DESERT TORTOISE COUNCIL
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Via email only

10 November 2022

Attn: Glen W. Knowles, Field Supervisor
Southern Nevada Fish and Wildlife Office
glen_knowles@fws.gov

RE: Spring Mountain Raceway and Motor Resort, Nye County, Nevada Incidental Take Permit Application, Draft Habitat Conservation Plan, and Draft National Environmental Policy Act Categorical Exclusion

Dear Mr. Knowles,

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

As of June 2022, our mailing address has changed to:
Desert Tortoise Council
3807 Sierra Highway #6-4514
Acton, CA 93510

Our email address has not changed. Both addresses are provided above in our letterhead for your use when providing future correspondence to us. We note that the Council was contacted by a third party, and ask that, going forward, we be identified as an Affected Interest for projects that may affect the desert tortoise. Further, we note that the Bureau of Land Management (BLM) sold the property to Spring Mountain Raceway and Motor Resort, LLC (referred to as SMR) in 2020, that an environmental assessment (EA) was prepared, and that the Council was not given an opportunity to comment on that EA, although we have persistently asked BLM to contact us as an Affected Interest for projects that may affect the desert tortoise[1].

[1] https://www.dropbox.com/s/xx5wmxcae1c1cju/BLM%20Southern%20Nevada%20District%20Managers%20Council%20as%20an%20Affected%20Interest.11-7-2019.pdf?dl=0

We appreciate this opportunity to provide comments on the above-referenced project. Given the location of the proposed project in habitats known to be occupied by Mojave desert tortoise (*Gopherus agassizii*) (synonymous with Agassiz's desert tortoise), our comments pertain to enhancing protection of this species during activities funded, authorized, or carried out by the U.S. Fish and Wildlife Service (USFWS), which we assume will be added to the Decision Record for this project as needed. Please accept, carefully review, and include in the relevant project file the Council's following comments and attachments for the proposed project.

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

According to the Federal Register Notice of Availability dated 11 October 2022, the USFWS announces "…the receipt and availability of an application for an incidental take permit (ITP) under the Endangered Species Act (ESA) and an associated draft habitat conservation plan (HCP). Additionally, consistent with the requirements of the National Environmental Policy Act (NEPA), we have prepared a draft low-effect screening form and environmental action statement supporting our preliminary determination that the proposed permit action qualifies for a categorical exclusion under NEPA. The Spring Mountain Raceway and Motor Resort has applied for an ITP under the ESA for their HCP for a 56-acre go-kart project in Nye County, Nevada. The ITP would authorize the take of Mojave desert tortoise (*Gopherus agassizii*) incidental to development, construction, and operation of the project."

Further, "Application for the permit requires the preparation of a habitat conservation plan (HCP) with measures to avoid, minimize, and mitigate the impacts of incidental take of endangered, threatened, or candidate species to the maximum extent practicable. The applicant prepared a draft low-effect HCP for a 56-acre go-kart project pursuant to section 10(a)(1)(B) of the ESA." And "The Service [USFWS] has prepared a low-effect screening form and environmental action statement (categorical exclusion, or CatEx documentation), pursuant to NEPA and its implementing regulations in the Code of Federal Regulations (CFR) at 40 CFR 1501.4, to preliminarily determine if the proposed HCP qualifies as a low-effect HCP, eligible for a categorical exclusion."

And "The applicant is requesting incidental take authorization for covered activities pertaining to the construction of a go-kart facility, including desert tortoise and security fence installation, desert tortoise clearance surveys and translocation, cactus and yucca transplanting, blading, vegetation removal, grading and contouring, construction of go-kart tracks and associated features, and construction of facility buildings, lighting, and parking lots. For covered activities, the applicant has outlined best management practices and other measures in the HCP to minimize and mitigate for direct impacts to the Mojave desert tortoise. The proposed actions will result in the permanent loss of 56 acres of suitable Mojave desert tortoise habitat in Nye County, Nevada."

Comments on Habitat Conservation Plan
Unless otherwise noted, the page numbers referenced below are from the HCP, prepared by BEC Environmental, Inc., dated June 2022.

