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Via email

13 October 2023

Ms. Jennie Anderson
Center for Environmental Management of Military Lands
Colorado State University
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Fort Collins, CO 80523-1490
cemml_INRMPcomments@colostate.edu

RE: Comments on the Barry M. Goldwater Range Integrated Natural Resources Management Plan Update

Dear Ms. Anderson,

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 document. Given the location of the proposed actions in habitats known to be occupied/used by the Sonoran desert tortoise (*Gopherus morafkai*) (synonymous with Morafka's desert tortoise), our comments include recommendations intended to enhance management and protection of this species and its habitat during activities authorized by the U.S. Air Force (USAF) and/or U.S. Marine Corps (USMC).

Please accept, carefully review, and include in the relevant project file the Council's following comments for the Barry M. Goldwater Range (BMGR or Range) Integrated Natural Resources Management Plan update (INRMP), as both agencies are responsible for developing and implementing the INRMP.

The BMGR is approximately 1.77 million acres and located in southwestern Arizona. It is bordered on the north by state trust and private lands and lands managed by the Bureau of Land Management (BLM); on the east by the Sonoran Desert National Monument and the Tohono O'odam Nation; on the south by BLM land, Cabeza Prieta National Wildlife Refuge, and Mexico; and on the west by BLM state trust land and other land.

The USAF and the USMC use the BMGR for training military aircrews in the tactical execution of air-to-air and air-to-ground missions. The USAF is the primary user of and managing agency for the eastern portion of the Range, referred to as BMGR East, and the USMC is the primary user of and managing agency for the western portion of the Range, referred to as BMGR West.

Comments on the Barry M. Goldwater Range Integrated Natural Resources Management Plan

Public Comment Process

The Council learned of the availability of the INRMP from a third party. On 8/14/2023, the Council sent an email to the proponent asking when comments on the INRMP were due. We received no response. The Council sent a second email shortly after 8/27/2023 asking that the Council be added to the Affected Interest list and be sent a copy of the INRMP (or a link to the document). The Council was informed the comment period would end on 10/13/2023, but did not receive a copy of the document or a link to it.

The Council had difficulty locating the INRMP online. We did not find this information in the *Federal Register* Notice of July 20, 2023 which was a "Notice of Intent to Prepare an Update to the 2018 Integrated Natural Resources Management Plan and Public Report (INRMP) for the Barry M. Goldwater Range" and a request for input. After several attempts to search for the document on the Internet, we found it. Although the Council has years of experience in finding government documents available for public review and comment, we had difficulty finding this INRMP. Because of our difficulty in locating the INRMP online, we wonder how many of the general public, who wanted to provide comments during the public comment period, were unable to, Stil other may have been discouraged from providing comments because of the difficulty in locating the document online and their unfamiliarity with searching several locations online for government documents.

We recommend that, in the future, Department of Defense installations should be transparent in providing information on the public comment periods for INRMPs and should facilitate easy accessibility of these documents to the public.

Purpose of an INRMP

The Sikes Act Improvement Act requires the Secretaries of the military departments to carry out the programs to "provide for:

(i) The conservation and rehabilitation of natural resources on such installations;
(ii) the sustainable multipurpose use of the resources on such installations, which shall include hunting, fishing, trapping, and nonconsumptive uses."

The INRMP for each military installation is the document that implements these programs. The required elements of INRMPs include:

"(A) fish and wildlife management, land management, forest management, and fish- and wildlife-oriented recreation;
(B) fish and wildlife enhancement of modifications;…
(E) establishment of specific natural resource management goals and objectives and time frames for proposed action;…
(H) enforcement of applicable natural resource laws (including regulations)."

The Council requests that the USAF and USMC carefully review the BMGR INRMP and ensure that all of these elements are achieved in the INRMP. We strongly recommend that science be the foundation for developing the INRMP and implementing it. This would include

- using the best available and most recent information from scientific journals and agency reports (and citing these in the INRMP) to determine the status and needs of biological resources that use the Range,
- developing and implementing appropriate management actions in response to the status and needs of biological resources,
- developing and implementing statistically robust methods to monitor changes in biological resources, reporting the results of these monitoring efforts in a platform/forum that is easily accessible by the public, and
- implementing effective adaptive management to change land management practices when the monitoring results indicate that biological resources are declining in quantity and/or quality.

