



DESERT TORTOISE COUNCIL

3807 Sierra Highway #6-4514

Acton, CA 93510

www.deserttortoise.org

eac@deserttortoise.org

Via email only

27 July 2024

To: Fort Irwin Directorate of Public Works
Environmental Division
P.O. Box 105085
Fort Irwin, California 92310-5085
comments@IrwinWTADTTtranslocationEA.com

Re: Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for the Translocation of Desert Tortoises in the Western Training Area

Dear Fort Irwin Directorate of Public Works,

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

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

The Mojave desert tortoise is among the top 50 species on the list of the world's most endangered tortoises and freshwater turtles. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers the Mojave desert tortoise to be Critically Endangered (Berry et al. 2021), "... based on population reduction (decreasing density), habitat loss of over 80% over three generations (90 years),

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

This status, in part, prompted the Council to join Defenders of Wildlife and the Desert Tortoise Preserve Committee (Defenders of Wildlife et al. 2020) to petition the California Fish and Game Commission in March 2020 to elevate the listing of the Mojave desert tortoise from Threatened to Endangered in California. In its status review, California Department of Fish and Wildlife (CDFW) (2024) stated: “At its public meeting on October 14, 2020, the Commission considered the petition, and based in part on the Department’s [CDFW] petition evaluation and recommendation, found sufficient information exists to indicate the petitioned action may be warranted and accepted the petition for consideration. The Commission’s decision initiated this status review to inform the Commission’s decision on whether the change in status is warranted.”

Importantly, in their April 2024 meeting, the California Fish and Game Commission voted unanimously to uplist the tortoise from threatened to endangered under the California Endangered Species Act based on the scientific data provided on the species’ status, declining trend, numerous threats, and lack of effective recovery implementation and land management. Among other things, this determination means that the Mohave desert tortoise population in California is deemed by the California Fish and Game Commission to be closer to extinction than when it was listed as threatened in 1989. The only status more dire than “endangered” is “extinct,” and the state of California has formally determined based on its five-year status review (CDFW 2024) that the desert tortoise is closer to extinction than it was in 1989.

Although the Council provided scoping comments on the Army’s use of the Western Training Area (WTA) in September 2020¹, formal comments on the draft environmental impact statement in July 2021², and scoping comments on the proposed translocation in February 2024³, and in each of these three formal comment letters asked the Army to identify the Council as an Affected Interest to be contacted for additional input, once again, the Army failed to alert the Council to this draft environmental assessment (Draft EA), which was provided by a third party. After several days of negotiations with an Army contact in February 2024, we were grudgingly allowed to submit scoping comments on the proposed translocation several days after the deadline. Yet, despite this recent effort, the Army failed to provide the Council an opportunity to comment on the current Draft EA.

¹ https://www.dropbox.com/scl/fi/svkd004w3h7rm8ll6abqg/Fort-Irwin-Training-Expansion-scoping-comment-letter-9_8_2020.pdf?rlkey=ijw16m9dvzjskg2radfjdxwod&dl=0

² https://www.dropbox.com/scl/fi/uzvey2844lrdivsca8q8e/Fort-Irwin-Training-Expansion-DEIS-comments-7_6_2021.pdf?rlkey=o62u563bi6axhjdtkoy1511&dl=0

³ <https://www.dropbox.com/scl/fi/o4t50ojeej4u3vxz6l63k/Fort-Irwin-Translocation-Scoping-Comments.2-28-2024.pdf?rlkey=59kh33fsuif1jlz9eo31214xi&dl=0>

We would like to reiterate the following statement provided in our February 2024 scoping comments: “Given the location of the impact area entirely within designated critical habitat, the significant persisting declines of tortoises within critical habitats in the West Mojave (Allison and McLuckie, 2018, USFWS 2022a, 2022b), the certainty that translocated tortoises will be affecting tortoise populations outside the WTA, etc., it is our assertion that a supplemental EIS (SEIS), not an EA, is the appropriate National Environmental Policy Act (NEPA) document for this level of translocation. We note that the Marine Corps released a SEIS – not an EA – for their final translocation plan in 2016, therein setting a standard that we believe the Army should follow.”

