



DESERT TORTOISE COUNCIL

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Via email and BLM NEPA ePlanning Portal

3 November 2023

Attn: Paul Rodriquez

Bureau of Land Management

Ridgecrest Field Office

300 S. Richmond Road

Ridgecrest, CA 93555

prodriqu@blm.gov; mwiegmann@blm.gov

RE: Indian Wells Valley Groundwater Authority (IWVGA) Ridgecrest Water Pipeline (DOI-
BLM-CA-D050-2023-0020-EA)

Dear Mr. Rodriquez and Mr. Wiegmann,

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 to receive emails for 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 above-referenced project. Given the location of the proposed project in habitats known to be occupied by Mojave desert tortoise (*Gopherus agassizii*) (synonymous with Agassiz's desert tortoise), our comments include recommendations intended to enhance protection of this species and its habitat during activities authorized by the Bureau of Land Management (BLM), which we recommend be added to project

terms and conditions in the authorizing document (e.g., right of way grant, etc.) as appropriate. Please accept, carefully review, and include in the relevant project file the Council’s following comments and attachments for the proposed project.

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), “... based on population reduction (decreasing density), habit loss of over 80% over three generations (90 years), including past reductions and predicted future declines, as well as the effects of disease (upper respiratory tract disease/mycoplasmosis). *Gopherus agassizii* (sensu stricto) comprises tortoises in the most well-studied 30% of the larger range; this portion of the original range has seen the most human impacts and is where the largest past population losses have been documented. A recent rigorous rangewide population reassessment of *G. agassizii* (sensu stricto) has demonstrated continued adult population and density declines of about 90% over three generations (two in the past and one ongoing) in four of the five *G. agassizii* recovery units and inadequate recruitment with decreasing percentages of juveniles in all five recovery units.”

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.

Description of Proposed Project

The Indian Wells Valley Groundwater Authority (Groundwater Authority) has proposed constructing a water pipeline to deliver water from California City to Ridgecrest, Kern County, California. The Groundwater Authority originally identified this water pipeline project (Project) in a Groundwater Sustainability Plan published in 2020 and approved by the California Department of Water Resources in 2022. The proposed Project would cross lands managed by the Bureau of Land Management (BLM). Consequently, BLM would need to grant a right-of-way (ROW) to the Groundwater Authority to complete this Project.

The Groundwater Authority is requesting authorization to construct a 50-mile buried pipeline up to 24-inches in diameter. BLM estimates that 21 miles of the pipeline route would be on BLM land. In addition to the pipeline, the Project would include three booster pumps and a regulating station, which would be necessary to pump water over the El Paso Mountains between California City and Ridgecrest, and additional transmission lines to deliver power these facilities. The proposed Project area is partly located within three Areas of Critical Environmental Concern: El Paso to Golden Valley, Western Rand Mountains, and Fremont-Kramer. The Project plan would include design features to mitigate potential conflict with the desert tortoise, Mohave ground squirrel, and other natural and cultural resources in these areas.

Comments on the Proposed Project

We understand that a Notice of Preparation (NOP) for an environmental impact report (EIR) has been issued for this Project under the California Environmental Quality Act (CEQA). The Council

commented on the NOP and strongly recommended that the preparation of the EIR be combined with the requirements of NEPA for developing alternatives and analyzing impacts, and a joint EIR/environmental impact statement (EIS) be prepared for public review and comment. We reiterate this recommendation to BLM and ask why BLM is preparing a separate NEPA document and proposing that it be an environmental assessment (EA) rather than an EIS. We remind BLM that under NEPA, the resulting document must analyze all impacts of the proposed Project, not just the portion that occurs on BLM-managed lands. This analysis includes cumulative, interactive, and synergistic impacts from the construction, use, and maintenance of the proposed Project. It would include the source of the water to be pumped and the impacts to the resources in that area from pumping it from this area to its proposed destination of the Indian Wells Valley.

Purpose and Need

BLM should ensure that in the “Purpose and Need” section of the National Environmental Policy Act (NEPA) document, BLM explains fully the need for and the purpose of the proposed Project. The explanation should include the cause(s) of the reduced availability of ground water.

Our understanding is the declining groundwater table in eastern Kern County is a concern to the residents of the Ridgecrest area, particularly the Navy, as they manage just over one million acres in that area, develop and test weapons for current and future defense of this country, and are the largest employer eastern Kern County. Further, we understand that the declining groundwater table has been substantially contributed to by pumping water for growing agricultural crops in eastern Kern County. Until recently, these agricultural lands were habitat for the Mojave desert tortoise, a threatened species listed under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA) and Mohave ground squirrel (*Xerospermophilus mohavensis*), a threatened species listed under CESA. We are not aware that the U.S. Fish and Wildlife Service (USFWS) or the California Department of Fish and Wildlife (CDFW) issued incidental take permits for the loss of animals/habitat from this agricultural development that occurred after their listing. As such, we consider the request for a ROW grant from BLM an activity to solve a problem created/contributed to by unauthorized actions.

