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Via email only

3 April 2022

Attn: John Thomason, Contract City Planner
California City Planning Department
21000 Hacienda Boulevard,
California City, California 93505-2293
planning@californiacity-ca.gov

RE: Initial Study/Mitigated Negative Declaration for the California City Cannabis Park

Dear Mr. Thomason,

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.

We appreciate this opportunity to provide comments on the above-referenced project. Given the location of the proposed project in habitats likely occupied by Mojave desert tortoise (*Gopherus agassizii*) (synonymous with Agassiz's desert tortoise), our comments pertain to enhancing protection of this species during activities authorized by California City, and we assume they will be added to the Administrative/Decision Record. Please accept, carefully review, and include in the relevant project file the Council's following comments and attachments for the proposed project. We recommend that you incorporate our comments and issue a revised Mitigated Negative Declaration, as the current document is fraught with inaccuracies and missing information especially pertaining to federal and state laws/regulatory requirements regarding biological resources.

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). "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.

Description of Proposed Project: According to the Initial Study and Mitigated Negative Declaration, Sunepoint Capital LLC (Proponent) is requesting authorization to construct, lease for operation, and maintain a commercial cannabis cultivation and manufacturing facility in California City, Kern County, California (Project). The proposed Project would be constructed and operated as a lease on approximately 40 acres bordered by Gantt Road (dirt road) to the west and Jamison Road (dirt road) to the east. When completed, the overall facility will consist of one 28,800-square foot manufacturing building, 18 indoor cultivation buildings covering 846,450 square feet, and several parking lots with a square footage totaling 362,566 square feet (4,087 sq. ft., 11,084 sq. ft., and 347,395 sq. ft.). The Project would employ a maximum of 216 employees.

Water would be supplied by an 8-inch water main connection near the Project site. Water used for operations will be 95% recycled back into watering plants. When fully operational, water use would be 144 acre-feet per year. On Site Septic systems, packaged wastewater treatment plants, or other alternatives would be installed for each building. A wastewater pumping station would be constructed on site and connected to the California City Wastewater Treatment Plant, when required. Approximately 6,500 gallons of wastewater a day would be disposed of through the public sewer system.

Two water retention basins would be constructed on the Project site. An existing 5,625 square foot basin would be expanded to 60,363 square feet. The second retention basin, of about 3,100 square feet, would be constructed in the northeast area of the Project site. Each building will be powered by a MicroGrid (solar/battery/Tier 4 gas generator) and a natural gas line would be extended approximately 1,300 feet from Lindbergh Boulevard to Jamison Street to fully power the facility. The entire project site would be fenced with a block wall. However, during construction, the perimeter would be fenced with wind fencing or the equivalent. Outside the Project site, Gannt Road, Lindbergh Boulevard, and Jamison Street would be paved or improved to provide enhanced access to the Project site. The proposed Project is located 300 feet west of the California City Airport. Parcels west of Gantt Road are zoned O/RA (Controlled Development, Public Parks & Recreation or Public School).

General Comments

From the information provided in the Initial Study and Mitigated Negative Declaration for Cal City Cannabis Park, City of California City, CA (MND), we are unsure about methodologies used for site surveys conducted in January 2022 at the Project site, specifically whether biologists followed the U.S. Fish and Wildlife Service (USFWS 2019) and California Department of Fish and Wildlife (CDFW; CDFG 2012) survey protocols for species of special concern, including desert tortoise and western burrowing owl (*Athene cunicularia*), respectively. We found no

description of what constituted a site survey. In addition, the photographs of the site that are included in the MND indicate that the Project site was visited before dawn (see pages 92 to 96). Because of the low level of sunlight, it is difficult to see the species, composition, density, and condition of the vegetation throughout the Project site. One photograph was taken using headlights to illuminate the area in the photograph. We found no photographs taken during the day that were included in the MND.

We request that California City revise the MND and provide a description of the surveys that were conducted, copies of completed data forms, and photographs of the Project site and surrounding area during daylight hours.

Preconstruction Surveys: We are unsure how California City is able to make a determination under the California Environmental Quality Act (CEQA) of a mitigated negative declaration when there is an absence of adequate survey data in the MND on the biological resources at the Project site and the action area. The Project and surrounding area are in the range of and include habitat for several species of special concern (https://wildlife.ca.gov/Conservation/SSC). These include the federally and state threatened Mojave desert tortoise, state threatened Mohave ground squirrel (*Xerospermophilus mohavensis*), western burrowing owl, American badger (*Taxidea taxus*), and desert kit fox (*Vulpes macrotis*), among others.

