DESERT TORTOISE COUNCIL
3807 Sierra Highway #6-4514
Acton, CA 93510
www.deserttortoise.org
eac@deserttortoise.org

Via email and BLM NEPA ePlanning webpage

22 April 2024

Boris Poff, Manager, Bureau of Land Management
Red Rock Canyon National Conservation Area
1000 Scenic Loop
Las Vegas, NV 89161-1202
BLM_NV_RRCNCA_LMFRAMP@blm.gov

RE: La Madre Foothills Recreation Area Management Plan and Environmental Assessment
(DOI-BLM-NV-S020-2024-0007-EA)

Dear Mr. Poff,

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 northern 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 occupied by the 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 that may be authorized by the Bureau of Land Management (BLM), which we recommend be added to project terms and conditions in the authorizing document (e.g., management plan and decision document, etc.) as appropriate. Please accept, carefully review, and include in the relevant project file the Council's following comments and attachments for the proposed action.

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), habitat 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. In its status review, the California Department of Fish and Wildlife (CDFW) (2024) stated, "At its public meeting on October 14, 2020, the Commission considered the petition, and based in part on the Department's [CDFW] petition evaluation and recommendation, found sufficient information exists to indicate the petitioned action may be warranted and accepted the petition for consideration. The Commission's decision initiated this status review to inform the Commission's decision on whether the change in status is warranted."

Importantly, in their April 2024 meeting, the California Fish and Game Commission voted unanimously to uplist the tortoise from threatened to endangered under the California Endangered Species Act based on the scientific data provided on the species' status, declining trend, numerous threats, and lack of effective mitigation.

Description of the Proposed Action and Alternatives

The BLM's Red Rock/Sloan Field Office (RRSFO) has prepared a Recreation Area Management Plan (RAMP) and an Environmental Assessment (EA) "to guide the agency's overall management of recreation and resource protection in the La Madre Foothills," which is located in Red Rock Canyon National Conservation Area (RRCNCA or NCA).

BLM describes the No Action Alternative and two action alternatives:

> No Action Alternative – BLM would not adopt the La Madre Foothills RAMP. The BLM would continue to manage the La Madre Foothills planning area with the management direction from the RRCNCA RAMP. No restoration actions or route designations would be implemented. User-created roads and trails would continue to occur. Any route designations or restoration actions would occur on a case-by-case basis. Trail maintenance, reroutes, improvements, and signage projects would not occur, and adaptive recreation use would not be established.

Alternative B, Proposed RAMP – BLM would manage 68 miles of routes as open—21 miles to be designated for motor vehicle use and 40 miles to be designated for non-motorized use. Of these 68 miles of designated routes, 7 miles would be new trails constructed to avoid sensitive resources. The BLM would close 43 miles of inventoried routes. Alternative B would include trailhead development, sign installation, adaptive trail development, and the removal of constructed trail features that were built with imported materials.

Alternative C, Optimized Access Alternative –BLM would designate the entirety of the inventoried route system in the planning area—111 miles of routes as open; 59 miles would be designated for motorized use, and 52 miles would be designated for non-motorized use. All other proposed ground-disturbing actions would be the same as under Alternative B except for rerouting trails for sustainability purposes.

BLM considered another alternative but eliminated it from detailed analysis. It was to manage all inventoried routes as closed for motorized and nonmotorized travel. According to BLM, this alternative does not ensure consistent travel and recreation access to designated routes in adjacent areas, and it does not balance recreation use with resource protection and enhancement.

The RRCNCA is approximately 17 miles west of Las Vegas, Nevada, and is a popular outdoor recreation area. The 13,565-acre La Madre Foothills planning area is located on the eastern boundary of the 201,617-acre congressionally-designated RRCNCA. It is located between an area planned for several major housing developments on the east and south sides and the La Madre Mountain Wilderness on its western boundary.

Comments on the
La Madre Foothills Recreation Area Management Plan
Environmental Assessment and Recreation Area Management Plan

Introduction and Background

In the EA, BLM says that it "is preparing a recreation area management plan (RAMP) and an environmental assessment (EA) *to guide the agency's overall management of recreation and resource protection* [emphasis added] in the La Madre Foothills" planning area. In reviewing the EA and RAMP we did not find a description of the management and monitoring mandates that Congress imposed on BLM when it passed the Red Rock Canyon National Conservation Area Establishment Act of 1990, as amended (Act). Rather, we found BLM's interpretation of the wording in the Act, which is "to protect and improve resource conditions within the planning area and to sustainably meet recreation demands for roads, trails, and climbing areas while balancing varied and increased use."

We suggest that BLM add the wording from the Act to the Final EA to clarify Congress's mandate to BLM, which is to "manage the conservation area to conserve, protect, and enhance the resources described in section 3 in accordance with this Act…The Secretary [of the Interior] shall only allow such uses of the conservation area as he finds will further the purposes for which the conservation area is established." The resources defined in section 3 of the Act are "geologic, archeological, ecological, cultural, scenic, scientific, wildlife, riparian, wilderness, endangered species, and recreation resources."

The order in which these resources are listed implies importance by Congress. Therefore, whenever a conflict in management may arise between the management of two or more resources, the order that they are presented in the Act indicates the resource that is more important. We contend that managing for the conservation of all other resources identified in the Act has a higher priority than managing for recreation resources, particularly given development threats to the desert tortoise in southern Nevada by seemingly unrestrained solar development on public lands managed by the BLM.

In addition, BLM should focus on conserving, protecting, and enhancing the resources by using science to determine whether proposed management would conserve, protect, and enhance the resources or would degrade, damage, or destroy them.

There are at least two reasons why BLM should always refer to the Act when making its decisions in the RRCNCA. Recently, the USFWS discovered that it had been making management decisions using the regulations for implementing the Federal Endangered Species Act (FESA). Upon closer examination, the USFWS discovered that the regulatory wording was not consistent with the wording in the law. Because the Act is the foundation for the RRCNCA RAMP and other management plans in the RRCNCA, BLM should ensure that all management actions recommended for implementation would conserve, protect, and enhance the *resources* Congress identified in the Act.

Given this information, we contend that BLM's interpretation of the wording in the Act may not be consistent with the wording in the mandates of the Act. Please see "Relationship to Statutes, Regulations, and Other Plans – Red Rock Canyon National Conservation Area Establishment Act of 1990, as amended" for additional information on this subject.

Early Planning and Information Gathering

BLM "held an information-gathering public comment period for the RAMP between April 24, 2023, and May 25, 2023."

For the last several years in all comment letters submitted by the Council to BLM for proposed projects in southern Nevada, we have stated "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* [emphasis added], and that any subsequent environmental documentation for this project is provided to us at the contact information listed above." In other words, we requested to be notified of any proposed action that may affect the Mojave desert tortoise and/or tortoise habitat in Nevada. We provided contact information including the email address for the Council's Ecosystem Advisory Committee so BLM could easily provide this information to us. During the past few years, we have carbon copied the BLM Nevada State Director on many of the Council's letters that commented on BLM proposed projects in southern Nevada with the same request reiterated in these letters, because sending letters to BLM district managers in southern Nevada with this request was not working. However, the Council did not receive a notice about the April 24 to May 23, 2023 public comment period for the RAMP. If we had, the Council would have provided written comments. We do appreciate that we were contacted and given an opportunity to comment on this EA.

The Council is perplexed as to what we need to do to have BLM honor our request to provide us with notices of public scoping periods and other opportunities for the public to comment on BLM proposed projects and actions that may affect desert tortoises and their habitats in southern Nevada. Because the Council routinely requests that BLM reply that it has received our comment letters on BLM proposed projects and actions (and we receive acknowledgements of receipt of our comment letters), we assume BLM is reading these letters that include this request. Unfortunately, we must conclude that BLM is intentionally ignoring our requests to be notified of opportunities to provide public input/public comment on proposed projects/actions that may affect tortoises/tortoise habitats, such as the information-gathering public comment period for the La Madre Foothills RAMP.

We are sending this comment letter to the BLM Director, Deputy Director, Secretary of the Interior, and Senator Alex Padilla on the Senate Energy and Natural Resources Committee with a note on BLM's lack of response to our repeated requests to be notified of opportunities for public input on BLM proposed actions.

Relationship to Statutes, Regulations, and Other Plans

Endangered Species Act of 1973, as amended: Under the FESA, BLM says "This act directs federal agencies to ensure their actions do not jeopardize threatened and endangered species."

Please add to the Final EA that under section 7(a)(1) Congress directed all federal agencies to "utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to Section 4 of this Act." In Section 3 of the FESA, "conserve," "conserving," and "conservation" mean "to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition…" "[A]t which the measures provided pursuant to this Act are no longer necessary" means recovery of the species.

BLM should also demonstrate how it is complying with this section of the FESA for each alternative in the EA, especially given the directive under the Act establishing the NCA to "conserve, protect, and enhance the resources" including endangered species. This directive would include conserving, protecting, and enhancing the Mojave desert tortoise.

In the Final EA, please add the Migratory Bird Treaty Act and Executive Order 13186 to this list of statutes, regulations, and other plans.