Page 10 indicates "A qualified, Authorized Desert Tortoise Biologist (ADTB) and Desert Tortoise Monitors (DTMs) will survey ahead of and monitor activities associated with fence installation which may put tortoises in harm's way. Activities to be monitored include cross-country driving; staking; blading and grading; and fence installation." Whereas Activity 2, also on page 10, indicates a clearance survey will be performed *within* the fenced area, it is equally important that a clearance survey is performed along the fenceline. Please clarify that the type of survey inside the fenceline right-of-way will be a *clearance survey*, as opposed to a presence-absence survey, which requires a minimum of two passes without finding any new tortoises (USFWS 2009). The same clarification should be applied to DT-02 on page 27 and DT-04 on page 28.

With regards to DT-03 on pages 27 and 28, "Shade structures will be installed on both sides of the tortoise exclusion fence to provide cover for tortoises that may attempt to exit the area before clearance surveys are completed or enter the area after they have been removed from the area…Shade structures outside the fence will remain in place and be maintained for the duration of operation and management of the Go-Kart Facility," we recommend that the USFWS specify the appropriate intervals between shade structures. If 5,000 linear feet of fence are to be installed, it may be appropriate to have 12-inch-wide PVC shade structures placed at a minimum of 500-600-foot intervals, pending USFWS input.

With regards to the following statement near the bottom of page 10, "Clearance Surveys will be conducted in accordance with standard protocols established by USFWS in Desert Tortoise (Mojave Population) Field Manual (2009), most recently updated in 2019 (USFWS, 2019a)," please note that the 2019 document does not, as stated, update the 2009 Field Manual, which has not been updated. Rather, the referenced USFWS (2019) document describes presence-absence surveys but not clearance surveys. Please correct this information.

We note on page 3 that "The Action Area for this HCP is approximately 63 acres in size. It includes the 56-acre Project Area where construction of the Go-Kart Facility would occur, and an approximately 100-ft buffer (totaling approximately seven additional acres) around the Project Area where desert tortoises would be relocated if found within the Project Area, after construction of the tortoise exclusion fencing." Then, at the bottom of page 10, "Tortoises found within the Project Area would be evaluated for identifying marks, sex, and indicators of health and condition; measured for midline carapace length (MCL); and photographed to document the observations. The tortoise would then be released in an adjacent area as described in Section 6.3."

We expected that more information would be available in Section 6.3 but it was not. The proponent, with input from the USFWS, should provide very specific procedures for relocating these tortoises into the 100-foot buffer area, answering among others, the following questions: Will tortoises be placed into existing burrows, artificial burrows, or released in the shade of a shrub without burrows? How long will the authorized biologist be required to monitor the released tortoises to ensure successful relocation? What contingency plan is to be implemented if relocated tortoises exhibit excessive fence-walking behavior that may result in heat-stressed animals?

We recommend that the following sentence on page 12 be augmented with the bold wording: "An individual trained and authorized to do so will inspect the desert tortoise exclusion fence on a regular basis**, particularly after rainfall events,** for the life of the facility." We note that this measure is identified in the third bullet under DT-05 on page 28, so having it here will complement the later recommendation. Herein, we recommend that the inactive season be specified by the USFWS, likely between November 1 and February 15.

We recommend that GM-03 on page 26 be amended to include the bold wording: "During operations of the Go-Kart Facility, SMR employees will remove litter from the Project Area and all fences throughout the year**, and remove garbage deposited in raven-proof containers on a daily basis**."

We recommend that the final part of measure DT-01 on page 27 be modified to include the following bold wording: "All biologists will be responsible for reporting non-compliance with mitigation measures and any incidental take of desert tortoises to the USFWS and NDOW **in a timely manner so that agency biologists can identify remedial measures to be implemented immediately**."

Comments on the Screening Form for Low-Effect HCP Determinations and NEPA Environmental Action Statement

On page 2, Activity 1, "Shade structures outside the fence would remain in place for the duration of operation and management of the Go-Kart Facility…" We request that the NEPA document specify how these shade structures would be maintained and who would maintain them.