Alternatives Analyzed in the NEPA Document

There is a finite amount of water in California and all areas are subject to water conservation because of the longer periods of reduced amounts of precipitation caused by climate change. Consequently, removing water from one part of California and pumping it to another does not “solve” the water supply problem. We assert that all action alternatives should include limits on the amount of groundwater withdrawal the agricultural lands can use and requirements for all water users in the Indian Wells Valley to conserve water use effectively.

In this section or the Purpose and Need section, BLM should provide information on all legal requirements for the future use and conservation of the water that is to be imported via the proposed Project as well as current and future use of ground water in the Indian Well Valley. This information will help the public to understand the need for the proposed Project and the community in the Indian Wells Valley is working to ensure that the import of water is not a permanent solution to the over-drafting of ground water.

Under the NOP, a proposed route and three alternative routes were identified in a map (Figure 1).

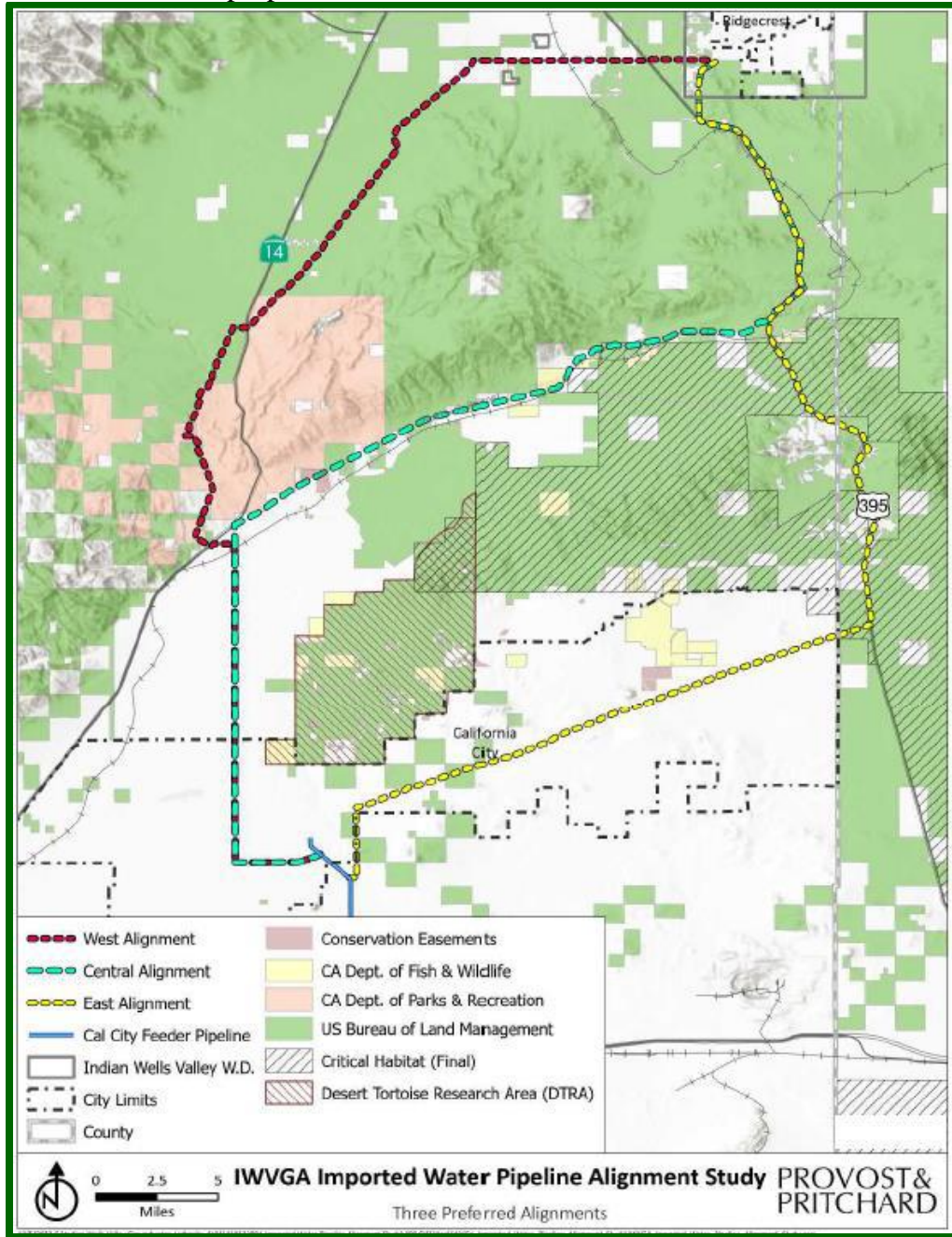


Figure 1. Map of potential routes for Indian Wells Valley Pipeline

From the information on this map, the East Alternative likely runs along Twenty Mule Team Road then along Highway 395, where it bisects the desert tortoise Fremont-Kramer Critical Habitat Unit (USFWS 1994). The Central Alternative would run along Neuralia Road, then northeast along Redrock-Randsburg Road, then northwards along Highway 395. And the West Alternative would apparently run along dirt roads (or even cross country) through RRCSP, northeast along Red Rock-Inyokern Road, then east along (apparently) Bowman Road. Although we suspect that the West Alternative is chosen to be the controversial, untenable alternative to demonstrate how severe

environmental impacts can be, we question why the West Alternative would not be constructed along Highway 14, where there would still be significant impacts, but not as serious as those resulting from the depicted alignment.

We remind BLM of its requirement to consider and evaluate a reasonable range of alternatives that are feasible to meet the purpose and need for the proposed Project. The NOP provided a map of some proposed routes. However, BLM should not limit its development of alternatives to these routes when there may be other alternatives that would have fewer adverse impacts on resources, especially tortoises and tortoise habitats,

Affected Environment

