U.S. Fish & Wildlife Service

Draft Recovery Plan for the Coastal California Gnatcatcher (*Polioptila Californica Californica*)

Photo: Coastal California gnatcatcher (Polioptila californica californica) *and habitat.*
Credit: Gjon Hazard (U.S. Fish and Wildlife Service).

U.S. Fish and Wildlife Service

Pacific Southwest Region

Carlsbad Fish and Wildlife Office

July 2025

Approved: XXXXXXXXXXXXXXXX

Regional Director, Pacific Southwest Region, Region 8
U.S. Fish and Wildlife Service

PURPOSE AND DISCLAIMER

This document presents the U.S. Fish and Wildlife Service's (Service) plan for the conservation of coastal California gnatcatcher. The recovery plan is the second part of the Service's three-part recovery planning framework and includes the statutorily required elements pursuant to section 4(f) of the Endangered Species Act (Act). This recovery plan is informed by the first part of the framework, a Species Status Assessment (SSA). The SSA report delivers foundational science for informing decisions related to the Act and includes an analysis of the best available scientific and commercial information regarding a species' life history, biology, and current and future conditions that characterizes the species' viability (i.e., ability to sustain populations in the wild over time) and extinction risk. We have also prepared a Recovery Implementation Strategy (RIS), the third part of the framework. The RIS is an easily updateable operational plan that is separate and complimentary to the recovery plan that details the on-the-ground recovery activities needed to complete the recovery actions contained in the recovery plan.

Recovery plans describe the envisioned recovered state for a listed species (when it should no longer meet the Act's definitions of an endangered or threatened species) and include a recovery strategy, recovery criteria, recovery actions, and the estimates of time and cost needed to achieve it. Plans are published by the Service and are often prepared with the assistance of recovery teams, contractors, State agencies, and others. Recovery plans do not necessarily represent the views, official positions, or approval of any individuals or agencies involved in plan formulation, other than the Service. They represent the official position of the Service only after they have been signed by the Regional Director as approved. Recovery plans are guiding and planning documents only; identification of an action to be implemented by any public or private party does not create a legal obligation beyond existing legal requirements. Nothing in this plan should be construed as a commitment or requirement that any Federal agency obligate or pay funds in any one fiscal year in excess of appropriations made by Congress for that fiscal year in contravention of the Anti-Deficiency Act, 31 U.S.C. 1341, or any other law or regulation. Approved recovery plans are subject to modification as dictated by new findings, changes in species status, and completion of recovery actions.

Recommended Citation:

Literature citation should read as follows:

U.S. Fish and Wildlife Service. 2025. Draft recovery plan for coastal California gnatcatcher (*Polioptila californica californica*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. 13 pp.

An electronic copy of this Draft recovery plan[1] is available.

[1] https://ecos.fws.gov/ecp/species/8178.

ACKNOWLEDGEMENTS

This draft recovery plan for the coastal California gnatcatcher was completed by Sandra Hamilton with extensive review and support from Gjon Hazard and Will Miller. Emilie Luciani and Bradd Baskerville-Bridges also contributed to development of this plan. Special thanks to Samantha Robinson who provided the finishing touches to complete this Recovery Plan.

The recovery planning process has benefitted from the advice and assistance of many individuals, agencies, and organizations. We thank the Ventura Fish and Wildlife Office for their thorough review and contributions to help improve this document. We also thank our partners who play an active role in the conservation of the coastal California gnatcatcher. Numerous agencies provided information through surveys and research, and these agencies helped manage habitat and implement recovery actions. Their support over the years has contributed to a better understanding of this species, which has subsequently helped develop this draft recovery plan.

We would especially like to thank Amy Vandergast, Barbara Kus, and Kristine Preston from United States Geological Survey for their contributions of data and support of coastal California gnatcatcher recovery.

INTRODUCTION

This document presents the U.S. Fish and Wildlife Service's (Service) plan for the conservation and recovery of the coastal California gnatcatcher (*Polioptila californica californica*).

