

Hickman's potentilla (*Potentilla hickmanii*)

**5-Year Review:
Evaluation and Summary**



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GENERAL INFORMATION:

Species: Hickman's potentilla (*Potentilla hickmanii*)

Date listed: August 12, 1998

FR citation(s): 63 FR 43100

Classification: Endangered

Critical Habitat Designation:

We have not designated critical habitat for Hickman's potentilla.

State Listing:

The state of California classified Hickman's potentilla as endangered in 1979 (CNDDDB 2025, p. 17).

BACKGROUND:

Species overview:

Hickman's potentilla is an herbaceous perennial plant with prostrate to decumbent stems 5-25 centimeters long with yellow flowers. Hickman's potentilla is known from coastal terraces and hillsides within one mile of the coast in San Mateo and Monterey Counties (CNDDDB 2020, data; Service 2009, pp. 6-7; Van Fleet Brown 2015, pp. 16-27). The vegetation communities are grass dominated with forb and shrub components. The grasslands where Hickman's potentilla occurs are interspersed or bordered by coastal scrub and Monterey pine forest. A description of associated plant species is found in the previous 5-year review (Service 2020, p. 4).

Most recent status review:

[Service] U.S. Fish and Wildlife Service. 2020. Hickman's potentilla (*Potentilla hickmanii*) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service Ventura Fish and Wildlife Office. Ventura, CA. 13 pp.

We did not recommend a change to the status of Hickman's potentilla in the 2020 5-year review (Service 2020, p. 11).

FR Notice citation announcing this status review:

[Service] U.S. Fish and Wildlife Service. 2024. Endangered and Threatened Wildlife and Plants; Initiation of 5-Year Status Reviews of 59 Pacific Southwest Species. October 16, 2024.

ASSESSMENT:

Information acquired since the last status review:

The U.S. Fish and Wildlife Service’s (Service) Ventura Fish and Wildlife Office (VFWO) conducted this 5-year review. We announced the review through a Federal Register notice on October 16, 2024 (Service 2024). We also conducted a literature review and collected information from land managers regarding the populations they manage and conducted informal site visits.

Abundance:

We consider there to be two extant populations of Hickman’s potentilla: the Indian Village population in Monterey County, and the Montara population in San Mateo County. The Indian Village population occurs within approximately 0.33 acres (ac) of grassland habitat managed by the Del Monte Forest Conservancy (DMFC) bordered by Monterey pines, a golf course, and residential development. The Montara population consists of a series of subpopulations covering approximately 50 ac within coastal prairie, grassland, and coastal scrub habitat managed by the National Park Service (NPS) as part of the Golden Gate National Recreation Area (GGNRA).

Since listing in 1998, the Indian Village population has been very small, with as few as eight individuals and as many as 79 following outplanting efforts (Table 1) (Service 2009, pp. 5-6; DMFC 2016, p. 5; Vaughan 2020, pers. com.; McCorkle 2020, pers. com.). Intermittent outplanting, weed management, and herbivore control since the early 1990s (Service 2009, p. 5) and as recently as 2015–2020 (DMFC 2016, entire; Vaughan 2020, pers. com.; Service 2020) likely aided in preventing the loss of the population. However, the population has recently declined to about 20 individuals from the high of 79 in 2020 (Table 1). Herbivory, mold, competition, and possibly drought have driven the recent mortality (Vaugh 2025, pers. com.).

The Montara population occurs on land that was formerly owned by the Peninsula Open Space Trust and transferred to NPS in 2011 (NPS 2020). Monitoring and weed control have increased since NPS began management of the population. Monitoring by NPS since 2013 suggests that the average population size is closer to 6,500 individuals (Chasse et al 2024, pp. 45-48), in comparison to historical averages between 2,000 and 3,000 (Service 2009, p. 5). NPS is currently engaged in restoration activities to support and expand the existing patches of the Montara population through shrub removal (mostly *Cotoneaster* spp.) in conjunction with grassland restoration and Hickman’s potentilla outplanting (E. Wrubel 2025, pers. com.). Seed propagated in park nurseries was used to outplant a total of 272 plants between 2022 and 2023 in or near known occupied habitat in this population (Chasse et al. 2024, p. 45).

Table 1. Number of individuals of Hickman’s potentilla observed at the Montara and Indian Village populations since 2017.