Federal Land Policy and Management Act of 1976, as amended: Under the Federal Land Policy and Management Act of 1976 (FLPMA), BLM says, "[t]his act provides the basic policy guidance for the BLM's management of public lands." We request that BLM document in the RAMP and Final EA how the proposed action and alternatives comply with this law with respect to:

- public land management "on the basis of multiple use and sustained yield" with "sustained yield" meaning "the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use;"
- "the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values;" and "will provide food and habitat for fish and wildlife;" and
- "[i]n managing the public lands BLM "shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands."

In the Final EA, we request that this compliance specifically address the tortoise and its habitat needed for feeding, breeding, shelter, and connectivity.

Red Rock Canyon National Conservation Area Establishment Act of 1990, as amended: In the EA, BLM says, "The legislation includes general management direction to be followed and requires the development of a new management plan. The legislation calls for providing recreation opportunities allowing the public to enjoy and appreciate the unique natural setting which composes RRC [Red Rock Canyon], but the *primary direction* is *to conserve and protect these natural resources* [emphasis added]."

Under the general management plan requirement, the Act calls for the development of "a recreation management plan, including nonmotorized dispersed recreation opportunities for the conservation area." The Act also specifies that the Secretary (delegated to the BLM) "shall only allow such uses of the conservation area as he finds will further the purposes for which the conservation area is established." The Final EA should provide data and analyses that demonstrate how the alternatives will comply with Congress's mandate to conserve, protect, and enhance the natural and cultural resources in the NCA and therefore the planning area. We request that BLM add these data and analyses to the Final EA to be circulated for public review.

Record of Decision (ROD) for the Red Rock Canyon National Conservation Area Resources Management Plan (RMP): BLM's issuance of the ROD in 2005 completed the planning process and finalized the Resource Management Plan (RMP) for Red Rock Canyon National Conservation Area. Decisions in the ROD included "closure of roads within the NCA, the amount of commercial and competitive Special Recreation Permits issued, Wild Horse and Burro Management, measures to protect riparian habitat, biodiversity, and cultural resources, and how recreational activities are to be managed." The ROD designated trails and roads for recreational use. In the ROD, BLM said, "No new trail development is allowed without BLM concurrence. All trails developed in this manner will be restored to nature upon discovery."

Alternatives

No Action Alternative: The Council finds that BLM's description of the No Action Alternative is unclear and misleading. It focuses on actions that would not be taken under this alternative without describing the management that BLM is nevertheless obligated to implement under the RMP, ROD, and the Act. It gives the impression that failure to adopt a RAMP would result in no recreation management in the planning area. BLM would not add more roads or trails to those already authorized in the 2005 RMP and ROD for motorized and various types of non-motorized recreational uses. However, as per the ROD, BLM is obligated to manage recreation and implement its responsibilities even under the No Action Alternative.

The description is unclear because it does not provide a map that clearly delineates the trails and roads that were authorized in the 2005 RMP and ROD. While the National Environmental Policy Act's (NEPA) baseline is to analyze current conditions, BLM's baseline is the management commitment it made in 2005 in the ROD to manage for authorized roads and trails. In the EA, BLM documents that it has not done this. BLM now seeks to adjust the regulatory baseline to potentially include unauthorized recreation activities and features that BLM should have halted, while dismissing actions BLM should have implemented to restore these areas from unauthorized activities. As required under the Act and the ROD, BLM is obligated to implement restoration actions because it is required to conserve, protect, and enhance the natural and cultural resources of the NCA. Allowing unauthorized degradation and/or loss of these resources in the NCA from human activities likely violates this Act because (1) degradation or loss of a resource usually does not result in enhancement of that resource and (2) BLM has provided no data to document that the overall effect from BLM's management of the resources identified in the Act is enhancement in the NCA.

Please revise the Final EA to include a clear description of the activities that BLM is obligated to implement under the No Action Alternative. BLM should use the data from the 2005 RMP and ROD for this description and ensure that 19 years later, the implementation of thus alternative complies with Congress's mandate in the Act.

All Alternatives: For all alternatives, BLM should be objective and clear when providing information about the activities it would implement and allow as well as those it would not implement and allow in the planning area. This includes describing activities that are authorized and unauthorized and the corrective actions BLM would implement including legal actions. Because the list of unauthorized activities committed by the public on BLM land continues to grow, it is impossible to list all unauthorized activities in a management plan. Therefore, we recommend that BLM include language in the Final EA that any activity that is unauthorized and that results in injury, damage, degradation, or destruction to identified resources in the Act will be classified as unauthorized activities.

We remind BLM that when developing and analyzing alternatives that may be implemented, these alternatives must comply with what is mandated in the Act. In addition, BLM should ensure the alternatives comply with the direction in the ROD, if implementation of the ROD complies with the Act. For example, in the ROD, BLM says, "The primary direction for this [resource management] plan is to conserve and protect the natural resources of the NCA." This would include the tortoise and other special status species.

Reasonable Range of Alternatives: BLM analyzed three alternatives in the EA. In reading BLM's analysis of Alternatives A and C, these alternatives would result in very similar impacts. Consequently, we do not consider Alternative C to be an alternative to Alternative A. Eliminating Alternative C as a true alternative means that BLM offered only two alternatives in the EA, the No Action Alternative (Alternative A) and Proposed Action Alternative (Alternative B).

The Council on Environmental Quality's (CEQ) regulations for implementing the NEPA direct federal agencies to develop "a reasonable range of alternatives." In 40 CFR 1506.1(a), CEQ says, that an agency action cannot "[l]imit the choice of reasonable alternatives" before reaching a final decision in a published ROD. In the Final EA, we recommend that BLM develop and analyze, at a minimum, a no action alternative (i.e., no change from the current management that documents implementation of its mandated responsibilities), an alternative that emphasizes recreation resources, and an alternative that emphasizes protection of natural and cultural resources. However, all alternatives that BLM considers for implementing must demonstrate that they would meet the mandate in the Act to conserve, protect, and enhance the natural, cultural, and recreation resources in the NCA. BLM should use scientific reports and research articles to demonstrate that the alternative it develops will comply with the mandate of the Act.

Absent this information, and using the information BLM provided in the EA and RAMP, it appears that BLM's process for developing one of the action alternatives and analyzing its impacts was for a recreation planner to (1) visually assess the existing trails and roads, including unauthorized features; (2) complete a form to evaluate existing routes (Appendix C in the RAMP) (including unauthorized routes) on potential impacts to recreation, travel management, wildlife, soils, water, and air resource, weeds, and cultural resources; (3) meet with recreation user groups to identify the activities and facilities they wanted; and, (4) combine this information to produce an action alternative. We are unsure how using this process would ensure that the implementation of this alternative would conserve, protect, and enhance the natural, cultural, and recreational resources in the NCA.

We strongly request that BLM include alternatives that it has analyzed using science, rather than a windshield survey, and are supported by published research in scientific journals. For example, BLM should consider the location and density of activities that result in surface disturbance when managing tortoise habitat (Averill-Murray et al. 2021).

We were unable to find any analysis in the EA that the preferred alternative or any alternative would comply with the Act's mandate to conserve, protect, and enhance the resources identified in the Act. In addition, it appears that the preferred alternative may increase the number of trails and routes (recreation facilities) compared to those authorized in 2005 under the RMP and ROD. BLM has the authority to do this provided that this change results in the conservation, protection, and enhancement of natural and cultural resources in the NCA. However, until BLM provides the appropriate data and analyses with scientific support, it is unable to conclude that implementation of any alternative described in the EA complies with the Act. Please revise the Final EA to include only alternatives that comply with Congress's mandate in the Act, especially with respect to endangered species (i.e., the tortoise) and the supporting data.

In developing alternatives that comply with the Act, we suggest that BLM return to the description and analysis of impacts in the RMP and ROD, update the data and analysis in these 19-year old documents, and determine whether the current alternatives and other alternatives would meet the mandates of the Act to conserve, protect, and restore the identified resources.

RAMP Implementation: While the development, implementation, and enforcement of the RAMP would appear to be helpful (e.g., to inform the public of what uses are allowed to support enforcement of the plan, etc.), we are not sure how effective it would be in managing the La Madre Foothills planning area in carrying out the mandates of the Act. BLM has a track record of (1) not effectively enforcing recreation activities and facilities under management plans; and (2) implementing effective restoration of natural resources degraded and/or destroyed by unauthorized recreation activities and facilities. BLM's lack of effective enforcement, as demonstrated by the proliferation of unauthorized routes in the La Madre Foothills planning area since 2005, likely resulted in impacts to sensitive areas and habitats with probable adverse impacts to natural and cultural resources associated with these activities. If so, the absence of enforcement actions and mitigation may have violated the mandate of the Act. Unfortunately, we were unable to find this information or analysis in the EA, which should be documented in the Final EA.

In addition, in the ROD BLM says "[n]o new trail development is allowed without BLM concurrence. All trails developed in this manner will be restored to nature upon discovery." Apparently, BLM has not been following this requirement since 2005 because it reports in the EA there are numerous unauthorized routes in the planning area.

The Council believes that BLM's first obligation in the La Madre Foothills planning area is ensure that activities or facilities it may authorize will protect, conserve, and enhance the resources identified in the Act. In preparing a management plan to allow specific activities that may degrade or destroy resources that Congress has identified to conserve, protect, and enhance, BLM should implement the scientific process and use science to answer the question of whether a proposed activity, facility, and/or plan will comply with the mandate in the Act. Please see "Affected Environment and Environmental Consequences – Using Science" section for more information.