The goal of this recovery plan is to provide guidance on how to control or ameliorate impacts from current threats to the gnatcatcher, such that the species no longer requires protections afforded by the Endangered Species Act (Act) and therefore, warrants consideration for delisting. Pursuant to section 4(f) of the Act, a recovery plan must, to the maximum extent practicable, include (1) a description of site-specific management actions as may be necessary to achieve the plan's goals for the conservation and survival of the species; (2) objective, measurable criteria which, when met, would support a determination under section 4(a)(1) that the species should be downlisted or removed from the List of Endangered and Threatened Species; and (3) estimates of the time and costs required to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal. This draft recovery plan provides a description of the overall recovery strategy as well as specific recovery plan elements. In developing these plan elements, we recognize that continued coordination with our partners is needed to ensure that long-term protections are afforded to the gnatcatcher and its habitat.

This draft recovery plan is based on the Species Status Assessment for the coastal California gnatcatcher (USFWS 2025), which describes the species' life history and biology, status, and threats. The Species Status Assessment is summarized below. Specific activities necessary for implementing this plan's proposed recovery actions are described in the Recovery Implementation Strategy. Both the Species Status Assessment and the Recovery Implementation Strategy are available on the Environmental Conservation Online System and will be updated as necessary.

SUMMARY OF SPECIES STATUS ASSESSMENT

The U.S. Fish and Wildlife Service (Service, we) listed the coastal California gnatcatcher as threatened in 1993 under the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. § 1531 *et seq*.) (USFWS 1993). We designated critical habitat for the species in 2007 (USFWS 2007). The gnatcatcher is not listed by the State of California under the California Endangered Species Act. The primary threats to the subspecies at listing were degradation of habitat and fragmentation. Since then, impacts from many threats, particularly urban and agricultural development, have been considerably managed or ameliorated through the implementation of regional Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs). However, some of the gnatcatcher's range is not covered by HCPs/NCCPs and, in areas where there are no active conservation planning efforts underway, suitable habitat that is not yet conserved continues to be threatened by urban development and other stressors. In 2025, we completed the Species Status Assessment for the Coastal California Gnatcatcher (SSA; USFWS 2025).

The gnatcatcher is a small, non-migratory songbird in the Polioptilidae family with a range from Ventura County south to just north of Ensenada, Baja California, Mexico at about 32° N latitude (Grinnell 1926; Atwood 1991; AOU 1998; Atwood and Bontrager 2020). Within this range, the preferred habitat of the gnatcatcher is coastal sage scrub (CSS) plant communities. To maintain

the resiliency of the subspecies, certain individual and population-level needs must be met. The individual needs of the gnatcatcher identified in the SSA include sufficient quantity and quality CSS habitat, habitat corridors for dispersal, insect prey base, and other individuals for mating. At the population level, gnatcatchers require abundant individuals (abundance) within connected habitat patches of adequate area and quality (dispersal) to maintain survival and reproduction (survival and fecundity) despite disturbance (population resiliency). At the species level, multiple, resilient, connected populations with a breadth of genetic and environmental diversity are needed to maintain gnatcatcher viability.

The primary factors, or threats, currently influencing the viability of the coastal California gnatcatcher include urban development, wildland fire, vegetation type conversion, and climate change. Secondary factors we expect to continue to impact the gnatcatcher into the future include brood parasitism, grazing, and fragmentation. These threats can operate independently and synergistically. For example, as climate change occurs, it is predicted that hotter and drier conditions may promote a fire regime of increased frequency and intensity, thus creating conditions more favorable for vegetation type conversion of CSS to nonnative annual grassland, which would be unsuitable for gnatcatchers.

RECOVERY STRATEGY

Recovery of the coastal California gnatcatcher requires that enough interconnected habitat distributed throughout the range is conserved to ensure the species' long-term viability. The recovery strategy presents the overall or broad-brush approach we are taking to achieve recovery. This strategy addresses the threat of habitat degradation due to changes in natural fire regimes and succession, and urban and agricultural development. We also focus on accommodating potential range shifts that may be necessary to accommodate distributional adjustments due to changes in precipitation and temperature. Habitat for the gnatcatcher may be increased and improved through properly implemented management actions to favor optimal habitat quantity, quality, and connectivity. Our primary tool for gnatcatcher recovery is the development and implementation of landscape conservation plans, including regional Habitat Conservation Plans (HCPs) and California Department of Fish and Wildlife Natural Community Conservation Plans (NCCPs) to conserve and manage gnatcatcher habitat throughout its range.

