

## 5-YEAR REVIEW

### Kern mallow (*Eremalche kernensis* = *Eremalche parryi* ssp. *kernensis*)

#### GENERAL INFORMATION:

**Species:** Kern mallow (*Eremalche kernensis* = *E. parryi* ssp. *kernensis*)

**Date listed:** July 19, 1990

**FR citation(s):** 55 FR 29361

**Classification:** Endangered

#### State Listing:

Kern mallow is not listed as threatened or endangered by the State of California.

#### BACKGROUND:

##### Most recent status review:

U.S. Fish and Wildlife Service (Service). 2013. *Eremalche kernensis* (Kern mallow) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Sacramento, California. Finalized August 2013. 73 pp.

##### FR Notice citation announcing this status review:

U.S. Fish and Wildlife Service (Service). 2019. Endangered and Threatened Wildlife and Plants; Initiation of 5-Year Status Reviews of 58 Species in California, Nevada, and the Klamath Basin of Oregon. Federal Register 84:36116–36118. Published July 26, 2019.

##### Critical Habitat Designation:

No critical habitat has been designated.

#### ASSESSMENT:

##### Information acquired since the last status review:

This 5-year review was conducted by the U.S. Fish and Wildlife Service's (Service) Sacramento Fish and Wildlife Office. Data for this review were solicited from interested parties through a Federal Register notice announcing this review and the opening of a 60-day public comment period on July 26, 2019. We did not receive any information about this species from the public in response to the notice. We also contacted State and Federal agencies, species experts, universities, and other partners to request any data or information we should consider in our review. Additionally, we conducted a literature search, a review of information in our files, and obtained data from the California Natural Diversity Database (Diversity Database).

##### Distribution

The current species distribution of Kern mallow is similar to what we described in our 2013 review (Service 2013). Historically, Kern mallow was thought to have a very restricted range. At the time of listing, the species was known from only six locations in an approximately 40 square mile area; four of those occurrences were extant in 1990 (Service 1990). At the time of our 2013 5-year review, there were 212 occurrences spread throughout Kern, San Luis Obispo, and

Ventura counties. The number of extant occurrences of Kern mallow has greatly increased since listing (Table 1), primarily because we now consider more than one morphology to be Kern mallow than when it was listed (Service 2013). In addition, because the taxonomic description of Kern mallow has changed many times over the years, increased survey efforts and verification of herbarium specimens have found new occurrences or re-confirmed old occurrences (Service 2013; Diversity Database 2020).

**Table 1.** Number of extant occurrences of Kern mallow (*Eremalche parryi* ssp. *kernensis*) by county. Data from the Diversity Database (2020) and Service (1990, 2013).

	<b>Time of listing (1990)</b>	<b>2013 Status Review</b>	<b>Current</b>
Kern	4	45	85
Kings	0	0	1
San Luis Obispo	0	36	82
Santa Barbara	0	0	4
Tulare	0	1	3
Ventura	0	3	6
<b>Total</b>	<b>4</b>	<b>85</b>	<b>181</b>

### Abundance

Kern mallow is an arid-land annual plant whose population size can vary greatly depending on rainfall—a lack of Kern mallow at a location one year can be followed by hundreds of individuals the next. Because of this variation, it is difficult to determine the population dynamics and trends without multiple years of tracking, and there is not well-established, repeated monitoring of any Kern mallow occurrences.

### Threats

At the time of listing, the primary threats to the species were identified as destruction and adverse modification of habitat due to agricultural land conversion, water development and exploration, off-road vehicle use, oil and gas exploration and development, maintenance and expansion of existing transmission corridors, installation of telecommunication and electrical line construction, mineral extraction, livestock grazing, and competition from nonnative grasses. Threats to the species identified at the time of the 2013 5-year review include: habitat conversion, mining, oil and gas extraction and conveyance, off-road vehicle use, solar power developments, inappropriate livestock grazing, competition from nonnative grasses, nitrogen deposition, loss of pollinators, and climate change. There is no evidence that the status of these threats has changed. Currently, the primary threats to the species throughout its range include: habitat loss and fragmentation due to agricultural and urban development, oil, gas, and other mining exploration, competition with nonnative grasses, and climate change (Diversity Database 2020). As described in the last review, climate change has the potential to alter the timing and synchronicity of ecosystem processes, including the germination, growth, and pollination of

Kern mallow. Climate change will likely affect the structure, composition, and productivity of plant communities (Service 2013).