In mapping the alternative routes for the Project in the NEPA document, BLM should clearly show BLM-designated Areas of Critical Environmental Concern (ACECs) and National Conservation Lands (NCL), which are depicted in Desert Renewable Energy and Conservation Plan (DRECP) documents (BLM 2015, 2016). We also note that the Desert Tortoise Preserve Committee (DTPC) is actively acquiring lands east of the Desert Tortoise Research Natural Area (DTRNA) and manages other lands along Bowman Road that should be depicted in this map. In addition, there are reserve lands owned and managed by CDFW that occur in the vicinity of the northern reaches of the West Alternative that should be clearly depicted on the map. Other designated areas that are missing that should be depicted are the El Paso Wilderness area adjacent to the Central Alternative and the BLM-designated Spangler Hills Vehicle Open Area adjacent to both the East and Central Alternatives.

For the BLM to fully assess the effects and identify potentially significant impacts, the following surveys should be implemented for all alternatives to determine the extent of rare plant and animal populations occurring within the potential impact areas. Potential impact areas extend beyond the Project's footprint; they should include areas indirectly impacted by the proposed Project. Results of the surveys should be provided in the NEPA document. The results will determine appropriate authorizations/permits from USFWS and CDFW and associated minimization and mitigation measures.

- Formal protocol surveys for Mojave desert tortoise (USFWS 2019) must be conducted at the proper times of year. Surveys should be performed in the time periods of April-May or September-October so that a statistical estimate of tortoise densities can be determined for all impact areas along all alternatives and reported in the NEPA document. If any tortoise signs are found, coordination with USFWS and CDFW must occur to ensure that incidental take is authorized under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA) prior to initiating any ground disturbance. We strongly recommend that only experienced biologists perform protocol surveys, which may mean that CDFW and USFWS biologists review their credentials prior to conducting the surveys.
- To determine the full extent of impacts to tortoises and to facilitate compliance with the FESA, qualified biologist(s) should consult with the Palm Springs office of the USFWS to determine the action area for this Project. The USFWS defines "action area" in 50 Code of Federal Regulations 402.2 and their Desert Tortoise Field Manual (USFWS 2009) as "all areas to be affected directly or indirectly by proposed development and not merely the

immediate area involved in the action (50 CFR §402.02).” A similar consultation should occur with the CDFW for compliance with the California Endangered Species Act (CESA).

