

5-YEAR REVIEW

Short Form Summary

Species Reviewed: Laysan finch (*Telespyza cantans*)

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; initiation of 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):

Annie Marshall, Fish and Wildlife Biologist, PIFWO

Marie Brueggemann, Acting Recovery Program Leader, PIFWO

Kristi Young, Deputy Field Supervisor for Endangered Species, 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 the Laysan Duck (USFWS 2007). The evaluation of Annie Marshall, Fish and Wildlife Biologist, was then reviewed by the Acting Recovery Program. 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).

Review Analysis:

Please refer to the previous 5-year review for the Laysan finch published on January 18, 2008 (available at http://ecos.fws.gov/docs/five_year_review/doc1765.pdf) and the recovery plan for the Northwestern Hawaiian Islands passerines (USFWS 1984) for a complete review of the species' status, threats, and management efforts. No new threats or no new information regarding the species biological status have come to light since listing to warrant a change in the Federal listing status of the Laysan finch.

The Laysan finch is endangered and occurs naturally only on the island of Laysan. A second population was established via a translocation effort from Laysan to Pearl and Hermes Reef in 1967 (Sincock and Kridler 1977). The current status of the Laysan finch is provided in Table 1 below.

New management actions:

- Population viability monitoring and analysis – The Laysan finch population has been estimated annually on Laysan Island since 1968 (except 1980-1982). However, there have been no surveys on Laysan Island since 2012 due to access closure to the island. Underwood (2012) did conduct a review of 22 years of population estimates between 1991 and 2012. In spite of extreme population fluctuations in population estimates (attributable at least in part to spring rainfall patterns), the average population size remains around 10,000 birds (Underwood 2012). There are no current Laysan finch population estimates for Pearl and Hermes.

New threats:

- Climate change degradation of habitat – Climate change is believed to pose a threat to this species. However, current climate change analyses in the Pacific Islands lack sufficient spatial resolution to make predictions on impacts to this species. The Pacific Islands Climate Change Cooperative (PICCC) has currently funded climate modeling that will help resolve these spatial limitations. We anticipate high spatial resolution climate outputs by 2015.

Synthesis:

There are three overarching objectives for downlisting in the recovery plan for the three Northwestern Hawaiian Island (NWHI) passerines (USFWS 1984). These objectives address the elimination or mitigation of human threats (especially the potential for the introduction of alien species on the islands) where these species occur in order to protect and restore the natural functioning of the island's ecosystems. The first objective is to put the necessary mechanisms in place to protect the islands from invasion by alien species. The second objective is to establish effective and reliable mechanisms to monitor for alien organisms. The third objective is to periodically verify the existence of reasonably stable populations of the Laysan finch and the other two NWHI passerines.

The downlisting goals for this species have not been met (Table 1), not all threats are being managed, and some threats may be increasing: storms, tsunamis, and sea level rise due to climate change (Table 2). In addition, the third objective (conducting surveys) does not change the status of the species. Therefore, the Laysan finch meets the definition of endangered as it remains in danger of extinction throughout its range.

Recommendations for Future Actions:

- Habitat and natural process management and restoration – Continue restoration work on Laysan Island.
- Surveys / Inventories
 - Continue Laysan finch monitoring surveys annually on Laysan Island. Determine feasibility of establishing a consistent monitoring program for the Laysan finch population on Pearl and Hermes.

- Invasive plant monitoring and control – Restore habitat for the Laysan finch population at Pearl and Hermes by eradicating *Verbesina encelioides* and fostering recovery of native vegetation.
- Reintroduction / translocation – Pursue translocation to establish new Laysan finch populations in secure habitat on other islands.
- Biosecurity planning and monitoring
 - Implement procedures to minimize the chances of accidental introductions of alien species.
 - Improve monitoring for new introductions of alien species throughout the Northwestern Hawaiian Islands.

Table 1. Status and trends of the Laysan finch from listing through current 5-year review.

Date	No. wild individuals (Laysan/Pearl and Hermes)	Downlisting Criteria identified in Recovery Plan	Downlisting Criteria Completed?
1967 (listing)	~10,000/108 introduced	1. Place necessary mechanisms in place to protect the islands from invasion by alien species.	No
		2. Establish effective and reliable mechanisms to monitor for alien organisms.	No
		3. Periodically verify the existence of reasonably stable populations of the Laysan finch and the other two NWHI passerines.	No
1984 (recovery plan)	~10,000/523	1. Place necessary mechanisms in place to protect the islands from invasion by alien species.	Partially – some quarantine measures in place.
		2. Establish effective and reliable mechanisms to monitor for alien organisms.	No
		3. Periodically verify the existence of reasonably stable populations of the Laysan finch and the other two NWHI passerines.	No
2008 (5-year review)	17,780±2,819/329	1. Place necessary	Partially -

review)	(in 2004)	mechanisms in place to protect the islands from invasion by alien species.	quarantine measures in place. Procedures do not protect the islands from invasions due to vessel groundings and other chance occurrences.
		2. Establish effective and reliable mechanisms to monitor for alien organisms.	No
		3. Periodically verify the existence of reasonably stable populations of the Laysan finch and the other two NWHI passerines.	Partially – surveys at Pearl and Hermes conducted only sporadically: in addition, surveys do not change the status of the species.
2014 (5-yr review)	~10,000 (Underwood 2013) /1,043 ± 253 (Kropidlowski 2007)	1. Place necessary mechanisms in place to protect the islands from invasion by alien species.	Partially-quarantine measures in place. Procedures do not protect the islands from invasions due to vessel groundings and other chance occurrences.
		2. Establish effective and reliable mechanisms to monitor for alien organisms.	No
		3. Periodically verify the existence of reasonably stable populations of the Laysan finch and the other two NWHI passerines.	Partially – surveys at Pearl and Hermes conducted only sporadically: in addition, surveys

			do not change the status of the species.
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Table 2. Threats to the Laysan Finch and ongoing conservation efforts.

Threat	Listing factor	Current Status	Conservation/ Management Efforts
Alien Species	A	Ongoing	Partially: Quarantine and restoration efforts in place
Alien predators	C	Ongoing	Partially: Quarantine measures in place
Disease	C	Ongoing	Partially: Quarantine measures in place
Alien Competitors	E	Ongoing	Partially: Quarantine measures in place
Human Disturbance	E	Ongoing	Partially: Education of personnel on islands
Environmental Catastrophes	E	Ongoing/Increasing?	No
Climate change and sea level rise	A, E	Increasing	No

References:

See previous 5-year review for a full list of references (USFWS 2008). Only references not listed in that document are provided below.

Kropidowski, S. 2007. Results of the rapid ecological assessment of Southeast Island, Pearl and Hermes Reef, Papahānaumokuākea Marine National Monument (17-Sep-2007). Trip Report, USFWS Refuges, Honolulu, Hawaii. 18 pages.

Underwood, J. 2013. Population status of the endangered Laysan finch. *Wilson Journal of Ornithology* 125:159-164.

U.S. Fish and Wildlife Service. 2008. Laysan finch (honeycreeper) (*Telespyza cantans*): 5-year review summary and evaluation. U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, Honolulu, Hawaii. 13 pages.

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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: _____

Review Conducted By:

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Marie Bruegmann, Acting Recovery Coordinator
Kristi Young, Deputy Programmatic

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Date 2014-08-19