



U. S. Fish & Wildlife Service

Nevada Fish and Wildlife Office

Conserving the Biological Diversity of the Great Basin, Eastern Sierra, and Mojave Desert

Revised Recovery Plan for the Mojave Population of the Desert Tortoise Frequently Asked Questions

Q. What is the desert tortoise and where does it occur?

A. The desert tortoise is a reptile in the land tortoise family, Testudinidae. It has a high-domed shell that is greenish-tan to dark brown in color and elephant-like hind legs. Adults range in size from 8 to 12 inches and they can completely withdraw their heads and limbs into their shells. Desert tortoises reach sexual maturity between 12 and 20 years of age, and they may live 50 or more years in the wild.

Their diet consists of wildflowers, grasses, and cacti. They may obtain some of the water they need from the plants they eat, but they rely on available surface water after rains. A common defensive behavior when handled or threatened, is to empty their bladder, leaving them at a considerable disadvantage during dry periods.

The desert tortoise occurs in the Mojave and Sonoran deserts in southern California, southern Nevada, Arizona, and the southwestern tip of Utah in the U.S., as well as Sonora and northern Sinaloa in Mexico. The listed Mojave population of the desert tortoise (*Gopherus agassizii*) includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, northwestern Arizona, and southwestern Utah, and in the Sonoran (Colorado) Desert in California. The Sonoran population of the desert tortoise (*Gopherus morafkai*) in Arizona, south and east of the Colorado River, and Sinaloa and Sonora, Mexico is a candidate species.

Q. What is a Recovery Plan?

A. The goal of the Endangered Species Act (ESA) is to conserve the ecosystems upon which listed species depend and to recover species to levels where protection under the ESA is no longer necessary. Section 4 of the ESA directs the Service to develop recovery plans for the conservation and survival of a listed species. The Recovery Plan for the desert tortoise provides a description of the species and its habitat, summarizes the threats that caused the species to be listed under the ESA, and outlines actions by federal, tribal, and state agencies and other organizations to remove the threats so that the species is conserved into the future. Recovery plans do not obligate the expenditure of funds or require that actions be implemented.

The ESA requires that recovery plans provide measurable criteria for determining when a species is recovered, site-specific management actions, and estimates of the time required and the costs required in achieving recovery.

The Service typically engages stakeholders in the development of recovery plans, as the agency did with the desert tortoise. Public participation is entirely voluntary, but public support and participation, throughout the recovery planning and implementation process is crucial for successful recovery of these species.

Q. What are the unique features of this recovery plan, and how is it different from the previous plan?

A. The revised Plan takes a new approach to reversing tortoise population declines through a coordinated effort of science-based implementation and evaluation of conservation actions. Unlike the previous Recovery Plan, which focused on mitigation measures, this Plan recognizes the need to adjust to the accelerating pace of environmental change, and its impact on key resource management issues, such as corridors and connectivity.

For the first time ever, this Plan will be a living document that advances a natural resource management model where ongoing detection of changes and attribution of causes will provide the basic information on whether or not the desert tortoise, or its ecosystem, is changing beyond natural variability. By continuous examination of vulnerability, exposure, sensitivity, and adaptive capacity of the desert tortoise to environmental change, resource managers will be able to update the Plan as it is being implemented with conservation measures that will help the desert tortoise recover.

For example, when the revision of the 1994 Recovery Plan began, the extent to which the landscape of desert ecosystems might become modified as a result of the nation's renewable energy priorities could not be anticipated. To address the impact of renewable energy from the large increase in the number of proposed utility-scale projects within the range of the desert tortoise, the Service will be adding a chapter to the Plan that focuses on measures related to renewable energy projects. The chapter will make clear what recovery implementation will look like in light of renewable energy development and will provide specific recommendations to ensure recovery and continued habitat connectivity.

Q: How does this plan address tortoise conservation and renewable energy projects?

A: In the revised Plan, renewable energy development is discussed in a number of locations. However, to further address renewable energy, the Service will add a chapter to the Plan that specifically focuses on measures related to renewable energy projects. This chapter will make clear what recovery implementation will look like in light of renewable energy development and will provide specific recommendations to ensure recovery and continued habitat connectivity in light of such development.

Q. What are the current threats to the Mojave population of desert tortoise?

A. The list of possible causes of Mojave desert tortoise population declines is long and varied, but a clear pattern emerges – human activity in and around the desert underlies most threats to survival of tortoises in the wild. Mojave desert tortoises have been protected under the ESA since 1990, a recovery plan has been in place to increase populations since 1994, and agencies have applied enormous effort to conserve the species, yet their numbers continue to decrease. The reason for these declines is not understood. Unfortunately, conservation actions have been implemented opportunistically rather than through a scientific process to identify the actions expected to achieve the best results, evaluate success or failure, and change course when needed.