- To ensure compliance with the CESA, the CDFW Fresno regional office should be contacted to determine what must be implemented to determine whether an incidental take permit under Section 2081 of California’s Fish and Game Code is required for CESA listed species in the Project area including the tortoise and the Mohave ground squirrel.
- Prior to conducting surveys of all the alternative route and their areas impacted, a knowledgeable biologist should perform a records search of the California Natural Diversity Data Base (CNDDDB; CDFW 2023a) for rare plant and animal species reported from the region. The results of the CNDDDB review would be reported in the NEPA document with an indication of suitable and occupied habitats for all rare species reported from the region based on performing species specific surveys described below.
- Protocol surveys for western burrowing owl (*Athene cunicularia*) (CDFG 2012) should be completed along all alternatives. Note that the protocol (CDFG 2012) requires that peripheral transects be surveyed at 30-, 60-, 90-, 120-, and 150-meter intervals in all suitable habitats adjacent to the alignments to determine the potential indirect impacts of the Project on this species. If burrowing owl sign is found, CDFG (2012) describes appropriate minimization and mitigation measures that would be required.
- There are special status plant species found in the region of the Project area as determined by a CNDDDB (CDFW 2023b) literature review that should be sought during field surveys and their presence/absence discussed in the NEPA document. Surveys must be completed at the appropriate time of year by qualified biologists (preferably botanists) using the latest acceptable methodologies (CDFG 2009).
- CDFG (2010) lists hundreds of plant communities occurring in California, including those that are considered Communities of Highest Inventory Priority, or “CHIPs.” Biologists completing surveys on behalf of the Proponent should document such communities where they occur and indicate how impacts to them will be minimized. As part of the baseline information provided in the NEPA document, both Federal and California jurisdictional waters should be identified and mapped in the NEPA document.

Environmental Consequences

The analysis of environmental impacts should start with the impacts to the area from which the water is being removed. As previously stated in this letter, the analysis of impacts of the proposed Project would include the source of the water to be pumped and the impacts to the resources in that area from removing it from this area.

The NEPA document should include a thorough analysis and discussion of the status and trend of the tortoise in the action area (please see below for the definition of the action area), tortoise conservation area(s) (e.g., Fremont-Kramer), West Mojave Recovery Unit (USFWS 2011), and range wide. Tied to this analysis should be a discussion of all likely direct and indirect sources of mortality for the tortoise and degradation and loss of habitat from Project construction, operation

and maintenance, and restoration if the Project will be decommissioned, restoration. To facilitate this analysis an discussion, we are providing BLM with a table on the densities and numbers of Mojave desert tortoises so BLM can provide this information in its NEPA document and show the declines in adult tortoise densities and numbers and declines in juvenile tortoises. We request this summary of data be included in the NEPA document.

The NOP included the following statement, “The IWVGA anticipates that the Project would not result in significant environmental impacts in the following resource areas, which will not be further evaluated in the draft EIR: Agricultural and Forestry Resources, Energy, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, and Transportation.” More water shipped into the Basin may equate to more pistachio farms and/or persistence of existing orchards; hence Agricultural Resources would be affected, and will predictably result in more people and more associated development to accommodate them, Consequently, the NEPA document needs to analyze these impacts to Land Use and Planning, Population and Housing, Public Services, Recreation, and Transportation as they are resources that will be impacted.

The Council has serious concerns about the growth-inducing impacts resulting from residential and agricultural development within the Indian Wells Valley Groundwater Basin (Basin). We firmly believe that the current over-draft conditions have occurred because the desert ecosystem comprising the Basin has already exceeded its human carrying capacity. Our Board members include those who have lived in Ridgecrest and Inyokern for decades, who have witnessed the disappearance of tortoises and common wildlife from the Basin in response to residential, commercial, and agricultural development, particularly the hundreds of acres of water-thirsty pistachio orchards, is not sustainable. Importing water into the Basin will have the predictable, negative impact of eliminating even more natural resources, including desert tortoises and other special status and rare species, thus adversely impacting biodiversity. Therefore, it is essential that the environmental documents analyze the continued degradation and loss of natural resources that would not occur but for this Project.

BLM’s NEPA document must not limit its analysis to physical impacts associated with construction and operation of the pipeline; it must also analyze the predictable direct, indirect, growth-inducing, and cumulative impacts to the affected resource issues in the entire Basin area from importing this water, including the tortoise population.

Furthermore, these impacts are very likely to affect existing lands managed by the DTTC and several other nonprofit land managers, since the NOP indicates that “...seven (7) private conservation parcels” would be impacted. These lands are set aside in perpetuity as mitigation for previous impacts, so to further damage them with this Project would undermine existing agreements, some of which likely prohibit any ground disturbance within their boundaries. BLM’s NEPA document must fully disclose the locations of such parcels and document existing agreements that may be violated by development of this Project within their boundaries.