Yet we see that the Army decided to analyze the translocation in an EA, not a SEIS, stating on page 2 of the Finding of No Significant Impact (FNSI): “Based on the findings of the EA, implementing the Proposed Action would not result in a significant impact on the human or natural environment. Therefore, an Environmental Impact Statement is not the anticipated outcome.”

We strongly disagree with the FNSI conclusion that “...implementing the Proposed Action would not result in a significant impact on the human or natural environment,” the latter of which includes the desert tortoise. Our reasons for this assertion follow:

The Council on Environmental Quality’s (CEQ’s) regulations for implementing NEPA (40 CFR 1508.27) direct federal agencies to consider both context and intensity when determining whether a proposed action may have a significant effect on the human environment.

(a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short and long term effects are relevant.

(b) Intensity. This refers to the severity of impact.

Of the ten factors that CEQ lists that must be analyzed under intensity, at least seven are relevant to the proposed action and its impacts on the tortoise. We do not believe that the Army demonstrated in the Draft EA that it has evaluated the following factors that are listed in 40 CFR 1508.27, which must be addressed in the final NEPA document:

- (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.
- (3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or *ecologically critical areas* (emphasis added).
- (4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
- (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

- (6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
- (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
- (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

In addition, to help federal agencies in their analysis of #7 above on cumulatively significant impacts, in 1997 CEQ provided clear guidance to federal agencies on how they should analyze cumulative effects/impacts in their issuance of “Considering Cumulative Effects under the National Environmental Policy Act.” (https://ceq.doe.gov/publications/cumulative_effects.html). This guidance includes eight principles that federal agencies should be implementing in their analysis of cumulative effects. For the tortoise, important principles to include in the analysis of cumulative effects/impacts in the NEPA document and the decision document for the proposed action are:

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.

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.

CEQ recognizes that synergistic and interactive impacts as well as cumulative impacts should be analyzed in the NEPA document for the resource issues, which includes the tortoise and tortoise habitat. These contribute to cumulative impacts.

The Army should ensure that these principles are applied and analyzed with respect to the tortoise and the proposed action and documented in the NEPA decision document.

We assert that if the total of direct, indirect, and/or cumulative impacts of the proposed action exceed the threshold of significance, then an EIS should have been (and still should be) prepared. The information provided below reviews context, intensity, and cumulative impacts with respect to the tortoise and the proposed action.

Context

Area Analyzed for the Proposed Action Including Indirect Impacts:

For the tortoise, context should include the Superior-Cronese Tortoise Conservation Area (TCA), Translocation Areas, and areas surrounding these locations to include the extent of indirect impacts, and the Western Mojave Recovery Unit (USFWS 2011). The Superior-Cronese TCA/Western Mojave Recovery Unit is the management area/critical habitat unit impacted by the removal and translocation of tortoises.

Intensity

- (1) Beneficial and Adverse Impacts: The translocation of adult tortoises may be viewed as beneficial only if it is successful in “saving” these animals from injury or death and they contribute to future generations of tortoises. However, if their rate of survival is low as occurred during Fort Irwin’s previous translocation effort (Mack and Berry 2023), their ability to persist is compromised [e.g., the genes of translocated tortoise are not passed on to future generations (Mulder et al. 2017)], and the translocations lands are not effectively managed for the benefit of the tortoise, etc., then the impacts from the loss of translocated tortoises and the destruction of the physical and biological features essential to the conservation of the tortoise in this critical habitat unit with no replacement value elsewhere would result in substantial adverse impacts to the tortoise. Please see the discussion of #4 and #6 below.
- (3) Ecologically Important Areas: The impacts from the destruction of the physical and biological features essential to the conservation of the tortoise from 71,249 acres of designated critical habitat and subsequently exposing those habitats to mechanized warfare activities with no replacement value elsewhere is a substantial adverse impact to the tortoise.
- (4 and 6): Controversy and Establish a Precedent for Future Actions with Significant Effects: Intentionally removing all reproductive tortoises from 71,249 acres of designated critical habitat and subsequently exposing those habitats to mechanized warfare activities that will compromise the integrity of the still-designated critical habitat for hundreds of years to come is not only a significant impact (that would not happen under the No Action Alternative), but it also constitutes the single largest, one-time intentional eradication of tortoises from critical habitat since the tortoise was listed in 1990. And this at a time when proactive tortoise conservation and recovery are most needed given the precipitous declines of the population throughout the listed range (USFWS 2015, 2016, 2018, 2019, 2020, 2022a, 2022b) despite 34 years of mandated but rarely implemented tortoise protection on federal lands.

