



DESERT TORTOISE COUNCIL

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Via email and BLM NEPA ePlanning Portal

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Eric Duarte, Angelica Rose
Bureau of Land Management
Lake Havasu Field Office
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RE: Lake Havasu Field Office Programmatic Vegetation Management Plan Environmental Assessment (DOI-BLM-AZ-C030-2023-0042-EA)

Dear Mr. Duarte and Ms. Rose,

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."

We appreciate this opportunity to provide comments on the above-referenced proposed action. Given the location of the proposed action in habitats known to be occupied by Mojave desert tortoise (*Gopherus agassizii*) (synonymous with Agassiz's desert tortoise) and Sonoran desert tortoise (*G. morafkai*) (synonymous with Morafka's desert tortoise), our comments include recommendations intended to enhance protection of these species and their habitats during

activities authorized by the Bureau of Land Management (BLM), which we recommend be added to project terms and conditions in all authorizing documents (e.g., Pesticide Use Proposals, Determination of NEPA Adequacy, etc.) as appropriate and the administrative record. Please accept, carefully review, and include in the relevant project file the Council’s following comments and attachments for the proposed action.

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 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.

The Sonoran desert tortoise is a special status species for BLM in Arizona. BLM has committed to managing for the tortoise as a signatory to the Sonoran Desert Tortoise Candidate Conservation Agreement (Agreement) (USFWS et al. 2015).

Description of the Proposed Action

Purpose and Need

The BLM Lake Havasu Field Office (LHFO) has prepared the Lake Havasu Field Office Vegetation Management Plan Environmental Assessment (EA).

Purpose: The purpose of implementing the Vegetation Management Plan (VMP) for the area managed by the LHFO is “to maintain or improve ecological conditions in the vegetation communities within the LHFO” management area.

Need: BLM identified the need for implementing a VMP to reduce the risk of wildfire encroachment into popular recreation sites and residential areas; protect the habitat of many species of birds, other wildlife, and native plants; promote fire resistant riparian communities; and inhibit the proliferation of invasive weeds within the LHFO.

Proposed Action and Alternatives

BLM is proposing one action alternative in addition to the No Action Alternative.

No Action Alternative: Under this alternative BLM would continue to implement manual, mechanical, and prescribed fire treatments only in currently approved locations under Lake Havasu Office Recreation Site Hazardous Fuels Reduction EA (DOI-BLM-AZ-C030-2014-004-EA) and Herbicide Treatments within Powerline Right-of-Ways EA (DOI-BLM-AZ-P000-2017-0001-EA).

Proposed Action Alternative: BLM proposes to expand the current methods used, the locations of their use, and integrate treatment methods. BLM would use various methods (i.e., manual, mechanical (e.g., skid-steers and backhoes), prescribed fire, and chemical treatments. Chemical treatments that could be used were previously analyzed and approved in the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (BLM 2007b) and the *Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (BLM 2016). Only herbicides registered with the U.S. Environmental Protection Agency (EPA), and approved by BLM and relevant California and Arizona agencies (e.g., Arizona and California) would be applied.

Non-chemical treatments would utilize those methods analyzed in the *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report* (BLM 2007c). Treatments would occur on no more than 500 acres per year. The number of acres treated per year would vary, and depend on funding, inventories, restoration needs, and the variability in weed invasion dynamics such as climate conditions.

BLM would integrate methods, as needed, to control and manage vegetation resources according to ecological and Wildland Urban Interface (WUI) locations, public uses, and management goals, including strategies for revegetation efforts in treated and enhancement sites. Revegetation efforts would, in some cases, coincide with treatment projects or as stand-alone projects to enhance habitat quality. Restoration efforts would be dependent on environmental conditions and outlooks to support restoration success. Application of treatment methods would mainly occur between the winter, October-February, and spring, February-May, seasons. Conducting complex treatments and/or restoration projects would still require a site-specific level of planning. Implementation of these methods and vegetation management would comply with the LHFO Resource Management Plan (RMP) (BLM 2007a).

BLM proposes to implement the Proposed Action to meet three management objectives:

1. reduce wildfire risk and improve public safety on BLM-managed lands
2. improve wildlife habitat by focusing on restoring native vegetation and increasing diversity
3. protect and maintain native plant communities through implementing noxious and invasive weed treatments through an integrated management approach.

The location of the Proposed Action is all lands administered by the Lake Havasu Field Office in eastern California and western Arizona. The LHFO administers over 1.3 million acres of public land within the 2.1 million acres of the LHFO boundary.

Alternative Considered but Eliminated: BLM did not consider other alternatives. BLM states that “[n]ot utilizing even one component as described in the VMP, would not adequately address vegetation concerns and in turn other resources in an effective and long-term manner.”