The proposed Project appears to be less than 3 miles from the Desert Tortoise Research Natural Area (DTRNA) that has the highest known density of tortoises in California (Berry and Murphy 2019, Berry et al. 2020, 2021). Because each desert tortoise may use more than 3.9 square kilometers (1.5 square miles) of habitat and may make periodic forays of more than 11 kilometers (7 miles) at a time (Berry 1986) and there appear to be no man-made barriers to substantially impede or prevent tortoise movements between the DTRNA and the Project site, it is likely that tortoises within that nearby conservation area have used and do use the Project site.

Similarly, the Mohave ground squirrel has been trapped at several locations approximately 3 to 4 miles west of the DTRNA (Leitner 2021). These locations would be close to or at the proposed Project site. Because the Mohave ground squirrel has long-distance movements between two sites for males ranging from 360–20,440 feet and for females ranging from 344–12,670 feet (Harris and Leitner 2005), it is likely that Mohave ground squirrels occur on/near the Project site at certain times of the year. Were protocol surveys for Mohave ground squirrel (CDFG 2003, revised 2010) completed, which CDFW would definitely require for this project? If not, they need to be performed before a mitigated negative declaration can be established.

Additionally, with the recent acceptance of a petition to list the western Joshua tree (*Yucca brevifolia*) as an endangered species by the California Fish and Game Commission, the Proponent is obligated to map and assess adverse direct and indirect impacts to Joshua trees in the impact area, and to treat them as an endangered species until the Commission decides to list the species, or not, which is expected later in 2022. While much information from popular literature sources is provided on the Joshua tree in the MND, we found no information from scientific sources or CDFW regulatory requirements regarding this species in the Project area. As with the tortoise and Mohave ground squirrel, we found no description of surveys conducted for the entire Project site and results of this survey effort.

For the CEQA document to fully assess the effects and identify potentially significant adverse impacts of the proposed Project and to comply with USFWS and CDFW requirements especially for the Mojave desert tortoise and Mohave ground squirrel, the following literature and field surveys need to be performed to determine the extent of rare plant and animal populations occurring within the area of the proposed Project. Results of the surveys will determine the appropriate permits required from CDFW and USFWS and associated minimization and mitigation measures.

- Prior to conducting surveys, a knowledgeable biologist should perform a records search of the California Natural Diversity Data Base (CNDDB; CDFW 2022) for rare plant and animal species reported from the region. The results of the CNDDB review would be reported in the CEQA document with an indication of suitable and occupied habitats for all rare species reported from the region based on performing species-specific surveys described below.

For the Mojave desert tortoise:

- Formal protocol surveys for the Mojave desert tortoise (USFWS 2019) must be conducted by a qualified biologist authorized by the USFWS unless the Project proponent determines and the USFWS agrees that the proposed Project is not likely to result in take of the species. If the USFWS agrees, we request that a copy of this written concurrence be included in the revised CEQA document for this Project. If the results of formal protocol surveys conducted by a qualified biologist as approved by the USFWS indicate the proposed Project is likely to result in take of the tortoise, the Proponent must obtain an incidental take permit under section 10(a)(1)(B) of the Federal Endangered Species Act (FESA) prior to initiating any ground disturbance. Section (10)(a)(1)(B) and its implementing regulations require that the permit applicant minimize and mitigate to the maximum extent practicable the impacts of the taking. This usually includes mitigation for habitat that is degraded or destroyed. Please see https://www.fws.gov/media/habitat-conservation-planning-and-incidental-take-permit-processing-handbook to learn more about what is required in a habitat conservation plan to obtain an incidental take permit from the USFWS.

  To determine the full extent of impacts to tortoises and to facilitate compliance with FESA, qualified biologist(s) should consult with the Palm Springs office of the USFWS to determine the action area for this project. The USFWS defines "action area" in 50 Code of Federal Regulations (CFR) 402.2 and their Desert Tortoise Field Manual (USFWS 2009) as "all areas to be affected directly or indirectly by proposed development and not merely the immediate area involved in the action (50 CFR §402.02)."

- To comply with the California Endangered Species Act (CESA), protocol level surveys must be conducted by biologist(s) authorized by CDFW prior to any ground disturbance. The results of the surveys are submitted to CDFW. If any tortoise sign is found, the Proponent will need to coordinate with CDFW and likely obtain an incidental take permit from CDFW under section 2081 of the Fish and Game Code prior to initiating any ground disturbance. Section 2081 requires the permit applicant to fully mitigate the impacts of the taking. This usually includes mitigation in the form of land acquisition for habitat that is degraded or destroyed.

