

Recovery Plan for Seven Coastal Plants and the Myrtle's Silverspot Butterfly
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Original Approved: September 29, 1998

Original Prepared by: Habitat Restoration Group, Felton, California under contract to the Service with review of Service biologist Heather McSharry, U.S. Fish and Wildlife Service Ventura and Sacramento, California.

RECOVERY PLAN AMENDMENT

We have identified best available information that indicates the need to amend recovery criteria for *Chorizanthe howellii* (Howell's spineflower) since the recovery plan was completed. In this modification, we synthesize the adequacy of the existing recovery criteria, show amended recovery criteria, and the rationale supporting the recovery plan modification. The modification is shown as an addendum that supplements the recovery plan, superseding only Section II. Recovery, pages 89-91 of the recovery plan, as it pertains to *C. howellii*.

**For
U.S. Fish and Wildlife Service
Region 8
Sacramento, California**

September 2019

METHODOLOGY USED TO COMPLETE THE RECOVERY PLAN AMENDMENT

The Service reviewed the available literature, most recent 5-year status review, and coordinated with California Department of Parks and Recreation and California Department of Fish and Wildlife in the modification of the recovery plan. This review represents an individual effort; however, valuable input and feedback from colleagues and partners is incorporated throughout. We relied heavily on the current recovery plan and most recent 5-year status review, as each document is comprehensive in describing the biology of and threats to *Chorizanthe howellii*.

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 factors.

Recovery Criteria

The current recovery criteria for *Chorizanthe howellii* can be found on pages 89-91 in the recovery plan (see link above).

Synthesis

Chorizanthe howellii is an endangered herbaceous annual member of the buckwheat family (Polygonaceae) that is endemic to 7 miles of coastal dunes extending from the City of Fort Bragg north to the Ten Mile River, Mendocino County, California. In the recovery plan, the Service identified criteria for downlisting and delisting the species; however, none of the delisting criteria were based on a quantifiable metric. In the most recent status review, no change in listing was recommended (Service 2011). Since the 2011 review, limited information regarding distribution, habitat extent and quality, and threat prevalence has been obtained. This information was used to develop the amended recovery criteria and will be available in the forthcoming status review in 2019.

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 Howell's spineflower may be delisted. Delisting is removal of a species from the Federal Lists of Endangered and Threatened Wildlife and Plants (Lists). Downlisting is reclassification of a species from an endangered species to a threatened species. The term "endangered species" means any species (species, subspecies, or DPS) which is in danger of extinction throughout all or a significant portion of its range. The term "threatened species" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Revisions to the Lists, including delisting or downlisting a species, must reflect determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is an endangered species or threatened species (or not) because of threats to the species. Section 4(b) of the Act requires that the determination be made "solely on the basis of the best scientific and commercial data available." Thus, while recovery plans provide important guidance to the Service, States, and other partners on methods of minimizing threats to listed species and measurable objectives against which to measure progress towards recovery, they are guidance and not regulatory documents.

Recovery criteria should help indicate when we would anticipate that an analysis of the species' status under section 4(a)(1) would result in a determination that the species is no longer an endangered species or threatened species. A decision to revise the status of or remove a species from the Lists, however, is ultimately based on an analysis of the best scientific and commercial data then available, regardless of whether that information differs from the recovery plan, which triggers rulemaking. When changing the status of a species, we first propose the action in the *Federal Register* to seek public comment and peer review, followed by a final decision announced in the *Federal Register*.

We provide both downlisting and delisting criteria for *Chorizanthe howellii*, which will refine those included in the Recovery Plan for Seven Coastal Plants and the Myrtles's Silverspot Butterfly, as follows:

Downlisting Recovery Criteria

The following conditions, when met, indicate the reclassification of *Chorizanthe howellii* from endangered to threatened may be warranted (these criteria remain the same as detailed in the existing recovery plan):

1. Habitat occupied by the species that is needed to allow delisting has been secured, with long-term commitments and, if possible, endowments to fund conservation of the native vegetation.
2. Management measures are being implemented to address the threats of invasive species and other problems, including grazing, pedestrians, and off-road vehicles at some sites.
3. Monitoring reveals that management actions are successful in reducing threats of invasive nonnative species.
4. Additional restored habitat has been secured, with evidence of either natural or artificial long-term establishment of additional populations, and long-term commitments (and endowments where possible) to fund conservation of the native vegetation.

Delisting Recovery Criteria

Chorizanthe howellii will be considered for delisting when the following two criteria are met:

GENERAL DELISTING CRITERION (applies to other taxa included in the recovery plan and remains the same as detailed in the existing recovery plan):

Full recovery of these taxa will be achieved when the dune systems they inhabit are secure, with experience to demonstrate that exotic plants and other threats (recreational use, off-road vehicles, etc.) are controlled and managers have demonstrated their ability to keep the threats under control. The taxa need to be secure in their presently-occupied ranges, and opportunities should be taken to introduce these plants to restored habitat in or near historic ranges. To be counted toward recovery, (re)introduced populations should be naturally reproducing in vegetation that also appears to be persisting without excessive maintenance or “gardening.” The area occupied by the plants should increase commensurate with improving habitat conditions. The determination that delisting is possible must be based on at least 15 years of monitoring for the endangered taxa, to include wet and drought years. For some of the species, aspects of demography and population biology must be understood to be assured that populations are likely to persist. The species can be considered for delisting when sites are secure from habitat modification (development), occupied habitat is stable or improving and free of weed invasion.