Most threats to the Mojave population of desert tortoise and its habitat are associated with land uses. Habitat loss, degradation, and fragmentation from urbanization, off-highway vehicle use in the desert, linear features such as roads and utility corridors, poor grazing management, mining, and military activities were cited as some of the primary reasons for the decline in desert tortoise populations. Disease and increased incidence of fire in the Mojave Desert have also been implicated in desert tortoise population declines. Global climate change and drought are potentially important long-term considerations with respect to recovery of the desert tortoise.

Q. Why has the Recovery Plan for the Mojave population of desert tortoise been revised?

A. The ESA requires the Fish and Wildlife Service (Service) to periodically review and update recovery plans. A 2002 General Accounting Office report and a 2004 assessment of the 1994 Recovery Plan recommended that the Service develop and implement a coordinated research strategy for linking land management decisions with research results and emphasized the need for a greater appreciation of the implications of multiple, simultaneous threats facing tortoise populations and a better understanding of the relative contribution of multiple threats on demographic factors (*i.e.*, birth rate, survivorship, fecundity, and death rate).

The revised Recovery Plan takes a new approach to reversing tortoise population declines through a coordinated effort of science-based implementation and evaluation of conservation actions. Regional recovery implementation teams will bring together partners from land management, scientific, conservation, and land-use groups to work together with the Service on implementing, tracking, and evaluating recovery actions. To help these teams apply the best available science, The Service has developed a system that explicitly describes the current understanding of what threatens tortoise populations and how recovery actions are predicted to reduce those threats. This system tracks where those actions are expected to have the greatest benefit and where implementation of conservation actions has occurred. The regional teams can then compare the performance of on-the-ground actions with what was expected, thereby informing future decisions and changing the course of action as necessary.

The revision incorporates the current understanding of the species' status and threats still facing the Mojave population of desert tortoise and its habitat. New strategic elements, recovery objectives and criteria designed to measure progress toward recovery and the effectiveness of recovery actions, and a decision support system that bolsters an adaptive management program have been carefully crafted to ensure the revised Recovery Plan is scientifically-based and defensible.

Q. What are the strategic elements of the Recovery Plan?

A. The strategic elements within the plan include the following: 1) Develop, support, and build partnerships to facilitate recovery; 2) protect existing populations and habitat, instituting habitat restoration where necessary; 3) augment depleted populations in a strategic, experimental manner; 4) monitor progress toward recovery, including population trend and effectiveness monitoring; 5) conduct applied research and modeling in support of recovery efforts within a strategic framework; and 6) implement a formal adaptive management program that integrates new information and utilizes conceptual models that link management actions to predicted responses by desert tortoise populations or their habitat.

Q. What are the estimated costs associated with the recovery of the Mojave population of desert tortoise?

A. The costs of recovery implementation are estimated to be approximately \$160 million over a 25 year period. Actual budgets will be determined through future planning efforts and as each recovery action is undertaken. Cost estimates are unavailable for several actions, such as research, due to uncertainties in the scope and magnitude of the specific task. Recovery Implementation Teams should guide recovery action priorities and develop updated budget projections within each recovery unit through the use of a decision support system.

Q. How many comments did the Service receive on the draft revised Recovery Plan?

A. The Service received 44 unique letters and over 6,000 form letters in response to the public review draft of the Recovery Plan published in August 2008. The Service also received four scientific peer reviews of the revised plan. In total, these letters and reviews comprised approximately 250 unique comments.

Q. How did the Service incorporate comments received on the draft revised Recovery Plan into the final plan?

A. Many of the comments contributed directly to the final Recovery Plan. An appendix in the Recovery Plan describes the most significant comments and how they were addressed.

Q. Who will be implementing recovery actions identified in plan?

A. The revised Recovery Plan emphasizes partnerships to direct and maintain focus on implementing recovery actions and a system to track implementation and effectiveness of those actions. Recovery Implementation Teams will be comprised of representatives from the Fish and Wildlife Service, Bureau of Land Management, National Park Service, Native American tribes, state wildlife agencies, military installations, county governments, scientists, and non-governmental stakeholder groups. The success of this revised Recovery Plan will rely heavily upon the involvement of partners and a commitment to implementing the strategic elements listed above coupled with a functioning adaptive management program.