Page 4, under Activity 6: Inspection and Maintenance of the Tortoise Exclusion Fence, please add the following wording in bold to this statement – "An individual trained and authorized to inspect and repair the desert tortoise exclusion fence would inspect the fence on a regular basis **and immediately after a rain event** for the life of the facility."

Page 4, under Activity 7: Operation and Maintenance Activities is the following sentence, "The Go-Kart Facility, as with the existing raceway facility, may operate seven days per week, year-round. Typical use of the existing raceway facility is limited to daylight hours, however, the Go-Kart Facility would be operated day and night." Please ensure the NEPA document analyzes the impacts from noise and light at night to the tortoise in adjacent areas where they would be translocated and where resident tortoises occur.

Page 5, under Worker Environmental Awareness Program Training is the following sentence, "SMR would develop a Worker Environmental Awareness Program (WEAP), and each worker involved in the construction of the Project would receive WEAP training before beginning work onsite." We request that the USFWS review and approve the WEAP before it is implemented.

On page 5 under Weed Management is the following sentence, "SMR would avoid the introduction of non-native weed plant species, and then manage species in the event they become established." This sentence may be interpreted that if weed plant species become established, SMR would manage to retain them. Because it is unclear, we request this sentence be clarified and suggest it say "SMR would avoid the introduction of non-native weed plant species, and then managed **to remove or substantially reduce the occurrence of these** species in the event they become established."

Also, on page 5 under Weed Management is, "When noxious weed species are observed, they are removed and disposed of through the solid waste hauling service." Noxious weeds are not the same as non-native or invasive plant species under Nevada law. To clarify, please define the term "noxious weed" to include non-native plant species or only use the term non-native plants in this document and the HCP. As later stated in the Screening Form, "Weed management within the Project Area would reduce the potential for increased density of non-native species, or establishment of noxious weeds." Thus, USFWS recognizes there is a difference between non-native plant species and noxious weeds.

Page 6, under Gila Monster Mitigation Measures, is the following, "During all construction activities, if a Gila monster is observed, all activities that may cause harm would be halted and a qualified and permitted biologist would capture the Gila monster, place it in a secure container in a safe location, and notify NDOW in accordance with the biologists' NDOW special purpose permits." We request the NEPA document answer the following questions - What would happen to the Gila monster after notifying NDOW? Would it be released somewhere else and if yes, where? Would it be monitored, and if so, for how long? What would happen if a Gila monster is encountered during the management (i.e., operation and maintenance) of the Go-Kart facility?

On pages 6 through 9 are the Mojave Desert Tortoise Avoidance, Minimization, and Mitigation Measures. On page 7 is the following sentence, "All biologists would be responsible for reporting non-compliance with mitigation measures (e.g., desert tortoise exclusion fence construction and maintenance, etc.) and any incidental take of desert tortoises to the USFWS and NDOW." Our understanding is this Low Effect Screening Form is used for a Categorical Exclusion and is considered a NEPA document. NEPA's implementing regulations include "avoidance" and "minimization" in the definition of "mitigation" (40 CFR 1508.20).

The subheading of Avoidance, Minimization, and Mitigation suggests that avoidance and minimization is different than mitigation. This appears to contradict NEPA's definition of "mitigation." Applied specifically to this proposed action, when the USFWS says in the Screening Form that "All biologists would be responsible for reporting non-compliance with the mitigation measures," this could be interpreted meaning the biologists are not obligated to report non-compliance with the avoidance and minimization measures, only the mitigation measures. We request that USFWS use NEPA terms in the NEPA document or define the terms it is using in this NEPA Low Effect Screening Form.

On page 7 under Authorizations of Desert Tortoise Biologists is the sentence, "All biologists would be responsible for reporting non-compliance with mitigation measures and any incidental take of desert tortoises to the USFWS and NDOW." We request this sentence be changed to "All biologists would be **required to report** non-compliance with mitigation measures and any incidental take of desert tortoises to the USFWS and NDOW."

