**DESERT TORTOISE COUNCIL**
3807 Sierra Highway #6-4514
Acton, CA 93510
www.deserttortoise.org
eac@deserttortoise.org

**Via email and BLM NEPA ePlanning Portal**

July 23, 2025

Eric Duarte
Bureau of Land Management
Hassayampa Field Office
2020 E. Bell Road
Phoenix, AZ 85022
eduarte@blm.gov

RE: Management Evaluation Report, Lake Pleasant Herd Management Area (DOI-BLM-AZ-P010-2025-0019-EA)

Dear Mr. Duarte,

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 northern 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 project. Given the location of the proposed action in habitats occupied by the Sonoran desert tortoise (*Gopherus morafkai*) (synonymous with Morafka's desert tortoise), our comments include recommendations intended to enhance protection of this species and its habitat during activities that may be authorized by the Bureau of Land Management (BLM), which we recommend be added to terms and conditions in the authorizing documents [e.g., National Environmental Policy Act (NEPA) decision document, amended resource management plan, herd management area plan, etc.] for the proposed action, as appropriate. Please accept, carefully review, and include the Council's following comments for the proposed action in the relevant project file.

The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers the Sonoran desert tortoise, located in Arizona and Sonora, Mexico, to be Vulnerable at this time, but nearly qualifies as Endangered (Averill-Murray et al. 2023). "Steep declines of approximately 54% have occurred in recent years in several formally monitored local subpopulations in Arizona." "Despite evidence that several subpopulations have stabilized or increased, survival rates are predicted to decline with future drought conditions, which are expected to intensify with global climate change." In Mexico, "patterns of rainfall and drought across Sonora mirror those in Arizona and suggest that Sonoran subpopulations likely increased and decreased similarly over time." According to the IUCN, this designation of Vulnerable means that the species is "considered to be facing a high rate of extinction in the wild" and is one step above endangered.

The IUCN identified several threats to the survival of the Sonoran desert tortoise including residential, commercial, and industrial development; ranching and farming; roads and railroads; hunting and trapping; recreational activities; wildfires and fire suppression activities; invasive non-native plant species; and drought/temperature extremes from climate change. The proposed project directly deals with management of non-native feral burros and indirectly affects wildlife, invasive non-native plant species, and drought/temperature extremes from climate change.

## Description of the Proposed Action

BLM is working to update the 1999 Lake Pleasant Herd Management Area Plan (HMA Plan), establish an Appropriate Management Level (AML) range for the Lake Pleasant Herd Management Area (HMA), remove excess wild burros to achieve and maintain the proposed AML range, and implement fertility control for wild burros on lands within the Lake Pleasant HMA. As part of the process of updating or preparing a new HMA Plan, BLM prepared a Management Evaluation Report, Lake Pleasant Herd Management Area (Report) and released that Report with the initiation of a 30-day public scoping period for the new Lake Pleasant HMA Plan. In its letter to the public announcing the public scoping period, BLM stated that the Report "documents key issues and presents a range of management alternatives that would address or resolve the identified issues."

BLM reported that the burro population in the Lake Pleasant HMA had changed from an estimated 179 burros in 1990 to 1,769 in 2023. The 2023 estimate does not include the 1,182 burros that have been removed from the population but outside the HMA boundary since 2009.

The Lake Pleasant HMA and Herd Area (HA) are approximately 35 miles northwest of downtown Phoenix, Arizona, and 17 miles east/southeast of Wickenburg, Arizona (Figure 1). The HMA encompasses the southern foothills of the Bradshaw Mountains to the north, includes all of Lake Pleasant on the Agua Fria River, the 10,656-acre Hells Canyon Wilderness area, and the Tule Creek Area of Critical Environmental Concern. Topography in the HMA includes rugged mountains, numerous small canyons, open rolling foothills, and washes. Land ownership within the HMA boundary consists of public (59%), state (13%), private (6%), and other federal lands.

