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Via email and Federal eRulemaking Portal

<https://www.regulations.gov/commenton/BLM-2023-0001-0001>

July 5, 2023

Attn: Stephanie Miller, Deputy Division Chief for Wildlife Conservation

U.S. Department of the Interior

Director (630), Bureau of Land Management

1849 C St. NW, Room 5646

Washington, DC 20240

Attention: 1004-AE92

BLM_HQ_PRA_Comments@blm.gov

RE: BLM Proposed Rule: Conservation and Landscape Health; Docket (BLM-2023-0001)
(OMB Control Number 1004-0NEW and RIN 1004-AE92)

Dear Ms. Miller,

The Desert Tortoise Council (Council) is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

Both our physical and email addresses are provided above in our letterhead for your use when providing future correspondence to us. When given a choice, we prefer that the Bureau of Land Management (BLM) email to us future correspondence, as mail delivered via the U.S. Postal Service may take several days to be delivered. Email is an "environmentally friendlier way" of receiving correspondence and documents rather than "snail mail."

We appreciate this opportunity to provide comments on the BLM Proposed Rule: Conservation and Landscape Health. The Council appreciates your efforts in providing a very informative

rulemaking process. In analyzing this proposed rule, we have studied the text of the proposed rule, the extensive information provided on your Public Lands Rule Website (<https://www.blm.gov/public-lands-rule>), as well as information provided during your virtual meetings.

The Council applauds and supports the BLM in developing proposed regulations that are focused on land health, conservation, and habitat resilience across public lands. We strongly encourage the BLM in continuing this very positive initiative throughout the rulemaking process, and in formalizing these and any improvements to the final regulations. The proposed rule:

1. Applies the fundamentals of land health and related standards and guidelines to all BLM-managed public lands and uses; current BLM policy limits their application to grazing authorizations.
2. Codifies the need across BLM programs to use high-quality information to prepare land health assessments and evaluations and make determinations about land health condition.
3. Clarifies that conservation is a use on-par with other uses of the public lands under the multiple-use and sustained-yield framework of the Federal Land Policy and Management Act of 1976 (FLPMA).
4. Recognizes that the BLM has three primary ways to manage for resilient public lands: (1) protection of intact, native habitats; (2) restoration of degraded habitats; and (3) informed decision-making, primarily in plans, programs, and permits.
5. Identifies the principles for protecting intact landscapes in the context of increased pressure and increased landscape vulnerability due to climate change and other disturbance.
6. Amends the existing Areas of Critical Environmental Concern (ACEC) regulations to better ensure that the BLM is meeting FLPMA's command to give priority to the designation and protection of ACECs. The proposed regulatory changes would emphasize ACECs as the principal designation for protecting important natural, cultural, and scenic resources.
7. Establishes a more comprehensive framework for the BLM to identify, evaluate, and consider special management attention for ACECs in land use planning. The proposed rule emphasizes the role of ACECs in contributing to ecosystem resilience by providing for ACEC designation to protect landscape intactness and habitat connectivity.
8. Offers a new tool, conservation leases, which would allow the public to directly support durable protection and restoration efforts to build and maintain the resilience of public lands. Most conservation leases would be issued for a maximum of 10 years, which term would be extended if necessary to serve the purposes for which the lease was first issued.
9. Includes bonding obligations for any conservation use that involves surface-disturbing activities, with § 6102.4–2 establishing regulations for conservation lease bonds.
10. To ensure the BLM does not limit its ability to build resilient public lands when authorizing use, the proposed rule includes provisions related to mitigation (i.e., actions to avoid, minimize, and compensate for certain residual impacts). The proposed rule reaffirms the BLM's adherence to the mitigation hierarchy for all resources.
11. Applies the fundamentals of land health (taken verbatim from the existing fundamentals of rangeland health at Title 43 Code of Federal Regulations (CFR) 4180.1 (2005)) and related standards and guidelines to all renewable-resource management, instead of just to public-

lands grazing. Renewable resources on public lands should meet the fundamentals of land health overall at the watershed scale.