Although the site will be fenced eventually with a block wall, during construction, it will be fenced using a wind fence or similar material. A wind fence will not keep a tortoise from walking onto the Project site and being injured or killed. Consequently, if tortoise sign is found on/near the Project site, to ensure that the implementation of the Project during construction does not result in take of tortoise, the Proponent is usually required to construct a desert tortoise exclusion fence that is approved by CDFW and USFWS (2009). This requirement should be added to the CEQA document.

For the Mohave ground squirrel:

- CDFW requires formal protocol level surveys for the Mohave ground squirrel be completed to prove the absence of the species in the area of the proposed Project (CDFG 2003, revised 2010). These surveys may be conducted only by persons authorized by the CDFW in a formal Memorandum of Understanding (MOU), must follow the survey protocol, with subsequent submission of complete survey and trapping forms[1]. We request that the CEQA document include copies of the trapping forms or a summary of the results. If the Mohave ground squirrel is present, the Proponent must obtain a section 2081 incidental take permit from the CDFW prior to ground disturbance. However, the Proponent can forego surveys for this species, assume presence, and obtain a 2081 permit from CDFW in lieu of trapping.

For the western burrowing owl:

- Protocol surveys for western burrowing owl (CDFG 2012) should be completed. Note that the protocol (CDFG 2012) requires that peripheral transects be surveyed at 30-, 60-, 90-, 120-, and 150-meter intervals in all suitable habitats adjacent to the subject property to determine the potential adverse indirect impacts of the project on this species. If burrowing owl sign is found, CDFG (2012) describes appropriate minimization and mitigation measures that would be required. The MND provides information on how to complete protocol surveys and actions that would be implemented if burrowing owls occur on/near the Project site per CDFG requirements. We request that the results of these surveys be included in the CEQA document for the proposed Project.

For the American badger:

- Although there are no protocol surveys for the American badger by CDFW, there are recommended methods (Wearn and Glover-Kapfer 2017). Diagnostic digs of this species should be mapped to allow CDFW baseline information to ascertain the adversity of impact, if any.

For the desert kit fox:

- The MND provides information on actions that would be implemented if desert kit fox occurs on the Project site, but does not report results of any surveys, which should at a minimum map the locations of active and inactive kit fox dens.

For the Joshua tree:

- If Joshua trees are present on the Project site, construction, operation, or maintenance of the Project could result in take of a Joshua tree, in which case the Proponent must obtain a section 2081 incidental take permit from the CDFW to authorize this take.

[1] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83975

In addition, there may be other special status plant species found in the region of the Project area [e.g., Barstow woolly sunflower (*Eriophyllum mohavense*)]. Potential for rare plants to occur should be determined by a CNDDB (CDFW 2022) literature review and their presence sought during field surveys. These results should be presented in the CEQA document. Surveys should be completed at the appropriate time of year by qualified botanists using the latest acceptable methodologies (CDFG 2009).

Streambed Alteration Agreement: The MND mentions that the proposed Project would likely be covered under the statewide National Pollution Discharge Elimination System (NPDES) permit but we found no mention of how the Proponent would comply with California Fish and Game Code section 1602. Because two water retention basins are part of the Project description and Google Earth photography from 2020 shows at least one wash traversing the Project site, we presume the basins are to intercept flow that occurs in one or more drainages on the Project site. California City should require that a jurisdictional waters analysis is performed for all potential impacts to washes, streams, and drainages from the proposed Project prior to permit issuance. As part of the permitting process and prior to ground disturbance, the Proponent should coordinate with the CDFW to determine whether a Streambed Alteration Agreement must be acquired. Coordination and completion of the Agreement should occur before initiating ground disturbance of the proposed Project.

Indirect and Cumulative Impacts

Retention basins: We are unsure whether the retention basins are designed/located where a tortoise could wander into one. For example, are they inside or outside the block wall? If a tortoise could access a retention basin, they should be fenced to prevent entrapment and drowning of tortoises.

Common ravens and other predators: The common raven (*Corvus corax*) is a predator of the Mojave desert tortoise, primarily of juvenile desert tortoises (Berry et al. 1989), but also adults. Historically, common ravens were migratory, and are on the USFWS's list of migratory birds. They were not common in the Mojave Desert (Johnson et al. 1948). During the last few decades of the 20th century, the number of common ravens in the Mojave Desert increased substantially [e.g., west Mojave Desert increased about 700 percent (Boarman and Kristan 2006)] with population increases noted at other locations in the Mojave Desert. Unintentional human subsidies of food, water, and nest sites (Knight et al. 1993, Boarman 1993, Boarman and Berry 1995) have allowed ravens to become residents of the Mojave Desert and increase their numbers substantially. Their year-round residency means that ravens are present in the Mojave Desert during the tortoise's entire active season, and their increased numbers means more predation pressure on tortoises.