In 2008, the Army evaluated more than a thousand tortoises for removal (Dr. Kristin Berry, personal communication 7/26/2024; more than 500 tortoises in Esque et al. 2010) and impacted about 13,000 acres of critical habitat in the southern expansion areas on the Alvord Slope so that the Army at Fort Irwin could practice mechanized warfare activities in that location. Whereas the 2008 action affected approximately 13,000 acres of critical habitat, the current “Preferred Alternative,” affects five times more critical habitat than was affected in 2008. The removal of tortoises from more than 71,000 acres is not a minor impact that can be mitigated to the level of insignificance, as implied by issuing a FNSI.
- (5) Uncertain Effects/Unknown Risks: The effects are uncertain. The survival of the translocated tortoises and their success at future reproduction and recruitment into the resident population depends on numerous factors, and most of those the Army has no control over. The loss of the physical and biological features essential to the conservation of the tortoise from designated critical habitat with no effective means of mitigating this physical, biological, and temporal loss elsewhere is an unknown risk that that Army should ensure is fully addressed under NEPA and the Federal Endangered Species Act (FESA).

(7) Cumulatively Significant Impacts: Please see our discussion under Cumulative Impacts 1, 2, 3, and 5 below.

(9) The Degree of Adverse Effects to a Listed Species or Critical Habitat: Please see our discussion under Cumulative Impacts 1, 2, 3, and 5 below.

Cumulative Impacts

(1, 2, 3, and 5) – Aggregate of Past, Present, and Future Actions including Direct and Indirect Effects, Analysis Conducted in Terms of the Tortoise and Its Survival and Recovery, Analysis of Area Appropriate for the Tortoise: Attached to this letter is a summary of data on the demographic status and trend of the tortoise rangewide with a focus on the Western Mojave Recovery Unit and three TCAs in that Recovery Unit. Recalling that the tortoise must meet recovery criteria in all five Recovery Units to be delisted (USFWS 2011), an action or collection of actions that results in the tortoise not being able to survive *and* recover is at a jeopardy threshold. The data in the attachment clearly show that the tortoise in the Western Mojave Recovery Unit has a density that is less than that needed for population viability (USFWS 1994), that is, less than that needed to survive and persist, and this trend is not improving. Consequently, any new action that adversely impacts the tortoise/tortoise habitat in this Recovery Unit without successfully and fully offsetting the impacts contributes to this declining trend of tortoise population density below population viability.

The Council believes that contributing to the ongoing downward trend of a non-viable population of the tortoise in a Recovery Unit where all other tortoise populations in the three TCAs in that Recovery Unit (Superior-Cronese, Fremont-Kramer, and Ord-Rodman TCAs) are below the population viability threshold *is a significant impact*. Consequently, the Army should prepare an EIS to analyze the cumulative impacts of the proposed action on the tortoise.

Under Section 3.9.2, Environmental Consequences, specifically Section 3.9.2.1 on pages 3-38 and 3-39, for impacts to vegetation, we read, “There would be negligible adverse, long-term impacts on vegetation from the translocation of desert tortoises from the WTA to the Translocation Sites,” and for impacts to wildlife, we read, “There would be negligible adverse, long-term impacts on wildlife from the translocation of desert tortoises.” However, with special status species on page 3-39, no such impact conclusions are given; rather there is a discussion about how the 2021 biological opinion will be implemented, no additional Section 7 consultation is needed, and how formal consultation will be reinitiated “if any thresholds for take as described in the 2021 BO are reached.”