12. Mandates the use high-quality information to prepare land health assessments and evaluations and make determinations about the causes of failing to achieve land health and make management decisions, implement adaptive strategies, and support conservation efforts to build ecosystem resilience.
13. Includes requirements to track progress toward achieving restoration goals and ensure restoration projects are consistent with the land health standards, restoration goals and objectives, best management practices, and Resource Management Plan restoration plans.
14. Clarifies key terms used in conservation efforts including casual use, effects, mitigation strategies, restoration, and unnecessary and undue degradation.
15. Ensures severability in the rulemaking process such that any portion of the rule were stayed or invalidated by a reviewing court, the remaining elements would continue to provide BLM with important and independently effective tools to advance conservation on the public lands.

General Comments

The proposed rule is long overdue and supported by federal legislation including the Lacey Act 1894 and, as noted on the Federal Register Notice, FLPMA of 1976. The former statute started the legal precedent for treating wildlife as property of the public. Thus, BLM should not be adversely impacting wildlife without authorization from the public. In the latter statute, Congress directed BLM to manage public lands “in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values” and “provide food and habitat for fish and wildlife.”

While we understand the broad and comprehensive nature of BLM’s proposed regulations, we request that BLM call-out the importance of addressing highly important issues related to proposed and listed species under the Federal Endangered Species Act of 1973 (FESA) (16 U.S.C. 1531-1544). Public lands represent the last refugia for many of these species and are both key to the health and survivability of these populations and to potentially meeting the goal of the FESA, that of species recovery and delisting. The Mojave desert tortoise (*Gopherus agassizii*), for example, is experiencing a precipitous decline in population numbers as described in Appendix A. Public lands are providing much of the key habitat for the Mojave desert tortoise and effective management of these lands is critical to the survival and recovery of these populations.

The Mojave desert tortoise is among the top 50 species on the list of the world’s most endangered tortoises and freshwater turtles. The International Union for Conservation of Nature’s (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers the Mojave desert tortoise to be Critically Endangered (Berry et al. 2021), as it is a “species that possess an extremely high risk of extinction as a result of rapid population declines of 80 to more than 90 percent over the previous 10 years (or three generations), population size fewer than 50 individuals, other factors.” It is one of three turtle and tortoise species in the United States to be critically endangered. This status, in part, prompted the Council to join Defenders of Wildlife and Desert Tortoise Preserve Committee (Defenders of Wildlife et al. 2020) to petition the California Fish and Game Commission in March 2020 to elevate the listing of the Mojave desert tortoise

from threatened to endangered in California. This proposed rule will become a very important part of protecting this species.

In addition, effectively managing public lands to maintain or improve the viability of species proposed or listed under the FESA has a multitude of benefits to other species within these areas as well as for maintaining functioning and productive ecosystems and ensuring their resilience. These listed species are an indicator or predictor of landscape health and resilience. In addition, the restoration and conservation of wild animals and their ecosystem roles is a key component of natural climate solutions to climate that can enhance the ability to prevent climate warming beyond 1.5 degrees C (Schmitz et al. 2023) and substantially reduce the effects of climate change.

The Council is concerned that, upon implementation of these regulations, there may be an over-focus on designating ACECs to the detriment of the high value expanses of public lands that will not rise to ACEC status. While ACECs are extremely important, retaining and managing these other lands is necessary for maintaining watershed level ecosystem health and resilience, especially in the context of the increasingly degraded and fragmented nature of these lands, the need for connectivity between populations and protected areas, and the threats of climate change in requiring adjustments in species' ranges.

In addition, the Council is concerned about a potential lack of agency funding and capacity to carry out these regulations. We applaud the inclusion of conservation leases as an effective means of addressing these potential shortfalls. We encourage designing leases such that there is funding provided to plan for and administer these leases, a process that remains attractive to potential lessees, and implementation of a national database and geospatial tracking system that tracks the qualitative and quantitative improvements during the implementation of the conservation leases including unplanned impacts (e.g., wildfire, etc.). Without such a tracking system, BLM is unable to analyze and determine whether the conservation leases are achieving their stated objectives for natural and cultural resources. Program efficiencies will be needed to implement these regulations across the public lands.

Responses to Questions in the Proposed Rule

The BLM asked a set of questions in the proposed rule that we will address as follows:

- The BLM welcomes comments on how applying the fundamentals of land health beyond lands allocated to grazing will interact with BLM's management of non-renewable resources.