Monitoring: BLM states in the ROD that monitoring would be required. The Council recommends that a science-based monitoring plan be designed and implemented to collect data to determine whether there are changes (enhancement or reduction) to the resources identified in the Act (including the tortoise and other special status species) in the La Madre Foothills planning area and the NCA. If degradation and/or loss of any of these resources occurs in the NCA without effective mitigation to fully offset the impacts and adaptive management to eliminate the occurrence/trend, this degradation or loss would violate the Act. Degradation or loss does not result in enhancement of the resource in the NCA.

The Act gives BLM certain authorities to help manage the conservation, protection, and enhancement of identified resources. For example, the Act directs the Secretary, with this authority delegated to BLM, to limit visitation and use of the conservation area as appropriate for the protection of the resources of the NCA. This would be an adaptive management action. Because this authority is in the Act, BLM should not need additional authorization in a management plan to implement this authority.

Affected Environment and Environmental Consequences

According to information in the EA, the La Madre Foothills planning area is a popular location for off-highway vehicle (OHV) use, rock climbing, hiking, equestrian use, and mountain biking, which have resulted in the proliferation of 49 miles of unauthorized trails, illegal bike use in wilderness, dumping of trash, and unauthorized target shooting in the planning area. We remind BLM that there are numerous papers in scientific journals on the impacts of these recreational activities and this information should be used to analyze the direct, indirect, interconnected, synergistic, and cumulative impacts of each alternative to the resources identified in the Act.

No Action Alternative: BLM claims "there are no services, facilities, or designated recreation uses in the planning area, which has led to a proliferation of redundant social trails, conflicts between recreationists, and damage to natural and cultural resources." BLM appears to use this argument in the EA to explain why it has not implemented management actions to curtail these unauthorized activities. In another section of the EA, BLM says "BLM would continue to manage the La Madre Foothills planning area with the management direction from the RRCNCA RMP."

We note that the RMP and ROD identified recreation uses in the NCA and planning area. We conclude BLM has no legal or regulatory excuse for not properly implementing recreation management activities in the RMP and ROD, or implementing remedial actions to effectively curtail unauthorized activities for the past 19 years or longer in the planning area. We ask that BLM address this concern in the Final EA.

Using Science: Throughout the Affected Environment and Environmental Consequences section of the EA, BLM makes statements and conclusions for which we were unable to find supporting documentation (e.g., citations from the scientific literature). Some of these are identified by page number later in this letter.

We remind BLM that the regulations for implementing the NEPA require the use of science in planning and decisionmaking. Specifically:

- 40 CFR 1507(2)(a) federal agencies must "insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on the human environment."
- 40 CFR 1500.1(b) federal agencies must ensure "The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA."
- 40 CFR 1502.22(b), if the information is incomplete or unavailable, "…(3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, 'reasonably foreseeable' includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason."

- 40 CFR 1502.24 on methodology and scientific accuracy, agencies "shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement."

While these requirements are directed at environmental impact statements, they would also apply to analysis in environmental assessments such as the La Madre Foothills RAMP EA. Please revise the Final EA to document the science BLM used to support statements and conclusions made in the EA and RAMP.

In addition, we suggest that BLM update the information on the tortoise in the EA and RAMP. Although it has been 19 years since the RMP was finalized and the ROD issued, during that time the Recovery Plan for the Mojave Desert Tortoise was revised (USFWS 2011) and numerous research articles and reports have been published on species' demographic status and trend (see Appendix A to this letter), nutritional needs, impacts from various threats, and other information crucial to effectively manage for the conservation of the tortoise. The Final EA and RAMP should be updated to include this information.

Providing Data to Describe and Analyze Authorized Activities for each Alternative: We were unable to find the following information in the EA for each alternative, which should be supplemented in the Final EA.

For Alternative A, we request that BLM provide a map of: (1) the trails, roads, and other recreation facilities present in the NCA in 2005; (2) the trails, roads, and other recreational facilities BLM authorized in 2005 under the RMP and ROD; (3) the trails, roads, and other recreational facilities BLM authorized after 2005; (4) the unauthorized trails, roads, and other recreational facilities that have been restored; and (5) the remaining unauthorized trails, roads, and other unauthorized recreational facilities. If unauthorized trails are present, BLM should explain why it did not implement the decision to restore the unauthorized trails to nature as BLM committed to in the ROD.

For Alternative B, Proposed RAMP, or Alternative C, Optimized Access Alternative, we were unable to find data or their analyses supported with published scientific articles that showed that these alternatives would protect, conserve, and enhance the natural and cultural resources in the NCA. Please revise the Final EA and RAMP to include this information. Please use the scientific process when implementing these analyses.

Pages 3-1 and 3-2, Past, Present, and Reasonably Foreseeable Future Actions: BLM lists the actions in a table. However, we found no information on where these actions are located with respect to the La Madre Foothills planning area or to each other. The absence of this information makes it difficult to determine and analyze the direct, indirect, cumulative, synergistic, and interactive impacts of these actions on the identified resources in the Act and the resource issues BLM identified for analysis under this EA. Please provide a map with the locations and footprints of these actions to aid the public and BLM in determining the impacts of these actions on affected resources including cumulative, synergistic, and interactive impacts.

Page 3-6, Invasive and Noxious Weeds: BLM says, "No weed surveys have been completed in the planning area."

We are unsure how BLM is conserving, protecting, and enhancing the vegetation, wildlife, and endangered species resources in the NCA when it has not completed a baseline survey of the vegetation in this NCA. Because native vegetation provides much of the habitat that wildlife need for feeding, breeding, successful recruitment, and sheltering, ensuring that native vegetation is conserved, protected, and enhanced would aid in conserving, protecting, and enhancing wildlife. BLM must collect baseline vegetation data on the status (i.e., diversity, abundance, location, cover, and density) of native and non-native vegetation and implement one or more subsequent vegetation studies to determine the trend for native and non-native vegetation. This information is needed to determine whether BLM is effectively managing the natural resources in this NCA including wildlife.

In the ROD, BLM says, "The primary direction for this plan is to conserve and protect the natural resources of the NCA."

In addition, a monitoring program would be implemented as it is "an integral part of all actions and programs in order to measure the effectiveness of actions implemented or record the impacts to the natural resources" as part of the proposal. There are specific references to monitoring with regards to wildlife, ecosystem management, commercial uses, wild horses and burros, and other concerns. Monitoring is an integral part of all actions and programs in order to measure the effectiveness of actions implemented and to record impacts to natural resources. Whenever monitoring shows significant impacts or that limits of acceptable change (LAC) are surpassed, mitigation should be taken to reverse the situation. However, if BLM has not conducted baseline studies (e.g., weed surveys), then monitoring results will never show a change. This is a flaw in BLM's management design. BLM must implement science-based monitoring to ensure the plan is conserving the resource identified by Congress.

Environmental Consequences, Alternative A: BLM says, "The 111 miles of existing undesignated routes would remain undesignated and no restoration activities would occur under Alternative A." This information appears to contradict the commitment BLM made in the ROD that "No new trail development is allowed without BLM concurrence. All trails developed in this manner will be restored to nature upon discovery."

In addition, BLM does not appear to be consistent in its use of the terms "trail," "road," and "route." These terms are not defined in the EA. In other BLM documents, BLM refers to OHV trails, OHV roads, and OHV routes. For example, in the EA on page 3-6, BLM says, "OHV use of undesignated trails has the highest potential to impact vegetation resources. OHV use primarily affects vegetation through soil compaction, soil disturbance and erosion, the breaking or crushing of the aboveground portions of plants, fugitive dust, and the introduction of invasive and noxious plants, which can change the species composition along areas with high OHV use (Ouren et al. 2007)." We all know that OHV use also occurs *adjacent* to trails, roads, or routes.

"Overall, the lack of specific management of undesignated trails under Alternative A would not enable the BLM to adequately protect and enhance vegetation resources in the La Madre Foothills planning area. Additionally, without proactive management that involves monitoring, there is the potential for the proliferation of user-created trails, which would cause additional disturbance and damage to vegetation as well as increase the potential spread of noxious weeds." These statements appear to contradict commitments BLM made in the ROD for the NCA in the designations of specific trails, the commitment to return such trails to nature, and monitoring as an integral part of the RMP. Although we appreciate that this RAMP is now being developed, it appears as if the BLM has not fulfilled its mandated responsibilities in the interim, and that the lack of the RAMP is the excuse. Please clarify if this is the case in the Final EA.

Page 3-6 to 3-9: For the three alternatives BLM analyzed in the EA, we found no mention of enforcement as one of BLM's tools for educating the public to stop conducting unauthorized activities. Please add enforcement to this list.

In a related matter, when perusing the BLM web page for Recreation and hiking (https://www.blm.gov/nevada/red-rock-canyon-nca/recreation), we discovered that BLM is telling the public to "Please stay on established trails in Red Rock Canyon National Conservation Area." Unfortunately, many of the established trails in the planning area are unauthorized trials, thus, BLM is encouraging people to use both authorized and unauthorized trails. We recommend that BLM correct this information on its webpage.