Similarly, both the West Mojave Plan (BLM 2005, 2006) and the Desert Renewable Energy Conservation Plan (DRECP; BLM 2015, 2016) have designated conservation areas for the desert tortoise (e.g., ACECs) and other rare species (e.g., Mohave Ground Squirrel Conservation Area) that may be directly impacted by construction and operation and indirectly impacted by growth-

inducing impacts facilitated in the region by Project development and use. Consequently, these documents and the recently completed Red Rock Canyon State Park (RRCSP) General Plan must all be analyzed in the NEPA document for the direct, indirect, growth-inducing, and cumulative/interactive/synergistic impacts of the proposed Project on these areas designated for resource conservation.

According to the NOP, Southern California Edison would need to construct transmission lines and substations to power two of the booster pump stations and the regulating station. In BLM's NEPA document, BLM should ensure that it analyzes how these facilities would contribute to subsidizing common ravens (*Corvus corax*) in the area and their associated impacts to tortoises, that all standard effective measures to mitigate the local, regional, and cumulative impacts of raven predation on the tortoise are included in this NEPA document. This would include developing and implementing a raven management plan for this specific Project. USFWS (2010) provided a template for a project-specific management plan for common ravens in tortoise habitat. This template includes sections on construction, operation/use, maintenance, and decommissioning (including restoration) with monitoring and adaptive management during each Project phase. BLM should follow this template in the development of the raven management plan.

Some or all of the alternatives would likely require the construction and/or maintenance of access roads as well as a road that is adjacent to the length of the pipeline. Road construction, use, and maintenance impacts wildlife in numerous ways including mortality from vehicle collisions, and loss, fragmentation, and alteration of habitat used for feeding, breeding, and/or shelter. For example, regarding direct mortality, field studies (LaRue 1992; Nafus et al. 2013; von Seckendorff Hoff and Marlow 2002) have shown impact zones from road use eliminate or substantially reduce tortoise numbers up to 0.25 mile from roadways. These impacts are attributed to road kill with roads acting as a population sinks for tortoises.

In addition, road use impacts wildlife populations in other ways. The five major categories of primary road effects to wildlife including the tortoise and special status species are:

- (1) wildlife mortality from collisions with vehicles;
- (2) hindrance/barrier to animal movements thereby reducing access to resources and mates;
- (3) degradation of habitat quality (e.g., invasive plant species introduction and proliferation; competition with and reduction of native vegetation; reduction in nutritive value of the diet available to herbivores and omnivores; increased fuels that support the intensive, frequency, and size of wildfires that destroy/severely degrade native vegetation and soils; increased human subsidies for tortoise predators including common ravens (identified earlier in this letter), etc.)
- (4) habitat loss caused by disturbance effects in the wider environment and from the physical occupation of land by the road; and
- (5) subdividing animal populations into smaller and more vulnerable fractions (Jaeger et al. 2005a, 2005b, Roedenbeck et al. 2007).

The impacts of the "road effect zone" to the tortoise and other special status wildlife species should be fully described and analyzed in the NEPA document.

After being excluded from mitigation areas and special management areas for the tortoise and/or other special status species (that is, avoidance), we request that road use be restricted to only those persons authorized for the construction, operation/use, and maintenance of the proposed Project, and their access to and use by the public be prohibited and physically blocked to minimize the impacts of the road effect zone on tortoises, other special status species, and their habitats.

BLM should conduct a jurisdictional waters analysis for all potential impacts to washes, streams, and drainages. This analysis should be reviewed by the CDFW as part of the permitting process and a Streambed Alteration Agreement acquired and the results of the analysis include in the NEPA document.

Maintenance Impacts

In reading BLM's description of the proposed Project, we were unable to find information on the maintenance of the proposed Project and what those activities might be. We presume that maintenance would be part of the proposed Project. These activities including maintenance of the pipeline's ancillary facilities (e.g., pumping stations, transmission lines, access roads, etc.) are long-term, ongoing impacts that should be described *and analyzed* in the NEPA document especially with respect to the tortoise, other special status species, their habitats, and population connectivity (BLM 2022, CEQ 2023).

We request that the NEPA document analyze the effects of the proposed Project on climate change and the effects that climate change may have on the proposed Project. For the latter, we recommend including: an analysis of habitats within the Project alternatives that may provide refugia for tortoise populations; an analysis of how the proposed Project would contribute to the spread and proliferation of nonnative invasive plant species; how this spread/proliferation would affect the desert tortoise and its habitats (including the decreased availability of native forbs needed for adequate nutrition and frequency and size of human-caused fires); and how the proposed Project may affect the likelihood of human-caused fires. We strongly recommend that BLM require the development and implementation a management and monitoring plan using this analysis and other relevant data that would reduce the transport to and spread of nonnative seeds and other plant propagules within the Project area for all Project-related activities and eliminate/reduce the likelihood of human-caused fires. The plan should integrate vegetation management with fire management and fire response.

