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Via email

5 June 2023

Seth Flanigan, Project Manager
Bureau of Land Management
HQ-220
1387 S. Vinnell Way
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RE: Draft Programmatic Environmental Impact Statement Addressing Vegetation Treatments Using Herbicides (DOI-BLM-WO-2200-2022-0001-EIS)

Dear Mr. Flanigan,

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 that you email to us 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 had been documented. A recent rigorous rangewide population reassessment of *G. agassizii* (*sensu stricto*) has demonstrated continued adult population and density declines of about 90% over three generations (two in the past and one ongoing) in four of the five *G. agassizii* recovery units and inadequate recruitment with decreasing percentages of juveniles in all five recovery units."

This status, in part, prompted the Council to join Defenders of Wildlife and Desert Tortoise Preserve Committee (Defenders of Wildlife et al. 2020) to petition the California Fish and Game Commission in March 2020 to elevate the listing of the Mojave desert tortoise from threatened to endangered in California.

Given the location of the proposed project in habitats likely occupied by Mojave desert tortoise (*Gopherus agassizii*) (synonymous with Agassiz's desert tortoise), our comments pertain to enhancing protection of this species during activities funded, authorized, or carried out by the Bureau of Land Management (BLM), which we assume will be added to the Decision Record for this proposed action. Please accept, carefully review, and include in the relevant project file the Council's following comments for the proposed action.

Description of Proposed Action

BLM has identified two alternatives in the Draft Programmatic Environmental Impact Statement (Draft PEIS), the No Action Alternative and the Preferred Alternative, to allow the use of seven proposed active ingredients on BLM-Administered Lands**.**

No Action Alternative – BLM would implement an integrated vegetation management program for resource management and habitat enhancement using the 21 active ingredients approved in the decision records for the 2007 and 2016 PEISs to manage competing and unwanted vegetation. BLM (2016) estimated that approximately 932,000 acres in the western US would be treated annually using active ingredients. Herbicide use data from BLM's Pesticide Use Reports from 2015, 2018, and 2021 reported that the annual acreage treated with herbicides ranged from 383,000 acres to 566,000 acres. The extent of acreage treated was dependent on funding and incidence of wildfires. Acreage of BLM-administered lands treated using active ingredients will increase from current levels, but it will not exceed the 932,000-acre estimate from the 2007 and 2016 PEISs.

Preferred Alternative – BLM proposes to add seven active ingredients—aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin—to its list of approved active ingredients. BLM would add these active ingredients to its suite of tools for vegetation management. The ingredients could be used throughout BLM-administered lands, subject to applicable restrictions on their usage, such as those identified on the individual pesticide label and restrictions by each state's pesticide regulatory agency. Site-specific NEPA analyses would be required prior to on-the-ground use of the active ingredients. The U.S Environmental Protection Agency (USEPA) has registered all these

active ingredients. They also have been deemed effective in controlling vegetation, and they have minimal effects on the environment and human health, if used in accordance with label instructions.

BLM considered several other alternatives, but they were dismissed from further analysis for various reasons. Thes included:

- Using florpyrauxifen-benzyl, known by the trade name Rinskor™ – dismissed because neither the BLM nor the U.S. Forest Service have completed a Human Health and Ecological Risk Assessment (HHERA).
- Using NutraFix™ (Edaphix™ LLC) and various other proprietary soil amendments to control cheatgrass – dismissed because no peer-reviewed science exists regarding these products.
- Revisiting the alternatives analyzed in the 2007 and 2016 PEISs, which included no use of herbicides, no aerial application of new herbicides, and no use of acetolactate synthase-inhibiting (ALS-inhibiting) active ingredients – dismissed because no new issues related to these alternatives have been identified associated with the use of the seven active ingredients, and the effects would be the same as described in the 2007 and 2016 PEISs.
- Revisiting alternatives considered but not analyzed further in the 2007 PEIS. These included treating up to 25 million acres annually; treating fewer acres than are currently treated; not treating competing and unwanted vegetation; treating only acres needed to protect human health and safety; not conducting hazardous fuels treatments; revegetation with native vegetation; and excluding logging, grazing, off-highway vehicle use, and energy and mineral development on BLM-administered lands (BLM 2007, p. 2-22). None of these alternatives were suggested for analysis during public scoping for this PEIS.