Development projects that are subject to sections 7 and 10 of the federal Endangered Species Act (Act) typically include habitat compensation, which can reduce the severity of overall habitat loss typically associated with these projects. Habitat compensation can occur via a variety of mechanisms, including the purchase of credits at approved conservation banks or through permittee responsible mitigation. There are currently no conservation banks that cover the Kern mallow.

## Conservation

### *Permittee-Responsible Mitigation*

Permittee-responsible mitigation, also sometimes referred to as turn-key mitigation, includes activities or projects undertaken by a permittee (or authorized agent) to provide compensatory mitigation to offset impacts from a single project. The permittee retains full responsibility for this mitigation. Ideally, permittee-responsible mitigation projects are established in advance of the project-related impacts they are offsetting; however, this typically does not occur due to multiple factors. Habitat compensation through permittee responsible mitigation for the Kern mallow has occurred within its range. Approximately 230 acres have been conserved by the California High-Speed Train System: Fresno to Bakersfield Section Project (Service 2018).

### *Habitat Conservation Plans*

Habitat Conservation Plans (Habitat Conservation Plans) are planning documents required as part of an application for an incidental take permit. They describe the anticipated effects of the proposed taking; how those impacts will be minimized, or mitigated; and how the Habitat Conservation Plan is to be funded. Habitat Conservation Plans can apply to both listed and non-listed species, including those that are candidates or have been proposed for listing. Regional Habitat Conservation Plans develop large-scale conservation strategies within a specific region that are designed to conserve functional ecological systems, and the covered species that depend on them. Such Habitat Conservation Plans aim to avoid a fragmented conservation landscape by working with local land use authorities and a designated implementing entity to conserve, enhance, and manage a preserve system. Project-level Habitat Conservation Plans are designed to fully offset the impacts associated with the permitted activity by contributing to a larger conservation design.

Being included as a covered species under a Habitat Conservation Plan can result in habitat being set aside and managed for the species as mitigation for impacts associated with covered activities, such as planned urban development, within the Habitat Conservation Plan permit area. In addition to mitigation, avoidance, minimization, and other conservation measures (e.g. monitoring, seasonal work windows, habitat management, etc.) are implemented. Habitat Conservation Plans can also utilize banks, in-lieu fee programs, or other mechanisms to preserve habitat in perpetuity and contribute to a regional conservation strategy.

The following are Habitat Conservation Plans that include this species and the year the permit for the Habitat Conservation Plan was issued: PG&E San Joaquin Valley Operations &

Maintenance Habitat Conservation Plan 2007, Nuevo-Torch 1999, Kern Water Bank 1997, Chevron Pipeline 1996, and ARCO Coles Levee (ARCO Western Energy) 1996. More information about Habitat Conservation Plans that include Kern mallow as a covered species can be found at: <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=1731>

### *Recovery Permits*

Recovery permits, also referred to as 10(a)(1)(A) permits, allow scientists to take listed species as a means to ultimately contribute to the recovery of the listed species. The data acquired from some actions covered under recovery permits (e.g., occurrence, abundance, distribution, etc.) allow the Service to make informed decisions for the species that will enhance their survival and recovery. Recovery permits can be issued for activities that directly aid the recovery of a species, such as seed collecting, reintroductions, habitat restoration, removal or reduction of threats, and educational programs. The Service's recovery permitting program aids in the conservation of listed species by ensuring permittees have adequate field experience and qualifications for conducting activities with the target listed species and, for most species, ensures that permittees are following standardized protocols while surveying. The recovery permitting application process ensures that scientific proposals are crafted using the recommended actions laid out in the Recovery Plan for the target species. There is currently no protocol survey guidance for Kern mallow; however, there are minimum qualifications to obtain a recovery permit for the species. Minimum qualifications can be found at: <https://www.fws.gov/sacramento/es/Permits/>

To date, no new information about this species has been acquired through the recovery permitting program. However, the Santa Barbara Botanical Garden has used a recovery permit to collect and store Kern mallow seeds for future research and conservation needs.

### *Recovery Criteria*

The Kern mallow's recovery strategy is described in the Recovery Plan for Upland Species of the San Joaquin Valley, California (Service 1998). The downlisting and delisting criteria for the Kern mallow include:

#### Downlisting

1. Secure and protect specified recovery areas from incompatible uses:
  - a. 95% of occupied habitat on public lands;
  - b. 75% of population and 75% of occupied habitat in Lokern.
2. Management Plan approved and implemented for recovery areas in the Lokern Area that include survival of the species as an objective.
3. Population monitoring in specified recovery areas shows stable or increasing populations through a precipitation cycle.

