No
			3 populations with 50 mature individuals each	No
2012 (critical habitat – proposed)	1-2	0	All threats managed in all 3 populations	No
			Complete genetic storage	No
			3 populations with 50 mature individuals each	No
2014 (5-yr review)	2	0	All threats managed in all 3 populations	Partially
			Complete genetic storage	Partially
			3 populations with 50 mature individuals each	No

**Table 2. Threats to *Cyanea procera* and ongoing conservation efforts.**

<b>Threat</b>	<b>Listing factor</b>	<b>Current Status</b>	<b>Conservation/ Management Efforts</b>
Ungulates – degradation of habitat and herbivory	A, C, D, E	Ongoing	None
Invasive introduced plants	A, E	Ongoing	None
Rodent predation or herbivory – rats	C	Ongoing	Partially, rat traps
Slugs herbivory	C	Ongoing	None
Invertebrate herbivory or predation	C	Ongoing	None
Loss of mutualists	E	Ongoing	None
Low numbers	E	Ongoing	Partially, captive propagation for genetic storage and reintroduction
Landslides and erosion	E	Ongoing	None
Climate change	A, E	Increasing	None

**References:**

See previous 5-year review for a full list of references (USFWS 2008). Only references for new information are provided below.

Fortini, L., J. Price, J. Jacobi, A. Vorsino, J. Burgett, K. Brinck, F. Amidon, S. Miller, S. Gon II, G. Koob, and E. Paxton. 2013. A landscape-based assessment of climate change vulnerability for all native Hawaiian plants. Technical report HCSU-044. Hawaii Cooperative Studies Unit, University of Hawaii at Hilo, Hawaii. 141 pages.

Harold L. Lyon Arboretum Micropropagation Laboratory. 2013. Micropropagation database. University of Hawaii at Manoa, Honolulu, Hawaii. Unpublished.

Harold L. Lyon Arboretum Seed Conservation Laboratory. 2013. Seed storage database. University of Hawaii at Manoa, Honolulu, Hawaii. Unpublished.

National Tropical Botanical Garden. 2013. Report on controlled propagation of listed and candidate species, as designated under the U.S. Endangered Species Act. 30 pages. Unpublished.

[PEPP] Plant Extinction Prevention Program. 2009. Annual report for Plant Extinction Prevention Program, fiscal year 2009 (July 1, 2008-June 30, 2009). 115 pages. Unpublished.

[PEPP] Plant Extinction Prevention Program. 2010. Plant Extinction Prevention Program annual report, fiscal year 2010 (July 1, 2009-June 30, 2010). 122 pages. Unpublished.

- [PEPP] Plant Extinction Prevention Program. 2011. Plant Extinction Prevention Program annual report, fiscal year 2011 (July 1, 2010-June 30, 2011). 200 pages. Unpublished.
- [PEPP] Plant Extinction Prevention Program. 2012. Plant Extinction Prevention Program annual report, fiscal year 2012 (July 1, 2011-June 30, 2012). 169 pages. Unpublished.
- [PEPP] Plant Extinction Prevention Program. 2013. Plant Extinction Prevention Program annual report, fiscal year 2013 (July 1, 2012-June 30, 2013). 207 pages. Unpublished.
- [USFWS] U.S. Fish and Wildlife Service. 1996. Recovery plan for Molokai plant cluster. U.S. Fish and Wildlife Service, Portland, Oregon. 143 pages.
- [USFWS] U.S. Fish and Wildlife Service. 2008. *Cyanea procera* 5-year review summary and evaluation. U.S. Fish and Wildlife Service, Honolulu, Hawaii. 12 pages.
- [USFWS] U.S. Fish and Wildlife Service. 2012. Endangered and threatened wildlife and plants; listing 38 species on Molokai, Lanai, and Maui as endangered and designating critical habitat on Molokai, Lanai, Maui, and Kahoolawe for 135 species; proposed rule. Federal Register 77(112):34464-34775.

