November 7, 2023

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1849 C Street, NW
Washington, D.C. 20240
Via email to: lromin@blm.gov

RE: Draft Mojave Desert Tortoise Strategic Plan and Rangewide Mojave Desert Tortoise Action Plan

Dear Ms. Romin:

Defenders of Wildlife (Defenders) and Desert Tortoise Council (Council) appreciate the opportunity to provide comments on the Bureau of Land Management (BLM) Draft Rangewide Mojave Desert Tortoise Strategic Plan (strategic plan) and the Draft Rangewide Mojave Desert Tortoise Action Plan (action plan). This comment letter is submitted by Defenders on behalf of its 2.1 million members and supporters in the U.S. and on behalf of the Council.

Defenders is a national conservation organization founded in 1947 and dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

The Council is a non-profit organization comprised 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 thank BLM for taking the initiative to develop a rangewide strategic plan and action plan for the Mojave population of the desert tortoise (MDT). We strongly support BLM writing and implementing species and ecosystem conservation strategies and are excited that BLM is investing in this process. Proactive rangewide recovery strategies provide a way to articulate and coordinate species-specific (or ecosystem-specific) recovery strategies, actions, costs and timelines and focus collective action on effectively meeting BLM's responsibilities under the Endangered Species Act for carrying out conservation programs for threatened and endangered species.

The MDT is on an extinction trajectory (Allison and McLuckie 2018). We agree with BLM that a paradigm shift is needed as continuing current efforts do not appear to be sufficient to reverse the downward population trend, especially in the face of continued habitat loss and fragmentation, and the added stress of climate change. It is imperative that these plans set forth and operationalize both a "stop the extinction" strategy and a recovery strategy. The plans must be specific and timebound, have measurable quantified objectives, and include actions that in aggregate are sufficient to reverse the extinction trend.

We are concerned that as currently crafted the MDT plans are more an articulation of current practice and not a paradigm shift. Because we believe that conservation strategies for listed species (or ecosystems containing multiple species) are a very good idea, we offer the following recommendations for strengthening these plans so that they will be effective in recovering the MDT.

I. Background Information

The MDT draft strategic plan and action plan are intended to provide directed rangewide recovery conservation and recovery actions for the threatened MDT. Recovery goals have not been met since the species was listed in 1990 and its critical habitat designated in 1994 despite substantial investments by BLM and others in tortoise management and conservation. There is a significant and widely recognized need for enhanced effectiveness in implementing recovery actions in all tortoise recovery units to reduce threats to tortoise survival and habitat, and promote long-term population recovery.

The strategic plan and action plan focus management actions within 26 initial focal areas that are considered important to the long-term persistence of the MDT throughout its range where a) recovery actions can be concentrated for reducing or eliminating threats within five to ten years, and b) local MDT populations can be stabilized or increased, thereby creating strongholds from which longer-term, rangewide recovery criteria can be achieved.

II. Guiding authorities for the strategic plan

The draft strategic plan states that "...neither the recovery plan, nor the goals listed therein, specifically account for management in the context of BLM's multiple use land management mandate, nor other interagency considerations unique to the BLM." The statement fails to account

for public land management mandates included in the Federal Land Policy and Management Act (FLPMA), namely that:

- The principles of multiple use and *sustained yield* govern the BLM's stewardship of public lands, unless otherwise provided by law [emphasis added][1];
- The public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; values that, where appropriate, will preserve and protect certain public lands in their natural condition[2];
- Prevent permanent impairment of the productivity of the land and quality of the environment[3];
- By regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands[4]; and Give priority to the inventory, designation and protection of Areas of Critical Environmental Concern (ACECs) and to "promptly develop" associated regulations and plans[5].

In addition, the draft strategic plan does not cite the Endangered Species Act's recovery mandate under Section 7(a)(1). While we understand that this authority may be driving this effort as articulated in BLM's Threatened and Endangered Species Program Strategy, it is still important to articulate in the strategic plan.

III. Recommendations for strengthening the strategic plan for expediting and advancing MDT recovery

A. Provide a strategic analysis that can serve as a basis for goals, objectives, strategies and indicators

The strategic plan lacks a foundational strategic analysis that examines opportunities, threats, strengths and weaknesses. Without this, it is hard to understand the relevance of the goals, objectives and strategies and if/how they will advance and expedite MDT recovery. We recommend that BLM conduct this strategic analysis and use the results to refine the current goals, strategies and actions. While not a comprehensive list, the strategic analysis should include the following helpful components:

- Summary and evaluation of the MDT population status and trends;
- Summary and evaluation of historical and recent recovery actions and outcomes;
- Maps showing the relationship of critical habitat, recovery units, MDT high value core and connectivity lands, land tenure, protected areas and BLM areas open to off-road vehicles, road-building, grazing and energy development;

[1] *See* 88 Fed. Reg. 19584 (Monday, April 3, 2023)
[2] 43 U.S.C. §1701(a)(8)
[3] 43 U.S.C. § 1702(c)
[4] 43 U.S.C. § 1732(b)
[5] 43 U.S.C. § 1712(c)(3); id. § 1701(a)(11); see also id. § 1711(a) (requirement to maintain an inventory of public land resources and values)

- An accounting of activities pursuant to the revised recovery plan that BLM is responsible for and has completed and related outcomes; and
- Anticipated impacts to MDT habitat under climate change scenarios.

B. Describe science-based criteria for identifying project areas

We conceptually support BLM's approach of identifying project areas for targeted recovery actions. However, we cannot tell from the text in the plans how exactly BLM arrived at the 26 focal areas and why BLM asserts that aggregately targeted actions in these areas will substantially contribute to MDT recovery.