Comments on the Environmental Assessment

We support BLM in taking steps to develop and implement a VMP to restore native vegetation, reduce wildfire risks, and use an integrated management approach to protect native plant communities and increase native species diversity. However, we are disappointed that LM did not include or address the Council’s comments submitted on the VMP in 2021.

Our comments on the EA are intended to 1) clarify the actions BLM intends to implement; 2) ensure that BLM implements actions and monitors results using the best available scientific information to ensure success; 3) provides a complete analysis of the impacts of the Proposed Action on the Mojave and Sonoran desert tortoises and their habitats; 4) complies with the Federal Endangered Species Act (FESA), Candidate Conservation Agreement for the Sonoran Desert Tortoise (USFWS et al. 2015) and applicable BLM policies;, and 5) implements conservation measures to mitigate the adverse impacts of the Proposed Action on tortoises and their habitats.

Consistent Use of Terms and Defining Them

Throughout the EA, BLM uses terms that are not defined. Examples of some of these terms are undesired vegetation, noxious weeds, invasive weeds, invasive species, target plants, complex treatments, rehabilitation, revegetation, restoration, vegetation concerns, weed control, and ecological conditions. Although many of these terms may be considered synonyms, their scientific/legal/regulatory meanings differ. We request that BLM select the appropriate terms for use in this EA, define these terms, and use them consistently throughout the EA. Without this information, the EA is unclear in its intent and analysis.

Using Current Scientific Data to Analyze Impacts, Inform the Public, and Make Decisions

BLM should conduct a review of the scientific literature to determine whether there is new information on the toxicity of herbicides that were previously analyzed by BLM in their environmental impact statements, especially the herbicides analyzed in the BLM 2007 EIS. Because more than 15 years have elapsed since the last analysis on the impacts of these herbicides to wildlife, it is likely additional scientific research has been conducted on acute and chronic effects of these herbicides to wildlife including Mojave and Sonoran desert tortoises. Please update this information in the EA and include it in the analysis of effects in the Environmental Consequences section.

As a reminder to BLM, Mojave and Sonoran desert tortoises have more pathways for contact and uptake of herbicides than most wildlife species because of their physiology, behavior, and ecology.

This means there are multiple pathways for tortoises to be exposed to herbicides, more than for most species of wildlife.

Typical laboratory analysis of acute impacts of herbicides usually does not include reptiles such as Mojave and Sonoran desert tortoises, nor does it analyze the chronic impacts of herbicides on long-lived species such as Mojave and Sonoran desert tortoises. Therefore, BLM should err on the side of caution for these species when selecting and using herbicides in tortoise habitats. Further, BLM should develop and require mitigation measures be implemented to avoid as much as possible herbicide applications to tortoises and their forage species.

This information on pathways was provided in the Council's comment letter to BLM dated November 20, 2021, on the VMP along with other issues that should be included in the VMP and EA. Unfortunately, we were unable to find that BLM discussed these issues in the EA. Consequently, we again submit these comments as an attachment to this letter and request that BLM address them in the EA.

We were unable to locate some BLM documents referenced in the EA. For example, we searched for the *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report* (BLM 2007c) using a general Internet search, search on the BLM website, and on the NEPA ePlanning website. The result was finding Chapter 1 posted but not the rest of the report.

[\[https://eplanning.blm.gov/public_projects/nepa/70300/94238/113738/Final_PER_Chapter_1_\(June_2007\).pdf\]](https://eplanning.blm.gov/public_projects/nepa/70300/94238/113738/Final_PER_Chapter_1_(June_2007).pdf).

According to the Table of Contents for this Report, this document has seven chapters and six appendices. Unfortunately, Chapter 1 is entitled "Purpose of the Environmental Report." The results or actions that BLM would implement and supporting documentation are in Chapter 2 Vegetation Treatment Programs, Policies, and Methods; Chapter 4 Effects of Vegetation Treatments; Chapter 5 References; Chapter 7 Index - Lists where significant issues, resource descriptions, terms, and agencies and groups discussed in the Programmatic Environmental Report are located; and several of the Appendices (e.g., C. Consultation Agreements, F. Special Status Species List).

The Council presumes that BLM wants to be transparent in its discussion and analyses of impacts of the Proposed Action in this EA. If BLM's intent is to "tier off" their 2007c Report and adopt the methods and effects in the EA, we request that BLM provide links to the BLM documents they cite in the EA. We request this because it appears that BLM is relying on two environmental impact statements (EISs) on herbicides and the Report for part of the project description and analyses of impacts from the use of herbicides and non-chemical methods. If we are correct, BLM should ensure that these documents are readily available to the public. We recommend that BLM have an online library of BLM-authored documents that is easily accessible by the public. Other Federal agencies have libraries with their agency reports and other documents posted for the public to access.