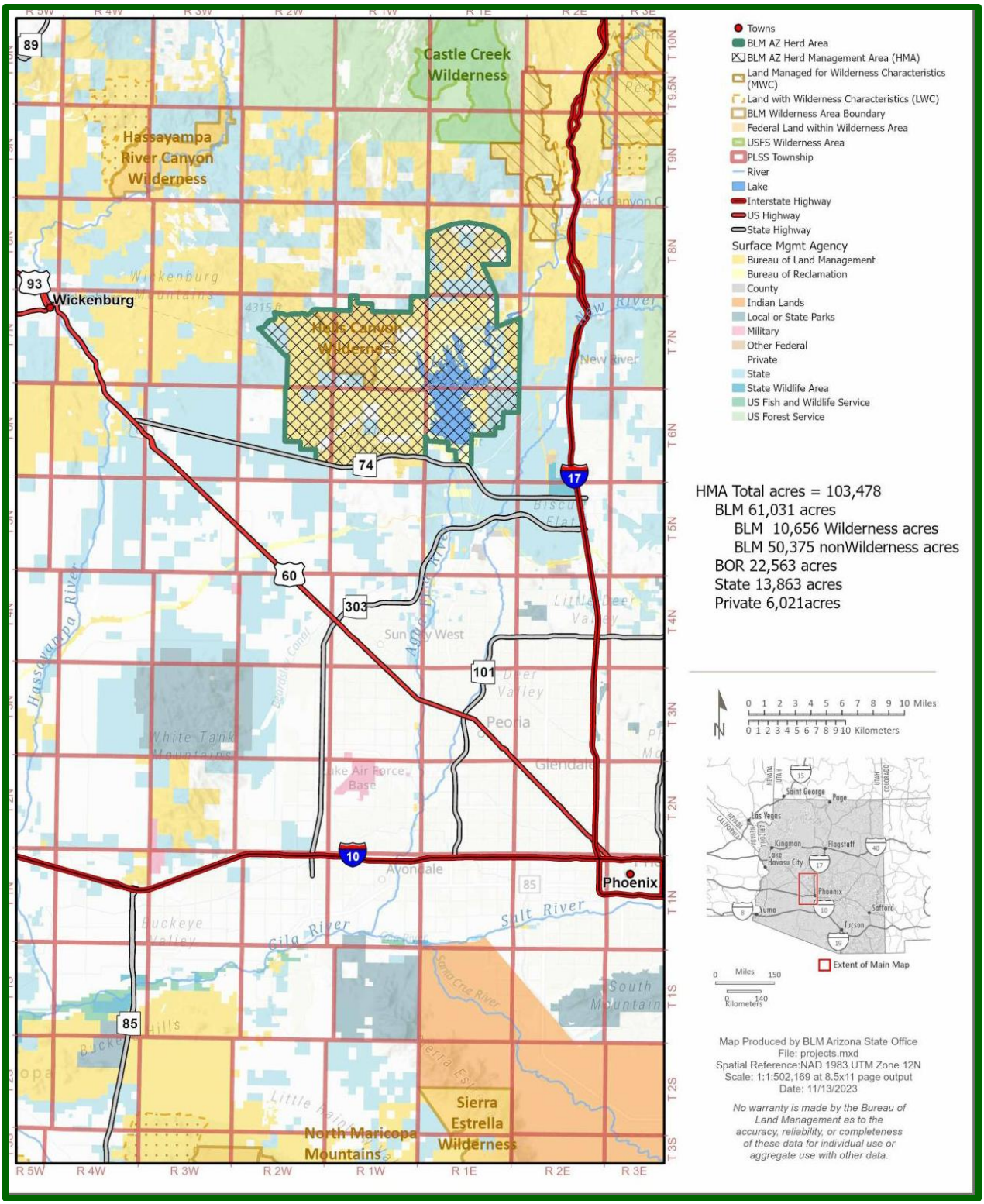



Figure 1. Map of the Lake Pleasant Herd Management Area

**Comments on the Management Evaluation Report,**
**Lake Pleasant Herd Management Area**

We thank BLM for contacting the Council about the availability of this Report and the public scoping period for the new Lake Pleasant HMA Plan.

In the Report, BLM provided a history of its past decisions and actions regarding this HMA. These include (1) not establishing an AML for burros in this HMA, and (2) not meeting Management Objective 1 in the HMA Plan, which was finalized in 1999, to "Establish an appropriate management level by December 31, 2000, based on forage allocation, population levels, and actual use of key forage species established through monitoring data."