LaRue and Dougherty (1998) evaluated the effectiveness of more than 300 biological opinions issued in the first eight years after federal listing of the tortoise, and there have likely been hundreds if not a thousand more biological opinions issued since then, and the tortoise is now closer to extinction than it was in 1990 when it was listed (CDFW 2024).

In the Environmental Consequences section of the Draft EA, the Army has avoided stating the significance of the impacts attributed to the proposed action to tortoises in favor of focusing on bureaucratic compliance with biological opinions that have been ineffective in promoting tortoise survival and recovery. Please include an analysis of impacts using CEQ’s regulations and guidance for direct, indirect, and cumulative impacts to the tortoise, because compliance with the FESA is

a separate issue with different requirements. A conclusive statement is needed in the Final EA (the FNSI document notwithstanding as it is supposed to be based on the EA analysis) regarding the significance of impacts to desert tortoises resulting from the proposed action. We believe that the EA has demonstrated that significant impacts will occur despite implementing protective measures identified in a biological opinion, and the appropriate conclusion is that an EIS is warranted. We further believe that the Army has failed to make this (or any stated) significance determination in the EA regarding impacts to tortoises because it would invalidate issuance of a FNSI and trigger development of an EIS.

We note that the Army does not refer to this document as a “Draft” EA, which is customary for the release of an initial EA draft, which may imply that a “Final” EA will not be produced to accommodate changes recommended by the agencies or public on the draft. If that is the case, we ask that substantive recommendations given herein be applied to the Desert Tortoise Translocation Plan (DTTP) or other document(s) governing translocation.

Unless otherwise noted, the following page number references are from the “Environmental Assessment for the Translocation of Desert Tortoise in the Western Training Area, Fort Irwin, California,” dated June 2024.

Page 1 [of the FNSI] indicates, “The purpose of the Proposed Action is to support National Training Center (NTC) training requirements (as required by Public Law 107-107) and implement Mojave desert tortoise (*Gopherus agassizii*) mitigation agreed to in prior NEPA and Endangered Species Act documents. The Proposed Action is needed to relocate desert tortoises from the WTA *prior to initiating training in 2025* [emphasis added].” For reasons given herein, we note that it may be prudent for the Army to postpone training in 2025 if winter rainfall conditions in 2024 are not favorable for the release of tortoises and because the preferred timing of tortoise translocations is in the fall (Mack and Berry 2023), which would be in September or October 2025, leaving the Army only several months to initiate training next year.

If winter rainfall of 2024 is insufficient to produce germinating annual plants in the spring of 2025, conditions will not be favorable for tortoises to be translocated in 2025. Mack and Berry (2023) conducted the first long-distance translocation (greater than 500 meters) of desert tortoises from Fort Irwin in the spring of 2008 and monitored them over a period of ten years to assess effects of the translocation. Between 2008-2010, more than 50% of the translocated tortoises were dead by the end of the third year, mainly due to releasing them during prevailing drought conditions, which then resulted in higher-than-expected predation by coyotes. Available information documents that 89 of 357 tortoises (25%) translocated from the Fort Irwin expansion area in the Alvord Mountains in 2005 died the first year, likely due to coyote predation (Esque et al. 2010), and that many more died in subsequent years (Mack and Berry 2023). Because >50% mortality occurred, Mack and Berry (2023) considered the Army’s first translocation effort to be a catastrophic failure.

No tortoises should be released until they are a minimum of 120 mm in median carapace (MCL) length (Nagy et al. 2015,2020), which is not described in the Draft EA. This is needed to ensure their shells are fully ossified to better protect them from certain predators. Dickson et al. (2019) reported that larger tortoises had greater survival rates. Although the winter precipitation in 2023 and 2024 was above average, there is no guarantee that 2024-2025 winter will be as wet. If drought

conditions prevail in 2025, the Army should forego translocation in 2025, as drought conditions are known to seriously compromise the success of both clearance surveys (Dr. Karl personal communication, 2/26/2024) and mass translocations (Esque et. al 2010). Knowing these results, if the Army chooses to release tortoises in 2025 without sufficient 2024 rainfall to promote annual plant germination, it will have knowingly put tortoises into harm's way with the predictable likelihood of translocation failure. The Army seems to agree with these recommendations in Section 1.2 Background of the Draft EA: "Lessons learned from previous translocations would be implemented in the current proposed action, including early detection of any increased predation, and *translocation during favorable environmental conditions* [emphasis added]."