BLM describes its process for identifying project areas in the strategic and action plans. The strategic plan explains that BLM decided that project areas

> "should not only be identified within areas most in need of intervention, nor solely in areas with the highest level of protection. Rather, the range of project areas should realistically reflect the diversity of conditions and management priorities that BLM managers and biologists face on public lands within their jurisdictions. Identifying project areas in this way highlights different management opportunities according to existing conditions and priorities. This approach presents a coherent set of project areas and management options across the range, while allowing for flexibility in the 'portfolio' of management priorities identified by each field and state office."[6]

We are not clear why BLM established that the targeted recovery areas (that is, the project areas) should reflect the diversity of conditions and opportunities. Given the urgency of the MDT situation, it makes more sense to design the project area selection criteria so that the resultant network of project areas, if aggressively managed for restoration and protection, would thwart MDT decline.

The action plan goes on to explain that to delineate project areas, BLM 1) considered where MDT management and recovery actions were historically implemented or where actions should be implemented, and 2) identified specific areas where they think continuation of these actions holds significance for species status improvement.[7] The action plan also provides a diagram for evaluating climate change implications of project area boundaries, but does not actually explain how the process was applied and to what effect.[8] Furthermore, the climate change section of the action plan only contains topics to "consider" for increasing climate adaptability. The action plan should include actual concrete climate adaptation strategies, and should provide more specificity on when and where to implement these strategies. BLM should prioritize actions that reduce or eliminate other threats in climate change refugia areas.

While we recognize that the identification of project areas no doubt reflects BLM staff's expertise on public lands and the MDT, it is important to establish and apply science-based criteria to eliminate pre-existing biases and ensure the most important factors are considered. We therefore recommend

[6] Strategic plan at 12.
[7] Action plan at 8-9.
[8] *Id.* at 21.

that BLM establish clear science-based criteria and apply the criteria to refine project areas accordingly.

C. Restructure and refine goals and objectives and add targets by which progress can be evaluated

Goal 1 is to conserve MDT populations on BLM lands through management actions that contribute substantially to the recovery of the species over a 10-year period. Goals 2-4, respectively, are to increase success through collaboration, prioritize budget and staffing, and effectively communicate BLM's recovery efforts.

Goals 2-4 are strategies (aka objectives in the strategic plan) for achieving Goal 1. BLM should rework the goals and objectives accordingly.

The goals – and the plans more generally – focus on restorative activities (e.g., remove illegal routes, eradicate invasive species) in priority areas. While these activities are vital, their effects will be thwarted if the plans do not address threats as well. For example, BLM may expend resources restoring MDT habitats only to have them subsequently damaged by unauthorized off-highway vehicle (OHV) recreation; and eradication of invasive species is often short-lived unless the sources are reduced or eliminated. Thus, we recommend that BLM add the following goal that addresses threats: "BLM decisions that affect MDT habitats or populations will contribute to MDT conservation and recovery." This goal should not be limited to project areas but should apply across all MDT habitat administered by BLM.

None of the strategies address climate change, a major threat to the MDT because of hotter and drier climate regimes and resultant increase in fire and invasive plants and decline in native perennial plant diversity. We recommend BLM add strategies that specifically address applying high levels of protection to climate refugia and connectivity habitats, as well as protecting new habitats that will emerge as the climate shifts ecosystem locations.

D. If BLM cannot explain how the project areas and prescribed actions will achieve Goal 1 (substantially contribute to the MDT recovery over ten-years) based on credible science, BLM must strengthen both plans to deliver on this goal

The plans provide no evidence or explanation as to why BLM believes that the prescriptions in the strategic and action plans will result in substantial contributions to the recovery of the MDT in the next ten years (Goal 1). Based on recent population data,[9] habitat trends and BLM management history, we believe that meaningful reduction or elimination of threats in project areas within ten years will require BLM to implement more aggressive approaches to reversing ongoing MDT population declines. We recommend that project areas receive biological reserve-level management where all land use activities known to impact the MDT and its habitat are eliminated and stringently enforced. An example is the Desert Tortoise Research Natural Area (DTRNA) in the Fremont-Kramer North Project Area, where all vehicle use, livestock grazing and mining have been prohibited since approximately 1977. Importantly, the DTRNA is the only known area in the Western Mojave where the MDT population is increasing. A study by Berry et al. (2014) found that the DTRNA had significantly more live tortoises and lower death rates than the other two adjacent

[9] Appendix 1 to this letter.

areas, including the Fremont-Kramer Critical Habitat Unit (CHU). Specifically, the authors found 14 live tortoises on study plots – 12 in the DTRNA and only two in the adjacent CHU where OHV recreation is widespread and intense. In addition, juvenile and immature tortoises were observed only within the DTRNA.

IV. Recommendations for strengthening the action plan for expediting and advancing MDT recovery

A. Provide a prioritized list and timeline for actions related to the objectives put forth in the strategic plan that are not linked to a specific project area

The action plan does not specify actions, priorities and timelines related to strategies that are not linked to a specific project area. For instance, the action plan does not list actions related to Goals 2-4 and for some actions under Goal 1, such as developing native seed supplies. We recommend BLM add a section to the action plan that specifies timebound actions operationalizing concepts in Goals 2-4.

B. Include a monitoring framework with specific timebound targets, indicators and thresholds for success and monitoring, and a coordinated reporting platform that is transparent to the public.