We appreciate BLM's candor in describing their lack of information and action in the past to properly manage the burro population in this HMA, and we support BLM's efforts to update the Lake Pleasant HMA Plan to include an AML range (not a static number) and population control objectives. As BLM describes in the Report, ecological conditions for native flora and fauna can change within a short time especially with the ongoing drought conditions in this part of Arizona. BLM needs the flexibility to modify the herd size in response to changes in ecological conditions for native flora and fauna, particularly special status species that usually have specialized ecological requirements for survival and persistence rather than general requirements.

We found two discrepancies in the Report. After reviewing the Report, we were unable to find information on "a range of management alternatives that would address or resolve the identified issues" as stated in the letter to the public. Instead, BLM identified some of the environmental impacts from the current burro population. Please clarify the purpose and intent of the Report to the public and in the administrative record.

Second, we bring to BLM's attention information in Ruben et al. (2024), which states that the "AML for the Havasu and Lake Pleasant HMAs are 166 and 208, respectively" (BLM 2007, 2023). This information appears to contradict the statement that BLM provided in the Report that an AML for burros was not established for the Lake Pleasant HMA. We request that this discrepancy be clarified in the environmental assessment (EA) and the new HMA Plan.

In the Report, BLM identified the following issues to be discussed and analyzed in the EA — Wild Burro Population, Public Safety and Nuisance (Recreation and Urban Interface), Wildlife, Livestock, Habitat/Resources (Vegetation), Weather Conditions, and Water. BLM identified the following management objectives to address in the NEPA document and HMA Plan:

- Sustain healthy populations of wild burros within a Herd Management Area AML range.
- Assure healthy range and riparian conditions.
- Utilize population growth suppression methods.
- Minimize conflict with the public both within and outside the HMA.
- Public education and outreach.
- Other issues as identified.

**Wildlife Issues**

The issues that BLM describes and impacts discussed in the Report are not presented consistently. For issues in the Report such as Recreation, Urban Interface, and Livestock, BLM describes some of the burro-related impacts to these resource issues. For example, under the issue of "Livestock," BLM reports that "Conflicts mainly arise between livestock management and burros due to forage competition and in some cases damage to livestock facilities."

However, under "Wildlife," the information on this issue was limited to a description of some of the common wildlife species in the HMA and a list of special status species (i.e., species protected under the Federal Endangered Species Act (FESA), Bald and Golden Eagle Protection Act, and BLM sensitive species (including the tortoise).

We found no documentation that the lands on the northeast, north, and west sides of Lake Pleasant HMA are Category 2 habitat for the tortoise according to DataBasin maps. Thus, most of the HMA contains Category 2 tortoise habitat. Category 2 tortoise habitat is defined as a habitat area that may be essential to maintenance of a viable population; most conflicts are resolvable; the habitat contains medium to high density or low density of tortoises contiguous with a medium or high density area; and the tortoise population is stable or decreasing. Please include this information in the Lake Pleasant HMA Plan and EA.

We found no documentation that BLM identified any conflicts between burro use and wildlife management, especially for special status species such as the tortoise. BLM should have described the direct, indirect, cumulative, and synergistic impacts of burros to wildlife, particularly special status species and the tortoise and their habitats. The absence of this information on impacts to wildlife/special status species, including the tortoise, and their habitats from a large burro population suggests to the public that there is little or no impact to wildlife or special status species from a large burro population, which needs to be rectified in the EA.

We provide the following information on burros and their impacts to tortoises for inclusion in the EA. "Feral burros, like other livestock, can have negative effects on tortoises through overlap of forage species, trampling of tortoises and burrows, long-term changes in composition and structure of vegetation, and disturbance to the substrate (e.g., Avery and Neibergs 1997; Keith et al. 2008; Berry et al. 2014; Tuma et al. 2016). Burro tracks and trails degrade tortoise habitat (e.g., Ostermann-Kelm et al. 2009). Burros browse on shrubs that are important sources of protective cover for the tortoises from extremes of temperatures and predators" (Berry et al. 2020). Berry et al. (2020) reported that tortoise presence decreased with increasing burro scat, which was their metric for burro use and activity.