On page 9 under Clearance Surveys and Desert Tortoise Removal is the following, "The clearance survey and tortoise removal effort would be conducted in accordance with the USFWS Field Manual (2009, p. Chapter 3)…" Please correct this sentence so it provides the correct chapter on clearance surveys, which is Chapter 6, with Chapter 7 describing the guidelines for handling desert tortoises and their eggs. Both chapters should be included in this sentence in the Low Effect Screening Form.

On page 9 is the following sentence, "Clearance survey would coincide with active tortoise season (late March through May or September through October) while temperatures are below 104°F." According to the Desert Tortoise Field Manual, preconstruction surveys would be conducted when air temperature is below 104°F with all clearance survey activities conducted when air temperature, measured ~5-cm from the soil surface in an area of full sun, but in the shade of the observer, is not anticipated to rise above 95°F (35°C). Clearance survey activities include capture, transport, release, etc., of tortoises. Please correct and clarify this information in the Low Effect Screening Form.

On page 10, "The tortoise would then be released in an adjacent area as described in Section 6.3." Please add that the translocation of tortoises located in the Project Area will follow the translocation guidance from the USFWS (2020a).

On page 10, under "Are the effects of the HCP minor or negligible on federally listed, proposed, or candidate species and their habitats covered under the HCP prior to implementation of the minimization and mitigation measures?" the USFWS response in the first paragraph is that 12 tortoise burrows were located in the Action Area (i.e., 56-acre Project Area and the adjacent 7-acre translocation area), and Mojave desert tortoises (MDT) "are known to occupy nearby habitat and are likely moving throughout the area and utilizing suitable habitat near the Action Area. Thus, although the Action Area is not currently known to occupy MDT, MDT are present in adjacent areas."

The Mojave desert tortoise is not sedentary except when brumating, and pre-construction tortoise surveys are to be conducted during the tortoise active season when tortoises are moving throughout their home ranges. The occurrence of tortoise burrows in the Action Area means that the Mojave desert tortoise is using the Action Area. In addition, the absence of detecting a live tortoise during a USFWS (2009, 2019) protocol-level pre-construction survey of 63 acres does not mean the tortoise does not occupy the survey area. A tortoise's annual home range is frequently larger than the 63 acres in the Action Area. At a population of tortoises near the Project Area, the home range of adult tortoises ranged from 32 to more than 177 acres (O'Connor et al. 1994).

In addition, the USFWS (2019) says, "[t]he action areas of small projects are less likely to include the entire home ranges of desert tortoises; therefore, desert tortoises that regularly use the area may be off site during surveys." Given this information on tortoise ecology and USFWS survey protocols, we request that the USFWS revise its response to this question. The response should include that based on the presence of recent tortoise sign in the Action Area, the proximity of the Action Area to adjacent tortoise habitat, the importance of the adjacent habitat for population connectivity (see Averill-Murray et al. 2021) and the home range size of tortoises, the Mojave desert tortoise occupies the Action Area.

The USFWS response in the second paragraph is, "At the rangewide scale, impacts to MDT from the Project are considered minor and negligible to MDT conservation and recovery (take of the requested eight adult [larger than 180 mm] and 29 subadult and juvenile [smaller than 180 mm] MDT individuals out of the estimated rangewide total of 212,343 MDT represents only 0.017% of the total population of MDT)."

The Council is concerned that this response is incomplete, outdated, and unsubstantiated.

● It is incomplete as it is using one data point in time from eight years ago to describe the status of the tortoise rangewide. It does not include information that for the survival and recovery of the tortoise rangewide, the tortoise must survive and recover in all five recovery units (USFWS 2011) including the Eastern Mojave Recovery Unit where the Proposed Action is located. It does not include data that the density of tortoises in the Eastern Mojave Recovery Unit and the Ivanpah Valley TCA/Critical Habitat Unit less than needed for viability of this recovery unit and population. It does not include trend data that in tortoise abundance and density that show ongoing declines since 2004 (e.g., the abundance of the tortoise in the Eastern Mojave Recovery Unit declined from 75,342 tortoises in 2004 to 24,664 tortoises in 2014, a decline of more than 67 percent). Please see Appendix A. Demographic Status and Trend of the Mojave Desert Tortoise (*Gopherus agassizii*). For these reasons, we believe that the USFWS response should be revised substantially to include these data and what is needed for the tortoise to survive and recover according to the USFWS (1994, 2011).