We appreciate the sections in the plans that discuss the importance of monitoring and adaptive management. However, we are concerned that the action plan does not specify monitoring actions and does not identify indicators, thresholds and triggers (broadscale and project area scale). While the strategic plan mentions Vegetation Management Action Portal (VMAP) as a reporting platform, VMAP is not yet deployed. Further, it is not clear if VMAP will provide a useful way to evaluate MDT recovery projects and outcomes. We recommend that BLM include timebound actions in the action plan related to monitoring, adaptive management and reporting.

C. Provide more information on the 26 project areas along with rationales for their selection

We appreciate that BLM is striving to focus recovery actions on specific areas that might serve as MDT population anchors. As stated in the section on the strategic plan above, it is difficult to understand how and why BLM chose the 26 project areas. One way to shed light as well as provide more context for the list of project area actions is to provide a summary of each project area that explains the importance of that habitat to MDT recovery; the condition of the habitat; primary threats, barriers and opportunities to MDT persistence and recovery; current resource management plan (RMP) direction; and historical and ongoing recovery actions and their effect.

In addition to providing this contextual summary, we also recommend that BLM refine the list of projects by assigning priorities, specific timelines and costs to each project. As written, the draft plan does not prioritize projects (or sites within project categories), provide specific timeframes for each (most of the items just say "1-10 years") or identify specific outcomes. Without this specificity, it may be hard for BLM staff to tackle the long list of projects for each project area or to know which are the most important ones to prioritize to expedite MDT recovery.

Finally, related to the comment above about monitoring, each project area description should include specific monitoring and reporting actions that are tied to the broadscale MDT monitoring and reporting framework.

D. List of projects needs more consideration

1. Add travel management planning and native seed needs planning to project categories and project area action lists

The action plan at 15 provides a list of project categories. We recommend adding or refining some of these categories. First, while "access regulation" is included in the list, it is used in the project area descriptions for route signage and fencing and not for travel management (see Table 3 that specifies this). In our experience, both are necessary; travel management decisions make the threshold decisions to allow or not allow specific types of vehicles and in what way, and subsequent enforcement of that decision involves putting up signs, law enforcement patrols, rehabilitating closed routes, installing barrier fences, etc. We recommend that BLM add travel management planning to its list of project categories and to project area action lists in relevant areas.

Second, habitat restoration requires revegetation with genetically appropriate native seed. Yet, we see native plants mentioned in only 8 of the 26 project areas and we do not see any actions related to native seed supply planning. BLM has a Mojave Desert Native Plant Program that has crafted a thoughtful five-year strategy (FY 2022-2026) for cultivating a native seed supply for ecological restoration. Goal 3 of that plan is "Develop decision-making tools to assist managers with making scientifically informed ecological restoration decisions." Objective 3.2 is "Assist field staff in planning for future project seed needs so they can acquire genetically and ecologically appropriate native seed for their restoration projects." We recommend that BLM coordinate these two planning efforts more substantially, and one way to do that is to add native seed needs planning to the list of project types and to project area action lists so that seed for native plants is available for habitat restoration projects.

2. Reconsider where land use plan amendments are needed

For only three of the 26 project areas is land use planning identified as a need. Two project area lists include land use planning for the purpose of converting solar variance areas to solar exclusion areas in southern Nevada[10] and the third project area lists land use planning but provides no additional information. This means that BLM is not considering additional protections, for instance, through ACEC designations or modifying authorized uses (e.g., shifting from limited off-road use to closed to off-road use) to curb the MDT's extinction trend and facilitate recovery.

Table 2 lists the guiding plans including RMPs. Eight of the nine RMPs listed in the table are out of date (that is, at least 15 years old). Given the ages of the RMPs, we recommend that BLM take another look at the RMP prescriptions and the authorized uses and activities for each project area and consider if land use plan amendments are warranted.

E. Strengthen projects to address off-road vehicles and industrial solar energy development

[10] This amendment presumably is already underway as part of the Western Solar Plan revision.

Although numerous threats to the MDT are known to occur rangewide and in different intensities among the critical habitat units and associated focal areas, we recommend that OHV recreation and solar energy project development receive greater attention in both plans.