In the Environmental Consequences sections of the resource issues addressed in the EA, we found few or no citations from the scientific literature to support the conclusions that BLM presents about

impacts from implementation of the Proposed Action (e.g., “prescribed pile burning would be designed for low to moderate intensity fires that should not adversely affect or sterilize soils”). We found no citations in the EA to support this conclusion. We request that BLM provide references from the scientific literature that support BLM’s conclusions. If this is not possible, then BLM should modify its conclusions to reflect the current available data in the scientific literature for each impact.

Chapter 2 Proposed Action And Alternatives

Confusing Description of Proposed Action: The description of the Proposed Action in the EA and the description of the Proposed Action on the BLM NEPA ePlanning webpage, and the actions that would be implemented under the VMP do not seem to align. For example, the information on the BLM ePlanning webpage indicates “[t]his EA discloses and analyzes the potential environmental consequences of *various methods* [emphasis added] to control and manage vegetation resources throughout the LHFO” management area. But earlier on this web page, BLM says the, “VMP would expand on the current vegetation management project document, Lake Havasu Office Recreation Site Hazardous Fuels Reduction project environmental assessment (DOI-BLM-AZ-C030-2014-004-EA), by including chemical application and restoration efforts at and beyond the riparian areas currently managed.” This indicates that the new actions BLM is proposing for vegetation control is limited to chemical application, not various methods.

We were unable to find a description of what vegetation would be managed. As mentioned above, various terms are used throughout the EA that refer to vegetation, but this results in ambiguity as to what would be controlled. Our presumption is that the vegetation that would be controlled or removed is non-native invasive plant species and not native species. We request that BLM clearly state in the EA the type of vegetation that would be controlled or removed using manual, mechanical, prescribed fire, and/or chemical methods. BLM should use this descriptive term of the type of vegetation throughout the EA when discussing and analyzing the presence of these species (Affected Environment/Baseline) and the effects to these species from implementation of the Proposed Action (Environmental Consequences). The common and scientific names of plant species that would likely be controlled and the method/combination of methods (integrated approach) that could be used should be included.

We recommend that BLM include all methods of vegetation management in its EA if it wants the flexibility to use a fully integrated approach to vegetation management.

We recommend that directed energy be added to the methods of manual, mechanical, prescribed fire, and chemical. Including this method would give BLM greater flexibility to use this method in the future for controlling herbaceous vegetation.

We further recommend that the Environmental Consequences section of the EA analyze the impacts of all forms of vegetation management (i.e., manual, mechanical, prescribed fire, chemical, and directed energy) on the resource issues including the Mojave and Sonoran desert tortoises and tortoise habitats. Again, implementing this approach would give BLM greater flexibility in using all currently available methods or combinations of methods to control non-native vegetation.

We found the EA to be unclear in describing where on the lands managed by the LHFO that BLM anticipates using vegetation management methods. Although there is a sentence that the Proposed Action would apply to “all lands administered by the Lake Havasu Field Office,” there is minimal discussion of impacts to upland vegetation, which is where Mojave and Sonoran desert tortoises and tortoise habitats occur. The focus of the analysis appears to be in riparian habitats along the Colorado and Bill Williams rivers. Consequently, we are unsure whether BLM would use manual, mechanical, prescribed fire, directed energy, and/or chemical methods in Mojave desert scrub and Sonoran desert scrub vegetation. Please add this information to the description of the Proposed Action and include analysis of impacts to tortoises/ tortoise habitats from implementation of these methods.

In addition, the EA is unclear whether restoration of native plants species (woody perennial, herbaceous perennial and annual forbs, and perennial grasses) would occur following implementation of all vegetation management methods. Please add this information to the description of the Proposed Action and include analysis of impacts to tortoises/ tortoise habitats from implementation of restoration methods.

Effectiveness of the Proposed Action: In the description of the Proposed Action, BLM says, “[n]ot utilizing even one component as described in the VMP, would not adequately address vegetation concerns and in turn other resources in an effective and long-term manner.” Thus, we conclude BLM’s intended purpose is to implement measures to manage vegetation (we presume native vegetation) that would be effective for the long term and to use an integrated approach – that is, one, or more than one method may be appropriate to use for the results to be successful.