Response: Applying the fundamentals of land health (properly functioning watersheds and ecological processes, achieving or making progress toward achieving water quality standards, and maintaining or restoring habitats for listed species including threatened or endangered, proposed or candidate, or other special status species) will provide a more structured and informed process to address direct and indirect effects, including cumulative, synergistic and interactive effects (CEQ 1997), during permitting and throughout the life of projects involving non-renewable resources. Some non-renewable resources (e.g., utility corridors, etc.) are suitable for restoration and management of

conservation values by implementing effective restoration activities for soils and vegetation in areas with temporary impacts, requiring ongoing control of invasive plant species, and closing access routes to the public, thus substantially reducing the impacts of the road effect zone (Forman and Alexander 1998, Roedenbeck et al. 2007). Science-based monitoring and trend analysis will ensure conformance to the identified standards and allow for corrective measures, including adaptive management, to restore lands to the identified healthy functioning condition.

However, BLM's current methodology for assessing land health for allotments needs to be overhauled as it is based on production of forage for livestock rather than the functions and values of the ecosystem including the needs of special status species, many of which are indicators of ecological health. For example, the Mojave desert tortoise is an indicator species and umbrella species of ecosystem health (Berry and Medica 1995). Indicator species are used to monitor environmental changes, assess the efficacy of management, and provide warning signals for impending ecological shifts. An umbrella species is a species whose conservation is expected to confer protections to a large number of co-occurring species. Thus, when the Mojave desert tortoise is declining in density, numbers, and recruitment, this decline is an indicator of environmental change that is degrading the desert environment, ineffective management by land management agencies, and a warning that ecological shifts in the Mojave and Colorado deserts are occurring. In addition, this decline indicates that other species in the Mojave and Colorado deserts are also declining in density, numbers, and recruitment. Consequently, BLM should consider the data on the demographic trend of the tortoise (please see Appendix A – Demographic Status and Trend of the Mojave Desert Tortoise including the Western Mojave Recovery Unit) as a “wake-up call” that more must be done to effectively manage for the tortoise and other species in the Mojave and Colorado deserts.

- The BLM seeks comments on whether State and local governments, including state agencies managing fish and wildlife, also should be eligible for holding conservation leases.

Response: Yes, State, and local governments, including state agencies managing fish and wildlife, should be eligible for holding conservation leases. Given the numerous and ongoing multi-jurisdictional habitat conservation planning efforts located across public lands, having the flexibility to grant leases to state and local governments will be one more available tool to use in these very important efforts, especially as related to effective management of habitats for candidate, proposed, and listed species. State agencies managing fish and wildlife resources are the primary agencies managing wildlife (see Supreme Court 1896 decision *Geer vs Connecticut*). However, these entities need to demonstrate effective implementation of their conservation actions and associated fiscal responsibility.

- Is the term “conservation lease” the best term for this tool?

Response: Yes, the term conservation lease describes an effective means to stipulate duties that the lessee would carry out in furtherance of identified durable restoration and

mitigation on public lands. The BLM effectively uses leases in other programs that have standard processes involving applications, lease execution, use of noncompliance noticing, terminations, and suspensions, and bonding obligations. These are all applicable to conservation leases.

- What is the appropriate default duration for conservation leases?

Response: In many ecological settings, a maximum of 10 years is appropriate with an option to extend the lease as necessary to meet objectives. Leases would require monitoring and periodic reviews to ensure that objectives are achieved and to allow for adaptive management, where necessary, to achieve success. However, in some ecosystems, 10 years would not be sufficient to meet, for example, an objective of vegetation restoration. In the Mojave and Sonoran deserts, re-establishing native vegetation may take several decades or longer (Abella 2010). Consequently, the option to renew a 10-year lease more than once may be necessary to meet the objectives of the conservation lease.

- Should the rule constrain which lands are available for conservation leasing? For example, should conservation leases be issued only in areas identified as eligible for conservation leasing in an RMP or areas the BLM has identified (either in an RMP or otherwise) as priority areas for ecosystem restoration or wildlife habitat?

Response: The rule should not constrain which lands are available for conservation leasing.