1. OHV recreation is having a profound effect on MDT

    a. Background on OHV damage in MDT habitat

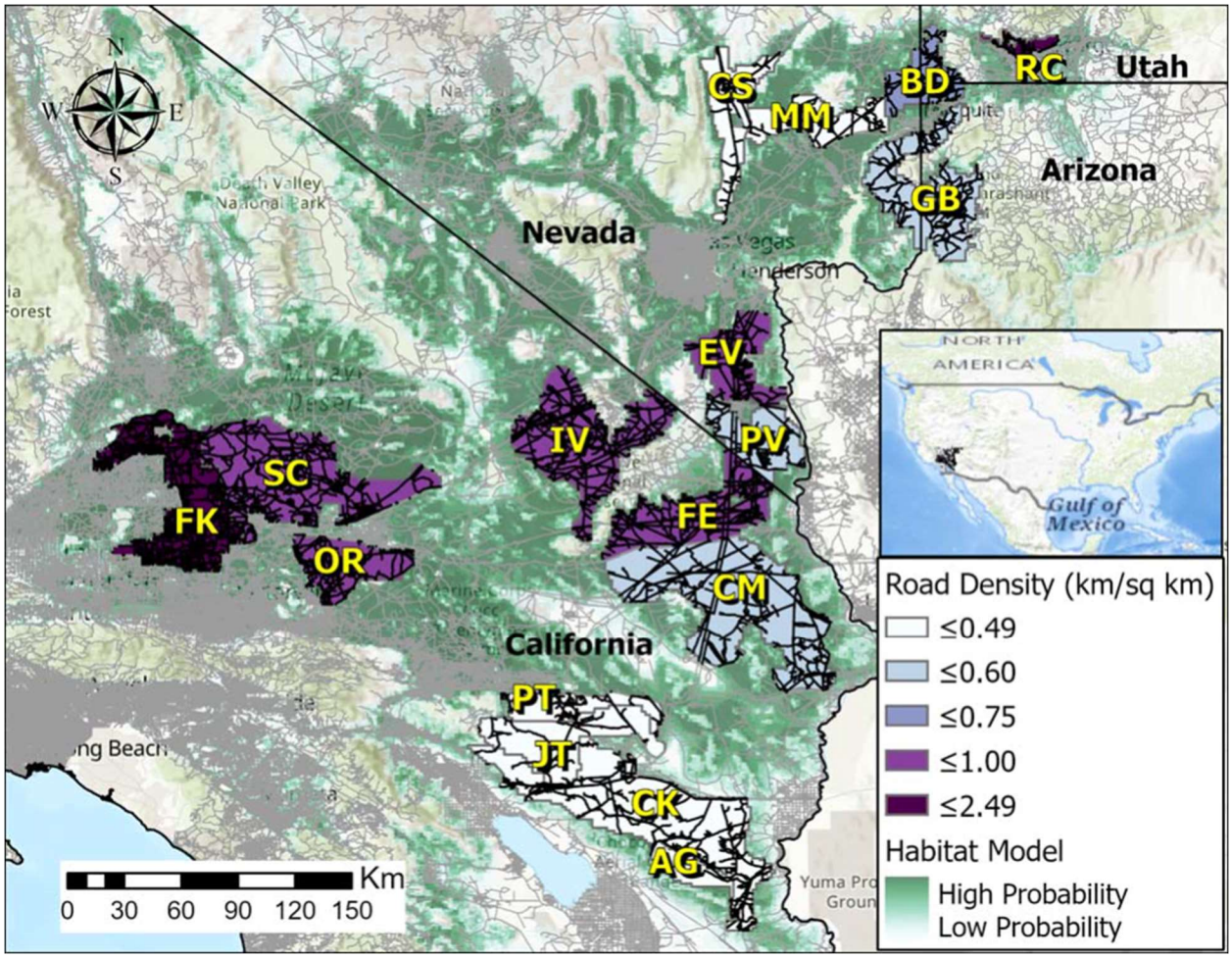
OHVs harm and kill MDT through fragmentation and destruction of habitat and direct mortality. OHV use occurs throughout much of the MDT habitat, and results in an array of habitat impacts, including but not limited to: damaging and crushing burrows that may or may not be occupied; releasing captive tortoises that carry diseases; damaging biotic soil crusts that then facilitates the germination of non-native plants; damaging soil crusts that results in reduced soil moisture and reduced survival of established native plants; compacting soils that prevent the germination of seeds of native plants; damaging or killing native woody plants needed by the MDT for protection from thermal extremes and cover from predators; subsidizing tortoise predation by providing food, trash, and road kill that attracts ravens and other tortoise predators to the area; creating fugitive dust because of damaged soil crusts that inhibit photosynthesis and increase leaf temperature, thus reducing native vegetation growth and seed production; transporting seeds from non-native plants in the tires, wheels and frames of vehicles to all areas of the desert thereby resulting in proliferation of non-native plants; and reducing native annual vegetation needed by the MDT for adequate nutrition and moisture.

Motorized activity is having a profound adverse impact on the MDT. For instance, looking at the Western Mojave Recovery Unit as one example, widespread and intense OHV recreation is occurring in eight project areas within this Recovery Area (Fremont-Kramer North, Fremont-Kramer South, Jawbone-Butterbredt, Ord-Rodman East, Ord-Rodman South, Ord-Rodman West, Superior-Cronese East and Superior-Cronese West project areas). BLM designated over 5,000 miles of dirt roads and trails as open to OHV use in this area (currently in litigation). In addition, a substantial amount of unauthorized OHV use occurs cross-country and on closed routes resulting in the creation of new routes – an activity that BLM has been unable to effectively control. Another area of heavy OHV use and a high density of routes is in the Piute-Eldorado Valley CHU in southern Nevada, where BLM documented nearly all closed routes are routinely used for OHV recreation.

Line-distance sampling by the U.S. Fish and Wildlife Service has documented significant declines in densities of adult MDT, with populations in the Western Mojave Recovery Unit declining at an annual rate of 7.1 percent for a total decline of 51 percent between 2004 and 2014 (Allison and McLuckie 2018). Line-distance sampling was performed in CHUs where, in theory, protection is higher, suggesting that declines outside of critical habitat are much greater.

More generally, Averill-Murray and Allison (2023) found that all BLM resource management plans throughout the range of the MDT failed to account for road and trail density, and that populations declined within all conservation areas with road densities greater than 0.75 km/km^2. They calculated

road (paved, maintained and unmaintained dirt) density[11] within desert tortoise critical habitat units and prepared the route density map, below.



Road density was highest in the Fremont-Kramer CHU at 1.57 km/km^2, with the Superior-Cronese, Ord-Rodman, Ivanpah Valley, Fenner and Eldorado Valley at 1.0/km^2, all exceeding the recommended maximum density of 0.6 km/km^2. Averill-Murray and Allison recommended that road densities of less than 0.6 km/km^2 may be necessary in areas with particularly sensitive, declining or threatened species, such as the MDT.