An example of a human subsidy for the common raven is the use of water trucks at the Project site to control dust. Water trucks can overwater and form puddles that attract common ravens and other tortoise predators to the Project site. This increases the likelihood of predation on tortoises in the area. Other examples include food brought to the Project site by construction workers. If not promptly and properly disposed of, this organic waste and trash attracts ravens and coyotes to the Project site and increases the likelihood of predation on tortoises in the area.

The CEQA document should analyze whether construction, operation, and/or maintenance of the proposed Project would result in an increase of common ravens and other predators of the desert tortoise nearby and in the region. Future operations should include provisions for monitoring and managing raven predation on tortoises as a result of the proposed Project. A monitoring and management plan should be prepared and include implementing actions that will reduce human subsidies for food, water, and sites for nesting, roosting, and perching. These actions would address the local adverse impacts but not regional and cumulative impacts from the proposed Project. To mitigate the regional and cumulative impacts, the project Proponent should contact the USFWS to determine how to contribute to the National Fish and Wildlife Foundation's Raven Management Fund for regional and cumulative impacts.

Proliferation of non-native plant species: One serious effect of climate change is the invasion of non-native annual species, including mustard and grass species. Non-native plant species, including *Brassica tournefortii*, other mustards (*Descurainia* and *Sisymbrium* spp.), *Salsola* spp., *Bromus rubens*, *Bromus madritensis*, *Bromus tectorum*, *Schismus arabicus*, and *Schismus barbatus*, are some of the invasive species in many areas of the Mojave Desert. Project sites with surface disturbance (e.g., construction activities, grading, etc.) and vehicles travelling along roadways provide a conduit for the transport and establishment of these non-native species (Brooks and Matchett 2006). Once established, they outcompete native forbs resulting in a substantial reduction in the number/densities of native plants that the tortoise needs for adequate nutritional quality and quantity. This is due in part to their fast seed germination times in areas with disturbed soil surfaces/soil crusts. Further, they are assisted from the enhanced nitrogen deposition in soils from the exhaust from internal combustion engines (e.g., along roadways) (Allen et al. 2009). Once established, expanses of dried plants provide an enhanced fuel source to carry fires that degrade/destroy native desert vegetation that is not adapted to fire. As the impacts of climate change increase, one adverse impact is an increase in the occurrence, numbers, and densities of these fires fueled by non-native invasive plant.

We request that the CEQA document include an analysis of how the proposed Project would contribute to the spread and proliferation of non-native invasive plant species; how this spread/proliferation would affect the Mojave desert tortoise and its habitats (including the frequency and size of human-caused fires); how the proposed Project may affect the likelihood of human-caused fires); and how the proposed Project may affect the frequency, intensity, and size of human-caused and naturally occurring fires. We strongly urge California City to require the project Proponent to develop and implement a management and monitoring plan using this analysis and other relevant data that would reduce the transport to and spread of non-native seeds and other plant propagules within the Project area and eliminate/reduce the likelihood of human-caused fires.

Pesticides/Rodenticides: In the MND, California City says "Pesticides will be used in the operations at this site. The analysis within the PEIR included a screening level human and ecological health risk evaluation conducted by Blankinship & Associates and Ardea Consulting that found, for the pesticides analyzed, no significant risks to human or ecological health as a result of their use by cannabis cultivators, when used in accordance with licensing requirements and other applicable laws and regulations. Use of currently approved pesticides will result in an impact that would be less than significant."

We found no information on what specific pesticides were analyzed. The pesticides analyzed should have included rodenticides, keeping in mind that Mohave ground squirrel may be susceptible to such substances. Although not specifically mentioned in the MND, most cannabis grow operations use rodenticides to minimize the loss of the crop to rodent herbivory and rodents chewing on irrigation lines. In addition, it is unlikely that an ecological health risk evaluation was conducted for the Mojave desert tortoise because reptiles, especially tortoises, are rarely used when conducting experiments to determine the lethal exposure levels of pesticides. The Mojave desert tortoise is a unique animal as it can be exposed to a pesticide by ingestion, inhalation (when it sniffs its food before eating it), and contact. Because its metabolism is regulated by the temperature of its environment and it is a long-lived species, it does not have a metabolism comparable to a mammal or bird. Thus, using a mammal or bird as a surrogate for the tortoise to conduct an ecological health risk evaluation would be inaccurate and inappropriate.

In addition, the information provided in the MND indicates that human health was the focus and not ecological health. The MND provides information on potential negative impact to humans only (e.g., distance to the nearest school and the nearest airport).