The highest priorities for the recovery of the gnatcatcher are to: (1) increase the resiliency of populations by managing or ameliorating ongoing threats, improving our understanding of population demographics, and monitoring populations with appropriate protocols to assess trends and likelihood of persistence; (2) increase the redundancy of the species by ensuring occupancy is maintained or increasing in all six geographic units described in the SSA; and (3) improve the representation of the species through conservation of habitat corridors that connect larger habitat areas, and research to better understand genetic diversity, the factors driving that condition, and potential conservation actions needed to increase representation.

RECOVERY CRITERIA

An endangered species is defined in the Act as a species that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely

to become an endangered species within the foreseeable future throughout all or a significant portion of its range. When we evaluate whether a species warrants downlisting or delisting, we consider whether the species meets either of these definitions. A recovered species is one that no longer meets the Act's definitions of threatened or endangered due to amelioration of threats. Determining whether a species should be downlisted or delisted requires consideration of the same five categories of threats that were considered when the species was listed, and which are specified in section 4(a)(1) of the Act.

Recovery criteria are conditions that, when met, indicate that a species may warrant downlisting or delisting. Thus, recovery criteria are mileposts that measure progress toward recovery. They are our best assessment at this time of what needs to be completed to recover the species so it may be removed from the list of threatened and endangered species. Because we cannot envision the exact course that recovery may take, and our understanding of the vulnerability of a species to threats is likely to change as more is learned, it is possible that a status review may indicate that delisting is warranted although not all recovery criteria are met. Conversely, it is possible that the recovery criteria could be met, and a status review may indicate that delisting is not warranted.

DELISTING CRITERIA

The coastal California gnatcatcher may be considered for delisting when all the following criteria are met:

1. A rangewide minimum effective population (N_e) size of 1,000 is maintained over a 20-year period as an indication of long-term genetic fitness.

   Rationale for Criteria 1: To ensure long-term viability of coastal California gnatcatcher, there needs to be enough individuals to sustain genetic diversity and evolutionary potential. Reaching the target effective population size will illustrate amelioration of threats to adults, nest, and chicks, such as brood parasitism, predation, disease, and habitat fragmentation, and will demonstrate that there is sufficient connectivity among occupied areas to sustain genetic diversity. A N_e of 1000 is sufficient to maintain long-term genetic fitness (Frankham *et al*. 2014). Maintaining that level of abundance for 20 years will provide sufficient resiliency over multiple fire cycles, and cycles of occupancy monitoring.

2. Occupied areas are interconnected by dispersal corridors, represented by at least average 5 percent suitable habitat within 30-km radius throughout each analytical unit to maintain genetic diversity and adaptive capacity.

   Rationale for Criteria 2: Habitat connectivity is a primary means to facilitate dispersal. Increased dispersal promotes geneflow that helps maintain or increase genetic diversity in coastal California gnatcatcher populations. Areas with more connected habitat have been shown to have higher allelic richness and larger populations, as measured by the amount of suitable habitat within 30-km buffers throughout each analytical unit

(Vandergast *et al*. 2019). Maintaining or achieving this level of habitat connectivity will mitigate existing and future threats from habitat fragmentation, such as increased predation rates, genetic isolation, and increased risk of extirpation.

3. Occupancy of coastal California gnatcatcher is maintained or increasing throughout all six analysis units in the United States and in Baja California, Mexico over a 20-year period, to support naturally fluctuating subpopulations that provide species redundancy to provide protection from catastrophic events such as drought and wildfire.

   Rationale for Criteria 3: Maintaining or increasing occupancy levels throughout all six analysis units will illustrate that gnatcatchers are distributed throughout the range, supporting increased resiliency, redundancy and representation. Measuring occupancy over a 20-year period will provide sufficient time to identify trends given the frequency of monitoring, as current surveys are spaced every 3–4 years, and to cover a fire cycle. Currently there are only two rangewide estimates of occupancy, and more years are needed to evaluate whether the current rangewide and regional occupancy rates are sufficient to ensure long term, rangewide occupancy and to serve as a rigorous evaluation of population trends (Kus *et al*. 2024). Regional occupancy modeling will also provide information relative to the resiliency to other demographic threats, such as predation and brood parasitism. Coastal California gnatcatcher occupancy varies relative to habitat suitability, time since burning. As regional monitoring continues, trends in gnatcatcher occupancy, and potential thresholds for sufficient occupancy, will be clarified. Current estimates also do not incorporate the portion of the coastal California gnatcatcher range in Mexico, which should be estimated, where feasible.