Q. Can private land owners help with the recovery of the desert tortoise?

A. Most recovery efforts for the Mojave population of desert tortoise are directed toward federal land contained within "tortoise conservation areas." However, partnerships with private landowners can aid recovery of the species, especially on inholdings within or adjacent to tortoise conservation areas. This plan will help the Service direct federal funding to landowners for protection and restoration of this species, and enable landowners to protect their own interests with conservation agreements.

Q. How will alternative energy development be affected by the revised Recovery Plan?

A. The Recovery Plan recommends a number of recovery actions for the desert tortoise that would avoid, minimize, or mitigate potentially negative impacts that alternative energy development could have on the desert tortoise. These include; conserving intact desert tortoise habitat, securing lands/habitat for conservation, connecting functional habitat, tracking changes in the quantity and quality of desert tortoise habitat, and determining the importance of corridors and physical barriers to desert tortoise distribution and gene flow. To more comprehensively address renewable energy, the Service will soon add a renewable energy chapter that will act as a blueprint to allow the Service and

its partners to comprehensively address renewable energy development's relationship to desert tortoise recovery.

Q. How will climate change affect desert tortoises?

A. While little is known regarding specific direct effects of climate change on the desert tortoise or its habitat, predictions can be made about how global and regional precipitation regimes may be altered and about the consequences of these changes. Decreased precipitation, increased average temperatures, changes in appropriate food resources, and an increased occurrence of wild fires are predicted to occur in the areas where desert tortoises now live. As with all living things, desert tortoises will need to adapt to these changes, move to areas that are more environmentally compatible, or succumb to extinction. The Service knows that desert tortoises are very adaptable as they have existed in their current geographic location for many thousands of years, but because of changes to the habitat, their ability to move across the landscape to find suitable habitat has been reduced. The Plan addresses the necessity for providing desert tortoises with the geographical means to move across the landscape in response to climate change.

Q. What is the Desert Renewable Energy Conservation Plan and how does it work with this recovery plan?

A. The Desert Renewable Energy Conservation Plan (DRECP) was developed under the Natural Community Conservation Planning Act of California and is intended to provide an efficient and effective biological conservation and mitigation program that offers land use permit applicants with timing and cost certainty under the ESA and the California Endangered Species Act (CESA). When implemented, it is also intended to preserve, restore, and enhance natural communities and ecosystems that support ESA and CESA protected species within the DRECP geographic area. As a party to the development of the DRECP, the Service has worked closely with the other involved agencies and entities to ensure that DRECP recommendations and conclusions that affect the recovery of the desert tortoise are coordinated with those of the Recovery Plan.

Q. Will the revised Recovery Plan plan impact development?

A. The Recovery Plan will not impact development. Recovery plans for endangered and threatened species are advisory documents offering guidance to individuals or entities including those involved in the recovery of the species, the development and implementation of conservation plans (e.g., Habitat Conservation Plans), and others who potentially may require a permit for land use that may affect the species. Therefore, this Plan will be used as a guide to development in the geographic area where desert tortoises occur by describing a suite of best management practices that will, among other benefits, (1) assist in the appropriate siting of new development where desert tortoises and their habitat are least likely to be negatively affected; (2) offer a range of management actions that will either avoid, minimize, or mitigate the negative effects of development activities on desert tortoises and their habitat; and (3) aid in streamlining the Federal permitting processes under the ESA.

Q. Will the recent taxonomic classification for Sonoran population of the desert tortoise as a new species (*Gopherus morafkai*) change how the Mojave population (*Gopherus agassizii*) of desert tortoise is managed?

A: No. it will not change the way the Mojave and Sonoran populations of desert tortoise are managed. The Mojave population (tortoises north and west of the Colorado River) was analyzed completely

independent of the Sonoran population (tortoises south and east of the Colorado River). Likewise, conservation actions for both species (populations) have been managed separately.

Q. Given that the Mojave and Sonoran populations of desert tortoise are now recognized as different species, how does this change the protection that is afforded the Mojave population of the desert tortoise under the Endangered Species Act?

A. The range of both the Mojave and Sonoran populations of the desert tortoise remain the same. Both populations have essentially been managed and evaluated as separate entities since the Mojave population was listed as a distinct population segment. The Mojave population of the desert tortoise will be afforded the same protection as a species as it has been in the past.

Q. Where can a copy of the Revised Recovery Plan for the Mojave Population of Desert Tortoise be obtained?

A. Copies are available by contacting the Nevada Fish and Wildlife Office at the address below or by downloading the plan from the Service's web site at <http://www.fws.gov/nevada>.

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