The revised CEQA document should list the pesticides that would be used at the Project site and how and where they would be applied. Pesticides have the potential to impact all species of special concern in the Project area. If rodenticides would be used during construction, operation, or maintenance of the proposed Project, the revised CEQA document should include analysis on how they might adversely impact the Mohave ground squirrel, western burrowing owl, American badger, and desert kit fox. Direct impacts to the Mohave ground squirrel would be death, as it is a rodent. Indirect impacts to the owl and two mammals would be from predation on rodents exposed to rodenticides. Such impacts to badgers in California from the use of rodenticides have been reported by Quinn et al. (2012). Badger liver tissues contained anticoagulant rodenticides commonly used to control rodent pests and these rodenticides accumulate in the livers of badgers with potential toxic effects.

Roads: The proposed Project would pave dirt roads and create new roadways for vehicle access to the Project site. It would also increase the number and types of vehicles using these roads during construction, operation, and maintenance of the Project and allow more of the public to use these roads.

Road establishment and road use are often followed by various indirect effects such as increased human access causing disturbance of species' behavior, increase predation, spread of invasive plant species, and vandalism and/or collection. Field studies (LaRue 1992, Nafus et al. 2013, von Seckendorff Hoff and Marlow 2002) have shown that impact zones from road use eliminate or substantially reduce tortoise numbers up to 0.25 mile from roadways. These impacts are attributed to road kill with roads acting as population sinks for tortoises. Nafus et al. (2013) state that the ecologically-affected areas along roads, otherwise known as ''road-effect zones," are those in which a change in wildlife abundance, demography, or behavior is observed. Von Seckendorff Hoff and Marlow (2002) reported that they detected reductions in tortoise numbers and sign from infrequent use of roadways to major highways with heavy use. There was a linear relationship between traffic level and reduction. Nafus et al. (2013) reported that roads may decrease tortoise populations via several possible mechanisms, including cumulative mortality from vehicle collisions and reduced population growth rates from the loss of larger reproductive animals. Other documented impacts from road construction, use, and maintenance include increases in roadkill of wildlife species as well as tortoises, creating or increasing food subsidies for common ravens, and contributing to increases in raven numbers and predation pressure on the desert tortoise.

Please include in the revised CEQA document the analyses of the five major categories of primary road effects to the tortoise and other species of special concern: (1) wildlife mortality from collisions with vehicles; (2) hindrance/barrier to animal movements thereby reducing access to resources and mates; (3) degradation of habitat quality; (4) habitat loss caused by disturbance effects in the wider environment and from the physical occupation of land by the road; and (5) subdividing animal populations into smaller and more vulnerable fractions (Jaeger et al. 2005a, 2005b, Roedenbeck et al. 2007). Also, for your use and analysis, please see the list of footnoted references for impacts associated with roads[2].

The *References* section of the MND does not include any documents from the CDFW (formerly CDFG) or USFWS, yet they are the agencies with expertise and regulatory authority over the proposed Project for managing wildlife species and determining what permits are needed after assessing impacts of the proposed project to wildlife species. We suggest that the MND is inadequate in its presentation of any data on species of special concern and consequently the impacts of the proposed Project with respect to these species. The CEQA document should be revised substantially to include scientific literature and regulatory requirements for these species.

Cumulative impacts: As defined in 14 CCR § Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in an environmental impact report (EIR) together with other projects causing related impacts. An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR. When the combined cumulative impacts associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail.

Although this proposed Project is currently evaluated as an MND, we found no discussion of cumulative effects to biological resources, specifically to species of special concern and their habitats that we listed above. The revised CEQA document should include an analysis of cumulative impacts for the Mojave desert tortoise, Mohave ground squirrel, western burrowing owl, American badger, and desert kit fox. If the Joshua tree will be impacted, it should be included in this analysis.

Mitigation and Monitoring: We found no information in the MND on a description of mitigation that would be implemented to offset the direct, indirect, and cumulative impacts of the proposed Project for the species of special concern. For example, for the tortoise, mitigation would include development and implementation of the following plans – a predator management plan; weed (non-native plants) management plan, compensation plan for the degradation and loss of tortoise habitat that includes protection of the acquired, improved, and restored habitat in perpetuity for the tortoise from future development and human use; and a road mitigation plan. These plans should include a commitment to implement the mitigation commensurate to impacts to the tortoise and its habitats.

All proposed mitigation plans for the desert tortoise and other species of special concern should be provided in the CEQA document so the public and the decisionmaker can determine their adequacy (i.e., whether they are scientifically rigorous and would be effective in mitigating these

[2] https://www.dropbox.com/s/tvbfpvr8ush6c17/%23Road%20Impacts%20Bibliography.pdf?dl=0

impacts), their monitoring requirements to measure effectiveness, and requirements for implementing adaptive management if monitoring shows the mitigation is not working. If these plans are not provided, it is not possible for California City to determine the environmental consequences of the Project to the tortoise and other species of special concern. Please revise the CEQA document to include these mitigation/monitoring/adaptive management plans.