An advantage of focusing conservation leasing on lands identified during land use planning, including RMP development, is this process would allow for a more informed and landscape level approach to meeting restoration and habitat management needs. A periodic review of designated conservation leasing lands should be achieved through mandated plan review and maintenance actions as well as measures identified to address identified emergency actions.

- Should the rule clarify what actions conservation leases may allow?

Response: To achieve the best results, the rule should clearly address the purposes of conservation leases and allow for development of objectives and methods including monitoring and adaptive management on a case-by-case basis.

- Should the rule expressly authorize the use of conservation leases to generate carbon offset credits?

Response: This decision should be deferred until the process and implications are fully identified.

- Should conservation leases be limited to protecting or restoring specific resources, such as wildlife habitat, public water supply watersheds, or cultural resources?

Response: The purpose of conservation leases should be clearly identified, in terms of restoring and maintaining the fundamentals of land health (i.e., ecosystem functions and values) and addressing compensatory mitigation, to allow for a range of critical restoration and management needs on public lands.

- The BLM seeks comment on how fair market value would be determined in the context of restoration or preservation. Would existing methods for land valuation provide valid results? Would lands with valuable alternative land uses be prohibitively expensive for conservation use? Should the BLM incorporate a public benefit component into the rent calculation to account for the benefits of ecosystem services?

Response: The BLM should develop a simple appraisal approach that allows for implementation of the range of conservation leases in a manner that does not materially conflict with existing authorizations, valid existing rights, or state or Tribal land use management and does not preclude other, subsequent authorizations that are determined compatible with the conservation lease. A provision for discounting rents should be provided to account for the benefits of ecosystem services for non-compensatory conservation leases. Leases to meet compensation purposes should not be included in these discounts.

- The BLM seeks public comment on whether this rule should allow authorized officers to waive bonding requirements in certain circumstances, such as when a Tribal Nation seeks to restore or preserve an area of cultural importance to the Tribe. Should the waiver authority be limited to such circumstances or are there other circumstances that would warrant a waiver of the bonding requirement?

Response: Criteria should be developed that provides guidance on decisions to waive bonding requirements, under certain circumstances. These circumstances could include Tribal restoration projects, Non-Governmental Organizations (NGOs) with a proven track record of successfully completing restoration projects, as well as leases that involve casual use or minimal ground disturbance. Leases to meet compensation purposes should not be included in these bond waivers.

We appreciate this opportunity to provide comments on this proposed rulemaking and trust they will help protect tortoises during any resulting authorized activities. The level of public interest in this rulemaking process is indicative of the importance of this effort. Herein, we reiterate that the Desert Tortoise Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the BLM that may affect species of desert tortoises, and that any subsequent processes furthering these proposed regulations is provided to us at the contact information listed above. Additionally, we ask that you respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this project.

Respectfully,



Edward L. LaRue, Jr., M.S.
Ecosystems Advisory Committee, Chairperson
Desert Tortoise Council

Cc: Tracey Stone-Manning, Director, Bureau of Land Management, tmanning@blm.gov
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Appendix A

Demographic Status and Trend of the Mojave Desert Tortoise including the Western Mojave Recovery Unit

Status of the Population of the Mojave Desert Tortoise: The Council provides the following information for resource and land management agencies so that these data may be included and analyzed in their project and land management documents and aid them in making management decisions that affect the Mojave desert tortoise (tortoise).

There are 17 populations of Mojave desert tortoise described below that occur in Critical Habitat Units (CHUs) and Tortoise Conservation Areas (TCAs); 14 are on lands managed by the BLM; 8 of these are in the California Desert Conservation Area (CDCA).

As the primary land management entity in the range of the Mojave desert tortoise, the Bureau of Land Management's (BLM's) implementation of a conservation strategy for the Mojave desert tortoise in the CDCA through implementation of its Resource Management Plan and Amendments through 2014 has resulted in the following changes in the status for the tortoise throughout its range and in California from 2004 to 2014 (**Table 1, Table 2**; USFWS 2015, Allison and McLuckie 2018). The Council believes these data show that BLM and others have failed to implement an effective conservation strategy for the Mojave desert tortoise as described in the recovery plan (both USFWS 1994a and 2011), and have contributed to tortoise declines in density and abundance between 2004 to 2014 (**Table 1, Table 2**; USFWS 2015, Allison and McLuckie 2018) with declines or no improvement in population density from 2015 to 2021 (**Table 3**; USFWS 2016, 2018, 2019, 2020, 2022a, 2022b).