Page 3-7, Alternative B: "Collectively, the key management decisions on trail uses, route closures, and education would all assist in decreasing the potential impacts on vegetation under Alternative B, when compared with Alternative A." While this statement may be true, it does not demonstrate compliance with the Act. Without conducting an appropriate study, Alternatives A, B, or C may result in decisions that do not conserve, protect, and enhance natural and cultural resources in the NCA. BLM should provide data and analysis in the Final EA that show that implementation of any alternative described in the EA would comply with the Act. Without providing the appropriate data and analyses, this statement appears to be an unsupported assumption by BLM. Further, BLM may be proposing to implement one or more alternatives that would violate the Act. Please provide data and analysis to clearly show that implementing any of the alternatives would comply with the Act.

Page 3-9, Affected Environment, Special Status Species: BLM reports that in querying the USFWS's Information, Planning and Conservation (IPaC) tool, the southwestern willow flycatcher (*Empidonax traillii extimus*) is the only federally endangered species identified as having the potential to exist in the planning area. In communicating with the USFWS on the need to ensure that IPaC is updated and accurate, we learned that in the past this was not a priority for the USFWS.

The Council thanks BLM for using scientific sources of information in addition to the USFWS's IPaC tool to determine whether the tortoise and other listed, proposed, or candidate species and their habitats occur in the planning area. For the La Madre Foothills planning area, IPaC now identifies the species BLM identified (southwestern willow flycatcher, yellow-billed cuckoo (*Coccyzus americanus*), Mojave desert tortoise, Monarch butterfly (*Danaus plexippus*), and IPaC

has added the Pahrump poolfish (*Empetrichthys latos*). We suggest that BLM (1) check IPaC throughout the preparation of all planning documents and NEPA documents, because the USFWS has updated this tool; and (2) add information to the Final EA on whether the poolfish or its habitat occur in the planning area or may be impacted by implementation of the La Madre Foothills RAMP.

Page 3-11 to 3-15, Environmental Consequences, Wildlife: Under Alternative A, BLM says, "While human presence may impact wildlife in general, the use of undesignated trails by non-motorized recreationists would have minimal impacts on wildlife." We request that BLM provide citations from the scientific literature to support this conclusion. Please analyze the impacts from both the creation and the use of designated and undesignated trails including frequency and timing of use.

In addition, please discuss and analyze in the Final EA and RAMP whether it is legal for recreationists to bring their pets on the trails and to campsites with them, and if so, whether they must be leashed or otherwise restrained. The Final EA should analyze the impacts of this activity, if authorized, on wildlife, tortoises and their habitats, and other special status species.

BLM says. "the lack of specific management of undesignated trails under Alternative A would not enable the BLM to adequately protect and enhance wildlife populations and their habitats in the La Madre Foothills planning area." The Council disagrees with this claim by BLM. We were unable to find data in the EA (e.g., citations from the planning document or the Act) to support these claims. The RMP and ROD identify and provide specific information on the trails and roads in the NCA. BLM should include a list of these trails and roads in the Final EA and the RAMP and include these requirements and commitments. BLM should also cite its responsibilities under the Act.

From the information provided by BLM in the EA, the Council has the impression that if Alternative B or C is adopted, BLM will ultimately increase allowable recreation use and facilities over those present when the NCA was established and later when the RMP and ROD were adopted. In addition, we were unable to find BLM's analysis of whether the existing recreation uses and facilities have adversely impacted the natural and cultural resources that the BLM is mandated to conserve, protect and enhance, which should be remedied in the Final EA.

Under Alternative B, BLM says, "Alternative B would designate 21 miles of routes as open for motorized use, 40 miles open for non-motorized use, and create 7 miles of new routes to avoid sensitive natural and cultural resources. Alternative B would additionally close 43 miles of routes for restoration." "The reduction in routes available for use (particularly motorized use), coupled with restoration, would decrease the impacts on wildlife and special status species, compared with Alternative A."

These statements do not include information on which routes were present for motorized and non-motorized use when the NCA was established and when the ROD was adopted. In addition, we were unable to find in this section an analysis that compares the status and trend of the natural and cultural resources to be conserved, protected, and enhanced under the Act. While the impacts may be reduced from the current condition with the implementation of Alternative B, and this is

assumed by BLM because of a mathematical reduction in the number of current routes, BLM provides no data to support this conclusion. For example, for tortoise management, there is a density threshold for surface disturbance. If surface disturbance is reduced in an area, although there is a reduction, the reduction may not be sufficient to reduce the impact from the action (Averill-Murray et al. 2021). In the EA BLM is assuming that any reduction in the number of routes would result in a benefit to wildlife; for the tortoise, this assumption is not always true.

Page 3-18, Soils, Environmental Consequences, Alternative A: In the Final EA, please include an analysis of the impacts of soil compaction for this alternative. What is the current status of soils in the planning area with respect to compaction? How much has this impact increased, if any, because of BLM's inaction to manage the unauthorized recreation activities and features in the planning area?

BLM says, "current conditions for soil resources would remain as they are with the potential to worsen as undesignated recreation use would continue." BLM then describes the effects that unauthorized or user-created roads and trails have on soils. While BLM does not manage user-created roads and trails, apparently BLM is not restoring these user-created trails to their former condition as it stated it would do in the ROD. The wording in this section of the EA implies that BLM needs an approved RAMP to manage recreation resources. The wording in the ROD contradicts this. In the Final EA, please clarify the management authority BLM has under the RMP and ROD for managing recreation resources and for implementing actions to mitigate unauthorized activities and features by the public in the planning area and NCA.

In the Final EA, please add information on how BLM will reduce compaction of soils when it closes and restores unauthorized routes. In addition, please include an analysis of the impacts of this reduction. The health of soils is an important foundation for subsequent efforts to restore unauthored, closed routes using native vegetation.

Page 3-12, Wildland Fire, Environmental Consequences: Under Alternative A, BLM says, "No restoration actions or route designations would be implemented for the 111 miles of existing undesignated routes." If any of these routes is unauthorized, user-created, this statement contradicts commitments BLM made in the ROD. In the ROD, BLM committed to restoration of all trails "to nature upon discovery." Please clarify BLM's statement in the Final EA.

Cumulative Impacts: under this section BLM states, recreational development and increased human activity have "led to the proliferation of undesignated routes, which could increase the potential for wildfires to occur." Please provide supporting citations and an explanation of this statement in the Final EA. Is the increased potential for wildfires to occur because people and their equipment are the major source of fire ignition? Will BLM close routes during high fire season to minimize the risk of wildfires and the loss of soils, vegetation, wildlife, and wildlife habitat (including the tortoise and tortoise habitat) and cultural resources it is charged with conserving, protecting and enhancing? Is BLM implementing actions to reduce the non-native plant species to substantially reduce the fuel load that carries fire resulting in frequent, large, and intense fires that were not historically present in the Mojave Desert? In the Final EA, BLM should complete an analysis of cause and effect and provide supporting documentation from the scientific literature.

Page 4-1, Chapter 4. Consultation and Coordination, Coordination with Stakeholders: In this section of the EA, BLM says, "[d]uring the NEPA process for this EA, the BLM formally and informally coordinated and consulted with other federal agencies, state and local governments, Native American tribes, and the interested public." As mentioned above under "Early Planning and Information Gathering," although the Council has identified itself to BLM in Nevada at the state, district, and field office levels as an affected interest for all project/actions that may affect the tortoise or tortoise habitat, the Council has no record of BLM coordinating with us on this proposed action, until now. Please modify this statement in the Final EA so it accurately reflects BLM's omission of including the Council in this coordination effort.

Cumulative Impacts Analysis

Please see G*rand 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 actions in environmental assessments.

In the cumulative effects analysis of the EA, please ensure that the CEQ's "Considering Cumulative Effects under the National Environmental Policy Act" (1997) is followed, including the eight principles, when analyzing cumulative effects of the alternatives in the EA. This CEQ document is referred to in BLM's National Environmental Policy Act Handbook (BLM 2008).

CEQ states, "Determining 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." Cumulative impact analysis should "address the sustainability of resources, ecosystems, and human communities."

CEQs guidance on how to analyze cumulative environmental consequences, which contains 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.

Please add an analysis of the cumulative impacts of each alternative for the resource issues carried forward in the Final EA for analysis.

Note that CEQ recognizes that synergistic and interactive impacts as well as cumulative impacts should be analyzed in the NEPA document for the resource issues.

We request that the Final EA (1) include these eight principles in its analysis of cumulative impacts to the Mojave desert tortoise; (2) address the sustainability of the tortoise in and near the planning area; and (3) include effective science-based mitigation, monitoring, and adaptive management that protect desert tortoises and their habitats during BLM's management and the public's use of the project area for recreation.

In addition, we request that BLM add this plan and its impacts to a BLM database and geospatial tracking system for special status species, including Mojave desert tortoises, which 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.

Appendix B – La Madre Foothills Draft RAMP

Page 1-5, Purpose of the RAMP: "Motorized and non-motorized recreational use in the planning area is currently unmanaged and unplanned." This statement appears to contradict information in the RMP and ROD. Please clarify/correct this statement in the Final RAMP.

Page 1-6, Management Emphasis Area: Referring to the development of the RAMP, "The BLM, therefore, evaluates proposed actions for consistency with the RRCNCA." This statement is true if the RAMP complies with Act. Therefore, in the Final RAMP, BLM should demonstrate using science that its proposed action will comply with the Act.

"The RRCNCA RMP specifies that management for roaded natural areas can include recreation improvements, such as roads and trails, but that developments should be limited to those improving access and those consistent with the natural environment."

