

5-YEAR REVIEW
***Chorizanthe howellii* (Howell's spineflower)**
2019

GENERAL INFORMATION:

Species: *Chorizanthe howellii* (Howell's spineflower)

Date listed: June 22, 1992

FR citation(s): 57 FR 27848-27859: ETWP; Six Plants and Myrtle's Silverspot Butterfly from Coastal Dunes in Northern and Central California Determined to Be Endangered (06/22/1992).

Classification: Endangered

BACKGROUND:

Most recent status review: U.S. Fish and Wildlife Service. 2011. *Chorizanthe howellii* (Howell's spineflower) 5-Year Review: Summary and Evaluation. Arcata Fish and Wildlife Office. December 2011. Arcata, California.

FR Notice citation announcing this status review: 83 FR 28251 28254 – Initiation of 5-Year Status Reviews of 50 Species in California, Nevada, and the Klamath Basin of Oregon (06/18/2018).

Other related FR Notices: 84 FR 38284 38287. On August 6, 2019, the Service published a notice in the Federal Register announcing the opportunity for public review and comment on 28 recovery plan revisions, which would update recovery criteria for 58 species, including *Chorizanthe howellii*. The comment period closed September 5, 2019. No comments were received.

ASSESSMENT:

This 5-Year Review was conducted by the U.S. Fish and Wildlife Service's (Service) Arcata Field Office (AFWO). Data for this review were solicited from interested parties through a Federal Register notice announcing this review on June 18, 2018. We also contacted staff from MacKerricher State Park to request data or information to be considered in our review, and we reviewed information in our files.

We updated mapping for the current distribution of *Chorizanthe howellii* on MacKerricher State Park in April 2018. This updated mapping showed that the distribution had increased by 1.5 acres since the last status review. Occupied habitat as mapped in 2011 was approximately 14 acres. In 2018, occupied habitat had increased to approximately 15.5 acres. Some habitat was lost during the MacKerricher State Park Dune Rehabilitation Project (AFWO-13BO104-13F0189; Dune Rehabilitation Project) in 2013, due to removal of stabilized dunes when the Haul Road was removed. That loss, however, was mitigated by habitat restoration, through iceplant (*Carpobrotus* sp.) removal and dispersal of seeds. Monitoring data from MacKerricher State Park, collected as part of the mitigation and monitoring plan for the Dune Rehabilitation

Project, showed an increase in cover of *Chorizanthe howellii* in the mitigation plots from 2013 to 2016.

In 2019, AFWO conducted a population estimate for *Chorizanthe howellii*. We collected density data in random 1-meter² plots within occupied habitat (as mapped in 2018). Density data were collected in 237 plots, among four different strata. Strata were identified for sampling based on land management in each strata. The four strata were sampled proportionate to their area. Results from the 2019 sampling yielded an estimated abundance of 2,025,768 plants, with a 95% confidence interval of 1,581,020 – 2,525,575 plants.

Conclusion:

After reviewing the best available scientific information, we conclude that *Chorizanthe 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 analysis of the status of the species in our 2011 *Chorizanthe howellii* 5-year review, remain an accurate reflection of the species current status.

Principle threats at the time of listing included recreational use and invasion of habitat by non-native plants. The negative impacts of recreational use have been reduced substantially since the time of listing, although trampling by pedestrians continues to impact individual plants. Invasive non-native plants are the biggest stressor currently acting on the species. Invasive non-native plants threaten virtually the entire population through direct competition for space, stabilization of dunes, and enrichment of soils. Invasive non-native plants are expected to continue to invade *Chorizanthe howellii* habitat and will require ongoing management. Despite ongoing restoration efforts, *Chorizanthe howellii* continues to be at risk of extinction due to the threat of habitat loss from invasive plants and, to a lesser degree, recreational use. Therefore, no status change is recommended.

RECOMMENDATIONS FOR FUTURE ACTIONS:

Additional habitat restoration and ongoing management of invasive non-native plants will be necessary for recovery of *C. howellii*, which can be accomplished through continued partnership with MacKerricher State Park.

Lead Field Supervisor, Fish and Wildlife Service

Approve Jan Evers Date 9-6-19