Comments on the Draft Programmatic EIS

In the Introduction section of the Draft PEIS, BLM says, "[p]rotection of healthy, intact ecosystems provides the associated native plants and animals a better opportunity to persist and adapt compared with ecosystems that have already been converted to invasive annual grasses." "[E]ffective management of noxious and invasive plants is essential in maintaining ecological health on the 247 million acres administered by the BLM. The application of herbicides and their active ingredients to control these threats is an essential tool in that effort." We agree. However, we are concerned that BLM may be relying primarily on this one tool to reduce the threat of the spread and proliferations of invasive plants rather than implementing a suite of tools and management actions (i.e., integrated management for native vegetation) to control the current and future presence of noxious and invasive plants. For example, tools and management actions as part of an integrated management plan for native vegetation would include using other methods to (1) kill plants (e.g., used of directed energy), prevent seed germination, and halt plant reproduction, and (2) reestablish native annual and perennial plant species, and implement proactive management actions that prevent the spread of existing invasive plant species and introduction of new species (e.g., reducing surface disturbance, etc.). We request that the PEIS provide information on BLM's management directives and implementation for an integrated management program for native vegetation that uses various tools and management actions to effectively manage to control noxious weeds and invasive plants and manage for increased abundance and diversity of native vegetation.

Public Involvement

We learned about this proposed action from a third party. We have serious concerns about BLM's unwillingness to comply with the Council's repeated written requests to BLM that the Council be considered an Affected Interest for any BLM proposed action that may affect species of desert tortoises or their habitats. Since 2016, we have included this request in dozens of comment letters we have sent to BLM on various proposed actions analyzed under the National Environmental Policy Act (NEPA). When BLM did not comply with our requests, we sent certified letters in 2019 reiterating this request to BLM district managers in southern California, southern Nevada, western and southern Arizona, and southwestern Utah (the range of the Mojave desert tortoise and Sonoran desert tortoise) and several field managers. When most BLM district and field offices continued to not honor our request to notify us of BLM actions in tortoise habitat, we copied our comment letters with this request to the BLM state directors of these four states and the BLM director and assistant directors to ensure our request was received by upper management. Our belief was that upper management would then direct management and staff that they supervise to honor the Council's request and BLM would notify the Council of proposed actions in tortoise habitat. Apparently, our communication strategy was unsuccessful for this BLM proposed action. We conclude that communication within and among BLM field, district, and state offices and headquarters may need improvement to ensure public involvement in its proposed actions.

Alternatives and Issues

If BLM had informed the Council of the scoping period for the proposed action, we would have participated in the scoping for this Draft PEIS. We would have identified as an alternative to be analyzed revegetation with native species in conjunction with other management activities (integrated management of vegetation) to remove and control invasive plant species and restore the species diversity and abundance of native vegetation. We would have requested alternatives that substantially reduced activities that result in surface disturbance (e.g., grazing, off-highway vehicle use, renewable energy development, etc.) as surface disturbance is a substantial contributor in the Mojave Desert, to the establishment of invasive plants, so that native grasses and forbs are now intermixed with, or have been replaced by invasive, nonnative plant species (Drake et al. 2016). We believe the reason BLM provided for not analyzing these alternatives, these alternatives were not suggested for analysis during public scoping, is not a reason for dismissing these alternatives. We request that BLM issue a revised Draft PEIS that includes analyses of these alternatives as these are environmentally preferred over BLM's one action alternative.

Analyzing these alternatives would also ensure that BLM complied with NEPA implementing regulations - 40 Code of Federal Regulations (CFR) 1500.2(e) "Use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment," and 40 CFR 1502.14 (a) "Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits. (c) Include reasonable alternatives not within the jurisdiction of the lead agency" and "(e) Identify the agency's preferred alternative

or alternatives, if one or more exists, in the draft statement…" These regulations indicate that more than one action alternative should be analyzed in an EIS. We request that BLM revise the PEIS to include more than one action alternative.