Important points from these tables include the following:

Change in Status for the Mojave Desert Tortoise Range-wide

- Ten of 17 populations of the Mojave desert tortoise declined from 2004 to 2014.
- Eleven of 17 populations of the Mojave desert tortoise are no longer viable. These 11 populations represent 89.7 percent of the range-wide habitat in CHUs/TCAs.

Change in Status for the Western Mojave Recovery Unit – Nevada and California

- This recovery unit had a 51 percent decline in tortoise density from 2004 to 2014.
- Tortoises in this recovery unit have densities that are below viability.

Change in Status for the Superior-Cronese Tortoise Population in the Western Mojave Recovery Unit.

- The population in this recovery unit experienced declines in densities of 61 percent from 2004 to 2014. In addition, there was a 51 percent decline in tortoise abundance.
- This population has densities less than needed for population viability (USFWS 1994a).

Table 1. Summary of 10-year trend data for the 5 Recovery Units and 17 CHUs/TCAs for Mojave desert tortoise. The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km² and standard errors = SE), and the percent change in population density between 2004 and 2014. Populations below the viable level of 3.9 breeding individuals/km² (10 breeding individuals per mi²) (assumes a 1:1 sex ratio) or showing a decline from 2004 to 2014 are in red.

Recovery Unit: Designated Critical Habitat Unit ¹ /Tortoise Conservation Area	Surveyed area (km ²)	% of total habitat area in Recovery Unit & CHU/TCA	2014 density/km ² (SE)	% 10-year change (2004–2014)
Western Mojave, CA	6,294	24.51	2.8 (1.0)	-50.7 decline
Fremont-Kramer	2,347	9.14	2.6 (1.0)	-50.6 decline
Ord-Rodman	852	3.32	3.6 (1.4)	-56.5 decline
Superior-Cronese	3,094	12.05	2.4 (0.9)	-61.5 decline
Colorado Desert, CA	11,663	45.42	4.0 (1.4)	-36.25 decline
Chocolate Mtn AGR, CA	713	2.78	7.2 (2.8)	-29.77 decline
Chuckwalla, CA	2,818	10.97	3.3 (1.3)	-37.43 decline
Chemehuevi, CA	3,763	14.65	2.8 (1.1)	-64.70 decline
Fenner, CA	1,782	6.94	4.8 (1.9)	-52.86 decline
Joshua Tree, CA	1,152	4.49	3.7 (1.5)	+178.62 increase
Pinto Mtn, CA	508	1.98	2.4 (1.0)	-60.30 decline
Piute Valley, NV	927	3.61	5.3 (2.1)	+162.36 increase
Northeastern Mojave	4,160	16.2	4.5 (1.9)	+325.62 increase
Beaver Dam Slope, NV, UT, AZ	750	2.92	6.2 (2.4)	+370.33 increase
Coyote Spring, NV	960	3.74	4.0 (1.6)	+ 265.06 increase
Gold Butte, NV & AZ	1,607	6.26	2.7 (1.0)	+ 384.37 increase
Mormon Mesa, NV	844	3.29	6.4 (2.5)	+ 217.80 increase
Eastern Mojave, NV & CA	3,446	13.42	1.9 (0.7)	-67.26 decline
El Dorado Valley, NV	999	3.89	1.5 (0.6)	-61.14 decline
Ivanpah Valley, CA	2,447	9.53	2.3 (0.9)	-56.05 decline
Upper Virgin River	115	0.45	15.3 (6.0)	-26.57 decline
Red Cliffs Desert	115	0.45	15.3 (6.0)	-26.57 decline
Range-wide Area of CHUs - TCAs/Range-wide Change in Population Status	25,678	100.00		-32.18 decline

¹ U.S. Fish and Wildlife Service. 1994b. Endangered and threatened wildlife and plants; determination of critical habitat for the Mojave population of the desert tortoise. Federal Register 55(26):5820-5866. Washington, D.C.

Table 2. Estimated change in abundance of adult Mojave desert tortoises in each recovery unit between 2004 and 2014 (Allison and McLuckie 2018). Decreases in abundance are in red.