Ruben et al. (2024) conducted a study that included the Lake Pleasant HMA. While this research is referenced in the Report, the information on impacts to wildlife, including the tortoise, that are reported in this paper are not presented in the "Wildlife" section. Some excerpts from this research that are likely relevant to the Report include "[a]lthough it has been speculated that feral equids may provide some benefit to wildlife (Lundgren et al. 2021), results of multiple studies conducted in the western United States indicated the opposite." The "presence and spread of non-native ungulates can drastically alter native communities and ecosystems, with consequential effects on native species and the habitats they rely on." The findings by Ruben et al. (2024) indicate multiple changes associated with burros in this [Sonoran Desert] ecosystem, most evident in the plant community, and also showing evidence of effects in wildlife taxa." Their "findings also suggest that detection and monitoring of these effects will require detailed field surveys" (Ruben et al. 2024). (See our comments under "BLM's Data Collection Methodology" below).

Ruben et al. (2024) concluded that their "findings related to plants alone should raise concern among managers that burros are having a negative effect on important elements of the Sonoran Desert ecosystem, and that the status of burros in our study sites may not meet the legal requirements for BLM to maintain a thriving natural ecological balance." Finally, the authors state that their "results suggest that the viability of the Sonoran Desert ecosystem is jeopardized by this non-native herbivore."

BLM should include this and other information available in the scientific literature in the development of alternatives and the analysis of impacts to wildlife/special status species (including the tortoise) and their habitats in the EA and in the development of the new Lake Pleasant HMA Plan.

**Compliance with Sonoran Desert Tortoise Candidate Conservation Agreement**

The EA for the new HMA Plan should describe and analyze how the implementation of alternatives would comply with the purpose and intent of the Sonoran Desert Tortoise Candidate Conservation Agreement (Agreement) (USFWS et al. 2015). Each Party to this agreement "is dedicated to eliminating or reducing threats to the SDT [Sonoran desert tortoise]." The initial term of this Agreement is for 10 years (June 19, 2025). Thereafter, the Parties agree that the Agreement "shall be extended for additional five (5) year increments until long-term habitat and population conservation of the SDT is achieved." The Agreement should have been extended in June of this year.

As a signatory to this Agreement, BLM committed to implementing:

(1) BLM Manual 6840 (BLM 2024) 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.).

The planning process would include the development and implementation of the new Lake Pleasant HMA Plan.

These three measures may only be effectively implemented when BLM knows the status and trend of the tortoise populations on the lands it manages, what the direct and indirect impacts to the tortoise are from BLM's management decisions, where the impacts are occurring, and ultimately how they are affecting tortoise populations. The Council is concerned about projects and

management decisions that contribute to degradation and loss of tortoise habitat (including habitat needed for connectivity among populations) (BLM 2022) from habitat fragmentation, activities that introduce and spread non-native plant species, wildfires, etc., which result in a reduction in the quality, quantity, and configuration of tortoise habitat needed for the tortoise to persist in Arizona. To conduct an accurate regional or cumulative effects analysis and comply with the Agreement, BLM should be tracking these and other impacts to the tortoise at a local and landscape level using a geospatial tracking system for all management actions and projects that it authorizes, funds, or implements. The AML, the actual number of burros, and their impacts to the tortoise/tortoise habitats should be added to BLM's geospatial tracking system.

In the Agreement, BLM says, that through [its] Resource Management Plans (RMPs), BLM managers are directed to "[a]void, minimize or mitigate impacts associated with all BLM authorized activities including mineral material sales, rights-of-way, recreational use, travel management, and livestock grazing through project design and modifications to allowable uses in order to achieve Sonoran desert tortoise management objectives" (USFWS et al. 2015).

The planning and management documents that pertain to the current Lake Pleasant HMA were finalized several years before the adoption of the Agreement. BLM adopted the Bradshaw-Harquahala Record of Decision and Approved Resource Management Plan (RMP) in 2010 and finalized the Lake Pleasant HMA Plan in 1999. Thus, it is unlikely that these documents included requirements to implement effective management and mitigation actions to conserve the tortoise. We found no information in the Report that BLM amended these planning and management documents to include the conservation needs of the tortoise following BLM's signature of the Agreement in 2015.

To comply with the Agreement, we request that BLM explain and analyze in the EA how it will mitigate (avoid, minimize, and/or compensate) the direct, indirect, and cumulative impacts associated with the alternatives in the EA for the new Lake Pleasant HMA Plan at a local and landscape level to achieve Sonoran desert management objectives. The EA should include an analysis of how the implementation of each action alternative (and there should be more than one) would result in "no net loss in quantity and quality of Sonoran desert tortoise habitat" (USFWS et al. 2015). As a signatory to the Agreement, this is one of several commitments BLM made regarding management for the tortoise/tortoise habitat.