The Proposed Action is unclear about the types, frequency, and duration of vegetation restoration efforts that would occur for areas treated using manual, mechanical, prescribed fire, directed energy, and/or chemical methods to achieve effective and long-term results. Removing certain vegetation, if it is non-native, invasive vegetation, may result in limited short-term improvement to the functions of the ecosystem in the vegetation communities from this removal. Please provide this information in the EA.

If BLM limits some or all its actions to only vegetation removal, the success of these methods in meeting BLM’s objectives would be substantially reduced. The time for a site in the Mojave or Sonoran Deserts to fully recover is about 200 years (Abella 2010). With the relatively recent establishment of non-native plant species, this recovery time period is further complicated (Abella 2010), that is, it is likely longer. This is because non-native annual grasses outcompete native species (Brooks 1998). If BLM does not follow vegetation removal methods with soil and native vegetation restoration methods, non-native vegetation will invade and outcompete native species and will reestablish. BLM would need to re-implement the manual, mechanical, prescribed fire, directed energy, and/or chemical methods. This creates a cycle that is expensive and time-consuming to implement and is likely to never achieves the purposes of the Proposed Action.

We request that BLM clarify in the description of the Proposed Action when it would and would not follow treatment areas with restoring native perennial and annual plant species.

If BLM is committed to maintaining or improving ecological conditions (which we presume means ecosystem functions) in the vegetation communities within the LHFO, accomplishing this requires implementation of both successful soil and native vegetation restoration efforts. We request that BLM add soil and vegetation restoration methods to the description of the Proposed Action, specifically methods for restoring biological soil crusts and native perennial and annual vegetation following implementation of all vegetation removal methods. This approach would be an integrated approach and would restore these ecosystem functions.

To assist BLM in its efforts to develop and implement a successful program to improve ecosystem functions including native vegetation for Mojave and Sonoran desert tortoises/tortoise habitats, we strongly recommend that BLM use the current resources available including the California Invasive Plant Council (Cal-IPC) website to successfully plan, implement, and monitor the effectiveness of the implementation of the VMP. Cal-IPC has documents on [<https://www.cal-ipc.org/resources/library/publications/>]

- Land Manager’s Guide to Developing an Invasive Plant Management Plan
- Prevention Best Management Practices (BMPs) for Land Managers
- Prevention BMPs for Transportation and Utility Corridors
- BMPs for Protecting Wildlife When Using Herbicides
- BMPs for Non-Chemical Weed Control

They have references/publications on [<https://www.cal-ipc.org/solutions/management/>]

- Early Detection and Rapid Response
- Invasive Plants of California’s Wildlands –information about the biology and control of 78 nonnative plant species
- WHIPPET - Helping land managers prioritize treatment of invasive plant populations
- Invasipedia – Invasipedia houses information on invasive plants, animals, and pathogens, and how to manage them. Managed by the Center for Invasive Species and Ecosystem Health at the University of Georgia.

Developing and implementing a priority protocol of where vegetation management/restoration would occur given BLM’s limited resources should be include in the EA so the public can comment on it. Fire danger and fuel load from non-native plants should be a priority as one wildfire event has the potential to destroy tens of thousands of acres of desert vegetation and soils that cannot be replaced in a person’s lifetime (Abella 2010). To assist BLM with soils and native vegetation restoration, the Council is providing the as an attachment “Appendix A – Habitat Restoration Bibliography for the Mojave and Sonoran Deserts.”

Monitoring and Adaptive Management: We presume that BLM wants to determine whether implementation of their Proposed Action is successful. To do this would require implementing monitoring and adaptive management. We were not able to find a description of these activities in the Proposed Action. We request that the Proposed Action in the EA be revised to include implementation of a monitoring protocol that is science-based and statistically rigorous. The EA should include a description of how BLM would implement adaptive management to alter implementation of the Proposed Action if monitoring reveals the Proposed Action is not

accomplishing one or more of its objectives. These activities should be analyzed in the Environmental Consequences section of the EA for each resource issue including the Mojave and Sonoran desert tortoises.

Chapter 3 Affected Environment & Environmental Consequences

Cumulative Effects Analysis: In the cumulative effects analysis of the EA, please ensure that the CEQ’s “Considering Cumulative Effects under the National Environmental Policy Act” (1997) is followed, including addressing the eight principles, listed below, when analyzing cumulative effects of the Proposed Action to the affected resource issues. This CEQ document is referred to in BLM’s National Environmental Policy Act Handbook (BLM 2008).

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.”

CEQs 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 the resource.

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

Please add an analysis of cumulative impacts for the Mojave and Sonoran desert tortoises and their habitats to the EA. The current description of cumulative effects is limited to a general description of effects to wildlife.