Recovery Unit	Modeled Habitat (km ²)	2004 Abundance	2014 Abundance	Change in Abundance	Percent Change in Abundance
Western Mojave	23,139	131,540	64,871	-66,668	-51%
Colorado Desert	18,024	103,675	66,097	-37,578	-36%
Northeastern Mojave	10,664	12,610	46,701	34,091	270%
Eastern Mojave	16,061	75,342	24,664	-50,679	-67%
Upper Virgin River	613	13,226	10,010	-3,216	-24%
Total	68,501	336,393	212,343	-124,050	-37%

Table 3. Summary of data for Agassiz’s desert tortoise, *Gopherus agassizii* (=Mojave desert tortoise) from 2004 to 2021 for the 5 Recovery Units and 17 Critical Habitat Units (CHUs)/Tortoise Conservation Areas (TCAs). The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km² and standard errors = SE), and percent change in population density between 2004-2014 (USFWS 2015). Populations below the viable level of 3.9 breeding individuals/km² (10 breeding individuals per mi²) (assumes a 1:1 sex ratio) (USFWS 1994a, 2015) or showing a decline from 2004 to 2014 are in **red**.

Recovery Unit: Designated CHU/TCA &	% of total habitat area in Recovery Unit & CHU/TCA	2004 density/ km ²	2014 density/ km ² (SE)	% 10- year change (2004– 2014)	2015 density/ km ²	2016 density/ km ²	2017 density/ km ²	2018 density/ km ²	2019 density/ km ²	2020 density/ km ²	2021 density/ km ²
Western Mojave, CA	24.51		2.8 (1.0)	–50.7 decline							
Fremont-Kramer	9.14		2.6 (1.0)	–50.6 decline	4.5	No data	4.1	No data	2.7	1.7	No data
Ord-Rodman	3.32		3.6 (1.4)	–56.5 decline	No data	No data	3.9	2.5/3.4*	2.1/2.5*	No data	1.9/2.5*
Superior-Cronese	12.05		2.4 (0.9)	–61.5 decline	2.6	3.6	1.7	No data	1.9	No data	No data
Colorado Desert, CA	45.42		4.0 (1.4)	–36.25 decline							
Chocolate Mtn AGR, CA	2.78		7.2 (2.8)	–29.77 decline	10.3	8.5	9.4	7.6	7.0	7.1	3.9
Chuckwalla, CA	10.97		3.3 (1.3)	–37.43 decline	No data	No data	4.3	No data	1.8	4.6	2.6
Chemehuevi, CA	14.65		2.8 (1.1)	–64.70 decline	No data	1.7	No data	2.9	No data	4.0	No data
Fenner, CA	6.94		4.8 (1.9)	–52.86 decline	No data	5.5	No data	6.0	2.8	No data	5.3
Joshua Tree, CA	4.49		3.7 (1.5)	+178.62 increase	No data	2.6	3.6	No data	3.1	3.9	No data
Pinto Mtn, CA	1.98		2.4 (1.0)	–60.30 decline	No data	2.1	2.3	No data	1.7	2.9	No data

Piute Valley, NV	3.61		5.3 (2.1)	+162.36 increase	No data	4.0	5.9	No data	No data	No data	3.9
Northeastern Mojave AZ, NV, & UT	16.2		4.5 (1.9)	+325.62 increase							
Beaver Dam Slope, NV, UT, & AZ	2.92		6.2 (2.4)	+370.33 increase	No data	5.6	1.3	5.1	2.0	No data	No data
Coyote Spring, NV	3.74		4.0 (1.6)	+ 265.06 increase	No data	4.2	No data	No data	3.2	No data	No data
Gold Butte, NV & AZ	6.26		2.7 (1.0)	+ 384.37 increase	No data	No data	1.9	2.3	No data	No data	2.4
Mormon Mesa, NV	3.29		6.4 (2.5)	+ 217.80 increase	No data	2.1	No data	3.6	No data	5.2	5.2
Eastern Mojave, NV & CA	13.42		1.9 (0.7)	-67.26 decline							
El Dorado Valley, NV	3.89		1.5 (0.6)	-61.14 decline	No data	2.7	5.6	No data	2.3	No data	No data
Ivanpah Valley, CA	9.53		2.3 (0.9)	-56.05 decline	1.9	No data	No data	3.7	2.6	No data	1.8
Upper Virgin River, UT & AZ	0.45		15.3 (6.0)	-26.57 decline							
Red Cliffs Desert**	0.45	29.1 (21.4- 39.6)**	15.3 (6.0)	-26.57 decline	15.0	No data	19.1	No data	17.2	No data	
Rangewide Area of CHUs - TCAs/Rangewide Change in Population Status	100.00			-32.18 decline							

*This density includes the adult tortoises translocated from the expansion of the MCAGCC, that is resident adult tortoises and translocated adult tortoises.