A study by Tuma et al. (2016), contracted by the BLM, modeled the effects of OHV recreation on MDT populations in portions of the West Mojave Recovery Unit and within the Superior-Cronese CHU and Superior-Cronese West Project Area. Tuma et al. concluded that human access to desert environments along OHV routes and OHV recreation in the area had a larger effect in limiting

[11] Their inventory did not include motorcycle trails, so road and route density is likely in reality to be much higher than reported. Also, we use the term road density here as it is used by the authors. The authors used TIGER data which does not capture many routes on public lands including OHV trails.

populations than any other threat. The authors recommended closure of routes to make areas supporting MDT populations and habitats more remote and less accessible.

BLM documented opportunistic observations of MDT killed by OHVs on designated open routes within and outside CHUs in the Western Mojave and reported them to the U.S. Fish and Wildlife Service as required by the West Mojave Plan route designation project's biological opinion. BLM reported the following roadkill mortalities as one form of direct take of tortoises:

- 4/26/2016: Subadult roadkill on BLM open route, Western Mojave Recovery Unit, Ord-Rodman CHU
- 3/20/2017: Juvenile roadkill on BLM open route, Western Mojave Recovery Unit, Fremont-Kramer CHU
- 10/14/2017: Adult roadkill on BLM open route, Western Mojave Recovery Unit, El Mirage Management Area
- 3/26/2018: Juvenile roadkill on BLM open route, Western Mojave Recovery Unit, Fremont-Kramer CHU
- 3/30/2018: Adult roadkill on BLM open route, Western Mojave Recovery Unit, Fremont-Kramer CHU
- 4/29/2019: Adult roadkill on BLM open route, Western Mojave Recovery Unit, Ord-Rodman CHU
- 8/26/2019: Juvenile roadkill on BLM open route, Western Mojave Recovery Unit, Ord-Rodman CHU
- 8/26/2019: Adult roadkill on BLM open route, Western Mojave Recovery Unit, Ord-Rodman CHU
- 9/5/2019: Adult roadkill on BLM open route, Western Mojave Recovery Unit, Ord-Rodman CHU
- 3/9/2020: Adult roadkill on BLM open route, Western Mojave Recovery Unit
- 4/3/2020: Adult roadkill on BLM open route, Western Mojave Recovery Unit
- 4/20/2020: Juvenile roadkill on BLM open route, Western Mojave Recovery Unit
- 4/26/2020: Subadult roadkill on BLM open route, Western Mojave Recovery Unit, Ord-Rodman CHU
- 5/5/2020: Juvenile roadkill on BLM open route, Western Mojave Recovery Unit
- 8/8/2020: Adult roadkill on BLM open route, Western Mojave Recovery Unit, Spangler Hills OHV Open Area

Actual direct mortalities are likely much higher than reported because the mortality observations were opportunistic observations rather than from systematic, science-based monitoring. Other forms of direct mortality facilitated by OHV use include collection, vandalism and gunshots.

Finally, studies have shown that signing areas and routes as closed to OHV recreation use are largely ineffective. Berry et al. (2014) reported that the BLM found that signing was ineffective in preventing unauthorized OHV use in the DTRNA and determined that fencing was needed. The BLM also found that signs directing OHV use to existing open routes were ineffective in the Fremont Valley and Rand Mountains, which are within the Fremont-Kramer North Project Area. As

a result, BLM formally closed the area to OHV use until additional fences and signs were installed. Once reopened, the unauthorized OHV use continued, forcing BLM to close the entire area while restoration of unauthorized routes was implemented.

b. Recommendations for strengthening action plan to reduce OHV impacts

Given that OHV use and road density is a serious issue across the MDT range, the strategic and action plans should call for a more aggressive approach to reducing MDT impacts from roads and OHV use. We recommend that BLM add the following types of projects as prescribed actions for project areas where OHV use and travel systems are not adequately protective of MDT:

- **Travel management planning and land use plan amendments** that shift OHV area designations to benefit the MDT;
- **Utilize BLM's mandate to immediately close areas to OHV** use when BLM determines that it is causing or will cause considerable adverse effects;[12]
- **Seek more severe penalties for noncompliance** with travel management requirements and more law enforcement presence (which could be through cooperative agreements with state and local governments); and
- **Engage OHV clubs in MDT restoration and conservation activities** so that they are more likely to pressure their peers when they witness illegal or damaging behavior.

We also recommend that BLM apply the findings of Averill-Murray and Allison in each of the project areas and specify actions that will be taken to achieve a density of less than 0.6 km/km^2 of roads and OHV routes in all areas where MDT densities are declining and below minimum viable density.

2. Utility-scale solar energy development is a serious threat to MDT

Numerous solar energy projects have been proposed and approved by BLM and located on relatively undisturbed habitat for the MDT. Those in southeastern California have very low densities of MDT, but those in southern Nevada have been located in high quality habitat supporting relatively large numbers of MDT and were identified as priority habitat linkages by the U.S. Fish and Wildlife Service in its comments to BLM on the 2012 Western Solar Plan.[13] In the comment letter, the U.S. Fish and Wildlife Service recommended that solar energy projects on public land be excluded from Priority 1 and 2 habitat linkages for the MDT, totaling over 1.6 million acres. BLM's final plan excluded only 515,000 acres of these priority linkage habitats, leaving approximately 1.2 million acres available for solar energy project development on Variance Lands. These 1.2 million acres are comprised of habitats with a modeled suitability rating of 0.6 to 1.0 on a scale of 0-1.0 based on the 2009 U.S. Geological Survey habitat model (Nussear et al. 2009).