4. Sufficient suitable habitat (measured as moderate or high levels of quantity and quality) is conserved and protected in all six analysis units (United States and Mexico) over a 20-year period to minimize population-level impacts from existing threats and stochastic events.

   Rationale for Criteria 4: Having sufficient amounts of quality habitat that is protected and managed for the coastal California gnatcatcher will minimize impacts associated with urban and agricultural development, nonnative species, recreation, and wildfire. Conserving habitat through acquisition or conservation easements will accommodate potential future shifts in distribution resulting from climate change. Management of protected habitat should be assured through conservation planning with partners to reduce or minimize habitat impacts from wildland fire and fuel modification. These efforts will also help maintain suitable habitat, minimize impacts from grazing, and prevent vegetation type conversion. Sufficient protected habitat will also support the gnatcatcher's ability to withstand environmental stochasticity.

RECOVERY ACTIONS

Some recovery actions for the coastal California gnatcatcher should be implemented in the near term to inform management actions addressing long-term goals. Comprehensive long-term actions must also begin and should be flexible enough to address possible changes in the future, including agencies' abilities to fund and participate in recovery actions. The actions listed below may be used to guide recovery planning, minimize impacts from projects that may affect the taxon or its critical habitat, and plan for future restoration.

Recovery actions are the prioritized, site-specific interventions that need to be taken to conserve, manage, restore, and enhance the current condition of coastal California gnatcatcher and its habitat to meet the recovery criteria. Priority 1 actions are defined as those actions that current available information suggests must be taken to prevent extinction or to prevent the species from declining irreversibly in the foreseeable future. Priority 2 actions are those that must be taken to prevent a significant decline in population size or habitat quality or some other significant negative impact. Priority 3 actions are all other actions necessary to provide for full recovery of the species. The assignment of priorities does not imply that some recovery actions are of low importance, but instead implies that lower priority items may be deferred while higher priority items are being implemented. The specific operational tasks and activities required to implement the proposed recovery actions outlined within this plan are presented in the coastal California gnatcatcher RIS, which is a separate document that can be easily adjusted, therefore maximizing the flexibility of species recovery implementation. Table 1 lists the threats under each of the five listing factors, the downlisting and delisting criteria, and the recovery actions that are needed for recovery of the coastal California gnatcatcher.

1. **Manage or minimize impacts from urban and agricultural development by conserving and managing coastal California gnatcatcher habitat (i.e., CSS habitat) rangewide through the implementation of the landscape conservation planning tools (for example, Service Habitat Conservation Plans (HCPs) or Conservation Benefit Agreements (CBAs) and/or California Department of Fish and Wildlife Natural Community Conservation Plans (NCCPs) or similarly effective mechanisms (Priority 1).** Areas to prioritize for protection include occupied and suitable habitat in the northern portion of the range and similar habitat in the southern analysis units where conservation planning is underway but has not been completed. Conserving and managing suitable habitat is required to maintain healthy resilient populations that contribute to species redundancy and representation. Much of the northern portion of the range does not fall under HCPs or other conservation mechanisms and is important to maintain representation. Significant conservation and management of coastal California gnatcatcher habitat has already been achieved under the subregional NCCP Planning Process but gaps in the envisioned conserved land network remain due to conservation plans that have not been completed. Completion of the NCCP planning process or alternative conservation actions should be taken to protect gnatcatcher habitat and maintain an interconnected and effective conserved and managed land network throughout the analysis units.

2. **Reduce the incidence of wildland fire in CSS habitat throughout the range to maintain a natural fire return interval (Priority 1).** Large scale wildland fire represents the most significant catastrophic threat to the gnatcatcher and its habitat. Reducing the incidence of human-caused wildfire will help support a natural fire regime, allowing coastal sage scrub (CSS) habitat to recover and gnatcatcher occupancy to restore between fire events.