	2017	2018	2019	2020	2021	2022	2023	2024	2025
Montara	6,975	6,304	>1000 ¹	5,081	6,164	7,496	NA	7,453	NA
Indian Village	14	66	42	79	NA	NA	NA	NA	~20

¹Visual estimation only

In addition to the two extant populations, the Service funded an effort to establish a population of Hickman's potentilla at Point Lobos State Park in 2006 (Service 2009, p. 7; Doak et al. 2008, pp. 6-12). Approximately 800 plants were initially planted (Doak et al. 2008, pp. 6, 12), but after high survivorship in 2007, the number of plants declined throughout 2008 and 2009 and all plants were presumed dead by 2012 (Doak et al. 2008, pp. 12-14; unpublished data). Observations of one to two plants in recent years (Service 2020, p. 5), including a single plant in 2024 (T. Lemein, personal observation), suggest that the habitat could still support the species, although persistent weed management and monitoring would be required.

Seed Banking

In 2020, NPS partnered with the University of California Botanical Garden to establish a seed bank of the Montara population. Seed collection occurred from 2020 through 2023. The seeds from this effort are stored at the University of California Botanical Garden and the National Laboratory for Genetic Resources Preservation in Fort Collins, CO. A subset of this seed was used for the propagation/outplanting at the Montara populations.

Threats:

At the time of listing, habitat loss due to development, vandalism and recreation, invasive species, and small population effects were identified as the primary threats to Hickman's potentilla (Service 1998, 63 FR 43109-43112). Herbivory was recognized as an additional threat in the Recovery Plan (Service 2004, pp. 32-33). In the 2009 5-year review, climate change was added as a potential threat while vandalism was considered no longer to be a threat (Service 2009, pp. 8-11). The 2020 5-year review reiterated these threats but noted that the chance of direct development had been reduced since the Indian Village population is protected and managed by DMFC and the Montara population is protected and managed by the NPS (Service 2020, p. 6). The threat analysis in the 2020 5-year remains current (Service 2020, pp. 6-9).

Evaluation of Recovery Criteria:

Downlisting criteria for Hickman's potentilla are listed in the Recovery Plan for Five Plants from Monterey County, California (Recovery Plan) (Service 2004, pp. 53-54). Downlisting criteria have not been met, thus delisting criteria are not assessed here. Paraphrased criteria are provided below along with the current status.

1. At least five populations are stable or have increasing abundance based on 10 years of monitoring in suitable habitat.

This criterion is partially met. Only one population (Montara) appears to have stable abundance in suitable habitat.

2. All five populations (inclusive of the Indian Village and Montara populations) occur on land protected from detrimental disturbance where the conservation of the species is a focus of management with adequate funding to allow for appropriate long-term

management. The populations occur on land of adequate size to allow from ecosystem and community processes to occur.

This criterion is partially met. The two populations are protected from direct development based on their ownership but adequate funding for management activities is annually variable and often inadequate. Restoration activities at the Montara population have increased habitat suitability but gains made are likely to be lost if management efforts decline.

3. Invasive species and herbivores are controlled so that they are not negatively affecting Hickman's potentilla.

This criterion is partially met. Annual vegetation management in the Montara population focuses on protected coastal prairie habitat through removal of nonnative invasive species (E. Wrubel 2025, pers. com.), but the Indian Village population continues to experience mortality from invasive species and herbivores which has resulted in population declines.

4. Populations have been managed such that monitoring demonstrates that each population is stable or increasing, based on size, density, and number.

This criterion is partially met. Monitoring data collected by NPS suggest the Montara population may be stable (Table 1; Chasse et al. 2024, pp. 47-48), while the available data from the Indian Village population suggest that abundance is declining (Table 1).

5. An *ex situ* seed bank has been established at a facility recognized by the Center for Plant Conservation.

This criterion is partially met. Seed from the Montara population is stored at the University of California Botanical Garden and the National Laboratory for Genetic Resources Preservation, Fort Collins, CO. Seed from the Indian Village population is stored at the University of California, Davis (Service 2020, p. 6). This criterion will be considered met when seed from each population has undergone viability testing.

Conclusion:

Currently, invasive and non-native grasses, as well as habitat conversion to shrub or tree dominated vegetation communities, herbivory, stochastic events, recreation, and climate change are the greatest threats to Hickman's potentilla. In consideration of the very low abundance in Monterey County, and the identified threats, we conclude that Hickman's potentilla remains an endangered species.