We request that the EA (1) include these eight principles in its analysis of cumulative impacts to the Mojave desert tortoise; (2) address the sustainability of the tortoises in/near the area of the Proposed Action; and (3) include effective science-based mitigation, monitoring, and adaptive management that protect desert tortoises and their habitats during BLM's implementation of the Proposed Action. Because of the use of chemical methods to control vegetation, CEQ's principles 2, 3, 6, 7, and 8 are especially relevant to Mojave and Sonoran desert tortoises.

In addition, we request that BLM add this Proposed Action and its impacts to a BLM 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 accuracy.

Chapter 4 Consultation and Coordination

Federal Endangered Species Act: In looking at the administrative record for BLM's (2016) PEIS, we found the following requirements issued by the U.S. Fish and Wildlife Service under section 7 consultation of the FESA(October 6, 2015) [https://eplanning.blm.gov/public_projects/nepa/70301/92843/111844/USFWS_Concurrence_Letter.pdf]. These measures would apply to all species listed under the FESA including the Mojave desert tortoise.

“Conservation Measures

As a part of the proposed action, BLM has identified Standard Operating Procedures (SOPs) and conservation measures that will be incorporated into local level projects. These SOPs and conservation measures are designed to minimize risks to federally listed plants and animals and designated critical habitat. They include the following:

- Prevention measures during project planning, development, and revegetation phases to minimize the risk of introducing or spreading noxious weeds.
- Herbicide treatment planning, which includes evaluation of the need for chemical treatments and their potential for impact on the environment, and development of an operational plan that includes herbicide buffers near water bodies; information on project specifications, key personnel responsibilities and communication, safety, and spill and response; and emergency procedures.
- Procedures specific to site revegetation after treatments to promote establishment and/or recovery by the native plant community.
- Special precautions to minimize impacts to special status species, including a survey of each project site for listed and proposed species prior to vegetation treatment activities and associated consultation with the Service.
- Additional species/taxa specific measures as identified in Appendix B of this memorandum.

In addition to the conservation measures above, BLM has identified pesticide-specific buffers that are to be used under different application for the protection of threatened, endangered, and proposed plant species (Appendix C).

BLM's proposed action authorizes the use of the three active ingredients at the programmatic level. However, as described in the BA, BLM field offices will consult with the Service at the local level prior to implementation of specific vegetation treatment projects that utilize aminopyralid, fluroxypyr, and rimsulfuron (Appendix D). This process will include a site-specific analysis of potential effects to federally-listed species or critical habitat..."

As previously states, we were unable to find a copy of BLM's (2007b) Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement. We suspect that USFWS likely took a similar approach under section 7 consultation with the FESA.

We request that BLM include in the EA these SOPs and conservation measures from the 2016 PEIS, all from the 2007 PEIS, and all the conservation measures/terms and conditions that USFWS required in its section 7 consultation process. In addition, we request that BLM add the USFWS's documents demonstrating section 7 compliance with the FESA for the 2007 and 2016 PEISs. When the LHFO completes section 7 consultation for the Proposed Action, please provide in the EA a copy of the biological opinion or concurrence letter from USFWS for the LHFO's Proposed Action or a summary of the date of completion of section 7 consultations and the additional required conservation measures/terms and conditions.

Specific Comments

Page 6, Proposed Action: In the EA, BLM says, "conducting complex treatments and/or restoration projects would still require a site-specific level of planning." We are unsure whether this level of planning would include additional NEPA and FESA compliance. Please add to the EA when additional environmental compliance would be done.

Page 7, Methodology: "The VMP describes how treatment sites would be approached based on community type, location, and accessibility."

"The herbicides are listed in appendix A of the VMP, which are subject to change." We recommend that the VMP be added as an appendix to the EA as the EA refers to it several times.

In this section we found no commitment by BLM that only certified/licensed applicators would be used to apply herbicides. Please add this commitment to this section of the EA.

Page 8, Table 3-1 and pages 18-20, Wetlands/Riparian Zones: In the table, BLM provides impact indicators for riparian vegetation as Heavier sediment load, Loss of bank stabilizing vegetation, Functionality, and Threatened and Endangered species habitat. However, in the Environmental Consequences section of the EA on Wetland/Riparian Vegetation Communities, these impacts are not discussed or *analyzed*. Please add to the EA an analysis of these potential

impacts to all wetland/riparian vegetation communities including microphyll woodland communities along desert washes.