BLM should demonstrate in the Final EA that it has analyzed the alternatives using the best available science, and this analysis shows that for the alternative BLM selects to implement, the alternative would conserve, protect, and enhance the natural and cultural resources in the NCA, which include the tortoise. We were unable to find this information in the EA or the RAMP. Please add this information and analysis to these final documents.

Page 1-8, Other Laws, Regulations, Policies, and Plans: Please add the Migratory Bird Treaty Act to this list in the Final RAMP.

Endangered Species Act of 1973: "This act directs federal agencies to ensure their actions do not jeopardize threatened and endangered species."

In the Final RAMP, please add the requirement under section 7(a)(1) of the ESA, and see our comments above under "Relationship to Statutes, Regulations, and Other Plans – Endangered Species Act of 1973, as amended."

Page 1-10, Plans: The Clark County Multi-species Habitat Conservation Plan may be relevant.

Page 1-12- 1-13, 1.6 Objectives: We found no enforcement objectives in the RAMP. BLM should include these objectives and associated monitoring in the Final RAMP to determine whether their enforcement is effective. If enforcement is not effective, it should be modified under adaptive management so it is effective.

Page 1-12, 1.6.2 La Madre Foothills RAMP Objectives: "The objectives and management actions in the RAMP document align with the RRCNCA RMP goals and objectives."

We were unable to find data or analysis in the EA or the RAMP that implementation of the objectives and management actions would result in accomplishing the requirements in the RMP and ultimately the Act. Please provide these data and analysis in the Final RAMP to support BLM's statement.

Pages 1-12 and 1-13: "Also, minimize conflicts between recreational user groups and potential impacts from recreation on natural and cultural resources by minimizing, mitigating, or prohibiting noncompatible recreational activities in certain areas or at certain times."

This statement does not consider cumulative, synergistic, and interactive impacts from recreation activities and/or recreation facilities along with other activities that will be analyzed in making management decisions. Please correct this oversight in the Final RAMP.

Page 1-13: "Management Objective 2 – Development of Facilities: "Provide recreational facilities that can accommodate and support the current and anticipated upward trend of recreational use in the La Madre Foothills planning area"

This objective contradicts the purpose, intent, and direction given in the RMP, ROD, the Act, and statements in the EA. It implies that recreation is the primary management purpose of the planning area. Please remove this statement and replace it with the following suggested objective, "Provide recreation facilities that support current and upward trend in recreation use but only if the facilities and/or uses are compatible with conserving, protecting, and enhancing the resources identified in the RRCNCA Act."

Management Objective 3 – Nonmotorized Trail Network Management: "Provide a non-motorized trail network that supports current and future use levels and meets user needs."

This objective contradicts the purpose, intent, and direction given in the RMP, ROD, the Act, and statements in the EA. It implies that recreation is the primary management purpose of the planning area. Please remove this statement and replace it with the following suggested objective, "Provide a non-motorized trail network that supports current and upward trend in recreation use but only if the network and its uses are compatible with conserving, protecting, and enhancing the resources identified in the RRCNCA Act."

Management Objective 4 – Road Network Management: "Maintain a network of roads that allows for sightseeing and connectivity to other management units in the NCA."

Please add to this statement "as long as it provides for the conservation, protection, and enhancement of natural and cultural resources identified in the RRCNCA Act."

Management Objective 5 – Visitor Health and Safety: "Maintain trails, trailheads, and road corridors, to provide for safe and enjoyable recreational opportunities."

Please modify this statement to say, "Management Objective 5 – Visitor Health and Safety: Maintain trails, trailheads, and road corridors that have been authorized by BLM, to provide for safe and enjoyable recreational opportunities."

Administration Objectives, Administration Objective 1 – Resource Protection: "Protect ecological, scenic, cultural, and other natural resources that contribute to the physical recreation setting."

To comply with the RRCNCA Act, please delete "…that contribute to the physical recreation setting."

Page 1-13 – Information and Education Objectives: Two objectives are listed, one for sign placement and the other for map development.

BLM should inform and educate each visitor to the NCA by making management and resource information, including maps and education materials (e.g., videos on natural and cultural resources, etc.), readily available via cell phones and other devices. Consider placing QR codes on signs in the planning area and NCA so visitors can easily access this information on their cell phones/other mobile devices. The NCA website should be used to provide an abundance of information, primarily as videos, to educate the public about the resources in the planning area and NCA, what they can do to help protect those resources (e.g., staying on designated trails, not littering, etc.), and other relevant information. Using a digital platform allows BLM to quickly update information. This may be important for health and safety issues.

Page 1-13, Monitoring Objectives: These two monitoring objectives should inform a monitoring plan that is science-based and designed to answer the appropriate questions about impacts to natural and cultural resources and other recreational resources. Implementing the monitoring plan should be a priority. When the monitoring results indicate that natural, cultural, and or/recreational resources are not being conserved, protected, and enhanced (e.g., Mojave desert tortoise and other special status species, etc.), BLM should implement immediate actions to effectively correct the degradation of habitat and species decline through adaptive management and monitor the remedial actions to ensure they are effective.

Page 2-1, Management Actions: "These management actions provide guidance for the prioritization of specific recreation uses and outline restrictions and prohibitions on recreation use to support the desired natural setting and important cultural resources."

Please delete “desired” and “important” from this sentence. Supporting the “desired” setting is a phrase more appropriate for assessing visual resources rather than natural resources such as wildlife (e.g., tortoise) and wildlife habitat, plants, and soils. In addition, we are unaware that BLM is charged with managing only “important” cultural resources. How does BLM determine which cultural resources are important?

With regards to the following sentence, “There is interest from the OHV community to have routes leading to Little Red Rock,” before this or any other recreation activity or facility is approved, BLM should conduct a scientific study and analyze the relevant data to determine the direct, indirect, and cumulative impacts to the natural and cultural resources that BLM is mandated to conserve, protect, and enhance under the Act. Then BLM should determine whether approving this activity would or would not result in complying with the mandate in the RRCNCA Act. If it would not, then the recreational activity and/or facility should not be approved.

Page 4-2, Recreation Use Management Action 4 – Prohibited Uses: Please expand this statement to say, “Prohibited uses would include but are not limited to the following:” and list the prohibited uses in this section of the RAMP, such as owners accompanied by unleashed dogs while in the NCA, discarding food items (many people do not consider this littering because wildlife will eat it), discarding lighted devices (e.g., cigarettes, matches), and equipment that contains lithium ion batteries, etc. BLM needs the flexibility to identify and enforce any prohibited uses that adversely impact BLM's management of the planning area and NCA according to the Act. Please make this change in the Final RAMP.

Recreation Use Management Action 6 – Special Recreation Permits: “Manage special recreation permits in accordance with RMP and NCA prescriptions.”

Please add “and comply with the directives in the RRCNCA Act.”

Page 2-4, Development of Facilities Management Action 1 – West Tropical Parkway Visitor Facilities: The Council opposes any approved new development or use in the NCA until BLM has conducted a scientific study of the likely direct, indirect, and cumulative impacts to natural and cultural resources, including the tortoise and tortoise habitat, from its implementation, to determine whether the proposed development and/or activity would degrade or result in the conservation, protection, and enhancement of natural and cultural resources as mandated in the RRCNCA Act. If the proposed development or use will degrade a resource identified in the Act, then BLM should not approve it because it would not enhance the resource(s) as is mandated by the Act.

Development of Facilities Management Action 2 – Lake Mead Boulevard: The Council opposes the development of this trailhead and associated activities in the NCA until BLM has conducted a scientific study of the likely direct, indirect, and cumulative impacts to natural and cultural resources, including the tortoise and tortoise habitat, from its implementation, to determine whether the proposed development and/or activity would degrade or result in the conservation, protection, and enhancement of natural and cultural resources as mandated in the RRCNCA Act. If proposed development or uses will degrade a resource identified in the Act, then BLM should not approve them because they would not enhance the resource(s) as mandated by the Act.

Pages 2-4 and 2-6, Nonmotorized Trail System Management: These management actions provide guidance for the management of non-motorized trails, including how trails are developed and used, how trail usage interacts with important natural and cultural resource values, and how trails contribute to desired recreational experiences and outcomes. Primary users of non-motorized trails in the planning area fall into three categories: pedestrians (hiking, running, and walking), equestrians, and mountain bikers.

The Council opposes the development of trails and associated activities in the NCA until BLM has conducted a scientific study of the likely direct, indirect, and cumulative impacts to natural and cultural resources, including the tortoise and tortoise habitat, from its implementation, to determine whether the proposed development and/or activity would degrade or result in the conservation, protection, and enhancement of natural and cultural resources as mandated in the RRCNCA Act. If the proposed development or activity will degrade a resource identified in the Act, then BLM should not approve it because it would not enhance the resource(s) as is mandated by the Act.

Nonmotorized Trail System Management Action 1 – Trail Analysis: "Within 1 year after finalizing this RAMP, analyze routes for sustainability, visitor benefit, and overall trail system compatibility. Identify trail closures as needed to meet resource protection values and visitor needs. Ensure new trail proposals meet the recreation setting characteristics and desired user outcomes."

If BLM has not designed and implemented a study and collected appropriate data to conduct analysis of impacts to natural and cultural resources, this time frame for conducting the analysis may take longer.

Nonmotorized Trail System Management Action 2 – Trail Closure and Restoration: "Within 2 years after analyzing the trail system and identifying appropriate closure and restoration of unsustainable or redundant trails, complete closure and restoration efforts using signage, vertical mulching, decompaction, and/or physical barriers."