RECOMMENDATIONS FOR FUTURE ACTIONS:

We recommend the following actions:

1. Establish outplanting and management program at Indian Village. Management should include grassland restoration, competitive vegetation control, and herbivory control.
2. Expand Montara populations to new areas of suitable habitat and increase abundance of existing but small patches.
3. Reintroduce Hickman's potentilla to Point Lobos with adequate funding for a sustained management program.
4. Develop a common garden experiment and genetic study to assess whether seed from each population should be kept separate or mixed.
5. Identify additional introduction sites in San Mateo and Monterey Counties.
6. Continue seed banking efforts until adequate seed from both populations have been stored.

Lead Field Supervisor, Fish and Wildlife Service

Approved by

LITERATURE CITED:

- Chasse, M., A. Wu, K. Jones, and E. Wrubel. 2024. Threatened and Endangered Vascular Plant Species Activities within the Golden Gate National Recreation Area Calendar Year 2024 Permit #: TE036499-9. Report prepared for the Endangered Species Division Sacramento and Ventura Offices U.S. 51 pp.
- [CNDDDB] California Natural Diversity Database. 2025. State and Federally Listed Endangered, Threatened, and Rare Plants of California. California Department of Fish and Wildlife. Sacramento CA. January 2025. 26 pp.
- [CNDDDB] California Natural Diversity Database. 2020. Element occurrence reports of *Potentilla hickmanii*. California Department of Fish and Game, Natural Heritage Division.
- Doak, D., M. Goldman, S. Langridge. 2008. Propagation and establishment of a new population of *Potentilla hickmanii*, final report. Prepared for U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, Ventura, California. January 2008. 22 pp.
- [DMFC] Del Monte Forest Conservancy. 2016. Hickman's *Potentilla* (*Potentilla hickmanii*) Management Project at Indian Village, Pebble Beach, Monterey County. Report prepared for work conducted under U.S. Fish and Wildlife Service Award F15AP00699 and California Department of Fish and Wildlife Permit 2081(a)-15-006-RP. December 30, 2016. 10 pp.
- [NPS] National Park Service. 2020. Press release on web: Rancho Corral de Tierra Transferred to Golden Gate National Recreation Area. Published on December 12, 2011 at <https://www.nps.gov/goga/learn/news/rancho-release.htm>. Accessed July 17, 2020.
- [Service] U.S. Fish and Wildlife Service. 1998. Endangered and threatened wildlife and plants; final rule listing five plants from Monterey County, CA, as endangered or threatened. 63 FR 43100-43116.
- [Service] U.S. Fish and Wildlife Service. 2004. Recovery Plan for Five Plants from Monterey County, California: *Astragalus tener* var. *titi* (coastal dunes milk-vetch), *Piperia yadonii* (Yadon's piperia), *Potentilla hickmanii* (Hickman's potentilla), *Trifolium trichocalyx* (Monterey clover), *Cupressus goveniana* ssp. *goveniana* (Gowen cypress). U.S. Fish and Wildlife Service, Portland, Oregon. xii + 159 pp.
- [Service] U.S. Fish and Wildlife Service. 2009. *Potentilla hickmanii* (Hickman's potentilla) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service Ventura Fish and Wildlife Office. Ventura, CA. 18 pp.
- [Service] U.S. Fish and Wildlife Service. 2020. Hickman's potentilla (*Potentilla hickmanii*) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service Ventura Fish and Wildlife Office. Ventura, CA. 13 pp.
- [Service] U.S. Fish and Wildlife Service. 2024. Endangered and Threatened Wildlife and Plants; Initiation of 5-Year Status Reviews of 59 Pacific Southwest Species. October 16, 2024.

Van Fleet Brown, J. 2015. Plant dynamics and soils influencing ecological restoration of *Potentilla hickmanii* at Rancho Corral de Tierra, San Mateo County, California. Report prepared in partial fulfillment of the requirements for a Bachelor of Arts degree from Carleton College, Northfield, Minnesota. March 11, 2015. 115 pp.

Personal Communications

McCorkle, D. 2020. Email from Dennis McCorkle to Todd Lemein regarding counts of Hickman's potentilla at Indian Village. July 25, 2020.

Vaughan, B. 2020. Email from Bill Vaughan to Todd Lemein regarding counts of Hickman's potentilla at Indian Village. July 20, 2020.

Vaughan, B. 2025. Email from Bill Vaughan to Todd Lemein regarding counts of Hickman's potentilla at Indian Village. May 1, 2025.

Wrubel, E. 2025. Phone conversation between Eric Wrubel and Todd Lemein regarding management efforts for Hickman's potentilla on Golden Gate National Recreation Area property. May 1, 2025.