**Compliance with Federal Land Policy and Management Act, Wild Free-Roaming Horses and Burros Act**

In the EA, BLM should explain how all the action alternatives comply with the Federal Land Policy and Management Act (FLPMA) and the Wild Free-Roaming Horses and Burros Act (Horse and Burro Act). FLPMA directs BLM to manage public lands that consider the long-term needs of future generations for renewable and non-renewable resources, and to take any action necessary to prevent unnecessary or undue degradation of the lands. This would include developing, adopting, and implementing HMA plans.

In the latter statute, Congress found that horses and burros are fast disappearing from the American scene. The statute directs the Secretary of the Interior "to manage wild free-roaming horses and burros in a manner" that is designed "to protect the natural ecological balance of all wildlife species

which inhabit such lands, particularly endangered wildlife species." This directive should tell BLM that the issue of "Wildlife" is highly important and the impacts to wildlife from the current management of burros in the Lake Pleasant HMA should have been presented in the Report. Further, the development and analysis of action alternatives in the EA for the new HMA Plan should demonstrate that the directives of both of these statutes are followed with respect to wildlife and their habitats.

With respect to "protect[ing] the natural ecological balance of all wildlife species which inhabit such lands, particularly endangered wildlife species," a lawsuit was recently filed challenging the U.S. Fish and Wildlife Service's determination in 2022 that listing the Sonoran desert tortoise as endangered or threatened under the FESA was not warranted. Although not currently listed under the FESA, the ongoing declines in many tortoise populations; unchecked development; no requirements to fully offset the impacts from human activities that adversely affect the tortoise including habitat loss, degradation, and fragmentation; little evidence of recruitment; other impacts exacerbated by climate change; and the IUCN's analysis that the tortoise currently meets the definition of threatened, it appears likely that the tortoise will be placed on the list of endangered and threatened species in the near future. Consequently, BLM should develop a new HMA Plan that accordingly protects the tortoise.

In the Horse and Burro Act, Congress directed that "any adjustments in forage allocations on any such lands shall take into consideration the needs of other wildlife species which inhabit such lands." Again, Congress indicated that appropriate management of forage for native wildlife should occur, which would include the tortoise.

**Compliance with BLM Policies and Other Obligations**

In the EA and new HMA Plan, BLM should demonstrate how it is implementing its policies with respect to the conservation of the tortoise, specifically:

- Bureau of Land Management. 2015. Advancing Science in the BLM: An Implementation Strategy IB 2015-040
- Bureau of Land Management. 2021. Instructional Memorandum on Mitigation (2021a), Mitigation Handbook (2021b), and Mitigation Manual (2021c)
- Bureau of Land Management 2022. Habitat Connectivity on Public Lands Instruction Memorandum 2023-005.
- Bureau of Land Management. 2024. Special Status Species Management – Manual 6840. Washington, D.C. September 9, 2024.

We request that BLM use the best available scientific information when preparing the new Lake Pleasant HMA Plan, implementing the objectives, monitoring the status of burros and their impacts on special status species and their habitats, including the tortoise, and implementing adaptive management actions to protect these native species and their habitats. We request that BLM describe the proactive conservation efforts it is implementing in the new Lake Pleasant HMA to contribute to the conservation of the tortoise; how it is mitigating the loss, degradation, and fragmentation of tortoise habitat from excessive burro numbers; and using science to advance the conservation of the tortoise at a local, landscape, and ecosystem level.

In addition, BLM should explain how it will comply with its Rangewide Plan (BLM 1988) and Compensation for the Desert Tortoise (Desert Tortoise MOG 1991) in the EA for the Lake Pleasant HMA.

**Foraging Needs of the Sonoran Desert Tortoise**

We provide the following information to BLM on the dietary needs and foraging behavior of the tortoise to be included in the EA.