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[12] 43 CFR 8341.2 ("…where the authorized officer determines that off-road vehicles are causing or will cause considerable adverse effects upon soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability, other authorized uses, or other resources, the authorized officer shall immediately close the areas affected to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures implemented to prevent recurrence…")

[13] U.S. Fish and Wildlife Service. May 6, 2011. Memorandum to Director, BLM from Director, U.S. Fish and Wildlife Service: Comments on the Bureau of Land Management/Department of Energy Draft Programmatic Environmental Impact Statement for Solar Energy Development. Washington, D.C.

In the May 2022 MDT status review, the U.S. Fish and Wildlife Service reported that developed or approved utility-scale solar energy projects would directly impact 74,491 acres of MDT habitat outside of designated CHUs. This total includes approximately 23,700 acres of priority linkage habitat lost in California and Nevada though 2021.

We recommend that the action plans specifically call for land use plan amendments that exclude future solar energy projects from Priority 1 and 2 habitat linkages. We note in the draft action plan that this recommended action is included in the Amargosa/Crystal Project Area and the Indian Springs/Pahrump Project Area, the latter of which has been identified by BLM as the most critical habitat linkage in southern Nevada. However, the Ivanpah/Shadow Valley/Clark Mountain, Dry Lakes Valley, and Gold Butte/Pakoon/Virgin Slope project areas also appear to include Priority 1 or 2 linkage areas where solar development is not excluded and the project lists for these areas do not include land use plan amendments. BLM is preparing an Environmental Impact Statement for the proposed Bonanza Solar Project located on approximately 2,600 acres of public land located near Indian Springs and within a Priority 1 habitat linkage for the MDT.

The action plan should also reference and crosswalk to the land use amendments that are currently underway as part of the revision of the programmatic Western Solar Plan.

F. Consider doing one NEPA analysis for each project area

The project area project charts include a column entitled "regulatory compliance." The charts denote a few projects have been included in recent environmental reviews pursuant to National Environmental Policy Act (NEPA), but mostly the charts say "TBD" in this column indicating that BLM has not initiated environmental reviews and compliance.[14] We recommend that BLM consider developing project area-wide, ten-year NEPA documents when it makes sense to gain efficiencies and facilitate analysis of the aggregate impact of all the projects on MDT habitats and populations. Further, where RMPs need amending, BLM can use one NEPA document for both the plan amendment and the projects.

G. Comments on specific project areas

We have reviewed the project area reports in the action plan and offer the following comments and recommendations.

Fremont-Kramer North Project Area: This area includes the DTRNA, an area that has received protection by BLM since 1976 and was designated as an ACEC in 1980. As noted above, it is the only known area on public lands in the Western Mojave where the MDT population is known to be increasing. Among the many projects proposed for the DTRNA is tortoise translocation. **The DTRNA management plan prohibits augmentation of the natural population, so this action should be removed**. This prohibition was intentionally included in the management plan so that the MDT population response to full protective management could be documented over time.

Widespread and intense OHV recreation has impacted the Fremont Valley and Rand Mountains for decades, even though it is within the Fremont-Kramer CHU. BLM long-term study plots and subsequent line-distance sampling have documented severe declines in MDT throughout the area

[14] Some projects (e.g., replacing signs, law enforcement, native seed strategies) will not require NEPA analysis or other types of compliance and the chart should reflect that.

and MDT are now essentially absent in certain areas. Aggressive law enforcement and further reduction of open routes, including closure of the entire Western Rand Mountains ACEC to OHV use, is strongly recommended.

The California Department of Fish and Wildlife (CDFW) has approximately 4,000 acres of land acquired in fee title or with conservation easements within Ecological Reserves within the project area. These lands were acquired for conservation of the MDT and other species and are being impacted by OHV use originating on BLM managed public lands, even though OHV use is a prohibited activity on CDFW lands. CDFW's interactive lands viewer is available here: https://apps.wildlife.ca.gov/lands/.

BLM should seek CDFW's input and recommendations for management of OHV use so that its Ecological Reserve lands are effectively protected from OHV use.

Rose Valley/Indian Wells Project Area: This narrow, north-south oriented project area connects the eastern Sierra Nevada slope with Rose Valley to the north and is not designated critical habitat. The MDT population is very low in Rose Valley and likely not present to the south to approximately Indian Wells Valley. BLM designated about 22,000 acres in Rose Valley as a Development Focus Area for geothermal leasing and development in 2019, despite the area being formerly designated as a conservation area for the threatened Mohave ground squirrel.

We are unaware of any reports of MDT crossing Highway 395 or reportedly killed by vehicles in this area. Given the low probability that the MDT occur in this area, BLM should consider removing it as a project area and devote the time and funding to other higher priority areas within CHUs.

Superior-Cronese East Project Area: This large area of critical habitat is centered around Alvord Mountain, with Fort Irwin to the north and Interstate 15 to the south, which has tortoise barrier fence installed. This area has high potential to support recovery of the MDT provided that OHV use is prohibited in large portions of the area. Simply signing and rehabilitating closed routes is insufficient.

We contacted Transition Habitat Conservancy and it does not have any projects in this area, but it is included as a focus area under the Recovery and Sustainment Partnership where funding from the Department of Defense will support projects to improve MDT habitat and populations. Nearly 50 percent of the habitat in the area is owned by the U.S. Army, which it purchased in approximately 2005 to help compensate for impacts on the MDT from Fort Irwin expansion. Since these acquired lands were to be dedicated to recovery of the MDT, BLM should work closely with the Army to develop, implement and monitor projects that fully protect these lands from any activity that poses a risk to the MDT.