Page 10, Table 3-2: “The use of selected BLM-approved herbicides would not result in any new or greater impacts than previously disclosed in the 2007 and 2016 Herbicide PEISs.” Although this statement by BLM is under the resource issue of human health, it also applies to the health of wildlife. Please see our comments above under “Using Current Scientific Data to Inform the Public and Make Decisions”

Pages 11-13, Fuels and Fire Management: The EA is unclear as to when and where BLM would implement prescribed fire as a method to manage vegetation. While earlier in the EA (page 4), BLM says, “To comply with the Lake Havasu Field Office Record of Decision and Approved Resource Management Plan, Date Approved: May 2007, “[f]ire is recognized as a natural process in fire-adapted ecosystems.” On page 7, BLM says, “[p]rescribed burns would occur as a method to strategically clear undesired vegetation and dispose of removed vegetation.”

The only ecosystems or vegetation communities we could find that are described in the EA are riparian and Mojave and Sonoran desert scrub vegetation (Affected Environment). Riparian communities would include microphyll woodland vegetation along desert washes in both deserts. We are not aware that any of these vegetation communities are fire adapted. Consequently, we are not sure why BLM would use prescribed fire as a tool to manage vegetation in the LHFO area of management. We request that BLM clearly describe all the vegetation communities that occur within the LHFO’s management area, the vegetation communities that are fire adapted with citations supporting this characterization, and the vegetation communities where BLM may use fire as a management tool.

Pages 18-20, Wetlands/Riparian Zones, Fire: In this section, BLM does not describe the vegetation communities it considers to be riparian. Rather BLM describes riparian vegetation by the miles of riparian corridors that it manages. BLM further says it would use “[p]rescribed pile burning near riparian areas where vegetation has been removed...”

We caution BLM that burning in/near riparian vegetation communities means BLM would be setting fires in/near vegetation communities that are not fire adapted. This includes microphyll woodland communities (also riparian communities) along desert washes. Consequently, using fire as a management tool in/near riparian communities or in vegetation communities adjacent to riparian communities that are not fire adapted (e.g., Mojave desert scrub, Sonoran desert scrub, etc.) should not be done. Please modify the EA to remove the use of fire in/near non-fire adapted vegetation communities.

Wetlands/Riparian Zones, Rehabilitation and Revegetation: BLM further says, “[should riparian rehabilitation efforts take place, it is expected upon successful establishment to have beneficial impacts on riparian processes. Such efforts are dependent on the goals and conditions of the riparian area of interest.”

We are unsure what these sentences mean. Because this is the extent of the analysis under Environmental Consequences/Rehabilitation and Revegetation, we request that BLM provide an

analysis of the effects of implementing the Proposed Action on the various wetland and riparian vegetation communities including microphyll woodlands along desert washes that occur in the LHFO management area.

In the EA, we found no commitment by BLM to establish native riparian species following removal efforts for non-native invasive or targeted species, especially along desert washes in microphyll woodlands. We arrive at this conclusion from BLM's use of "should riparian rehabilitation efforts take place..." which indicates that these efforts would not occur for every treatment area. As previously stated, failure to implement effective efforts to restore native plant species would likely result in re-establishment of non-native invasive species, thus negating BLM's vegetation control efforts. BLM should include this description and analysis in the Environmental Consequences section of the EA.

On page 18, BLM says, "[t]hough a certain amount of risk always remains, as previously discussed, application of chemicals requires certified applicators who have been trained to handle and apply herbicides in the appropriate manor (sic)." Unfortunately, we were unable to find any verbiage earlier in the EA that required the use of certified or licensed applicators including the Proposed Action description (pages 6-8).

Pages 21-22, 3.2.6 Soils: In the discussion on mechanical treatments and impacts to soils, we were unable to find a discussion or analysis on the impacts of mechanical treatment to biological soil crusts. In the discussion on chemical treatments and impacts to soils, we were unable to find a discussion of the impacts of herbicides to soil crusts. Do herbicides kill the biological components of soil crusts? Do they impact the function of soil crusts, and if so, how? Please provide this information and analysis in the EA.

Pages 22-25, Vegetation: Under Affected Environment, this section lists the common plant species present in upland and riparian areas. No non-native species are listed for the upland areas but several are listed for riparian areas. We questions whether there are no non-native plant species in the upland vegetation communities in the area managed by the LHFO. Please review this information and ensure it is complete and includes any non-native plant species that occur in upland areas in eh LHFO management area.

The earlier section on wetland/riparian zones (3.2.5 Wetlands/Riparian Zones) presented information and impacts on riparian plant species. This overlap in description of the resource issues and is not consistent and confusing. We suggest that BLM describe all vegetation in the area managed by the LBFO in a section of the EA and subdivide it into riparian communities and upland communities. BLM should define what it means by riparian and upland communities/vegetation.