Murray and Wolf (2013) reported that adult and juvenile tortoises showed differences in their dietary niche and degree of specialization. During the growth period for hatchling and juvenile tortoises, they had more specialized diets while adult tortoises have more generalized diets (Murray and Wolf 2013). For juvenile tortoises, their reduced gut capacity and shorter retention times as well as their smaller and weaker mandibles limit their foraging to relatively low-fiber, leafy C3 forbs whose availability may be temporally and spatially restricted. This finding indicates that for recruitment to occur in tortoise populations, specific plants must be available and consumed by juvenile tortoises so they may grow and replace the adult tortoises to sustain a tortoise population.

Murray and Wolf (2013) suggest that juvenile Sonoran desert tortoises may emerge from winter brumation earlier than adults to take advantage of cooler conditions in late winter/early spring, when their preferred forbs have just emerged, their heights make them accessible to small tortoises, and their chemical composition meets their constrained physiological needs. Thus, when managing for the tortoise, this early emergence in late winter/spring or periodic emergence during winter should be included in the management of availability of native vegetation for hatchling and juvenile tortoises.

Regarding the preferred plant species that tortoises consume, Murray and Wolf (2013) offer that Oftedal (2007) and others reported that C3 forbs, and especially plants in the genera *Lupinus*, *Lotus*, and *Astragalus* are likely to make up a major portion of the biomass ingested in the spring.

In addition, for current and future climatic and habitat conditions, a shift to a warmer and drier climate coupled with invasive C4 grass-fueled fire regimes may significantly alter the availability of the plant resources required by desert tortoises to balance their energy and nutrient budgets, primarily through the reduced availability of C3 forbs and shrubs. This has the potential to negatively impact the growth and fitness of desert tortoises, particularly juveniles with a high degree of dietary specialization on C3 forbs (Murray and Wolf (2013).

This and other relevant information on the biological and ecological needs of the tortoise, especially for hatchling and juvenile tortoises, should be included in the development of alternatives in the EA, analysis of the alternatives, and development of the new HMA Plan.

**Other Issues to Address in the EA and New Lake Pleasant HMA Plan**

Other issues that should be addressed in the EA and new HMA Plan include:

- the spread and proliferation of non-native plant species;
- the resulting increased fuel load for wildfires in areas that are not adapted to survive wildfires;

- impacts of wildfires on wildlife diversity and abundance, including the tortoise;
- overgrazing/damage/loss of native vegetation including woody browse species that the tortoise needs for shelter from temperature extremes and predators;
- reduction in native herbaceous vegetation (i.e., forbs) needed for reproduction, growth of hatchling and juvenile tortoises, and sustainment of adult tortoises; and
- impacts to the physical, chemical, and biological components of soils.

**BLM's Data Collection Methodology**

Under the issue of "Weather," BLM described the ongoing multi-year drought in this area and its impacts on woody perennial plants and perennial grasses. We were unable to find documentation on the impacts to native herbaceous perennial and annual forbs that the tortoise requires for survival, reproduction, and growth (See information above under "Foraging Needs of the Sonoran Desert Tortoise").

BLM reported that a "[d]ieback of plant parts and mortality, though difficult to quantify, was observed in the form of dry and decaying parts. In general, perennial grass is missing completely or underrepresented in the plant communities. Where present, grasses and subshrubs showed signs of current herbivory." It appears that BLM's methods for gathering data on vegetation have focused on woody perennial plants and perennial grasses, which are the needs of livestock, and have ignored the needs of native wildlife species that depend on native herbaceous annual and perennial forbs for their survival.

Further, BLM reported that "[d]rought and other factors have led to an increase in annual species and decrease in perennial species. Because of growth patterns and life cycle, annual plant species are only a viable forage source for a short period of time where the perennial species are needed to support grazing animals throughout the year. As the perennial species have decreased, wild burros, and other grazing animals, concentrate longer periods of time in the desert wash systems where higher density of perennial species remain."

We found no documentation on whether the increase in annual plant species is attributed to native or non-native species, which should be clarified in the EA. Data on plant species composition, abundance, and locations are needed for BLM to manage for a healthy ecosystem in the HMA and prevent undue degradation to the land. Many species of non-native annual plants are invasives with little nutritive value to sustain species such as desert tortoises (Drake et al. 2016).