Mack and Berry (2023) found that the season of year when desert tortoises were released should be considered because it may influence the extent of dispersal, survival, retention, and settlement within their new environments. They reported that other studies of translocation of testudinids found that release in the fall season may compel construction of burrows or shelters before the winter season dormancy period begins. Based on this analysis, the Council supports releasing tortoises in the fall rather than the spring. We note, as written, that the Army intends to release tortoises in the spring as well, as stated on page 2-5, "NTC [National Training Center] would only translocate tortoises in the spring (April and May) or fall (September and October) when the weather conditions are suitable for tortoise activities." Given that the Mack and Berry (2023) paper was published less than a year ago and is therefore considered relatively new information, we ask that the Army, in consultation with USFWS, reevaluate spring translocations.

Dickson et al. (2019) had similar findings that translocated tortoises released in the spring in the Ivanpah Valley exhibited increased movement and experienced higher ambient temperatures than did resident and control tortoises in the months immediately post translocation, and survival rates decreased as time spent in ambient temperatures greater than 35° C increased. Further, they reported that the translocated tortoises they studied were not released during drought conditions, which could increase mortality (Field et al. 2007, Esque et al. 2010, Zylstra et al. 2013, Lovich et al. 2014, Dickson et al. 2019). In addition, all tortoises were hydrated before releasing them (Dickson et al. 2019, Field 2007 et al. 2007). These are a few of the lessons learned from previous tortoise translocations that the Army must consider for this proposed translocation effort.

In Section 2.2.1 concerning tortoise clearance surveys, we read "To complete the 100 percent coverage surveys, NTC would conduct two complete survey passes throughout the WTA in alternating north/south and east/west orientations." Please note that the USFWS field manual (USFWS 2009) also stipulates that, "If desert tortoises are found during the second pass, the USFWS and appropriate State wildlife agency may require a third survey." The Army or its consultant, working with the USFWS, should determine how large an area would need to be surveyed a third (and even fourth time if tortoises are found on the third survey) when tortoises are discovered on the second pass. We ask that the DTTP or other pertinent document(s) adopt this formal guidance.

We note the following paragraph on page 2-1, "Tortoises would only be moved to and held in the enclosures on Fort Irwin after approval by USFWS of a *husbandry plan* (i.e., a plan to ensure food and water are available to all captive tortoises; vegetation within the pens is properly irrigated; the pen is secured from predators and pests; and the annual captive tortoise census, survivorship,

health and growth results are documented) (USFWS 2020). Tortoises would only be translocated to recipient sites after approval by USFWS of a *disposition plan* (USFWS 2020) [emphasis added].” However, we see that neither the husbandry plan nor the disposition plan are attached to the Draft EA, which precludes the public’s ability to review and comment on these plans. These and any other forthcoming plans should be attached to the Final EA or decision document(s) resulting from the Army’s response to comments on the Draft EA so the public has opportunities to review them, as provided for by NEPA. We also note that there is no evidence of the pens being available.

With regards to the following statement on page 2-5, “The NTC would not capture, move, transport, release, or purposefully cause a tortoise to leave its burrow for whatever reason when the ambient air temperature at ground level is above or anticipated to exceed 95 degrees Fahrenheit (35 degrees Celsius) before handling or processing can be completed (*Desert Tortoise Council 1994*; USFWS 2020) [emphasis added; see the Draft EA for these references],” please note that the Desert Tortoise Council 1994 reference is outdated and has been replaced by updated methodologies in USFWS (2009), which should be implemented instead of those in the earlier document.