● It is outdated as it appears to be using older data from 2014 (USFWS 2015, Allison and McLuckie 2018) of the population abundance of the tortoise. The USFWS has recent rangewide monitoring data from 2015 through 2021. These recent data (USFWS 2016, 2018, 2019, 2020, 2022b, and 2022b) indicate a continuing decline in the density and abundance of tortoises rangewide, in the Eastern Mojave Recovery Unit where the Action Area is located, and in the Ivanpah Valley tortoise population, which is the tortoise population in the Tortoise Conservation Area (TCA) that is closest to the Action Area that is regularly monitored for tortoise density and abundance.

● It is unsubstantiated, as it provides no scientific citations to support this conclusion.

On page 11, under "Would the impacts of this HCP, considered together with the impacts of other past, present and reasonably foreseeable similarly situated projects not result, over time, in cumulative effects to environmental values or resources which would be considered significant?" the USFWS response is "Yes. Significant cumulative effects are not expected to occur as a result of the HCP and issuance of the Permit. The 56-acre Action Area is located in the town of Pahrump and will be adjacent to the existing SMR facilities," and "…the project is located in a developed area with homes, businesses, and other types of anthropogenic disturbances nearby."

We found no references or data to support this statement. In fact, we consider the amount of seemingly unrestrained solar development throughout southern Nevada including Pahrump Valley are significant cumulative effects that do not support the above statements. We ask that the USFWS analyze the cumulative effects of the Proposed Action to the tortoise including its habitat needs for feeding, shelter, reproduction and movement to provide for genetic variability and population viability.

The information provided is a *description* of some of the current sources of threats to the tortoise/tortoise habitats in an area adjacent to the Action Area. We did not find (1) an *analysis* from the loss of habitat and associated indirect impacts, or (2) how these impacts would affect the survival of the Mojave desert tortoise at a population, recovery unit, and species level when considered with past, current, and future development. The Council urges the USFWS to complete a cumulative impacts analysis for the local tortoise population, those within the Eastern Mojave Recovery Unit, and rangewide, including impacts to habitats that provide connectivity of tortoise populations.

The Council on Environmental Quality (CEQ) (1997) 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."

The CEQ provides eight principles of cumulative impacts analysis (CEQ 1997, Table 1-2), as follow:

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.

For the cumulative impacts analysis in the Low Effect Screening Form, it appears the USFWS consulted a map of the immediate area of the Proposed Action and, without collecting/compiling data and conducting an analysis for the range of the species, concluded that the Proposed Action would not result, over time, in cumulative effects to environmental values or resources (Mojave desert tortoise), which should be considered significant. This approach does not result in an accurate analysis of cumulative effects to the tortoise, its habitat, and/or habitat needed for connectivity among populations (see below).

Given the demographic status and trend of the tortoise rangewide, in the Eastern Mojave Recovery Unit, and at the TCAs in this recovery unit (see Appendix A), we contend the USFWS should conduct an analysis of cumulative impacts to the tortoise. To implement the CEQ's eight principles would require the USFWS to develop and maintain a geospatial cumulative impacts tracking system that compiles and maps not only project footprints, but also authorized and unauthorized human activities and their direct and indirect impacts to the tortoise.

The Council believes that had the USFWS analyzed (1) the demographic and geospatial data on the tortoise, (2) the quality and locations of habitat needs for viability in the Eastern Mojave Recovery Unit and rangewide, and (3) the types and locations of threats to the tortoise and their additive, interactive, and synergistic effects in the Eastern Mojave Recovery Unit and rangewide, it would have concluded that any additional impacts to the tortoise in TCAs and linkage areas is significant. This conclusion is forecast because of the current demographic status of the tortoise and spatial arrangement of existing and future actions in tortoise habitat needed for feeding, breeding, shelter, and population connectivity (please see below). The Council requests that the USFWS complete such an analysis and provide it as an attachment to the NEPA document to support the findings of that document.