The apparent absence of data collected by BLM on native and non-native annual plant species composition, abundance, locations, and trends means there are limited data for determining whether there is sufficient nutritional forage available for the tortoise during all life stages and for other species of wildlife such as desert bighorn sheep (*Ovis canadensis*). We reiterate that in the Horse and Burro Act, Congress directed that "any adjustments in forage allocations on any such lands shall take into consideration the needs of other wildlife species which inhabit such lands." Again, Congress indicated that appropriate management of forage for native wildlife should occur. We conclude that BLM's methodology for collecting data on the vegetation in the HMA is flawed because it does not recognize the nutritional needs of special status species such as the tortoise. We request that BLM modify its data collection methods to correct this flaw/perceived absence of data and document these new methods in the EA and HMA.

Because all rooted plants depend on soils, BLM should collect data on the physical, chemical, and biological components of soils that are needed for desert soils to function properly and support native vegetation. Soils may be observed as being physically present but may not be functioning soils. Soil properties and components (e.g., amount of compaction, soil moisture content, intact biological soil crusts, etc.) that comprise healthy functioning desert soils are not identified as an issue. This is a major oversight of the BLM that substantially limits its ability to manage the public lands for multiple use, sustained yield, and to prevent undue degradation to the land.

For example, cyanobacteria and cyanolichens are found in most undisturbed desert soil surfaces as the major component of biological soil crusts. One of the many important functions of soil crusts is to stabilize soil surfaces by linking soil particles together with filamentous sheaths, enabling soils to resist both water and wind erosion (Belnap 2003). They contribute to the biogeochemical cycling of nutrients, serving as nitrogen and carbon sources, which are scarce in the desert environments and improve soil – water balance and plant growth (Rodriguez-Caballero et al. 2022).

Soils provide the basic foundation for most terrestrial life, because they provide structure and determine the availability of water and nutrients to soil biota and plants, which in turn, provide habitat and food for larger animals (Belnap et al. 2008). A holistic focus of soils management is crucial because healthy soils are needed to support healthy native vegetation and wildlife. Soil texture and quantity may be present (i.e., no evidence of erosion), but soil moisture may be too low to result in seed germination of native plants or to sustain established native plants. This would affect the species composition, abundance, and density of vegetation. Vegetation and soils are major components that contribute to healthy functioning wildlife habitat.

The tortoise is a fossorial (e.g., burrowing) species that depends on the presence of adequate soil moisture and biological soil crusts to sustain native herbaceous annual and perennial forbs for adequate nutrition and water balance to survive and persist in the desert environment. Thus, the tortoise is integrally connected with native vegetation and depends on properly functioning soils for its survival, that is, its nutrition and cover for protection from thermal extremes and predators.

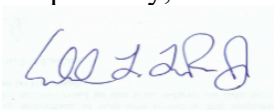
For the above stated reasons, we recommend that impacts to soils be added as an issue in the EA and to the Lake Pleasant HMA Plan, specifically data collection and analysis of the physical, chemical, and biological soil properties of soils in the HMA. BLM should use this information to properly manage the various organic and inorganic properties and components of soils in the HMA.

In closing we request that BLM implement the following recommendation made by Ruben et al. (2024). “[B]ecause the Sonoran Desert ecosystem is also challenged by other factors such as drought, introduction of invasive plant species, and altered fire regimes, . . . a carefully designed monitoring protocol [should] be established to ensure that the ecological health of the Sonoran Desert ecosystem is maintained.” This monitoring protocol should include the needs of special status wildlife and plant species and the vegetation and soils on which they rely.

We appreciate this opportunity to provide the above comments and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the BLM that may affect desert tortoises, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above. Additionally, we ask that you notify the DTC at eac@deserttortoise.org of any proposed projects that BLM may authorize, fund, or carry out in the range of any species of desert tortoise in the southwestern United States (i.e., *Gopherus agassizii*, *G. morafkai*, *G. berlandieri*, *G. flavomarginatus*) so we may comment on it to ensure BLM fully considers and implements actions to conserve these tortoises as part of its directive to conserve biodiversity on lands managed by BLM.

Please respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this proposed action.

Respectfully,



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

Cc: Raymond Suazo, Arizona State Director, Bureau of Land Management, blm_az_asoweb@blm.gov
Heather Whitlaw, Field Supervisor, Arizona Ecological Services Field Office (Phoenix), U.S. Fish and Wildlife Service, heather_whitlaw@fws.gov

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