We note the following approach given at the top of page 2-6, “NTC would transport tortoises in clean, protective, and ventilated containers to ensure their safety during translocation. Several sizes should be available so a tortoise cannot slide around excessively in the bin. NTC would thoroughly disinfect each container after each use. At a specific cleaning station each bin will first be rinsed with water to remove organic matter because organic matter degrades the effectiveness of bleach and most disinfectants. The rinsewater and any organic matter will be drained into a pit. The drain pit and cleaning station will not be near any release sites. Each bin will then be sprayed with a 10% bleach solution so that the surface remains wet with the bleach solution for a minimum of 5 minutes. After disinfecting with bleach each bin will be rinsed with water to prevent exposure of chlorine and other toxics to the tortoise.” Another option would be to replace the bleach with “Rescue,” which is another liquid disinfectant recommended by USFWS (2022c). This would have to be ordered and would be much more expensive but may be more effective and less corrosive than bleach. The cleaning and rinsing routine would be the same as with bleach. Each tortoise will be soaked in water for a minimum of 30 minutes prior to release.

We appreciate that the Army has revised its expressed intent to monitor translocated tortoises for only five years in its form letter released on 1/18/2024 to the current proposal given on page 2-6, “Monitoring would be required for 25 years (6 years of short-term monitoring and 19 years of long-term monitoring (see Appendix C) to determine if translocated tortoises support recovery of depleted populations in the Translocation Sites.” However, monitoring alone does not provide a path to minimize any adverse impacts from translocation. If the Army’s goal is for the translocation to be successful, the Army needs to respond quickly and effectively through adaptive management when a problem is identified with tortoises at any of the Translocation Sites during the monitoring period.

We note the following statement in regard to the Recovery and Sustainment Partnership (RASP), “Long-term monitoring would be funded from Fort Irwin, higher-level Army funding to the RASP, or a combination of both, unless the Anti-Deficiency Act applies (i.e., funding is not made available) in a given year.” Is there an implementing agreement, memorandum of understanding, or other contractual agreement that obligates the RASP to fund and implement these requirements? If “funding is not made available,” how will the Army or the RASP ensure its monitoring requirements are being fulfilled? Please address these questions in the Final EA or other subsequent NEPA document(s). As mentioned earlier, adaptive management should be a part of the monitoring effort and be fully funded if the Army intends the mitigation to be effective.

As the Army is aware, there was a petition in 2023 to federally list the Mohave ground squirrel (Defenders et al. 2023). Should this petition be reflected in Table 3-9 on page 3-29? Although not apropos to the translocation of tortoises, the following statement on page 3-33 is noteworthy: “The Mohave ground squirrel is known to be present on Fort Irwin *with its greatest abundance in the WTA...*[emphasis added].

We appreciate this opportunity to provide the above comments and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Council wants to be identified as Affected Interests for this and all other projects funded, authorized, or carried out by the Army that may affect desert tortoises, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above. Additionally, we request that you notify the Council (eac@deserttortoise.org) of any future proposed projects that the Army may authorize, fund, or carry out in the range of the desert tortoise in California.

Please 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.
Desert Tortoise Council, Chairperson

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

cc.

Deb Haaland, Secretary of the Interior, exsec@ios.doi.gov, feedback@ios.doi.gov, Interior_Press@ios.doi.gov

Martha Williams, Director, U.S. Fish and Wildlife Service, martha_williams@fws.gov

Tracy Stone-Manning, Director, Bureau of Land Management, tstonemanning@blm.gov

Joe Stout, California State Director, Bureau of Land Management, castatedirector@blm.gov

Kristina Drake, Desert Tortoise Recovery Office Coordinator, U.S. Fish and Wildlife Service, karla_drake@fws.gov

Brian Croft, Assistant Field Supervisor, Palm Spring Fish and Wildlife Office, U.S. Fish and Wildlife Office, brian_croft@few.gov
Ann McPherson, Environmental Review, U.S. Environmental Protection Agency, mcperson.ann@epa.gov
Jeff Drongesen Chief, Habitat Conservation Planning Branch, California Department of Fish and Wildlife, HCPB@wildlife.ca.gov, Jeff.Drongesen@wildlife.ca.gov
Heidi Calvert, Regional Manager, Region 6 – Inland and Desert Region, California Department of Fish and Wildlife, Heidi.Calvert@wildlife.ca.gov
Brandy Wood, Region 6 – Desert Inland Region, California Department of Fish and Wildlife, Brandy.Wood@wildlife.ca.gov

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Appendix A

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

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

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

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

Important points from these tables include the following:

Change in Status for the Mojave Desert Tortoise Range-wide

- Ten of 17 populations of the Mojave desert tortoise declined from 2004 to 2014.
- Eleven of 17 populations of the Mojave desert tortoise are below the population viability threshold. These 11 populations represent 89.7 percent of the range-wide habitat in CHUs/TCAs.