Under Environmental Consequences section for Vegetation BLM says, "[r]ehabilitation through seeding and other revegetation and stabilization efforts would have beneficial long-term impacts due to accelerated establishment of desired vegetation in treated areas." While this may be true, we were unable to find a description of the methods that would be used to revegetate treated areas. We presume that vehicles would be use to access treatment sites and this may include new access routes. Vehicle use and establishing new route each would result in their own set of impacts. Site preparation, seeding and/or planting would likely result in soil disturbance and soil compaction,

along with crushing vegetation. All these impacts should be described and analyzed in the EA for each resource issue.

BLM should add to this paragraph that successful treatments would decrease the growth, seed production, and competitiveness of invasive plants, thereby reducing competitive pressures to native species and aiding in their reestablishment. Failure to implement effective efforts to restore native plant species would likely result in re-establishment of non-native invasive species thus negating BLM's efforts. BLM should include this description and analysis in the Environmental Consequences section of the EA.

Page 29, 3.2.9 Wildlife, Threatened, Endangered, or Candidate Species, Mojave desert tortoise: Besides being listed as threatened under the FESA, please add that the Mojave desert tortoise is listed as threatened under the California Endangered Species Act.

BLM says, “[d]esert tortoises are most active during the spring and early summer when annual plants are most common.” Please add the following information to the EA on the active seasons for the Mojave desert tortoise – Although Mojave desert tortoises can be active at any time of the year, their heightened periods of activity are in the spring (March to May), in fall (September and October), and anytime during/immediately following a rain event (Henen et al. 1998).

In this section of the Mojave desert tortoise, BLM says “[i]n Arizona, tortoises are generally considered to be active from approximately March 15 through October 15, although activity has been observed as early as February and as late as November (depending on climatic conditions). Because this section of the EA is about listed, proposed, and candidate species (e.g., Mojave desert tortoise), we request that BLM move this information on tortoises in Arizona to the section on the Sonoran desert tortoise (page 45 of the EA). In addition, we request that it be modified to say – For Sonoran desert tortoises, their dormant season is typically mid-November through mid-February (Averill-Murray and Klug 2000, Sullivan et al. 2014). Their heightened activity periods are spring (Bailey et al. 1995, Averill-Murray and Klug 2000) and July through September (monsoon season) (Averill-Murray et al. 2002a, Van Devender 2002).

Page 45, Wildlife, Including Big Game Species, Sensitive Species, and Migratory Birds: BLM provides information on the USFWS's 2022 determination that listing the Sonoran desert tortoise was not warranted. We request that BLM add its commitment to manage for the tortoise under the Candidate Conservation Agreement for the Sonoran Desert Tortoise (Agreement) (USFWS et al. 2015). As a signatory to this Agreement, BLM committed to implementing:

- (1) BLM Manual 6840 (BLM 2008) that establishes specific procedures for managing the Sonoran desert tortoise as it is a BLM sensitive species, with the goal of conserving the Sonoran desert tortoise and its habitat on BLM-managed lands in cooperation with other agencies;
- (2) landscape level conservation measures (e.g., identifying areas of potential conflict between agency mission and Sonoran desert tortoise habitat and identifying and reducing or otherwise mitigating dispersal barriers between Sonoran desert tortoise populations, etc.); and

- (3) local level conservation measures (e.g., considering the effects of actions on the Sonoran desert tortoise during the planning process, and avoiding or minimizing impacts, or implementing mitigation measures to offset impacts to tortoise populations and habitat where practical and feasible, avoid, where practicable, or otherwise minimize or mitigate adverse effects of actions that could result in isolation of known Sonoran desert tortoise populations and/or landscape-level fragmentation of Sonoran desert tortoise habitat, etc.).

BLM should add information about its commitment to manage for the Sonora desert tortoise in this EA.

Page 46, Environmental Consequences, Threatened, Endangered, or Candidate Species -

Animals: In the EA, BLM says, “[n]o adverse effects from treatments, including herbicide applications, to Threatened and Endangered species would be anticipated.” On page 49, for the Mojave desert tortoise, BLM says, “[h]erbicide use would not be used to treat Mohave desert tortoise forage plants out on the range. As described in the VMP, treating open rangelands, which include tortoise habitat areas, would only be conducted to address the need to suppress or eradicate populations of plant species that are harmful to desired plant and wildlife communities.”

BLM’s analysis of the environmental consequences of the Proposed Action appears to be limited to the on-site use of chemical to manage vegetation. We found no analysis of impacts to wildlife species and specifically the Mojave desert tortoise from the use of manual, mechanical, or prescribed fire methods for managing vegetation. In addition, we found no analysis of the impacts of transporting workers and materials to areas that would be treated using manual, mechanical, fire, and/or, chemical methods. Please add this analysis to the EA for the Mojave desert tortoise and other threatened, endangered, or candidate species in the area of the Proposed Action as these other methods are part of the Proposed Action.