While these methods result in a visual barrier to a recreation user so they cannot see where a trail leads to, the methods do not restore the resources that have been degraded or destroyed. BLM should add that it will implement restoration activities for soils, vegetation, and wildlife habitat to complete the restoration process and comply with the mandate in the RRCNCA Act to conserve, protect, and enhance natural and cultural resources in the NCA and the ROD.

Nonmotorized Trail System Management Action 3 – Trail Adoption: "Within 1 year of implementing the RAMP, adopt a single-track trail network in the La Madre Foothills planning area as open for pedestrian, equestrian, and mountain bike uses that meet the recreation setting characteristics and desired user outcomes."

Before this or any other recreation activity or facility and associated activity is approved, BLM should conduct a scientific study of the likely direct, indirect, and cumulative impacts to natural and cultural resources, including the tortoise and tortoise habitat, from its implementation, to determine whether the proposed development and/or activity would degrade or result in the conservation, protection, and enhancement of natural and cultural resources as mandated in the RRCNCA Act. If the proposed development or activity would degrade a resource identified in the

Act, then BLM should not approve it because it would not enhance the resource(s) as is mandated by the Act. The data should be analyzed to determine the direct, indirect, and cumulative impacts on the natural and cultural resources that BLM is mandated to conserve, protect, and enhance and then determine whether approving this activity would/would not result in complying with this mandate. If it would not, then it would not be approved.

Nonmotorized Trail System Management Action 5 – Mountain Bike Trail Construction: "Within 5 years of implementing the RAMP, analyze the opportunity for new trail development that meets the needs for multiple abilities."

Before this or any other recreation activity or facility and associated activity is approved, BLM should conduct a scientific study of the likely direct, indirect, and cumulative impacts to natural and cultural resources, including the tortoise and tortoise habitat, from its implementation, to determine whether the proposed development and/or activity would degrade or result in the conservation, protection, and enhancement of natural and cultural resources as mandated in the RRCNCA Act. If the proposed development or activity would degrade a resource identified in the Act, then BLM should not approve it because it would not enhance the resource(s) as is mandated by the Act. The data should be analyzed to determine the direct, indirect, and cumulative impacts on the natural and cultural resources that BLM is mandated to conserve, protect, and enhance and then determine whether approving this activity would/would not result in complying with this mandate. If it would not, then it would not be approved.

Nonmotorized Trail System Management Action 6 – Climbing Access: "Within 3 years of implementing the RAMP, plan, analyze, and improve trail access to popular climbing areas."

Before this or any other recreation activity or facility and associated activity is approved, BLM should conduct a scientific study of the likely direct, indirect, and cumulative impacts to natural and cultural resources, including the tortoise and tortoise habitat, from its implementation, to determine whether the proposed development and/or activity would degrade or result in the conservation, protection, and enhancement of natural and cultural resources as mandated in the RRCNCA Act. If the proposed development or activity would degrade a resource identified in the Act, then BLM should not approve it because it would not enhance the resource(s) as is mandated by the Act. The data should be analyzed to determine the direct, indirect, and cumulative impacts on the natural and cultural resources that BLM is mandated to conserve, protect, and enhance and then determine whether approving this activity would/would not result in complying with this mandate. If it would not, then it would not be approved.

Page 2-7, 2.4 Motorized Route Network Management, Motorized Route Network Management Action 1 – OHV Access: "Within 1 year of implementing the RAMP, analyze and identify open OHV routes that prioritize OHV access in the northern section of the planning area while preventing intrusions into wilderness areas through signage and route closure. Ensure that OHV enthusiasts have access to loop opportunities and areas of high-quality scenic value that are compatible with other resource protection mandates."

Before this or any other recreation activity or facility and associated activity is approved, BLM should conduct a scientific study of the likely direct, indirect, and cumulative impacts to natural

and cultural resources, including the tortoise and tortoise habitat, from its implementation, to determine whether the proposed development and/or activity would degrade or result in the conservation, protection, and enhancement of natural and cultural resources as mandated in the RRCNCA Act. If the proposed development or activity would degrade a resource identified in the Act, then BLM should not approve it because it would not enhance the resource(s) as is mandated by the Act. The data should be analyzed to determine the direct, indirect, and cumulative impacts on the natural and cultural resources that BLM is mandated to conserve, protect, and enhance and then determine whether approving this activity would/would not result in complying with this mandate. If it would not, then it would not be approved.

Motorized Route Network Management Action 2 – La Madre Trail and Harris Springs Connection: "Maintain access to and improve signage and monitoring on the La Madre Trail (Route 16) and Harris Springs Wash." The Council strongly recommends that monitoring include collection of relevant data on direct, indirect, and cumulative impacts to natural and cultural resources, including the tortoise and tortoise habitat. If the analysis of the data indicate adverse impacts are impacting the identified resources, the analysis of the data would be used to develop and implement effective adaptive management to correct and fully offset the adverse impacts.

Motorized Route Network Management Action 3 – Route Closure and Restoration: "Within 3 years of implementing the RAMP, ensure redundant and unsustainable routes are restored to a natural state." The Council supports this management action. This action is in addition to implementing the same management action for unauthorized routes described in the ROD.

Page 2-7, 2.5 Visitor Health And Safety, 2.5.1 Management Objective 5: "Control the prevalence of illegal dumping, shooting, and burning activities."

Please modify this wording to say, "*Eliminate* illegal dumping, shooting, burning activities, and other activities that may harm visitor health and safety." We remind BLM that these activities may result in substantial adverse impacts to the natural and cultural resources in the planning area and NCA, including increased levels of predation from dumping and sources of wildfires (Short and Finney 2022).

Page 2-8, Visitor Health and Safety Management Action 1 – Illegal Uses near West Tropical Parkway: "Within 2 years of implementing the RAMP, clean up the burning, dumping, and target shooting sites throughout the planning area, particularly near West Tropical Parkway. In addition to cleanup, implement signage and improve monitoring to maintain landscape integrity and reduce future occurrences of burning, dumping, and target shooting."

The Council suggests that the second sentence be modified to say, "In addition to cleanup, implement signage, improve monitoring, *and implement adaptive management* to maintain landscape integrity and reduce future occurrences of burning, dumping, and target shooting."

Page 3-1, Resource Protection Management Action 1 – Native Vegetation: "Restore areas with native plant materials that are appropriate for use within the La Madre Foothills area."

Please add soils as a Resource Protection Management Action. Healthy soils are the foundation for effective vegetation restoration (Webb er al. 2002, Chinquoine et al. 2016, Hernandez et al. 2023).

In addition, this Native Vegetation Resource Protection Management Action should be added earlier in management actions for trail and route elimination, because revegetation is not mentioned - only vertical mulching.

Please add a management action on effective management of invasive non-native plant species to this section. Recreational users transport seeds and plant parts in their tires and other vehicle parts, spreading non-native plants along routes and trails and throughout the management area. BLM should develop and implement a management plan that (1) eliminates as much as possible the sources of these non-native plants being brought in the NCA; and (2) substantially reduces the occurrence of non-native plants especially before they set seed and deposit their seeds into the seed bank. Both activities need to be ongoing management actions if they are to be successful.

Unlike most other management actions in this RAMP, there is no time frame provided for when this action would be implemented. The absence of a time frame implies it is not a high priority, which it should be. Please add this time frame because restoration is an important management action to help conserve, protect, and enhance the natural resources in the planning area and NCA. The Council is offering assistance to BLM when planning this management action to ensure that BLM is implementing the best methods to increase the likelihood of successful restoration of native vegetation.

Resource Protection Management Action 3 – Restoration Strategies: "Restore degraded habitats and closed roads and trails to improve wildlife habitat, soil stability, and visual resources, consistent with the following restoration strategies."

Please add "unauthorized" to the roads and trails that would be restored. Whole passive restoration is an immediate method to prevent and discourage ongoing and future use of unauthorized and closed roads and trails; it does not restore the areas impacted to their pre-impact condition. Because of the mandate BLM has under the RRCNCA Act to manage for the conservation, protection, and enhancement of natural and cultural resources in the NCA, and the decades or longer time for these roads and trails to be restored (e.g., Webb et al. 2002 = soil compaction; Abella 2010 = revegetation), passive restoration actions should be part of the restoration methods that BLM implements. In addition, we recommend removing e) "Allow roads and trails to restore themselves." Such restoration would not happen for decades at best or never unless active restoration methods are implemented.

Page 3-2, 3.2 Partnership Agreements, Management Actions: "The close proximity of La Madre Foothills to the city of Las Vegas further illustrates the need for partnership agreements to maximize beneficial outcomes both within the RAMP area and the surrounding community, as emphasized in the BLM 2014 Recreation Handbook."

Please add that partnerships can extend beyond the immediate recreational community, because BLM is mandated to conserve, protect, and enhance the natural and cultural resources of the planning area and NCA. Please include partnerships with organizations that are concerned about the management of natural and cultural resources to this partnership section, and not limit it to pro-recreational organizations.

Page 3-3, 3.3 Implementation Priorities, 3.3.2 Management Actions: "2. Properly sign all roads and trails for difficulty level, recommended mode of transportation, and distance. Sign all closed roads and trails as such."

Please modify this wording to say, "Sign all closed *and unauthorized* roads and trails to say they are closed."