SPECIFIC DELISTING CRITERION.

Chorizanthe howellii may be considered for delisting when restoration of habitat at McKerricher State Park has resulted in a minimum of 42 acres of habitat occupied by *C. howellii*. Monitoring and mapping should demonstrate that the area occupied by *C. howellii* has met that minimum threshold consistently for at least 15 years and that populations are not being lost to non-native, invasive species or recreational activity.

Justification

Below is a justification for the habitat threshold used in the specific delisting criterion.

The currently occupied *C. howellii* habitat is approximately 14 acres based on mapping conducted by California Department of Parks and Recreation in 2011-2013 and updated by the Service in 2018. There is an additional 28 acres in proximity to occupied habitat that is currently occupied by *Carpobrotus* spp. (ice plant). We combined these two areas (currently occupied habitat and *Carpobrotus* distribution in close proximity to occupied habitat) to develop a target minimum occupied area for recovery of 42 acres. *Carpobrotus* spp. occupy semi-stabilized dune habitat that would otherwise be suitable for *C. howellii*. Previous efforts have shown that *C. howellii* populations increase dramatically after *Carpobrotus* removal, especially initially (Warner 2006). The logic behind the development of this minimum occupied area is to include the extent of suitable habitat in proximity to occupied habitat. In order to assure the long-term expansion and stability of *C. howellii* populations, the restored areas will be revisited, treated for resprouts, potentially seeded with *C. howellii*, and monitored. The Service is working closely with California Department of Parks and Recreation and California Department of Fish and Wildlife in this effort. Fifteen years should provide enough time to determine the success of the restoration, expansion of *C. howellii* into restored areas and the stability of the *C. howellii* population. With these restoration and monitoring efforts we believe that 42 acres would provide a sufficient distribution to withstand any larger scale disturbances that might be expected in that area.

Rationale for Amended Recovery Criteria

Providing a quantifiable metric for the specific delisting criterion will ensure that a delisting decision can be based on objectively measurable data and agreed upon by partners. The metric provided is based on the existing criteria and doesn't require an unreasonable amount of field work or analysis to determine when it has been met. The method for determining the minimum threshold was based on a study conducted to determine the best strategy to restore habitat for *C. howellii*, which showed that removal of *Carpobrotus* spp. is an effective method for expanding *C. howellii* habitat (Warner 2006). The amendment to the specific delisting criterion addresses listing Factors A, D and E of the Service's Five-Factor Analysis framework (Factors B and C are not known to be current threats to *C. howellii*). Factor A will be addressed by the inclusion of monitoring to determine whether or not habitat is destroyed, modified, or curtailed by recreational use. Factor D is addressed by ensuring the conservation of habitat in the face of threats that are inadequately regulated by current regulatory restrictions (e.g., invasive species encroachment and pedestrian impacts). In the 2011 status review, two threats were identified under Factor E: invasive, non-native plants and climate change. The amended specific delisting criterion addresses Factor E through the emphasis of expanding suitable habitat via the removal of invasive, non-native plants.

The greatest threat to *C. howellii* is lack of suitable habitat. Having adequate space is particularly important to this taxon because its distribution is limited to a very small area. Creating more suitable habitat through the removal of invasive, non-native species will assist in the expansion of the area occupied by the species. This will increase the resiliency of the species and make it better able to recover from impacts caused by stochastic events. An expansion in occupied habitat, and the ensuing increase in population size, will allow for more genetic variability and therefore increase the representation of the species. Opening up habitat in areas that are disjunct

from the currently occupied areas, and potentially seeding to create novel subpopulations, will increase redundancy and the likelihood that the species could survive a catastrophic event.

LITERATURE CITED

U.S. Fish and Wildlife Service. 1998. Seven coastal plants and the Myrtle's silverspot butterfly recovery plan, Portland, Oregon. 141 pp.

U.S. Fish and Wildlife Service. 2011. *Chorizanthe howellii* (Howell's spineflower) 5-Year Review: Summary and Evaluation. Arcata, California. 23 pp.

Warner, P. 2006. Development of a restoration strategy for Howell's spineflower, MacKerricher State Park: progress report, September 2006. Unpublished report and field data submitted pursuant to ESA Section 6 –funded project. California Department of Parks and Recreation, Mendocino, California.