Specific Comments

Page 15, Biological Resources, Burrowing Owl: In the MND, California City says "no rodent or small animal burrows were located" during surveys on the Project site. We find it very unusual that on 80 acres of undeveloped land in the Mojave desert, there were no rodent or other burrows found. We conclude that protocol level surveys for the tortoise and burrowing owl were not conducted as they require complete coverage of the Project site, or they may have been conducted when it was difficult to see burrows.

Page 18, BIO 4: "BIO 4. If sensitive wildlife species such as the Desert Tortoise or the Mohave Ground Squirrel, Desert Kit Fox, American Badger, or nesting birds are detected on the project site during future surveys or assessments or construction, all work on-site shall stop immediately, and mitigation measures shall be required to reduce impact to a level of less than significant. Any proposed mitigation measures shall be determined by the Project Biologist (a Certified Wildlife Biologist, if different and be approved by California City) as applicable in accordance with typical best practices."

This statement should be revised to reflect the regulatory requirements of the FESA and CESA. For example, the USFWS and CDFW would determine the mitigation measures, not the Project Biologist. Only a biologist authorized by the USFWS and CDFW would be implementing the mitigation measures as they would involve take, A Certified Wildlife Biologist is not the same as a biologist that the USFWS and CDFW determine is authorized or qualified to work with the Mojave desert tortoise and Mohave ground squirrel. Please correct this information. In addition, please refer to our comments above under **Preconstruction Surveys.**

Page 18, BIO 5: "Should grading or construction commence after a new biological survey shall be filed with the California City as a Biological Clearance Letter to determine the presence or absence of endangered species on the site." This sentence appears to have missing information. In addition, the Mojave desert tortoise and Mohave ground squirrel are currently classified as threatened (rather than endangered) species under FESA and CESA.

Page 19, Biological Resources: In the MND, California City says "No Impact – There are no native or protected plants located on the site due to the native desert area. Therefore, there is no conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance."

Unless the site has been previously bladed, we presume that this statement is incorrect and that there are native plants located on the site. In addition, a description of the scientific methodology used and results of a focused survey for the Joshua tree should be presented and analyzed in this section. Please revise the MND to correct this statement and include this information.

Page 35, Transportation: In the MND, California City reports no negative impacts from this Project. The Project is estimated to increase traffic by approximately 12 vehicles a day and 1 cargo van per week per building. When fully leased it is anticipated there would be 216 vehicles using the facility per day. However, we found no analysis of (1) vehicle use during construction of the Project; (2) an accounting of vehicles delivering equipment and supplies to the Project site or transporting manufactured products from the Project site during operation and maintenance of the Project; or (3) an increase in the use of Gannt Road, Lindbergh Boulevard, and Jamison Street by the public because the Project would pave/improve these roads making them accessible to more vehicles and at faster speeds. These oversights should be corrected in the revised CEQA document with respect to their impacts of the road effect zone on the Mojave desert tortoise and other species of special concern.

Page 41, Conclusions: In the MND, California City says, "The proposed project, with the proposed mitigation measures, will not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species…"

As stated above, we are not sure how this statement can be made with no data provided to support it. Rather we offer data on the status of the Mojave desert tortoise (please see Attachment A). These data show that the tortoise in the Western Mojave Recovery Unit and its three Tortoise Conservation Areas have declining population numbers and densities that are below the viable level, that is below a level of self-sustaining. The proposed Project is located in the Western Mojave Recovery Unit and near the Fremont-Kramer Tortoise Conservation Area. Consequently, any proposed project that would contribute further to the decline of the tortoise in the western Mojave Recovery Unit would cause the population of tortoises to drop further below the self-sustaining levels without appropriate mitigation. Please correct this information in the CEQA document in the Conclusion section under Biological Resources.