3. **Conduct standardized regional monitoring of coastal California gnatcatcher to determine the status of the species throughout the range (Priority 2).** Rangewide monitoring will allow us to track trends in coastal California gnatcatcher occupancy/abundance, status, and distribution over time, allowing us to make informed management decisions.

4. **Restore and protect areas of lower quality habitat throughout the range that may include potentially suitable, suboptimal, or historically occupied habitat (Priority 2).** Restoring areas of lower quality habitat is important for improving and maintaining connectivity between habitat areas. Higher amounts of suitable habitat can support a greater number of gnatcatchers, supporting species resiliency. Developing techniques to effectively restore gnatcatcher habitat will ensure long-term success for restored areas.

5. **Control nonnative and other invasive vegetation from encroaching on existing and potentially suitable habitat that supports coastal California gnatcatcher throughout the range (Priority 2).** Maintaining and restoring habitat that supports the coastal California gnatcatcher will support healthy populations that contribute to redundancy and representation. This is especially important in areas that have experienced recent wildland fire to help prevent vegetation type conversion of suitable gnatcatcher habitat to nonnative grassland.

6. **Conduct research to inform management actions throughout the range of the species (Priority 3).** Numerous knowledge gaps exist related to the ecology of the coastal California gnatcatcher. Filling knowledge gaps will help us to make informed management decisions throughout the range of the species. Investigating habitat attributes that correlate with occupancy and localized extirpation will allow us to develop habitat-based management criteria and recommendations. Monitoring post-fire vegetation changes and gnatcatcher occupancy will allow us to better understand the effects of wildland fire on the coastal California gnatcatcher and support restoration efforts. Additional topics to focus on are the occupancy and distribution in Mexico, rangewide genetics, relationship of the gnatcatcher to vegetation composition, and the effects of climate change.

7. **Implement brown-headed cowbird (*Molothrus ater*) control where necessary to support coastal California gnatcatcher reproduction throughout the range (Priority 3).** Controlling brown-headed cow bird populations where needed will help

support the reproductive output of the coastal California gnatcatcher. Higher reproductive output will increase gnatcatcher occupancy and abundance, thus supporting species representation and redundancy.

Table 1. Crosswalk of Listing Factors, Threats under those Factors, Recovery Criteria, and Recovery Action Numbers for Coastal California Gnatcatcher.[1]

Listing Factor	Threat Description	Delisting Criteria	Recovery Actions
Factor A *The present or threatened destruction, modification, or curtailment of its habitat or range*	Urban Development Wildland Fire Vegetation Type Conversion Climate Change Grazing	3, 4, 5, 6	1, 2, 3, 4, 5, 6, 7
Factor E *Other Natural or Manmade Factors Affecting Its Continued Existence*	Brood Parasitism Fragmentation	1, 2, 7	4, 7

[1] Listing factors B, C, and D do not apply to the species currently.

ESTIMATED TIME AND COST OF RECOVERY ACTIONS

We estimate that the cost of completing the recovery actions such that the criteria have been met and the coastal California gnatcatcher may be considered for removal from the list of endangered and threatened species is $9.1 million plus additional cost to be determined (Table 2). We estimate that completion of these actions could be accomplished by 2053, assuming effective coordination and cooperation among necessary partners and stakeholders.

Table 2. Estimated Cost of Coastal California Gnatcatcher Recovery Actions.

Recovery Action	Priority	Estimated Cost
1. Manage or minimize impacts from urban and agricultural development by conserving and managing coastal California gnatcatcher habitat (i.e., CSS habitat) rangewide through the implementation of landscape conservation (e.g., HCP /CBA/NCCP planning process).	1	TBD
2. Reduce the incidence of wildland fire in CSS habitat to maintain a natural fire return interval.	1	TBD
3. Conduct rangewide monitoring of coastal California gnatcatcher throughout its range.	2	$2,800,000
4. Restore and protect other potentially suitable habitat.	2	TBD
5. Control nonnative and other invasive vegetation from encroaching on existing and potential habitat that supports coastal California gnatcatcher.	2	$4,500,000
6. Conduct research to inform management actions throughout the range of the species.	3	TBD
7. Implement brown-headed cowbird (*Molothrus ater*) control where necessary to support coastal California gnatcatcher reproduction.	3	$1,800,000

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