Affected Environment and Environmental Consequences

Ecological Risk Assessment: In the Draft PEIS, BLM says the HHERA is available online at the BLM's ePlanning website for this project (page 1-3) (https://eplanning.blm.gov/eplanning-ui/project/2017138/570). We were unable to find the Human Health and Ecological Risk Assessment (HHERA) for the seven active ingredients in the Preferred Alternative. We found the Scoping Report for Vegetation Treatments Programmatic Environmental Impact Statement, the Draft Programmatic Environmental Impact Statement Addressing Vegetation Treatments Using Herbicides, and the PowerPoint presentation entitled Draft PEIS for Approval of Herbicide Active Ingredients for Use on Public Lands. BLM should provide the HHERA, as it states it would, for public review to determine whether its analysis was sufficiently broad to include all exposure pathways, wildlife guilds (e.g., herbivores, etc.), and physiological and developmental differences among classes of animals.

Resource Issues Analyzed in the Draft PEIS: BLM discusses six resource issues or questions in this section on how the application and use of proposed active ingredients would affect:

- nontarget plant species, including special status plants
- the potential for herbicide resistance
- soil microbiology
- water quality
- pollinator habitat
- fire risk across the landscape.

In reviewing the Affected Environment and Environmental Consequences chapter in the Draft PEIS, we were unable to find an analysis of the impacts of the use of active ingredients or herbicides to wildlife species that are herbivores and omnivores. These animals would have exposure pathways to the active ingredients/herbicides from ingestion of treated plants. For example, for the Mojave and Sonoran desert tortoises, their physiology and behavior/ecology means there are multiple pathways for tortoises to be exposed to these active ingredients/herbicides. These pathways include:

- Ingestion of plants exposed to/coated with active ingredients/herbicides
- Intentional ingestion of soil (geophagy) and small rocks (lithophagy) treated with active ingredients/herbicides
- Inhalation of active ingredients/herbicides from sniffing plants, rocks, and/or soil treated with active ingredients/herbicides
- Inhalation of dust contaminated with active ingredients/herbicides when excavating/modifying a burrow
- Dermal/eye contact with plants, rocks, and/or soil exposed to active ingredients/herbicides.

The PEIS should include an analysis of impacts to wildlife herbivores and omnivores from all exposure pathways especially wildlife from all classes of vertebrates that are herbivores and omnivores.

Impacts of Active Ingredients vs. Herbicides/Adjuvants: BLM is specific in its description of the chemicals analyzed in the Draft PEIS. It uses the term "active ingredient" to describe a specific chemical that could be used to control vegetation. The term "herbicide" is used more broadly when discussing the general use of chemicals for vegetation control and may be used to denote a specific trade name or commercial formulation. We understand that many different herbicides may be marketed under trade names and have the same active ingredient(s). However, their impacts on wildlife species may vary because of differences in concentrations, combinations of active ingredients, and other ingredients (e.g., adjuvants, etc.) in their formulas.

The PEIS limits its discussion and analysis to the seven active ingredients found in herbicides and not all the ingredients in the herbicides. For example, for the herbicide Method 240 SL, its ingredients are 25 percent active ingredients of animocyclopyrachlor and 6-amino-5-chloro-2-cyclopropyl-4-pyrimidinecarboxylic acid and 75 percent "other ingredients." Is BLM claiming that there will be no impacts to wildlife from the 75 percent "other ingredients?" The "other ingredients" (e.g., surfactants or adjuvants used to deliver the active ingredients) may be dangerous to some wildlife species, with some of these compounds being labeled as strong eye or skin irritants. These effects may alter an animal's ability to successfully find food or avoid predators. California requires registration of adjuvants as pesticide products, but the U.S. Environmental Protection Agency does not (California Invasive Plant Council and Pesticide Research Institute 2015).

How these "other ingredients" would affect wildlife and whether there are synergistic impacts from the exposure/ingestion of a combination of active and other ingredients should be analyzed in the HHERA and summarized in the PEIS. Consequently, we request that BLM issue a revised Draft PEIS that includes analyses of the impacts of all the ingredients in the herbicides.

Many herbicide applicators add a "dye" to herbicides to delineate the areas sprayed with herbicides. The dye provides visual assurance that the herbicides are applied uniformly, with minimum overlap and no missed areas. Use of a dye helps to alert the operator of improper equipment operation. Several additives and adjuvants may be present in various dye formulations in addition to the colorant. We request that the Draft PEIS include an analysis of the dyes that are likely to be used with the active ingredients and other ingredients to determine the impacts of the various chemicals individually and in combination to herbivores and omnivores (e.g., Mojave and Sonoran desert tortoises).