Cumulative Effects

Please see *Grand Canyon Trust v. F.A.A.*, 290 F.3d 339, 345-46 (D.C. Cir. 2002) in which the court decided that agencies must analyze the cumulative impacts of proposed actions in environmental assessments.

In the cumulative effects analysis of the NEPA document, please ensure that the Council on Environmental Quality's (CEQ's) "Considering Cumulative Effects under the National Environmental Policy Act" (1997) is followed, including CEQ's eight principles listed below, when analyzing cumulative effects of the proposed Project to the tortoise and its habitats. CEQ states, "[d]etermining the cumulative environmental consequences of an action requires delineating the cause-and-effect relationships between the multiple actions and the resources,

ecosystems, and human communities of concern. The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects.” The analysis “must describe the response of the resource to this environmental change.” Further, cumulative impact analysis should “address the sustainability of resources, ecosystems, and human communities.”

For Federal projects, CEQ’s guidance on how to analyze cumulative environmental effects is given in the eight principles listed below:

1. Cumulative effects are caused by the aggregate of past, present, and reasonable future actions. The effects of a proposed action on a given resource, ecosystem, and human community, include the present and future effects added to the effects that have taken place in the past. Such cumulative effects must also be added to the effects (past, present, and future) caused by all other actions that affect the same resource.

2. Cumulative effects are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who (federal, non-federal, or private) has taken the actions. Individual effects from disparate activities may add up or interact to cause additional effects not apparent when looking at the individual effect at one time. The additional effects contributed by actions unrelated to the proposed action must be included in the analysis of cumulative effects.

3. Cumulative effects need to be analyzed in terms of the specific resource, ecosystem, and human community being affected. Environmental effects are often evaluated from the perspective of the proposed action. Analyzing cumulative effects requires focusing on the resources, ecosystem, and human community that may be affected and developing an adequate understanding of how the resources are susceptible to effects.

4. It is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful. For cumulative effects analysis to help the decision maker and inform interested parties, it must be limited through scoping to effects that can be evaluated meaningfully. The boundaries for evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly or the effects are no longer of interest to the affected parties.

5. Cumulative effects on a given resource, ecosystem, and human community are rarely aligned with political or administrative boundaries. Resources are typically demarcated according to agency responsibilities, county lines, grazing allotments, or other administrative boundaries. Because natural and sociocultural resources are not usually so aligned, each political entity actually manages only a piece of the affected resource or ecosystem. Cumulative effects analysis on natural systems must use natural ecological boundaries and analysis of human communities must use actual sociocultural boundaries to ensure including all effects.

6. Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects. Repeated actions may cause effects to build up through simple addition (more and more of the same type of effect), and the same or different actions may produce effects that interact to produce cumulative effects greater than the sum of the effects.

7. Cumulative effects may last for many years beyond the life of the action that caused the effects. Some actions cause damage lasting far longer than the life of the action itself (e.g., acid mine damage, radioactive waste contamination, species extinctions). Cumulative effects analysis needs to apply the best science and forecasting techniques to assess potential catastrophic consequences in the future.

8. Each affected resource, ecosystem, and human community must be analyzed in terms of its capacity to accommodate additional effects, based on its own time and space parameters. Analysts tend to think in terms of how the resource, ecosystem, and human community will be modified given the action's development needs. The most effective cumulative effects analysis focuses on what is needed to ensure long-term productivity or sustainability of the resource.

Note that CEQ includes analysis of interactive and synergistic impacts with cumulative impacts. BLM should ensure that principles #5, 6, and 8 are incorporated into its cumulative impacts analysis of the proposed Project with respect to the tortoise.

To assist BLM in understanding the complexity of the cumulative and interactive nature of multiple anthropogenic threats to desert tortoise populations and to help develop BLM's analysis of cumulative impacts in the NEPA document for this Project, we have included a map of some of these multiple threats and their relationships to other threats (Tracy et al. 2004) (please see Figure 2). Just one land use results in several activities that are threats to the tortoise and cause numerous mortality mechanisms (from Tracy et al. 2004).

We request that the DEIS/DEIR (1) include these eight principles in its analysis of cumulative impacts to the Mojave desert tortoise; (2) address the sustainability of the tortoise in the region/given the information on the Status of the Mojave Desert given herein; and (3) include mitigation along with monitoring and adaptive management plans that protect desert tortoises and their habitats during construction, operation, maintenance, and decommissioning of approved facilities. In addition, we request that BLM add this Project and its impacts to a database and geospatial tracking system for special status species, including Mojave desert tortoises, that track cumulative impacts (e.g., surface disturbance, paved and unpaved routes, linear projects, invasive species occurrence, herbicide /pesticide use, wildfires, etc.), management decisions, and effectiveness of mitigation for each project. Without such a tracking system, BLM is unable to analyze cumulative impacts to special status species (e.g., desert tortoises) with any degree of confidence.