"4. Restore closed roads and trails using passive and active techniques."

Please modify this wording to say. "Restore closed *and unauthorized* roads and trails *using the latest effective techniques from the scientific literature*."

Page 4-1, Information and Education, Map Development: BLM should develop these maps in a digital format so they are easily available to the public. QR codes can be used for easy access to these maps. This eliminates the likelihood of litter from using paper maps.

Pages 5-1 and 5-2, Monitoring, 5.1.3 RRCNCA Monitoring Requirements: There are two sections, one with eight bullets and one with 13 bullets that list the general monitoring that BLM would implement. They are vague and do not appear to address the management mandate that Congress gave BLM in the RRCNCA Act.

In the southwest, BLM has a history of not designing or implementing monitoring programs that ask the right questions, are designed to collect the appropriate type or amount of data to answer those questions, and produce meaningful answers. BLM should ensure that its monitoring program is science-based, is asking the right questions, and is designed to collect the appropriate data to answer the questions. Because US Geological Survey (USGS) is the science agency of the Department of the Interior, BLM should coordinate with USGS in the development of this monitoring plan. For example, monitoring the number and types of recreation activities or the direct physical impacts of these activities and facilities may not provide the data needed to demonstrate that BLM is managing for the conservation, protection, and enhancement of natural and cultural resources in the planning area and NCA.

BLM should include in the RAMP the monitoring questions it is asking and ensure that the questions are following the purpose and intent of the RRCNCA Act.

"Whenever monitoring shows impacts that are considered significant or that surpass the limits of acceptable change…"

This wording must be changed. It is not appropriate if BLM is to implement the management mandated in the RRCNCA Act. This Act includes enhancing natural and cultural resources. Consequently, allowing impacts from recreation or any activity or facility to diminish natural or cultural resources in the NCA is not allowed because the result is not enhancing the resource. The impacts do not need to rise to the level of significant to violate Congress's mandate in the Act.

We suggest rewording this sentence to say, "Whenever monitoring shows impacts are not resulting in the conservation, protection, and enhancement of natural and/or cultural resources in the NCA, BLM would immediately implement mitigation to reverse this situation so that the resource(s) being impacted is/are once again being conserved, protected, and enhanced."

"The BLM will conduct an ongoing program of population monitoring for threatened and endangered species, candidate species (blue diamond cholla [*Cylindropuntia multigeniculata*]), and other special status species."

BLM should include its science-based monitoring plan/program in the RAMP to demonstrate that its management of recreation activities and facilities in the planning area and the NCA are conserving, protecting, and enhancing the natural and cultural resources in the planning area and NCA. We strongly recommend that BLM coordinate with USGS in developing this monitoring plan, because USGS is the science-based agency of the Department of the Interior.

"BLM may implement seasonal or temporary restrictions in specific areas or other mitigation to reduce user impacts on resources."

Please change this wording from "may" to "will," and add that BLM will implement management actions that will reverse these impacts. These changes would bring the RAMP into compliance with the RRCNCA Act.

Page 5-2, 5.1.4 Additional Proposed Monitoring: "In addition to the monitoring requirements in the RRCNCA RMP, the BLM is proposing the following additional monitoring measures."

Pleas modify this wording to say, "BLM *would implement* the following monitoring measures."

"Monitor desert tortoise habitat and potential populations."

In the Final RAMP, please explain how BLM would monitor "potential populations" of tortoise that occur in the NCA. We suggest that baseline tortoise surveys be conducted in the planning area as a baseline to which specific management actions can then be applied, so that "potential populations" can be quantified.

Page 5-2, 5.1.5 Law Enforcement Role: "The BLM will continue to maintain its current law enforcement processes."

BLM should include in the Final RAMP a list of law enforcement activities that would be implemented in the planning area. Simply stating that current law enforcement processes would continue is not informative. Apparently, BLM's law enforcement processes have not been working since 2005 based on the number of unauthorized routes and trails that have appeared in the planning area.

Please include in this section the changes that BLM will implement with respect to law enforcement to ensure there is effective management of the planning area. This could include actions such as requiring implementation of restoration activities by offenders rather than paying

fines, establishing a volunteer citizen patrol program to document and report offenses and offenders, using technology (e.g., trail cameras, drones, etc.) to monitor suspected or ongoing illegal activities (e.g., dump sites), etc. The changes should include monitoring the effectiveness of the actions and implementing adaptive management when those actions are not effective.

Page 5-4, Adaptive Management, Management Indicators: "Resource protection and restoration. Indicator - The presence or absence of wildlife and desired vegetation. Indicator - Distribution of noxious and invasive weeds"

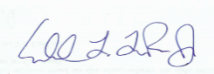
For resource protection and restoration, the indicators listed are not appropriate to determine whether BLM is managing for the conservation, protection, and enhancement of natural and cultural resources as mandated under the RRCNCA Act.

For example, the presence of a wildlife species is not an indicator that BLM is managing the NCA to conserve, protect, and enhance that species. It could be the remaining few individuals of a once abundant population that has been declining in abundance and has unsuccessful recruitment. We strongly recommend that BLM coordinate with USGS and use science to determine the appropriate management indicators for monitoring the conservation, protection, and enhancement of natural resources. That, and censusing the tortoise population as suggested above, would provide the necessary baseline to see if proactive management (or the lack thereof) is having its desired effect.

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 Council wants to be identified as an Affected Interest for this and all other projects or actions funded, authorized, or carried out by the BLM that may affect desert tortoises, and that any subsequent environmental documentation for this project/action is provided to us at the contact information listed above. Additionally, we ask that you notify the Desert Tortoise Council at eac@deserttortoise.org of any proposed projects/actions that BLM may authorize, fund, or carry out in the range of any species of desert tortoise in the southwestern United States (i.e., *Gopherus agassizii*, *G. morafkai*, *G. berlandieri*, *G. flavomarginatus*) so we may comment on them to ensure BLM fully considers actions to conserve these tortoises as part of its directive to conserve biodiversity on public lands managed by BLM.

Please respond in an email that you have received this comment letter so we can be sure our concerns and requests have been registered with the appropriate personnel and office for this proposed action.

Respectfully,



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

Cc: Honorable Alex Padilla, Senate Energy and Natural Resources Committee, padilla@padilla.senate.gov
Deb Haaland, Secretary of the Interior, exsec@ios.doi.gov, feedback@ios.doi.gov, Interior_Press@ios.doi.gov
Tracy Stone-Manning, Director, Bureau of Land Management, tstonemanning@blm.gov
Nada Culver, Deputy Director of Policy and Programs, Bureau of Land Management, nculver@blm.gov
Jon Raby, Nevada State Director, Bureau of Land Management, jraby@blm.gov
Martha Williams, Director, U.S. Fish and Wildlife Service, martha_williams@fws.gov
Glen Knowles, Field Supervisor, Southern Nevada Field Office (Las Vegas), U.S. Fish and Wildlife Service, glen_knowles@fws.gov

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Appendix A. Demographic Status and Trend of the Mojave Desert Tortoise (*Gopherus agassizii*)

We provide the following information on the status and trend of the listed population of the desert tortoise to assist the BLM with its analysis of the direct, indirect, and cumulative impacts of the Proposed Project on the Mojave desert tortoise.

BLM's implementation of a conservation strategy for the Mojave desert tortoise in its resource management plans through 2020 has resulted in the following changes in the status for the tortoise throughout its range and in Nevada from 2004 to 2014 (Table 1; USFWS 2015) and 2004 to 2020 (Table 2). There are 17 populations of Mojave desert tortoise described below that occur in the Critical Habitat Units (CHUs) and Tortoise Conservation Areas (TCAs); 14 are on lands managed by the BLM.

The Desert Tortoise Council (Council) has serious concerns about direct, indirect, and cumulative sources of human mortality for the Mojave desert tortoise given the status and trend of the species range-wide, within each of the five recovery units, and within the TCAs that comprise each recovery unit.

Densities of Adult Mojave Desert Tortoises: A few years after listing the Mojave desert tortoise under the Federal Endangered Species Act (FESA), the U.S. Fish and Wildlife Service (USFWS) published a Recovery Plan for the Mojave desert tortoise (USFWS 1994a). It contained a detailed population viability analysis. In this analysis, the minimum viable density of a Mojave desert tortoise population is 10 adult tortoises per mile^2 (3.9 adult tortoises per km^2). This assumed a male-female ratio of 1:1 (USFWS 1994a, page C25) and certain areas of habitat with most of these areas geographically linked by adjacent borders or corridors of suitable tortoise habitat. Populations of Mojave desert tortoises with densities below this density are in danger of extinction (USFWS 1994a, page 32). The revised recovery plan (USFWS 2011) designated five recovery units for the Mojave desert tortoise that are intended to conserve the genetic, behavioral, and morphological diversity necessary for the recovery of the entire listed species (Allison and McLuckie 2018).