Agency Coordination and Consultation: In Section "4.2 Agency Coordination and Consultation, 4.2.1 Endangered Species Act Section 7 Consultation, BLM says "[a] BA [biological assessment] evaluating the likely impacts to listed species (and species proposed for listing) and critical habitat from the preferred alternative and presenting programmatic level conservation measures to minimize impacts to these species, will be submitted to the Services for their review and comment." We appreciate BLM including information in the PEIS that it needs to complete section 7 consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service.

There is a section in the Draft PEIS entitled "Monitoring, Coordination, And Education. "This section discusses monitoring vegetation treatments to identify whether treatments are implemented appropriately and their effectiveness. This monitoring is imperative to determine the success of BLM's implementation of the vegetation treatments in its integrated vegetation management program. However, the impacts on wildlife species, particularly species status species, should also be monitored. We recommend that BLM develop and implement a scientific monitoring study that collects data on the presence of herbicide chemicals (e.g., blood or tissue samples) in special status species prior to using herbicides and at various times during and after treatments. This study would determine whether the exposure pathways in the HHERA were accurate in their predictions and whether chemicals from herbicide use are accumulating in various wildlife species. This would include Mojave and Sonoran desert tortoises.

Cumulative Effects

At the beginning of the Cumulative Effects section of the Draft PEIS for the first resource issue, BLM says, "past effects on vegetation (including native plant communities, non-timber special forest products, and special status plant species) are predominantly associated with fire exclusion and other natural disturbance regime alterations, timber harvest, vegetation management programs, and livestock grazing. These have altered native plant communities and have led to the introduction and spread of invasive species."

BLM continues its discussion of cumulative effects with, "[f]uture effects on vegetation include many of the same human activities that have altered native plant communities in the past. Populations of invasive species will continue to spread, and altered disturbance regimes will continue to cause large wildfires that further alter the vegetation in the western US. Disturbance drivers in the eastern US will continue to become more severe in response to climate change (USGCRP 2018); flooding, drought, and intense storms will similarly alter vegetation and facilitate the establishment and spread of invasive species."

We remind BLM that activities that BLM allows on lands it manages that result in surface disturbance, especially widespread surface disturbance such as the establishment of off-highway vehicle routes and their use, utility corridors and access routes and their use, mining and access to mine/mine processing sites, and more recently renewable energy development also result in alteration of native plant communities and introduction, spread, and proliferation of invasive plant species on BLM-administered lands.

In these two paragraphs above, BLM suggests that although BLM's past and current land management decisions have substantially contributed to the current problem with invasive plant species on BLM land, BLM does not intend to change the way it manages BLM-administered lands in the future. Consequently, the only or primary solution to reduce invasive plant species on BLM-administered lands is to use herbicides.

We strongly disagree with this premise and assert that BLM should also be making substantial changes to the activities it authorizes on BLM-administered lands that promote the introduction, spread, and/or proliferation of existing and new invasive plant species. These activities would

include any that involve vehicle use (spread of invasive plant propagules in the tires and undercarriage of vehicles) and surface disturbance. Avoidance should be the first form of mitigation required and maximized. When not feasible, the user should be required to fully mitigate the direct, indirect, and cumulative impacts of their actions with respect to invasive plant species. This would include both removal of invasive plant species and their seed banks and successful revegetation of native perennial and annual plants that do not provide a continuous cover that fuels large, intense, and frequent wildfires. Established native plants/soil microbes and absence of surface disturbance are conditions that impede the establishment of invasive plants. As mentioned earlier, BLM should emphasize that herbicides are not the solution but one tool in a suite of tools and management actions that BLM should be implementing for integrated management of native vegetation.