From the information provided by BLM and in the NOP, the proposed Project is very likely to result in substantial long-term direct, indirect, growth-inducing, and cumulative/interactive/synergistic impacts to natural resources, including the tortoise, tortoise habitat, and population connectivity. We assert that BLM should prepare an EIS to *analyze* all these impacts using the best available science.

Mitigation

In its description of the proposed Project, BLM says, the "Project plan would include design features to mitigate potential conflict with the desert tortoise, Mohave ground squirrel, and other

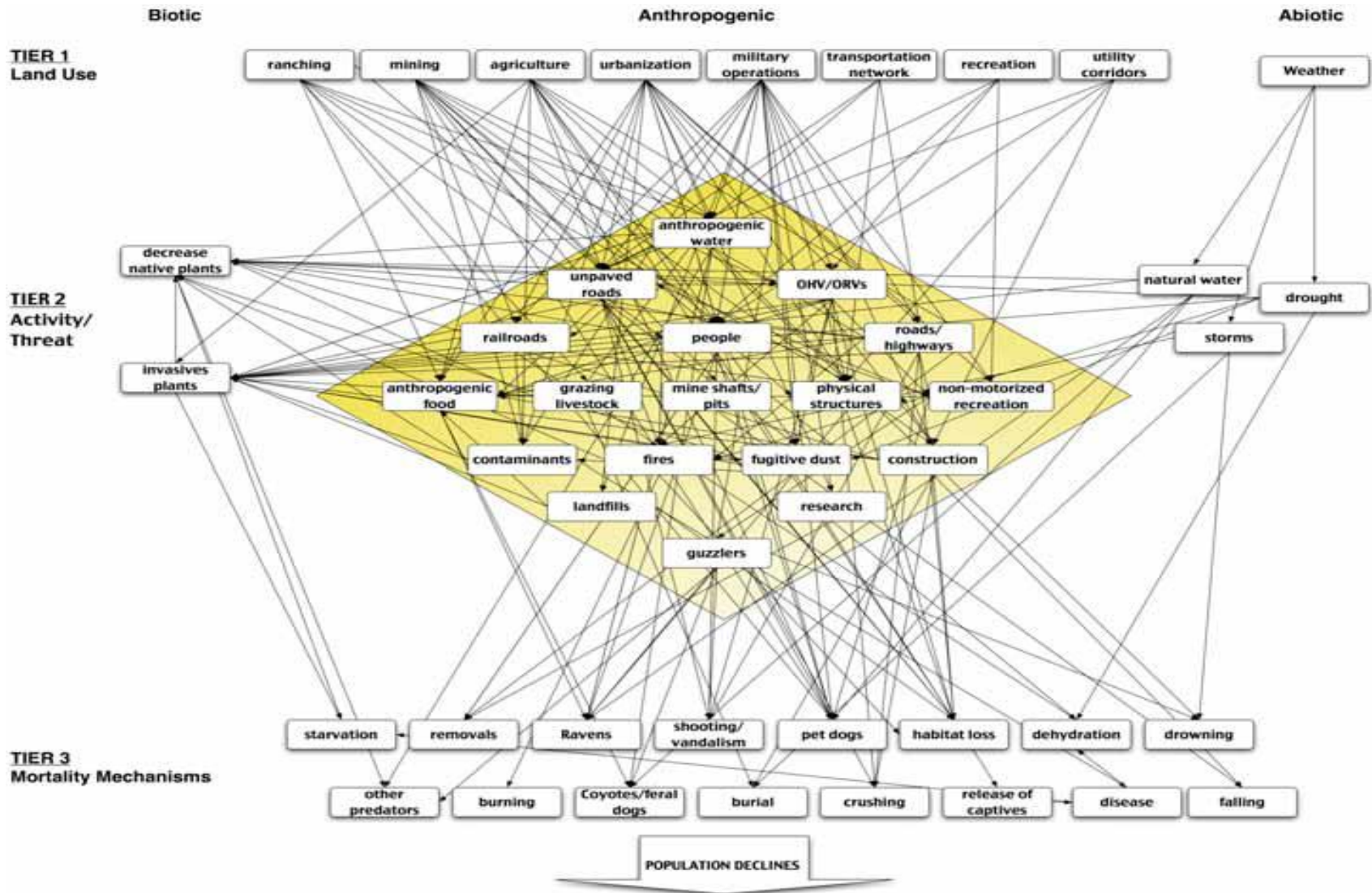


Figure 2. Network of threats demonstrating the interconnectedness between multiple human activities that interact to cause mortality and prevent recovery of tortoise populations. Tier 1 includes the major land use patterns that facilitate various activities (Tier 2) that impact tortoise populations through a suite of mortality factors (Tier 3). Just one land use results in several activities that are threats to the tortoise and cause numerous mortality mechanisms (from Tracy et al. 2004).