Pages 42 and 43, Mitigation Monitoring: For Biological Resources, California City offers the following:

6. Preconstruction Survey
   – Desert kit fox and American badger
   (Ref. Mitigated Negative Declaration Measure BIO 3)
   Project Developer & Project Biologist
   Prior to project grading and construction activities
7. Preconstruction Survey
   – Burrowing owl (Ref. Mitigated Negative Declaration Measure BIO 2)
   Project Developer & Project Biologist
   Prior to project grading and construction activities
8. Active Nest Survey (Ref. Mitigated Negative Declaration Measure BIO 3)
   Project Developer & Project Biologist
   Prior to project grading and construction activities
9. Sensitive species found during surveys
   (Ref. Mitigated Negative Declaration Measure BIO 4)

Project Developer & Project Biologist
Prior to project grading and construction activities

10. Grading/Construction after February 1, 2021
(Ref. Mitigated Negative Declaration Measure BIO 5)
Project Developer & Project Biologist
Prior to project grading and construction activities

As mentioned earlier in our comments, this section fails mention the Mojave desert tortoise or Mohave ground squirrel and applicable requirements under the FESA and CESA. Please see our comments under **Pre-construction Surveys** and **Indirect and Cumulative Impacts**. Please revise the CEQA document to include all applicable mitigation and monitoring for the species of special concern and to comply with CESA and FESA (i.e., Mojave desert tortoise, Mohave ground squirrel, and Joshua tree).

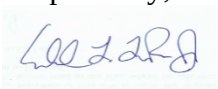
Appendix, Exhibit 6.2.1 - Biological Assessment Clearance Letter: We found no information in this letter that demonstrated compliance with CDFW or USFWS protocol level surveys for the Mojave desert tortoise or Mohave ground squirrel. Missing information includes a description of the "action area" where the survey was conducted for the tortoises, dates, and times surveys were conducted, whether the person conducting the surveys was deemed qualified by CDFW and USFWS, and the trapping methodology used for determination of the presence/absence of the Mohave ground squirrel, which requires multiple trapping/survey efforts between mid-March and July. Please see our comments above under **Pre-construction Surveys**.

In summary, we strongly recommend that California City revised this MND document to include the results of surveys conducted according to agency protocols for the Mojave desert tortoise, Mohave ground squirrel, and western burrowing owl. For the tortoise, the survey results would include the "action area," not just the Project footprint. In addition, the revisions should include the data sheets and results of science-based surveys for the western Joshua tree. The CEQA document should include the indirect and cumulative impacts to all species of special concern and their habitats in addition to the direct impacts from the construction, operation, and maintenance of the proposed Project. Only after this information is provided can the California City and the public determine the extent of the impacts from the proposed Project and make an informed decision on what actions will effectively mitigate all these impacts and included these actions. Only then will California City be able to determine if a mitigated negative declaration with these mitigation measures is appropriate or an EIR should be prepared. Finally, we strongly recommend that California City require the project Proponent to implement effective mitigation for all direct, indirect, and cumulative impacts to the desert tortoise and other species of special concern and their habitats as part of California City's permit issuance. This would include compensation for destroyed and degraded habitat, and mitigation and monitoring for increased predation from common ravens and other predators, proliferation of non-native plant species, and increased injury and mortality to species of special concern from increased road use and road speeds.

We appreciate this opportunity to provide comments on this project and trust they will help protect tortoises and other special status species 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 California City and Kern County that may

affect the Mojave desert tortoise, 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.
Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson

Attachment: Status of the Mojave Desert Tortoise (*Gopherus agassizii*)

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Status of the Mojave Desert Tortoise (*Gopherus agassizii*)

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.