**Methodology for collecting density data initiated in 1999.

Change in Status for the Mojave Desert Tortoise in California

- Eight of 10 populations of the Mojave desert tortoise in California declined from 29 to 64 percent from 2004 to 2014 with implementation of tortoise conservation measures in the Northern and Eastern Colorado Desert (NECO), Northern and Eastern Mojave Desert (NEMO), and Western Mojave Desert (WEMO) Plans.
- Eight of 10 populations of the Mojave desert tortoise in California are no longer viable. These eight populations represent 87.45 percent of the habitat in California that is in CHU/TCAs.
- The two viable populations of the Mojave desert tortoise in California are declining. If their rates of decline from 2004 to 2014 continue, these two populations will no longer be viable by about 2030.

Change in Status for the Mojave Desert Tortoise on BLM Land in California

- Eight of eight populations of Mojave desert tortoise on lands managed by the BLM in California declined from 2004 to 2014.
- Seven of eight populations of Mojave desert tortoise on lands managed by the BLM in California are no longer viable.

Change in Status for Mojave Desert Tortoise Populations in California that Are Moving toward Meeting Recovery Criteria

- The only population of Mojave desert tortoise in California that is not declining is on land managed by the National Park Service, which has increased 178 percent in 10 years.

Important points to note from the data from 2015 to 2021 in Table 3 are:

Change in Status for the Mojave Desert Tortoise in the Western Mojave Recovery Unit:

- Density of tortoises continues to decline in the Western Mojave Recovery Unit
- Density of tortoises continues to fall below the density needed for population viability

Change in Status for the Mojave Desert Tortoise in the Colorado Desert Recovery Unit:

- The population that had the highest density in this recovery unit had a continuous reduction in density since 2018 and fell substantially to the minimum density needed for population viability in 2021.

Change in Status for the Mojave Desert Tortoise in the Northeastern Mojave Recovery Unit:

- Two of the three population with densities greater than needed for population viability declined to level below the minimum viability threshold.
- The most recent data from three of the four populations in this recovery unit have densities below the minimum density needed for population viability.
- The population that had the highest density in this recovery unit declined since 2014.

Change in Status for the Mojave Desert Tortoise in the Eastern Mojave Recovery Unit:

- Both populations in this recovery unit have densities below the minimum density needed for population viability.

Change in Status for the Mojave Desert Tortoise in the Upper Virgin River Recovery Unit:

- The one population in this recovery unit is small and appears to have stable densities.

The Endangered Mojave Desert Tortoise: The Council believes that the Mojave desert tortoise meets the definition of an endangered species. In the FESA, Congress defined an “endangered species” as “any species which is in danger of extinction throughout all or a significant portion of its range...” In the California Endangered Species Act (CESA), the California legislature defined an “endangered species” as a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant, which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes (California Fish and Game Code § 2062). Because most of the populations of the Mojave desert tortoise were non-viable in 2014, most are declining, and the threats to the Mojave desert tortoise are numerous and have not been substantially reduced throughout the species’ range, the Council believes the Mojave desert tortoise should be designated as an endangered species by the USFWS and California Fish and Game Commission.

Mojave desert tortoise is now on the list of the world’s most endangered tortoises and freshwater turtles. It is in the top 50 species. The International Union for Conservation of Nature’s (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers Mojave desert tortoise to be Critically Endangered (Berry *et al.* 2021), which is a “species that possess an extremely high risk of extinction as a result of rapid population declines of 80 to more than 90 percent over the previous 10 years (or three generations), a current population size of fewer than 50 individuals, or other factors.” It is one of three turtle and tortoise species in the United States to be critically endangered.

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