

Draft Amendment to the *Vicia menziesii* Recovery Plan

Original Approved: [May 18, 1984](#)

Original Prepared by: Pacific Region, U.S. Fish and Wildlife Service

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Species addressed in Draft Amendment: *Vicia menziesii* (Hawaiian Vetch)

We have analyzed all of the best available information and find that there is a need to amend the recovery criteria for *Vicia menziesii* (Hawaiian vetch) that have been in place since the recovery plan was completed. In this proposed modification, we discuss the adequacy of the existing recovery criteria, identify amended recovery criteria, and present the rationale supporting the proposed recovery plan modification. The proposed modification is to be shown as an appendix that supplements the recovery plan (USFWS 1984), superseding only Part II (Recovery), and only where it is stated that “data are insufficient to quantify recovery objectives at this time” (page 14), and “there are insufficient data on the ecological relationships of the species to quantify these recovery goals” (page 19).

BACKGROUND INFORMATION

Recovery plans should be consulted frequently, used to initiate recovery activities, and updated as needed. A review of the recovery plan and its implementation may show that the plan is out of date or its usefulness is limited, and therefore warrants modification. Keeping recovery plans current ensures that the species benefits through timely, partner-coordinated implementation based on the best available information. The need for, and extent of, plan modifications will vary considerably among plans. Maintaining a useful and current recovery plan depends on the scope and complexity of the initial plan, the structure of the document, and the involvement of stakeholders.

An amendment involves a substantial rewrite of a portion of a recovery plan that changes any of the statutory elements. The need for an amendment may be triggered when, among other possibilities: (1) the current recovery plan is out of compliance with regard to statutory requirements; (2) new information has been identified, such as population-level threats to the species or previously unknown life history traits, that necessitates new or refined recovery actions and/or criteria; or (3) the current recovery plan is not achieving its objectives. The amendment replaces only that specific portion of the recovery plan, supplementing the existing recovery plan, but not completely replacing it. An amendment may be appropriate in cases where significant plan improvements are needed, but resources are too scarce to accomplish a full recovery plan revision in a short time.

Although it would be inappropriate for an amendment to include changes in the recovery program that contradict the approved recovery plan, it could incorporate study findings that enhance the scientific basis of the plan, or that reduce uncertainties as to the life history, threats, or species’ response to management. An amendment could serve a critical function while awaiting a more comprehensive revised recovery plan by: (1) refining and/or prioritizing recovery actions that need to be emphasized, (2) refining recovery criteria, or (3) adding a species to a multispecies or ecosystem plan. An amendment can, therefore, efficiently balance

resources spent on modifying a plan against those spent on managing implementation of ongoing recovery actions.

METHODOLOGY USED TO COMPLETE THE RECOVERY PLAN AMENDMENT

The Hawai'i and Pacific Plants Recovery Coordinating Committee (HPPRCC), comprising biologists from federal and state agencies, private conservation organizations, botanical gardens, and universities, was established to advise the Service on the biology and management needs for recovery of listed plants. The HPPRCC has outlined general actions and goals for stages leading towards recovery of listed Hawaiian plants (HPPRCC 2011). Current information is lacking for many Hawaiian plant species with respect to the status of the species and their habitats, breeding systems, genetics, and propagule storage options. The Service has therefore adopted downlisting and delisting criteria for Hawaiian plants based on the revised recovery objective guidelines developed by the HPPRCC (2011). These criteria are assessed on a species-by-species basis, especially as additional information becomes available.

General distinctions made by the HPPRCC that are relevant to *Vicia menziesii* include the following:

- *Life span*: Long-lived perennials are those taxa either known or believed to have life spans greater than 10 years; short-lived perennials are those known or believed to have life spans greater than 1 year but less than 10 years; and annuals are those known or believed to have life spans less than or equal to 1 year. When it is unknown whether a species is long- or short-lived, the Service has erred on the side of caution and considered the species short-lived. This evaluation will be revised as more is learned about the life histories of these species.
- *Range size*: Narrow extant range and broad contiguous range are recognized as not needing different numbers of individuals or populations, only that the populations be distributed more narrowly or more broadly, respectively, across the landscape.
- *Reproduction strategies*: Obligate outcrossers are species that either have male and female flowers on separate plants or otherwise require cross-pollination to fertilize seeds, and therefore require equal numbers of male and female individuals contributing to reproduction, doubling the number of mature individuals needed for recovery. Species that reproduce vegetatively may reproduce sexually only on occasion, resulting in the majority of the genetic variation being between populations, therefore species dependent on vegetative reproduction require additional populations.
- *Annual population stability*: Species that fluctuate in number of individuals from year to year require a larger number of mature individuals on average to allow for a decline in years of extreme habitat conditions and recuperation in numbers in years of more normal conditions.