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 Tortoise Conservation Areas (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 a density that is less than 3.9 adult tortoises per km^2 (USFWS 2015). The Fremont-Kramer TCA population is near the Proposed Project and has a population below the minimum viable density, and an 11-year declining trend (–50.6%)(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 Critical Habitat Units (CHU)/Tortoise Conservation Areas (TCA) for the Mojave desert tortoise, *Gopherus agassizii* (=Agassiz's desert tortoise). The table includes the area of each Recovery Unit and Critical Habitat Unit (CHU)/Tortoise Conservation Area (TCA), percent of total habitat for each Recovery Unit and Critical Habitat Unit/Tortoise Conservation Areas, 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 Critical Habitat Unit/Tortoise Conservation Area	Surveyed area (km^2)	% of total habitat area in Recovery Unit & CHU/TCA	2014 density/km^2 (SE)	% 10-year change (2004–2014)
Western Mojave, CA	**6,294**	**24.51**	**2.8 (1.0)**	**–50.7 decline**
Fremont-Kramer	2,347	9.14	2.6 (1.0)	–50.6 decline
Ord-Rodman	852	3.32	3.6 (1.4)	–56.5 decline
Superior-Cronese	3,094	12.05	2.4 (0.9)	–61.5 decline
Colorado Desert, CA	**11,663**	**45.42**	**4.0 (1.4)**	**–36.25 decline**
Chocolate Mtn AGR, CA	713	2.78	7.2 (2.8)	–29.77 decline
Chuckwalla, CA	2,818	10.97	3.3 (1.3)	–37.43 decline
Chemehuevi, CA	3,763	14.65	2.8 (1.1)	–64.70 decline
Fenner, CA	1,782	6.94	4.8 (1.9)	–52.86 decline
Joshua Tree, CA	1,152	4.49	3.7 (1.5)	+178.62 increase
Pinto Mtn, CA	508	1.98	2.4 (1.0)	–60.30 decline
Piute Valley, NV	927	3.61	5.3 (2.1)	+162.36 increase
Northeastern Mojave	**4,160**	**16.2**	**4.5 (1.9)**	**+325.62 increase**
Beaver Dam Slope, NV, UT, AZ	750	2.92	6.2 (2.4)	+370.33 increase
Coyote Spring, NV	960	3.74	4.0 (1.6)	+ 265.06 increase
Gold Butte, NV & AZ	1,607	6.26	2.7 (1.0)	+ 384.37 increase
Mormon Mesa, NV	844	3.29	6.4 (2.5)	+ 217.80 increase
Eastern Mojave, NV & CA	**3,446**	**13.42**	**1.9 (0.7)**	**–67.26 decline**
El Dorado Valley, NV	999	3.89	1.5 (0.6)	–61.14 decline
Ivanpah, 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 Western Mojave adult numbers at 49% (a 51% 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 Western Mojave Recovery Unit the proportion of juveniles in 2014 declined to 91% (a 9 % decline) of their representation since 2004 (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 trend data for Agassiz's desert tortoise, *Gopherus agassizii* (=Mojave desert tortoise).from 2004 to present for 5 Recovery Units and 17 Critical Habitat Units (CHU)/Tortoise Conservation Areas (TCA). 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**	**2004 density/ km^2**	**2014 density/ km^2 (SE)**	**% 10-year change (2004–2014)**	**2015 density/ km^2**	**2016 density/ km^2**	**2017 density/ km^2**	**2018 density/ km^2**	**2019 density/ km^2**	**2020 density/ km^2**	**2021 density/ km^2**
Western Mojave, CA	**24.51**		**2.8 (1.0)**	**–50.7 decline**							
Fremont-Kramer	9.14		2.6 (1.0)	–50.6 decline	4.5	No data	4.1	No data	2.7	1.7	No data
Ord-Rodman	3.32		3.6 (1.4)	–56.5 decline	No data	No data	3.9	2.5/3.4*	2.1/2.5*	No data	1.9/2.5*
Superior-Cronese	12.05		2.4 (0.9)	–61.5 decline	2.6	3.6	1.7	No data	1.9	No data	No data
Colorado Desert, CA	**45.42**		**4.0 (1.4)**	**–36.25 decline**							
Chocolate Mtn AGR, CA	2.78		7.2 (2.8)	–29.77 decline	10.3	8.5	9.4	7.6	7.0	7.1	3.9
Chuckwalla, CA	10.97		3.3 (1.3)	–37.43 decline	No data	No data	4.3	No data	1.8	4.6	2.6
Chemehuevi, CA	14.65		2.8 (1.1)	–64.70 decline	No data	1.7	No data	2.9	No data	4.0	No data
Fenner, CA	6.94		4.8 (1.9)	–52.86 decline	No data	5.5	No data	6.0	2.8	No data	5.3
Joshua Tree, CA	4.49		3.7 (1.5)	+178.62 increase	No data	2.6	3.6	No data	3.1	3.9	No data

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
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**	**2004 density/ km^2**	**2014 density/km^2 (SE)**	**% 10-year change (2004–2014)**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**

Unit & CHU/TCA											
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.

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).

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%**

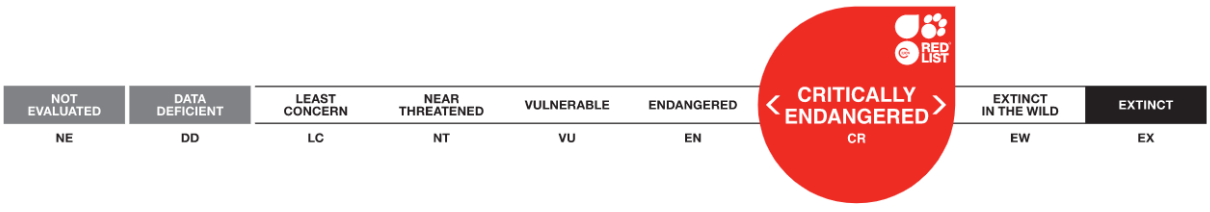
Habitat loss would also disrupt the prevailing population structure of this widely distributed species with geographically limited dispersal (isolation by resistance Dutcher et al. 2020). Allison and McLuckie (2018) anticipate an additional impact of this habitat loss/degradation is decreasing

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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