Superior-Cronese West Project Area: This area is centered around the Mud Hills and Black Mountain, where the very highest density desert tortoise populations were identified by BLM in the 2005 West Mojave Plan. CDFW owns approximately 15 square miles of habitat within its West Mojave Desert Ecological Reserve. In addition, the U.S. Army owns over 30 square miles of habitat in the area, which it purchased in 2005 to partially offset impacts of expanding Fort Irwin on the MDT. Because these acquired lands are mitigation lands that were to be dedicated to recovery of the MDT, BLM should work closely with the Army to develop, implement and monitor projects that

fully protect these lands from any activity that poses a risk to the MDT. As in the Superior-Cronese East Project Area, Transition Habitat Conservancy has no projects in this area.

Trona/Panamint Valley Project Area: This area is outside of critical habitat and a large portion is located in Panamint Valley, which is largely void of the MDT, which we recommend be excluded from the project area. The northern extent of the area should be Slate Range Crossing, corresponding to the divide between upper Searles Valley and Panamint Valley. The portion in northern Searles Valley should be retained because many MDT have been observed crossing the paved road, with many killed by vehicles or by firearms (Aardahl, personal observation).

Fenner/Ward Valley Project Area: This large area is relatively remote and includes expanses of high-quality critical habitat. A large portion is within the Mojave Trails National Monument, designated in 2016. The Lazy Daisy grazing allotment occurs in the area and BLM has authorized 266 cattle to use the allotment on a yearlong basis for many decades. We are unaware of cattle drifting into the area from the Mojave National Preserve, located to the north.

Lands within the Mojave Trails National Monument are part of BLM's National Conservation Land System. Under provisions of the John D. Dingell Act of 2019[15], certain land uses are prohibited on lands that BLM acquired with funds from the Land and Water Conservation Fund (LWCF) or donated to BLM for conservation purposes:

- Disposal
- Rights-of-way
- Leases
- Livestock grazing
- Infrastructure development [with exceptions described in section 714(c)]
- Mineral entry
- Off-highway vehicle use except on designated routes or in designated off-highway vehicle areas and open areas

BLM acquired approximately 267,000 acres of land within Mojave Trails National Monument that had previously been acquired by The Wildlands Conservancy and donated to the BLM (The Wildlands Conservancy 2021). These lands were acquired with both LWCF and private funds.

In an annual report to the Palm Springs Field Office of the U.S. Fish and Wildlife Service BLM (2020) documented MDT mortality associated with motor vehicle use in the California Desert Conservation Area based on casual observations. Mortalities within the Chemehuevi and Fenner CHUs were included, which are documented below.

Critical Habitat Unit	Date	Tortoise Age Class	Type of Vehicle Use
Chemehuevi	4/11/2018	Juvenile	So. Calif. Gas Co. on R/W

[15] https://www.govinfo.gov/content/pkg/PLAW-116publ9/pdf/PLAW-116publ9.pdf

Critical Habitat Unit	Date	Tortoise Age Class	Type of Vehicle Use
Chemehuevi	3/24/2019	Juvenile	Casual OHV on Open Route
Chemehuevi	5/14/2019	Subadult	Casual OHV on Open Route
Chemehuevi	4/17/2020	Juvenile	PG&E on R/W
Chemehuevi	5/2/2020	Subadult	Casual OHV on Open Route
Fenner	5/8/2020	Juvenile	Casual OHV on Open Route

In a study of the effects of roads on 166 species of reptiles and amphibians in California, Brehme et al. (2018) found that the MDT ranked as at extremely high risk of mortality due to the effects of roads and fragmentation of its habitat. We recommend that BLM close roads and trails in the Chemehuevi and Fenner CHUs to vehicle use during precipitation events in the spring and fall seasons, and close roads and trails that are redundant or not needed to provide basic access. The need for such temporary closures is highlighted in a report from Corn (1994), where he described desert tortoises drinking water pooled in a dirt road in Ivanpah Valley, California:

"[S]urface activity of tortoises increases after rains. Differences in activity can be drastic. For example, one biologist observed 40 tortoises while driving along a 6.6-km stretch of dirt road in the Ivanpah Valley, California, during a rainstorm on 28 April 1980. Two days later the ground was still damp, but four people observed only two tortoises during several hours of laying out a study grid."

BLM should also remove livestock watering facilities and holding corrals if they are located within the Chemehuevi and Fenner CHUs, and restore habitat lost due to livestock and vehicle access routes.

Amargosa/Crystal Project Area: This project area is located within the Eastern Mojave Recovery Unit and managed by BLM's Las Vegas Field Office, although it is not designated as critical habitat. The recommended action is to designate the area as closed to solar energy projects through an amendment to the 1998 Las Vegas RMP, which should receive the highest priority given its original date and the amount of unforeseen solar development within the RMP area. The U.S. Fish and Wildlife Service recommended excluding this area from solar energy development in its comments to BLM on the 2012 Western Solar Plan because of its importance in connecting MDT populations in CHUs.[16] We support this recommended action and encourage BLM to amend the Las Vegas RMP to designate this area as an exclusion area for solar energy projects.

Indian Springs/Pahrump Project Area: This project area is within the Eastern Mojave Recovery Unit and managed by BLM's Las Vegas and Pahrump field offices. Although not designated as critical habitat, it is located within Priority 1 and 2 connectivity habitat for the MDT identified by the U.S. Fish and Wildlife Service in its comments to BLM on the Western Solar Plan. Among the recommended actions is to amend the Las Vegas RMP by designating the area as closed to future

[16] https://solareis.anl.gov/documents/fpeis/maps/FWS_Desert_Tortoise_Connectivity.pdf

solar energy projects. We support this action because numerous solar energy projects have already been approved, are undergoing environmental review or have been proposed in this area. One example is the Bonanza solar project located on 2,567 acres of public land near Indian Springs. The Project is also located within a Priority 1 habitat linkage[17] for the MDT which were observed on the site during protocol surveys performed in October 2021.