The following downlisting and delisting criteria were determined based on known biology of *Vicia menziesii* with consideration given to the above general guidelines. It is a short-lived vine and a suspected obligate outcrosser. The State of Hawai'i Division of Forestry and Wildlife's botanist reviewed and confirmed these life-history traits and corresponding criteria as quantified

in the peer-reviewed guidelines (HPPRCC 2011). This recovery plan amendment was written by the Pacific Islands Fish and Wildlife Office's plant recovery coordinator.

ADEQUACY OF RECOVERY CRITERIA

Section 4(f)(1)(B)(ii) of the Endangered Species Act (Act) requires that each recovery plan shall incorporate, to the maximum extent practicable, "objective, measurable criteria which, when met, would result in a determination...that the species be removed from the list." Legal challenges to recovery plans (see *Fund for Animals v. Babbitt*, 903 F. Supp. 96 (D.D.C. 1995)) and a Government Accountability Audit (GAO 2006) also have affirmed the need to frame recovery criteria in terms of threats assessed under the five listing factors.

Recovery Criteria

There are no downlisting or delisting criteria in the original recovery plan (USFWS 1984). There are interim objectives (page 14) to "maintain all existing populations and not allow the populations to decline further." These objectives are modified by the amended recovery criteria below.

Synthesis

There are currently 22 plants in 1 population of *Vicia menziesii* remaining. Plants are fenced and the fence is maintained and they are therefore protected from feral ungulates (VanDeMark 2018, pers. comm.). However, rodents, which predate seeds and plants; invertebrates, which predate plants; and invasive plants, which outcompete *V. menziesii* for resources, still remain a threat (USFWS 2012).

AMENDED RECOVERY CRITERIA

Recovery criteria serve as objective, measurable guidelines to assist in determining when an endangered species has recovered to the point that it may be downlisted to threatened, or that the protections afforded by the Act are no longer necessary and *Vicia menziesii* may be delisted. Delisting is the removal of a species from the Federal Lists of Endangered and Threatened Wildlife and Plants. Downlisting is the reclassification of a species from endangered to threatened. The term "endangered species" means any species (species, subspecies, or distinct population segment) that is in danger of extinction throughout all or a significant portion of its range. The term "threatened species" means any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

We provide both downlisting and delisting criteria for *V. menziesii*, which will supersede those included in the *Vicia menziesii* Recovery Plan (USFWS 1984), as follows:

Downlisting Recovery Criteria

Vicia menziesii will be considered for downlisting when:

- 1) There are 5 to 10 populations in suitable, protected habitat with 1,000 mature individuals per population;
- 2) All major threats are controlled around the target populations;
- 3) Populations are represented in an *ex situ* collection as defined in the Center for Plant Conservation guidelines (Guerrant *et al.* 2004) that is secure and well managed; and

- 1) All target populations have been stable, secure, and naturally reproducing for a minimum of 10 years. Species-specific management actions may continue to be necessary.

Delisting Recovery Criteria

Vicia menziesii will be considered for delisting when:

- 1) There are 10 populations in suitable, protected habitat with 1,000 mature individuals per population,
- 2) All of the downlisting criteria have been met, and
- 3) All target populations have been stable, secure, naturally reproducing, and within secure and viable habitats for a minimum of 20 years. Species-specific management actions must no longer be necessary, but an ongoing need for ecosystem-wide management actions may remain if long-term agreements are in place to continue management.

These numbers are initial targets, and may be revised as additional information is available. An adequate population viability analysis (PVA) for *Vicia menziesii* should be conducted to assess needed numbers more accurately based on current management and monitoring data.

Information necessary for a PVA includes: major limiting factors, breeding system, population structure and density, and proven management methods for major threats. In addition, genetic analyses should be conducted to ensure adequate genetic representation is present within and among populations.

In addition to the downlisting and delisting criteria, all classification decisions consider an analysis of the following five factors: (1) is there a present or threatened destruction, modification, or curtailment of the species' habitat or range; (2) is the species subject to overutilization for commercial, recreational scientific, or educational purposes; (3) is disease or predation a limiting factor; (4) are there inadequate existing regulatory mechanisms in place outside the Act (taking into account the efforts by states and other organizations to protect the species or habitat); and (5) are other natural or manmade factors affecting its continued existence. When delisting or downlisting a species, we first propose the action in the *Federal Register* and seek public comment and peer review of our analysis. Our final decision is announced in the *Federal Register*.

Rationale for Recovery Criteria

The amended recovery criteria are based on the current known biology of the species from the latest 5-year review, expert responses, and the Hawai'i and Pacific Plants Recovery Coordinating Committee's Revised Recovery Objective Guidelines (HPPRCC 2011, USFWS 2012, J. VanDeMark 2018, pers. comm.).

LITERATURE CITED

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