APPENDIX A – SUMMARY OF PUBLIC, PARTNER, AND PEER REVIEW COMMENTS RECEIVED

Summary of Public Comments

We published a notice of availability in the *Federal Register* on August 6, 2019 (84 FR 151) to announce that the draft recovery plan revision was available for public review, and to solicit comments by the scientific community, State and Federal agencies, Tribal governments, and other interested parties on the general information base, assumptions, and conclusions presented in the draft revision. An electronic version of the draft amendment was posted on the Service's Species Profile website

(https://ecos.fws.gov/docs/recovery_plan/Draft%20Recovery%20Plan%20Amendment%20Chorizanthus%20howellii.pdf). We also developed and implemented an outreach plan that included (1) publishing a news release on our national webpage (<https://www.fws.gov/news/>) on August 5, 2019, (2) sending specific notifications to Congressional contacts in California's 2nd congressional district, and (3) sending specific notifications to key stakeholders in conservation and recovery efforts. These outreach efforts were conducted in advance of the *Federal Register* publication to ensure that we provided adequate notification to all potentially interested audiences of the opportunity to review and comment on the draft amendment.

We did not receive any comments in response to our request.

Recovery Plan Amendments for 15 Pacific Southwest Species

The U.S. Fish and Wildlife Service has identified best available information that indicates the need to amend recovery criteria for the species listed below. Each amendment is recognized as an addendum that supplements the specific portions of the existing recovery plans.

<p>Recovery Plan for Gabbro Soil Plants of the Central Sierra Nevada Foothills: El Dorado bedstraw (<i>Galium californicum</i> ssp. <i>sierrae</i>) and Pine Hill flannelbush (<i>Fremontodendron californicum</i> ssp. <i>decumbens</i>)</p>	
Original Recovery Plan Approved:	2002
Page(s) Superseded:	III-2 through III-37
Species Included:	El Dorado bedstraw (<i>Galium californicum</i> ssp. <i>sierrae</i>) and Pine Hill flannelbush (<i>Fremontodendron californicum</i> ssp. <i>decumbens</i>)
<p>Recovery Plan for Large-flowered Fiddleneck (<i>Amsinckia grandiflora</i>)</p>	
Original Recovery Plan Approved:	1997
Pages superseded:	26-27
Species Included:	<i>Amsinckia grandiflora</i> (Large-flowered Fiddleneck)
<p>Recovery Plan for San Bruno Elfin Butterfly (<i>Callophrys mossii bayensis</i>) and Mission Blue Butterfly (<i>Icaricia icariodes missionensis</i>)</p>	
Original Recovery Plan Approved:	1984
Pages Superseded:	43-46
Species Included:	<i>Callophrys mossii bayensis</i> (San Bruno Elfin Butterfly) <i>Icaricia icariodes missionensis</i> (Mission Blue Butterfly)
<p>Recovery Plan for Coastal Plants of the Northern San Francisco Peninsula: Raven's manzanita (<i>Arctostaphylos hookeri</i> ssp. <i>ravenii</i>)</p>	
Original Recovery Plan Approved:	2003
Pages superseded:	147-150
Species Included:	<i>Arctostaphylos hookeri</i> ssp. <i>ravenii</i> (Raven's manzanita)
<p>Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area</p>	
Original Recovery Plan Approved:	1998
Pages superseded:	Section II: p. 14 for San Mateo thornmint, p. 53 for fountain thistle, p. 64 for Presidio clarkia, p. 72 for Pennell's bird's-beak, pp. 92-93 for San Mateo woolly sunflower, and p. 128 for Tiburon jewelflower. Also, the overview of recovery criteria for the species (Section III, pp. 10-19).
Species Included:	<i>Acanthomintha duttonii</i> , formerly <i>Acanthomintha obovata</i> ssp. <i>duttonii</i> (San Mateo thornmint) <i>Calochortus tiburonensis</i> (Tiburon mariposa lily) <i>Cirsium fontinale</i> var. <i>fontinale</i> (fountain thistle) <i>Clarkia franciscana</i> (Presidio clarkia) <i>Cordylanthus tenuis</i> ssp. <i>capillaris</i> (Pennell's bird's-beak) <i>Eriophyllum latilobum</i> (San Mateo woolly sunflower) <i>Streptanthus niger</i> (Tiburon jewelflower)

Draft Recovery Plan for Seven Coastal Plants and the Myrtle's Silverspot Butterfly: *Chorizanthe valida* (Sonoma Spineflower)

Original Recovery Plan Approved: 1998
Pages superseded: Section I: pp. 25-29
Section II: pp. 89-90
Species Included: *Chorizanthe valida* (Sonoma Spineflower)

Recovery Plan for Seven Coastal Plants and the Myrtle's Silverspot Butterfly

Original Recovery Plan Approved: 1998
Pages superseded: Section II: pp. 89-91
Species Included: *Chorizanthe howellii* (Howell's spineflower)

**For
U.S. Fish and Wildlife Service
Pacific Southwest Region
Sacramento, CA**

September 2019

Approved: 
Regional Director, U.S. Fish and Wildlife Service
Pacific Southwest Region

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