The Council finds that the Proposed Action is within a major habitat linkage area for the tortoise (Averill-Murray et al. 2021), which states, "Maintaining an ecological network for the Mojave desert tortoise, with a system of core habitats (TCAs) connected by linkages, is necessary to support demographically viable populations and long-term gene flow within and between TCAs." And a "minor or temporary disturbance on the landscape could result in a cumulatively large impact….therefore, understanding and quantifying all surface disturbance on a given landscape is prudent."

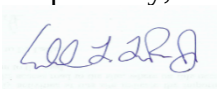
To the west and south of the Proposed Action is existing development and State Route 160. To the east is a multi-modal utility corridor, about one mile wide, which consolidates transmission/distribution lines and pipelines and their associated facilities (e.g., pumping stations, access roads, capacitor sites, substations etc.) within this corridor. Development of this corridor would result in the loss/degradation of tortoises and tortoise habitat. Immediately east of the utility corridor are the Spring Mountains. Hence the Proposed Action would result in a "pinch point" of tortoise habitat on the east side of the Town of Pahrump that would likely reduce the effectiveness of this habitat linkage area. Combined with the utility multi-modal utility corridor designated on this pinch point, these developments would make it difficult for tortoises to move north or south of Pahrump on the east side. Maintaining connectivity habitat is crucial to the survival and recovery of the tortoise (USFWS 2011) especially under worsening climate change impacts. We found no such analysis in the NEPA document and request that the USFWS conduct it and provide its results in the NEPA document.

The Council asserts the USFWS should further analyze and revise the HCP and Low Effect Screening Form so these documents comply with the Habitat Conservation Planning Handbook (USFWS and NMFS 2016), regulations and policies under the NEPA, and Section 7 (A)(2) of the ESA and implementing regulations. When it does, we expect the data will clearly show that the impacts for the Proposed Action do not qualify for a categorical exclusion as any impact to the tortoise that adversely affects its abundance, density, and/or connectivity contributes to its further decline in viability and long-term survival for a species that has densities in most recovery units that are below the viability threshold.

We appreciate this opportunity to provide comments on this project and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Desert Tortoise Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the USFWS that may affect species of desert tortoises, and that any

subsequent environmental documentation for this project is provided to us at the contact information listed above. Additionally, we ask that you respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this project.

Respectfully,



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

Attachment

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

Literature Cited

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[USFWS] U.S. Fish and Wildlife Service. 2018. Range-wide Monitoring of the Mojave Desert Tortoise (*Gopherus agassizii*): 2017 Annual Reporting. Report by the Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service, Reno, Nevada

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Appendix A.

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

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.

To assist the Agencies with their analysis of the direct, indirect, and cumulative impacts of the Proposed Project on the Mojave desert tortoise, we provide the following information on its status and trend. In reviewing the data presented below, note that the location of the proposed project is within the Eastern Mojave Recovery Unit, the unit that has experienced the greatest decline in tortoise density and abundance, –67%, since 2004.

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).

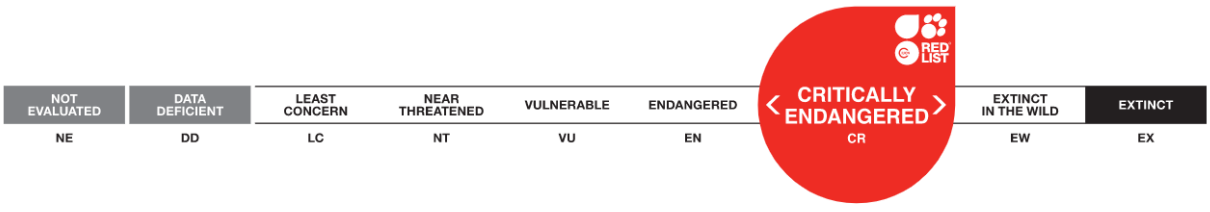
Habitat loss would also disrupt the prevailing population structure of this widely distributed species with geographically limited dispersal (isolation by resistance Dutcher et al. 2020). Allison and McLuckie (2018) anticipate an additional impact of this habitat loss/degradation is decreasing

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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