Ivanpah/Shadow Valley/Clark Mountain Project Area: This project area is located within the Eastern Mojave Recovery Unit and managed by BLM's Las Vegas and Needles field offices and includes both critical and non-critical habitat. The portion of the area in Ivanpah Valley in California and Nevada has been heavily impacted by large-scale solar energy projects covering many thousands of acres (Ivanpah SEGS, Stateline, Silver State North and Silver State South); and thousands of MDT have been lost or translocated from the project areas. In addition, intense and widespread OHV recreation occurs within the Nevada portion of the area, centered around the town of Primm and extending north to at least Jean, Nevada.

One of the recommended actions is to rehabilitate closed OHV routes. We also recommend that BLM exclude this area from permitted high-speed OHV racing events, which are allowed in both critical and non-critical habitat for the MDT under the Las Vegas RMP. Roads and trails that are redundant or that do not provide basic access should be designated as closed to OHV use.

Beaver Dam/East Mormon Mountains Project Area: This project area is located within the Northeastern Mojave Recovery Unit and managed by BLM's Caliente, St. George and Arizona Strip field offices. It is defined by the boundaries of the Beaver Dam Slope ACEC in Nevada and Arizona and the Beaver Dam Wash National Conservation Area in Utah. The area also includes critical habitat designated in all three states. Portions of the project area are in Priority Habitat Linkages for the MDT as identified by the U.S. Fish and Wildlife Service in its comments to BLM on the 2012 Western Solar Plan. We recommend that the Priority Habitat Linkages be excluded from solar energy project development through amendments to the applicable resource management plans.

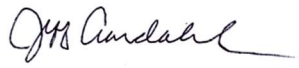
Gold Butte/Pakoon/Virgin Slope Project Area: This project area is located in the Northeastern Mojave Recovery Unit and managed by BLM's Las Vegas and Arizona Strip field offices. Its boundaries are defined by the Gold Butte ACEC in Nevada and Arizona. It includes the Gold Butte-Pakoon CHU. We consider complete and timely removal of cattle from the grazing allotment as the most important action for this area because the allotment has been closed for years and cattle continue to use the area in trespass.

Conclusion

We hope our comments and recommendations on the Draft Strategic and Action Plans are helpful in preparing final plans. Please contact one or both of us via email if you have questions or would like additional information.

[17] https://solareis.anl.gov/documents/fpeis/maps/FWS_Desert_Tortoise_Connectivity.pdf

Respectfully,



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Appendix 1 - Recent densities of adults in CHUs in California, Nevada, Arizona and Utah

Mojave Desert Tortoise Densities (Adult Tortoises per Square Km) reported by the Desert Tortoise Recovery Office of the U.S. Fish and Wildlife Service
Mojave Desert Tortoise Range-wide Monitoring | U.S. Fish & Wildlife Service (fws.gov)

California
Western and Eastern Mojave Recovery Units

Year	Critical Habitat Unit			
	Fremont-Kramer	**Superior-Cronese**	**Ord-Rodman**	**Ivanpah**
2016	Not surveyed	3.6	Not surveyed	Not surveyed
2017	4.1	1.7	3.9	Not surveyed
2018	2.5	Not surveyed	3.4	3.7
2019	2.7	1.9	2.5	2.6
2020	1.7	Not surveyed	Not surveyed	Not surveyed
2021	Not surveyed	Not surveyed	1.9	3.0

California/Nevada
Colorado Desert Recovery Unit

Year	Critical Habitat Unit						
	Chuckwalla	**Chemehuevi**	**Fenner**	**Piute Valley[18]**	**Chocolate Mountain Gunnery Range[19]**	**Pinto Mountains**	**Joshua Tree**
2016	Not surveyed	1.7	5.5	4.0	8.5	2.1	2.6
2017	4.3	Not surveyed	Not surveyed	5.9	9.4	2.3	3.6
2018	Not surveyed	2.9	6.0	Not surveyed	7.6	Not surveyed	Not surveyed
2019	1.8	Not surveyed	2.8	Not surveyed	7.0	1.7	3.1
2020	4.6	4.0	Not surveyed	Not surveyed	10.9	2.9	3.9
2021	2.6	Not surveyed	5.3	3.9	7.2	Not surveyed	Not surveyed

[18] Piute Valley is in Nevada as of 2011 when the Recovery Unit boundaries were modified. Fenner now covers Piute Valley in California.
[19] Managed by the Department of the Navy.

Nevada/Arizona/Utah
Northeastern Mojave and Upper Virgin River Recovery Units

Year	Critical Habitat Unit					
	Eldorado	Coyote Springs	Mormon Mesa	Gold Butte-Pakoon	Beaver Dam Slope[20]	Upper Virgin River[21]
2016	2.7	4.2	2.1	Not surveyed	5.6	Not surveyed
2017	5.6	Not surveyed	Not surveyed	1.9	1.3	17.8
2018	Not surveyed	Not surveyed	3.6	2.3	5.1	Not Surveyed
2019	2.3	3.2	Not surveyed	Not surveyed	2.0	12.3
2020	Not surveyed	Not surveyed	Not surveyed	Not surveyed	Not surveyed	Not surveyed
2021	Not surveyed	Not surveyed	5.2	2.4	Not surveyed	11.5

[20] Beaver Dam Slope extends into Arizona.
[21] Entirely in Utah and within the Red Cliffs Desert Reserve monitored by Utah Division of Wildlife Resources.