Although BLM included a cumulative effects section for each of the six resource issues, we believe BLM did not follow the Council on Environmental Quality's (CEQ) guidance for conducting this analysis. In the cumulative effects sections of the PEIS, please ensure the CEQ's "Considering Cumulative Effects under the National Environmental Policy Act" (1997) is followed. CEQ states, "Determining the cumulative environmental consequences of an action requires delineating the cause-and-effect relationships between the multiple actions and the resources, ecosystems, and human communities of concern. The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects." The analysis "must describe the response of the resource to this environmental change." Cumulative impact analysis should "address the sustainability of resources, ecosystems, and human communities."

CEQ's guidance on how to analyze cumulative environmental consequences, which contains eight principles listed below:

1. Cumulative effects are caused by the aggregate of past, present, and reasonable future actions.
The effects of a proposed action on a given resource, ecosystem, and human community, include the present and future effects added to the effects that have taken place in the past. Such cumulative effects must also be added to the effects (past, present, and future) caused by all other actions that affect the same resource.

2. Cumulative effects are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who (federal, non-federal, or private) has taken the actions.
Individual effects from disparate activities may add up or interact to cause additional effects not apparent when looking at the individual effect at one time. The additional effects contributed by actions unrelated to the proposed action must be included in the analysis of cumulative effects.

3. Cumulative effects need to be analyzed in terms of the specific resource, ecosystem, and human community being affected.
Environmental effects are often evaluated from the perspective of the proposed action. Analyzing cumulative effects requires focusing on the resources, ecosystem, and human

community that may be affected and developing an adequate understanding of how the resources are susceptible to effects.

4. It is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.
For cumulative effects analysis to help the decision maker and inform interested parties, it must be limited through scoping to effects that can be evaluated meaningfully. The boundaries for evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly or the effects are no longer of interest to the affected parties.

5. Cumulative effects on a given resource, ecosystem, and human community are rarely aligned with political or administrative boundaries.
Resources are typically demarcated according to agency responsibilities, county lines, grazing allotments, or other administrative boundaries. Because natural and sociocultural resources are not usually so aligned, each political entity actually manages only a piece of the affected resource or ecosystem. Cumulative effects analysis on natural systems must use natural ecological boundaries and analysis of human communities must use actual sociocultural boundaries to ensure including all effects.

6. Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects.
Repeated actions may cause effects to build up through simple addition (more and more of the same type of effect), and the same or different actions may produce effects that interact to produce cumulative effects greater than the sum of the effects.

7. Cumulative effects may last for many years beyond the life of the action that caused the effects.
Some actions cause damage lasting far longer than the life of the action itself (e.g., acid mine damage, radioactive waste contamination, species extinctions). Cumulative effects analysis needs to apply the best science and forecasting techniques to assess potential catastrophic consequences in the future.

8. Each affected resource, ecosystem, and human community must be analyzed in terms of its capacity to accommodate additional effects, based on its own time and space parameters.
Analysts tend to think in terms of how the resource, ecosystem, and human community will be modified given the action's development needs. The most effective cumulative effects analysis focuses on what is needed to ensure long-term productivity or sustainability of each resource impacted by the proposed action including herbivores and omnivores.

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

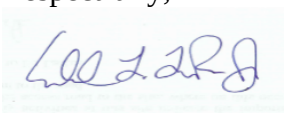
We request that the Final PEIS include (1) these eight principles in its analysis of cumulative impacts for the resource issues identified in the Draft PEIS, (2) the additional resource issue of the effects of active ingredients/herbicides to herbivores/omnivores of all vertebrate classes from

multiple exposure pathways, and (3) effective science-based mitigation, monitoring, and adaptive management that protect herbivores/omnivores from harmful exposure to one or more herbicides that may be used on BLM-administered land.

In addition, we request that BLM add this project and its impacts to a database and geospatial tracking system for special status species, including Mojave and Sonoran desert tortoises, that track cumulative impacts (e.g., surface disturbance, paved and unpaved routes, linear projects, invasive species occurrence, herbicide /pesticide use, wildfires, etc.), management decisions, and effectiveness of mitigation for each project. Without such a tracking system, BLM is unable to analyze cumulative impacts to special status species (e.g., desert tortoises) with any degree of confidence.

We appreciate this opportunity to provide comments on this proposed action and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Desert Tortoise Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the BLM that may affect species of desert tortoises, and that any subsequent environmental documentation for this proposed action is provided to us at the contact information listed above. Additionally, we ask that you respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this Project.

Respectfully,



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