BLM lists conservation measures that “would apply to Mojave desert tortoise habitat.

- Whenever possible, conduct herbicide treatments in desert tortoise habitat during the inactive season (October 15 through March 15).
- If Mojave desert tortoises are encountered during herbicide treatments, application shall cease and shall not resume until the tortoise moves over 100 feet from treatment area on its own accord.
- Use only sprays with coarse droplet sizes within suitable habitat for Mojave desert tortoise.
- Herbicide applications using mechanized ground equipment should use either liquid streams or relatively course sprays to minimize spray drift.”

We presume that BLM would require that these measures be implemented. However, from the wording in the EA (e.g., BLM quote from page 46), this is unclear. Please clarify this in the EA.

As previously stated in this letter, BLM should conduct section 7 consultation with the USFWS prior to implementing the Proposed Action in the range of and habitat for the Mojave desert tortoise including habitat used/needed for connectivity between tortoise populations. We suspect that USFWS would require that standard conservation measure to avoid or minimize impacts of take would be required. Standard conservation measures for the Mojave tortoise include, but are not limited to, requiring protocol level surveys prior to conducting any surface disturbance (e.g.,

manual, mechanical, or prescribed fire methods) or actions that would harm, harass, injure, or kill a tortoise (e.g., chemical methods, use of vehicles or equipment, etc.). There are standard conservation measures that are required when using vehicles in tortoise habitat that should be included in this section of the EA. In addition, there should be a standard conservation measure included that describes the actions that would be implemented if a tortoise is injured/sprayed. A biological opinion would be needed to authorize any handling of Mojave desert tortoises. Please add the standard conservation measures for projects located in Mojave desert tortoise habitat to the EA.

Page 51, Environmental Consequences, Wildlife, Including Big Game Species, Sensitive Species, and Migratory Birds: BLM says, “[t]he BLM sensitive species within the LHFO occur in a limited amount of habitats, mainly along riparian areas of the Lower Colorado River and the Bill Williams River.” BLM appears to have consolidated its analysis of the effects of the Proposed Action into the impacts to riparian habitats. We found no analysis of impacts to the Sonoran desert tortoise from implementation of the Proposed Action. We request that BLM add this analysis to the EA.

In addition, the analysis of impacts from the Proposed Action appears to be limited to the use of chemical treatments. We found no analysis of the impacts from implementation of manual, mechanical or prescribed fire treatments. Please analyze the impacts from the implementation of all treatments to the EA.

Please add to the EA how BLM is complying with its commitment in the Agreement to implement specific procedures for managing the Sonoran desert tortoise with the goal of conserving the Sonoran desert tortoise and its habitat on BLM-managed lands, and implement local and landscape conservation measures to achieve conservation of the tortoise. A list of these procedures and conservation measures and how they would contribute to conserving the tortoise during the implementation of the Proposed Action should be included in the EA.

Page 56, 3.2.10 Cumulative Impacts, Vegetation: BLM says, “[h]istorically, ecosystems in the LHFO were comprised of vegetation types adapted to natural disturbances, including drought, fire, flood, and geological events.” In the EA, BLM says the majority of the vegetation in the area managed by the LHFO is Mojave and Sonoran desert scrub. However, this vegetation has not evolved in an environment of frequent or large fires (Moloney et al. 2019), as there is little or no historical occurrence of wildfires in these areas (Parks et al. 2015). Pre-settlement fires in low to mid-elevation shrublands of the Mojave Desert were infrequent and small. Many plant species occurring in the Mojave Desert are fire intolerant (Brooks and Chambers 2011). and the native vegetation’s ability to regenerate following fire takes a long time (Abella 2010).

The Sonoran Desert in the southwestern United States is considered non-fire-adapted, with native vegetation growth patterns that result in non-continuous fuels and few native fine fuels (Aslan et al. 2021).

We request that BLM review this section of the EA, clarify its meaning, and provide citations that support the statements/conclusions made in this section of the EA or correct the EA.

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 Desert Tortoise Council wants to be identified as an Affected Interest for this and all other projects/actions funded, authorized, or carried out by the BLM that may affect 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 Proposed Action.

Respectfully,



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

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Attachments: Appendix A – Habitat Restoration Bibliography for the Mojave and Deserts
Letter from Desert Tortoise Council to Bureau of Land Management on Lake Havasu Field Office Vegetation Management Plan (DOI-BLM-AZ-C030-2022-0005-OTHER_NEPA), dated November 20, 2021

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