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Cyanea procera* (haha)**

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

**Appropriate Listing/Reclassification Priority Number, if applicable:**           

*for* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maui M. Buegras

Date 2014-03-12



**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Diplazium molokaiense* (no common name)**

**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

**Appropriate Listing/Reclassification Priority Number, if applicable:** \_\_\_\_\_

*for* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Mai M. Buegman

Date 2014-03-12

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Dubautia plantaginea* ssp. *humilis***  
**(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
- X   No Change in listing status

**Appropriate Listing/Reclassification Priority Number, if applicable:**           

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

            
*Maria M. Buegman*

Date 2014-06-02

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Gardenia brighamii* (Hawaiian  
gardenia, na'u)**

**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
- X   No Change in listing status

**Appropriate Listing/Reclassification Priority Number, if applicable:**           

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

Maui M. Buegman

Date 2014-06-02

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Hedyotis schlehtendahlana* var.**  
***remyi* (kopa)**

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
- X   No Change in listing status

**Appropriate Listing/Reclassification Priority Number, if applicable:**           

*for* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maui M Buegmann

Date 2014-03-27

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Huperzia mannii* (wawae'iole)**

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

**Appropriate Listing/Reclassification Priority Number, if applicable:**           

*for* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maie mBluegmann

Date 2014-03-27

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Kanaloa kahoowawensis* (kohe  
malama malama o kanaloa)**

Pre-1992 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

**Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maie M. Buegman

Date 2014-03-27

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Kokia cookei* (Cooke's koki'o)**

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

Appropriate Listing/Reclassification Priority Number, if applicable:           

*for* Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office

Maui M. Buegman

Date 2014-03-27

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Labordia triflora* (kamakahala)**

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

**Appropriate Listing/Reclassification Priority Number, if applicable:** \_\_\_\_\_

for

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

Maia M. Bugman

Date 2014-06-02



**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Lipochaeta kamolensis* (nehe)**

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

**Appropriate Listing/Reclassification Priority Number, if applicable:** \_\_\_\_\_

*for* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maire M. Buegmann

Date 2014-03-27

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Lysimachia maxima* (no common name)**

**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

**Appropriate Listing/Reclassification Priority Number, if applicable:** \_\_\_\_\_

*for* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maui M. Buegman

Date 2014-03-31

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Melicope adscendens***  
**(Alani)**

**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
- X   No Change in listing status

**Appropriate Listing/Reclassification Priority Number, if applicable:**           

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

*Maie M. Blueman*

Date *2014-06-05*

**U.S. FISH AND WILDLIFE SERVICE  
SIGNATURE PAGE for 5-YEAR REVIEW of *Melicope knudsenii* (alani)**

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

**Appropriate Listing/Reclassification Priority Number, if applicable:** \_\_\_\_\_

*for* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maria M. Bruggmann

Date 2014-03-31

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Melicope mucronulata* (alani)**

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
- X   No Change in listing status

Appropriate Listing/Reclassification Priority Number, if applicable:           

*for* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maui M. Bullgman

Date 2014-03-31

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Phyllostegia hispida* (no common name)**

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

Appropriate Listing/Reclassification Priority Number, if applicable: \_\_\_\_\_

for

Field Supervisor, Pacific Islands Fish and Wildlife Office

Maria M. Bruegmann

Date 2014-06-02

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Platanthera holochila* (no common name)**

**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
- X   No Change in listing status

**Appropriate Listing/Reclassification Priority Number, if applicable:**           

for

**Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maui M. Buegmann

Date 2014-03-31

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Pritchardia munroi* (loulou)**

Pre-1992 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* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maree M. Bluegman

Date 2014-06-05



**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Pteris lidgatei* (no common name)**

Pre-1992 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* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

*Maia M. Buegeman*

Date *2014-06-05*

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Remya mauiensis* (Maui remya)**

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
- X   No Change in listing status

**Appropriate Listing/Reclassification Priority Number, if applicable:**           

*FO* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maui M. Bluegman

Date 2014-06-05

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Scaevola coriacea* (dwarf naupaka)**

Pre-1992 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* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maui M. Bugman

Date 2014-06-05

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Silene alexandri* (no common name)**

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

Appropriate Listing/Reclassification Priority Number, if applicable:           

*for*  
**Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

Maria M. Bruegmann

Date 2014-03-3

**U.S. FISH AND WILDLIFE SERVICE**  
**SIGNATURE PAGE for 5-YEAR REVIEW of *Stenogyne bifida* (no common name)**

Pre-1992 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* **Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office**

*Marcus M. Bluegman*

Date 2014-06-05

**U.S. FISH AND WILDLIFE SERVICE**

SIGNATURE PAGE for 5-YEAR REVIEW of Crested Honeycreeper, or akohekohe  
(*Palmeria dolei*)

Pre-1992 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* Programmatic Deputy Field Supervisor, Pacific Islands Fish and Wildlife Office

Maria M. Bugman

Date 2014-06-05

**U.S. FISH AND WILDLIFE SERVICE**  
SIGNATURE PAGE for 5-YEAR REVIEW of Maui Parrotbill, or kiwikiu  
(*Pseudeonster xanthophrys*)

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

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

Maui M. Bugman

Date 2014-06-05