Range-wide, densities of adult Mojave desert tortoises declined more than 32% between 2004 and 2014 (Table 1) (USFWS 2015). At the recovery unit level, between 2004 and 2014, densities of adult desert tortoises declined, on average, in every recovery unit except the Northeastern Mojave (Table 1). Adult densities in the Northeastern Mojave Recovery Unit increased 3.1% per year (SE = 4.3%), while the other four recovery units declined at different annual rates: Colorado Desert (–4.5%, SE = 2.8%), Upper Virgin River (–3.2%, SE = 2.0%), Eastern Mojave (–11.2%, SE = 5.0%), and Western Mojave (–7.1%, SE = 3.3%)(Allison and McLuckie 2018). However, the small area and low starting density of the tortoises in the Northeastern Mojave Recovery Unit (lowest density of all Recovery Units) resulted in a small overall increase in the number of adult tortoises by 2014 (Allison and McLuckie 2018). In contrast, the much larger areas of the Eastern Mojave, Western Mojave, and Colorado Desert recovery units, plus the higher estimated initial densities in these areas, explained much of the estimated total loss of adult tortoises since 2004 (Allison and McLuckie 2018).

At the population level, represented by tortoises in the TCAs, densities of 10 of 17 monitored populations of the Mojave desert tortoise declined from 26% to 64% and 11 have densities less than 3.9 adult tortoises per km^2 (USFWS 2015).

Population Data on Mojave Desert Tortoise: The Mojave desert tortoise was listed as threatened under the FESA in 1990. The listing was warranted because of ongoing population declines throughout the range of the tortoise from multiple human-caused activities. Since the listing, the status of the species has changed. Population numbers (abundance) and densities continue to decline substantially (please see Tables 1 and 2).

Table 1. Summary of 10-year trend data for 5 Recovery Units and 17 CHUs/TCAs for the Mojave desert tortoise, *Gopherus agassizii* (=Agassiz's 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/km^2 and standard errors = SE), and the percent change in population density between 2004-2014. Populations below the viable level of 3.9 adults/km^2 (10 adults per mi^2) (assumes a 1:1 sex ratio) and showing a decline from 2004 to 2014 are in red (Allison and McLuckie 2018, USFWS 2015).

Recovery Unit Designated CHU/TCA	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
Total amount of land	**25,678**	**100.00**		**–32.18 decline**

Density of Juvenile Mojave Desert Tortoises: Survey results indicate that the proportion of juvenile desert tortoises has been decreasing in all five recovery units since 2007 (Allison and McLuckie 2018). The probability of encountering a juvenile tortoise was consistently lowest in the Western Mojave Recovery Unit. Allison and McLuckie (2018) provided reasons for the decline in juvenile desert tortoises in all recovery units. These included decreased food availability for adult female tortoises resulting in reduced clutch size, decreased food availability resulting in increased mortality of juvenile tortoises, prey switching by coyotes from mammals to tortoises, and increased abundance of common ravens that typically prey on smaller desert tortoises.

Declining adult tortoise densities through 2014 have left the Eastern Mojave adult numbers at 33% (a 67% decline of their 2004 levels) (Allison and McLuckie 2018, USFWS 2015). Such steep declines in the density of adults are only sustainable if there are suitably large improvements in reproduction and juvenile growth and survival. However, the proportion of juveniles has not increased anywhere in the range of the Mojave desert tortoise since 2007, and in the Eastern Mojave Recovery Unit the proportion of juveniles in 2014 declined from 14 to 11 percent (a 21% decline) of their representation since 2007 (Allison and McLuckie 2018).

The USFWS and Utah Division of Wildlife Resources have continued to collect density data on the Mojave desert tortoise since 2014. The results are provided in Table 2 along with the analysis USFWS (2015) conducted for tortoise density data from 2004 through 2014. These data show that adult tortoise densities in most Recovery Units continued to decline in density since the data collection methodology was initiated in 2004. In addition, in the Northeastern Mojave Recovery Unit that had shown an overall increase in tortoise density between 2004 and 2014, subsequent data indicate a decline in density since 2014 (USFWS 2016, 2018, 2019, 2020, 2022a, 2022b).

Table 2. Summary of data for Agassiz's desert tortoise, *Gopherus agassizii* (=Mojave desert tortoise) from 2004 to 2021 for the 5 Recovery Units and 17 CHUs/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/km^2 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/km^2 (10 breeding individuals per mi^2) (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	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

Recovery Unit: Designated CHU/TCA	% of total habitat area in Recovery Unit & CHU/TCA	2014 density/km^2 (SE)	% 10-year change (2004–2014)	2015	2016	2017	2018	2019	2020	2021
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

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	2016	2017	2018	2019	2020	2021
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	
Range-wide Area of CHUs - TCAs/Range-wide 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.

Abundance of Mojave Desert Tortoises: Allison and McLuckie (2018) noted that because the area available to tortoises (i.e., tortoise habitat and linkage areas between habitats) is decreasing, trends in tortoise density no longer capture the magnitude of decreases in abundance. Hence, they reported on the change in abundance or numbers of the Mojave desert tortoise in each recovery unit (Table 2). They noted that these estimates in abundance are likely higher than actual numbers of tortoises, and the changes in abundance (i.e., decrease in numbers) are likely lower than actual numbers because of their habitat calculation method. They used area estimates that removed only impervious surfaces created by development as cities in the desert expanded. They did not consider degradation and loss of habitat from other sources, such as the recent expansion of military operations (753.4 km^2 so far on Fort Irwin and the Marine Corps Air Ground Combat Center), intense or large scale fires (e.g., 576.2 km^2 of critical habitat that burned in 2005), development of utility-scale solar facilities (as of 2015, 194 km^2 have been permitted) (USFWS 2016), or other sources of degradation or loss of habitat (e.g., recreation, mining, grazing, infrastructure, etc.). Thus, the declines in abundance of Mojave desert tortoise are likely greater than those reported in Table 3.

Table 3. 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%**

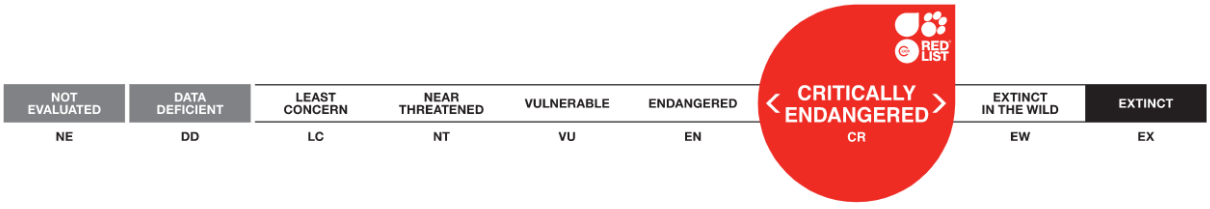
Habitat Availability: Data on population density or abundance does not indicate population viability. The area of protected habitat or reserves for the subject species is a crucial part of the viability analysis along with data on density, abundance, and other population parameters. In the Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994a), the analysis of population viability included population density and size of reserves (i.e., areas managed for the desert tortoise) and population numbers (abundance) and size of reserves. The USFWS Recovery Plan reported that as population densities for the Mojave desert tortoise decline, reserve sizes must increase, and as population numbers (abundance) for the Mojave desert tortoise decline, reserve sizes must increase (USFWS 1994a). In 1994, reserve design (USFWS 1994a) and designation of critical habitat (USFWS 1994b) were based on the population viability analysis from numbers (abundance) and densities of populations of the Mojave desert tortoise in the early 1990s. Inherent in this analysis is that the lands be managed with reserve level protection (USFWS 1994a, page 36) or ecosystem protection as described in section 2(b) of the FESA, and that sources of mortality be reduced so recruitment exceeds mortality (that is, lambda > 1)(USFWS 1994a, page C46).

Habitat loss would also disrupt the prevailing population structure of this widely distributed species with geographically limited dispersal (isolation by resistance Dutcher et al. 2020). Allison and McLuckie (2018) anticipate an additional impact of this habitat loss/degradation is decreasing resilience of local tortoise populations by reducing demographic connections to neighboring populations (Fahrig 2007). Military and commercial operations and infrastructure projects that reduce tortoise habitat in the desert are anticipated to continue (Allison and McLuckie 2018) as are other sources of habitat loss/degradation.

Allison and McLuckie (2018) reported that the life history of the Mojave desert tortoise puts it at greater risk from even slightly elevated adult mortality (Congdon et al. 1993; Doak et al. 1994), and recovery from population declines will require more than enhancing adult survivorship (Spencer et al. 2017). The negative population trends in most of the TCAs for the Mojave desert tortoise indicate that this species is on the path to extinction under current conditions (Allison and McLuckie 2018). They state that their results are a call to action to remove ongoing threats to tortoises from TCAs, and possibly to contemplate the role of human activities outside TCAs and their impact on tortoise populations inside them.

Densities, numbers, and habitat for the Mojave desert tortoise declined between 2004 and 2014 and densities continue to decline in most Recovery Units since 2014. As reported in the population viability analysis, to improve the status of the Mojave desert tortoise, reserves (area of protected habitat) must be established and managed. When densities of tortoises decline, the area of protected habitat must increase. When the abundance of tortoises declines, the area of protected habitat must increase. We note that the Desert Tortoise (Mojave Population) Recovery Plan was released in 1994 and its report on population viability and reserve design was reiterated in the 2011 Revised Recovery Plan as needing to be updated with current population data (USFWS 2011, p. 83). With lower population densities and abundance, a revised population viability analysis would show the need for greater areas of habitat to receive reserve level of management for the Mojave desert tortoise. In addition, we note that none of the recovery actions that are fundamental tenets of conservation biology has been implemented throughout most or all of the range of the Mojave desert tortoise.

IUCN Species Survival Commission: The 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). As such, 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), 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. This designation is more grave than endangered.



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