natural and cultural resources in these areas.” In the past, BLM has required mitigation focused on direct impacts, but has not required mitigation to successfully offset indirect, growth-inducing, and/or cumulative/interactive/synergistic impacts. Please ensure that the NEPA document includes science-based effective mitigation and monitoring plans for all direct, indirect, growth-inducing, and cumulative/interactive/synergistic effects to the tortoise and its habitats.

The mitigation and monitoring plans should use the best available science with a commitment to implement the mitigation commensurate to impacts to the tortoise and its habitats. Mitigation and monitoring should include a fully-developed desert tortoise relocation plan; predator management plan; invasive plant species management plan; fire management plan; compensation plan for the degradation, fragmentation, and/or loss of tortoise habitat that includes protection of the acquired, improved, and restored habitat in perpetuity for the tortoise from future development and human use; a plan to protect tortoise relocation area(s) from future development and human use in perpetuity; and habitat restoration plan.

These mitigation and monitoring plans should include an implementation schedule that is tied to key actions of the construction, operation/use, maintenance, and restoration phases of the Project so that mitigation occurs concurrently with or in advance of the impacts. The plans should specify success criteria, include a monitoring plan to collect data to determine whether success criteria have been met, and identify actions that would be required if the mitigation measures do not meet the success criteria. We request these mitigation and monitoring plans be part of the NEPA document so the BLM demonstrates it is complying with its Mitigation Policy, Handbook, and Manual (BLM 2021a, 2021b, and 2021c).

We appreciate this opportunity to provide the above comments and trust they will help protect tortoises during any resulting authorized activities. 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 desert tortoises, and that any subsequent environmental documentation for this Project 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.

Chairperson, Ecosystems, Advisory Committee, Desert Tortoise Council

- cc. Rollie White, Assistant Field Supervisor, Palm Spring Fish and Wildlife Office, U.S. Fish and Wildlife Office, rollie_white@fws.gov
- Julie Vance, Regional Manager, Region 4 – Central Region, California Department of Fish and Wildlife, Fresno, CA, Julie.Vance@wildlife.ca.gov
- Jaime Marquez, Environmental Scientist, Region 4, California Department of Fish and Wildlife, Fresno, CA Jaime.Marquez@wildlife.ca.gov
- Katie Metraux, Planning Manager, California Department of Parks and Recreation, info@redrockgp.com

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Jun Lee, Executive Director, Desert Tortoise Preserve Committee, junylee@gmail.com

Attachment: Appendix A – Demographic Status and Trend of the Mojave Desert Tortoise including the Western Mojave Recovery Unit

Literature Cited

- Berry, K.H., L.J. Allison, A.M. McLuckie, M. Vaughn, and R.W. Murphy. 2021. *Gopherus agassizii*. The IUCN Red List of Threatened Species 2021: e.T97246272A3150871. <https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T97246272A3150871.en>
- [BLM] U.S. Bureau of Land Management. 2005. Final Environmental Impact Report and Statement for the West Mojave Plan, a Habitat Conservation Plan and California Desert Conservation Area Plan Amendment. Dated January 2005. Moreno Valley, CA.
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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 below the population viability threshold. These 11 populations represent 89.7 percent of the range-wide habitat in CHUs/TCAs.

Change in Status for the Western Mojave Recovery Unit – 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 Unit¹/Tortoise Conservation Area	Surveyed area (km²)	% of total habitat area in Recovery Unit & CHU/TCA	2014 density/km² (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 (km²)	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 below the population viability threshold. 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 from 2015 to 2021

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 in 2021 to the minimum density needed for population viability.

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. Despite claims by USFWS (Averill-Murray and Field 2023) that a large number of individuals of a listed species and an increasing population trend in part of the range of the species prohibits it from meeting the definitions of endangered, we are reminded that the tenants of conservation biology include numerous factors when determining population viability. The number of individuals present is one of a myriad of factors (e.g., species distribution and density, survival strategy, sex ratio, recruitment, genetics, threats including climate change, etc.) used to determine population viability. In addition, a review of all the available data does not show an increasing population trend (please see Tables 1 and 3).

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