Change in Status for the Western Mojave Recovery Unit – California

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

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

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

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

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

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

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

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

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

Recovery Unit: Designated CHU/TCA &	% of total habitat area in Recovery Unit & CHU/TCA	2004 density/ km ²	2014 density/ km ² (SE)	% 10- year change (2004– 2014)	2015 density/ km ²	2016 density/ km ²	2017 density/ km ²	2018 density/ km ²	2019 density/ km ²	2020 density/ km ²	2021 density/ km ²
Western Mojave, CA	24.51		2.8 (1.0)	–50.7 decline							
Fremont-Kramer	9.14		2.6 (1.0)	–50.6 decline	4.5	No data	4.1	No data	2.7	1.7	No data
Ord-Rodman	3.32		3.6 (1.4)	–56.5 decline	No data	No data	3.9	2.5/3.4*	2.1/2.5*	No data	1.9/2.5*
Superior-Cronese	12.05		2.4 (0.9)	–61.5 decline	2.6	3.6	1.7	No data	1.9	No data	No data
Colorado Desert, CA	45.42		4.0 (1.4)	–36.25 decline							
Chocolate Mtn AGR, CA	2.78		7.2 (2.8)	–29.77 decline	10.3	8.5	9.4	7.6	7.0	7.1	3.9
Chuckwalla, CA	10.97		3.3 (1.3)	–37.43 decline	No data	No data	4.3	No data	1.8	4.6	2.6
Chemehuevi, CA	14.65		2.8 (1.1)	–64.70 decline	No data	1.7	No data	2.9	No data	4.0	No data
Fenner, CA	6.94		4.8 (1.9)	–52.86 decline	No data	5.5	No data	6.0	2.8	No data	5.3
Joshua Tree, CA	4.49		3.7 (1.5)	+178.62 increase	No data	2.6	3.6	No data	3.1	3.9	No data
Pinto Mtn, CA	1.98		2.4 (1.0)	–60.30 decline	No data	2.1	2.3	No data	1.7	2.9	No data
Piute Valley, NV	3.61		5.3 (2.1)	+162.36 increase	No data	4.0	5.9	No data	No data	No data	3.9

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

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

**Methodology for collecting density data initiated in 1999.

Change in Status for the Mojave Desert Tortoise in California

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

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

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

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

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

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

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

- Density of tortoises continues to decline in the Western Mojave Recovery Unit
- Density of tortoises continues to fall below the density needed for population viability from 2015 to 2021

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

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

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

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

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

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

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

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

The Endangered Mojave Desert Tortoise: The Council believes that the Mojave desert tortoise meets the definition of an endangered species. In the FESA, Congress defined an “endangered species” as “any species which is in danger of extinction throughout all or a significant portion of its range...” In the California Endangered Species Act (CESA), the California legislature defined an “endangered species” as a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant, which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes (California Fish and Game Code § 2062). Because most of the populations of the Mojave desert tortoise were non-viable in 2014, most are declining, and the threats to the Mojave desert tortoise are numerous and have not been substantially reduced throughout the species’ range, the Council believes the Mojave desert tortoise should be designated as an endangered species by the USFWS and California Fish and Game Commission. Despite claims by USFWS (Averill-Murray and Field 2023) that a large number of individuals of a listed species and an increasing population trend in part of the range of the species prohibits it from meeting the definitions of endangered, we are reminded that the tenants of conservation biology include numerous factors when determining population viability. The number of individuals present is one of a myriad of factors (e.g., species distribution and density, survival strategy, sex ratio, recruitment, genetics, threats including climate change, etc.) used to determine population viability. In addition, a review of all the available data does not show an increasing population trend (please see Tables 1 and 3).

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