

5-YEAR REVIEW
***Chorizanthe howellii* (Howell's spineflower)**
2024

GENERAL INFORMATION:

Species: *Chorizanthe howellii* (Howell's spineflower, *C. howellii*)

Date listed: June 22, 1992

FR citation(s): 57 FR 27848-27859 (Service 1992)

Classification: Endangered

State Listing: *C. howellii* was listed by the State of California as threatened in 1987.

BACKGROUND:

Species overview: *C. howellii* is an herbaceous annual member of the buckwheat family (Polygonaceae) that is endemic to 11 kilometers (7 miles) of coastal dunes extending from the City of Fort Bragg north to the Ten Mile River, Mendocino County, California. The majority of the distribution occurs within MacKerricher State Park. *C. howellii* may grow to 1 decimeter (4 inches) tall and 5 decimeters (20 inches) across, with heads of tiny flowers ranging up to 5 millimeters (0.2 inches) long. Among other features, *C. howellii* is distinguished by its straight awns protruding from the outer floral ring (involucre). *C. howellii* blooms between May and July. Seed dispersal by *C. howellii* is facilitated by the floral spines, which attach to passing animals.

Most recent status review:

[Service] U.S. Fish and Wildlife Service. 2019. *Chorizanthe howellii* (Howell's spineflower) 5-Year Review: Summary and Evaluation. Arcata Fish and Wildlife Office. September 2019. Arcata, California.

We did not recommend a status change in the 2019 review.

FR notice citation announcing this status review:

[Service] U.S. Fish and Wildlife Service. 2023. Endangered and Threatened Wildlife and Plants; Initiation of 5-Year Status Reviews of 47 Species in California, Nevada, and Oregon. Federal Register 88:56042–56044.

We did not receive information from the public regarding *C. howellii* in response to the notice.

ASSESSMENT:

Information acquired since the last status review:

This 5-year review was conducted by the U.S. Fish and Wildlife Service's (Service) Arcata Fish and Wildlife Office. Data for this review was solicited from interested parties through the Federal Register Notice announcing this review of August 17, 2023. We did not receive any new information from the Federal Register Notice. We contacted California Department of Parks and Recreation staff from MacKerricher State Park to request any data or new information to be considered in our review. Additionally, we conducted a literature search, reviewed information in our files and assessed an occurrence search of the California Natural Diversity Database (Diversity Database) maintained by the California Department of Fish and Wildlife.

Since the last 5-year review, habitat restoration involving *Carpobrotus* spp. (iceplant) and *Ammophila arenaria* (European beachgrass) removal has continued in MacKerricher State Park. Between 2014 and 2023, approximately 3.7 hectares (9.2 acres) of *Capobrotus* spp. and 0.02 hectares (0.05 acres) of *A. arenaria* has been removed from suitable *C. howellii* habitat. Between 2013 and 2020, State Park staff monitored 30 plots, including 15 where *C. howellii* was reseeded once and 15 treated plots where *Carpobrotus* spp. was removed. In the re-seeded plots, *C. howellii* increased from 0 to 6,124 individuals. In the treated plots, *C. howellii* increased from 68 to 22,914 individuals (Fuller 2023, pers. comm).

Abundance and Distribution:

The 2019 population estimate of 2,025,768 (1,581,000 – 2,525,575 95% confidence interval) individual plants as described in the last 5-year review remains the best available information of the species abundance (Service 2019a). The 2019 draft amended recovery plan identified approximately 17 hectares (42 acres) of suitable habitat present in MacKerricher State Park of which 5.6 hecares (14 acres) was occupied by *C. howellii* (Service 2019b). This represents the extent of the current known range of the species. An assessment of the current distribution of *C. howellii* was not performed during this 5-year review period but monitoring as noted above, has demonstrated the capability of *C. howellii* expansion into habitat previously occupied by *Carpobrotus* spp.

Threats:

Threats described in the final listing rule and recovery plan (Service 1998) continue to impact the recovery of *C. howellii*. Threats include a lack of suitable habitat; narrow endemic range; invasive plant species; and habitat degradation from off-road vehicles, pedestrian, and equestrian traffic. We are not aware of any new or additional threats since the previous status review.

Recovery criteria:

C. howellii recovery criteria were updated in the 2019 Draft Recovery Plan Amendment for Seven Coastal Plants and Myrtle’s Silverspot Butterfly: Howell’s Spineflower (Service 2019b). The downlisting criteria detailed below (Table 1) have not been fully met.

Table 1. Downlisting criteria for *C. howellii* and current status are assessed.

Downlisting criteria	2024 Status
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.	This criterion has been partially met since the 42 acres of suitable habitat identified on MacKerricher State Park is protected in perpetuity. However, long-term funding for conservation and invasive species management has not been secured.
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.	This criterion has been partially met through continued management of invasive plants including <i>Carpobrotus</i> spp. and <i>Ammophila arenaria</i> . Additional measures are in place to restrict grazing, foot traffic off trails, and off-road vehicles in suitable habitat.

Downlisting criteria	2024 Status
Monitoring reveals that management actions are successful in reducing threats of invasive nonnative species.	This criterion has been met. Continued monitoring of 15 plots where management actions were taken to remove invasive <i>Carpobrotus</i> spp. revealed an increase in <i>Chorizanthe howellii</i> .
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.	This criterion has been partially met. Additional restored habitat has been secured through ongoing restoration of a remnant haul road on MacKerricher State Park. However, long-term establishment of additional populations and long-term commitments to fund conservation of the native vegetation has not occurred.

The recovery criteria analysis in the 2019 5-year review remains valid (Service 2019a). Downlisting criteria has been partially met through ongoing habitat restoration and ongoing monitoring on MacKerricher State Park.

Conclusion:

After reviewing the best available scientific information, we conclude that *C. howellii* remains an endangered species. The evaluation of threats affecting the species under the factors in 4(a)(1) of the Endangered Species Act and assessment of the status of the species in the 2019 5-Year Review remains an accurate reflection of the species current status.

RECOMMENDATIONS FOR FUTURE ACTIONS:

We recommend continuing efforts to restore suitable habitat in partnership with MacKerricher State Park through removal of invasive *Carpobrotus* spp. and *Ammophila arenaria*; limiting pedestrian, equestrian, and off-road vehicle traffic in areas with *C. howellii*; collecting *C. howellii* seed to build a robust seed bank to aid re-seeding efforts in restored suitable habitat; and replicating the abundance count from 2018 to update the population estimate.

Field Supervisor, Arcata Fish and Wildlife Office

Approve _____ Date _____

LITERATURE CITED:

Fuller, Terra. 2023. Senior Specialist Environmental Scientist, Sonoma-Mendocino Coast District, California Department of Parks and Recreation. Email sent to Laurel Goldsmith and Matthew C Parker, U.S. Fish and Wildlife Service, Arcata, California dated September 7, 2023.

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

[Service] U.S. Fish and Wildlife Service. 2019a. *Chorizanthe howellii* (Howell's spineflower) 5-Year Review: Summary and Evaluation. Arcata Fish and Wildlife Office. September 2019. Arcata, California.

[Service] U.S. Fish and Wildlife Service. 2019b. Draft Recovery Plan Amendment for Seven Coastal Plants and Myrtle's Silverspot Butterfly: Howell's Spineflower. Arcata, California. 5 pp.