#### Delisting

1. Secure and protect specified recovery areas from incompatible uses:
  - a. 90% or more each of population and occupied habitat in Lokern;
  - b. Two or more distinct populations outside the Lokern Natural Area.

2. Management Plan approved and implemented for all protected areas that include survival of the species as an objective.
3. Population monitoring in specified recovery areas shows no decline after downlisting. If declining, determine cause and reverse trend.

The recovery criteria analysis in the 2013 5-year review still remains valid (Service 2013). As described in the 2013 5-year review, none of the recovery criteria have been fully met. In addition, because the recovery criteria for Kern mallow were written when it was believed the species only occurred in a small portion of Kern County, the habitat protection downlisting and delisting criteria do not address the needs of the taxon outside of Lokern. Furthermore, without the implementation of range-wide surveys we do not know what proportion of the species' range is occupied, what proportion is in public/conservation ownership, or the current status of some occurrences (i.e., stable, increasing, decreasing).

### **Conclusion:**

After reviewing the best available scientific information, we conclude that Kern mallow (*Eremalche kernensis* = *E. parryi* ssp. *kernensis*) remains an endangered species. Although there has been an increase in the number of occurrences reported in the Diversity Database since the time of listing and 2013 5-year review, expanding the known range of the species, many of the previously identified occurrences have not been visited in some time. In addition, most of the occurrences that are identified as extant in the Diversity Database have not been regularly surveyed, so their current status is unknown. Therefore, due to the uncertainty of the status of many of the occurrences throughout the species' range, we recommend no change in the species' status. However, because the species' known range has expanded and the number of occurrences distributed throughout the range has increased, we acknowledge the results of future range-wide surveys may indicate a potential change in status for Kern mallow. As described below, we recommend a comprehensive evaluation of these occurrences to validate the status of the species at these locations, which would provide a stronger assessment for our next status review.

### **RECOMMENDATIONS FOR FUTURE ACTIONS:**

The following recommendations for future actions are from the 2013 five-year review, scientific literature, and as a result of discussions with species experts.

1. Conduct more robust genetic testing to determine the distinction between Kern mallow (*Eremalche parryi* ssp. *kernensis*) and the closely-related Parry's mallow (*Eremalche parryi* ssp. *parryi*).
2. A comprehensive evaluation should be completed for all known occurrences (both extant and extirpated). The site-specific evaluation should include, at minimum, whether the species is present, estimated population/occurrence extent, extent of suitable habitat, and an in-depth analysis of threats at that location. Field surveys for the evaluation should be timed for favorable conditions, such as in the first wet year following a drought.
3. Conduct yearly surveys utilizing a standardized methodology to determine trends in the range-wide status of the species as well as population/occurrence abundance.
4. Monitor known populations of Kern mallow during multiple precipitation/drought cycles to gain a better understanding of the ecology of the species and how it interacts with grazing and with other species (both native and non-native).

**Field Supervisor, Sacramento Fish and Wildlife Office**

Approve MICHAEL SENN Digitally signed by MICHAEL SENN  
Date: 2020.08.26 15:35:53 -07'00' Date \_\_\_\_\_

## LITERATURE CITED

- [Diversity Database] California Natural Diversity Database. 2020. Natural Heritage Division. California Department of Fish and Wildlife, State of California. Element Occurrence Reports for *Eremalche parryi ssp. kernensis*. Unpublished cumulative data current to January 2020.
- [Service] U.S. Fish and Wildlife Service. 1990. Endangered and threatened wildlife and plants; determination of endangered status for five plants from the Southern San Joaquin Valley. Federal Register 55: 29361-29370. July 19, 1990.
- [Service] U.S. Fish and Wildlife Service. 1998. Recovery Plan for Upland Species of the San Joaquin Valley, California. Region 1. U.S. Fish and Wildlife Service, Portland Oregon.
- [Service] U.S. Fish and Wildlife Service. 2013. *Eremalche kernensis* (Kern mallow) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Sacramento, California. Finalized August 2013. 73 pp.
- [Service] U.S. Fish and Wildlife Service. 2018. *Reinitiation of Formal Consultation on the California High-Speed Train System: Fresno to Bakersfield Section Project, Fresno, Tulare, Kings, and Kern Counties*. Biological Opinion for the California High-Speed Rail Authority and the Federal Railroad Administration.