Pages 71 (Table 12) and 81: The IMRMP refers to the Sonoran desert as a population. The Sonoran desert tortoise (*Gopherus morafkai*) is not a population, but a fully recognized species. Please see Murphy et al. (2011) and Edwards et al. (2016). We request that the taxonomic status of the Sonoran desert tortoise be corrected throughout the INRMP.

Page 81: The INRPM provides a paragraph on the Sonoran desert tortoise that suggests it is closely related to the gopher tortoise (*Gopherus polyphemus*). Cladistic analysis shows that *G. morafkai* is most closely related to the Mojave desert tortoise, *G. agassizii*, whereas the gopher tortoise is a distantly related species that is more closely related to the bolson tortoise in Mexico (*G. flavomarginatus*). The *agassizii* and *polyphemus* clades diverged more than 25 million years ago and, outside of sharing common ancestry and burrowing tendencies, have very little in common. In addition, there is a plethora of scientific literature available from Google Scholar on the Sonoran desert tortoise, as well as its closest relative, the Mojave desert tortoise. We recommend that the INRMP be revised so it provides the latest scientific information on the Sonoran desert tortoise,

or if not available, its closest related species, the Mojave desert tortoise on its needs to survive and persist (e.g., physiology, nutrition, population connectivity, genetics, etc.).

Major threats to the tortoise are listed here. One major threat not listed is wildfire even though it is discussed later on page 129. We request that the USAF and USMC add wildfire to the list of major threats and provide information of the acres of tortoise habitat lost to wildlife in the last decade or so.

Page 117: "Long-term monitoring plots are surveyed every three years for Sonoran Desert tortoises." We suggest that the INRMP include information is provided that demonstrates the survey methods used on monitoring plots are implementing appropriate scientific methodology (e.g., collecting data to determine adequate sample size, health conditions, amount of recruitment, sex ratio, etc.) that will provide meaningful data on the status and trend of the species throughout its range and the local populations that occur on the BMGR. Both status and trend analyses are necessary to determine whether the Sonoran desert tortoise is effectively being conserved or is declining (e.g., a trend toward extirpation of local populations in the foreseeable future and extinction). In addition, a summary of the tortoise data collected should be provided in the INRMP as this information will show the effectiveness of past management. It should be used as a metric to determine whether these management actions have been effective or need to be modified to provide for tortoise conservation for the long term. In addition, the Air Force should be monitoring the quality and quantity of the habitat and its connectivity in the BMGR, especially vegetation, to determine any changes that are occurring to native perennial and annual species in composition, density, abundance, cover, etc. These data are needed to effectively manage for all wildlife species on the BMGR especially species listed under the Endangered Species Act and protected under Arizona Game and Fish Code.

Page 129: "The key effort of the conservation strategy is to focus on conservation, habitat improvement, and ongoing management of the tortoise status and habitat."

The INRMP lists some "key actions implemented by BMGR East to protect the tortoise…" We request that the INRMP explain why these actions are applied only to BMGR East and not the entire BMGR. In addition, the USAF and USMC imply that implementing these key actions are adequate to manage for the conservation of the tortoise on the BMGR. We request that the INRMP, supported by science, demonstrate that these key actions are effective in managing for the conservation of the tortoise on the BMGR.

Page 130: On this page the INRMP appears to mention two types of surveys for tortoises, surveys of new areas and surveys of a long-term monitoring plot. We request that the two types of surveys be described and include the scientific rationale for the past and future survey plans and the plans themselves.

For example, the USAF and USMC state, "[s]urveys covered the monitoring plot in its entirety with surveyors walking parallel transects at 49 feet [sic] intervals." For the Mojave desert tortoise, the transect interval is 30 feet. Data have been collected and analyzed for tortoise detections in the Mojave Desert and the result is the maximum distance for transects is 30 feet. The Mojave Desert has perennial plants densities and topography that is more open than the Sonoran Desert. This

openness means it is easier to see Mojave desert tortoises than Sonoran desert tortoises as the latter occurs in areas with more diverse topography and greater density of vegetation. Consequently, the USAF and USMC should ensure that tortoise transects are spaced at appropriate intervals to result in a high detection rate of tortoises located on or near the transects. If not already studied, this spacing of transects along with upslope and downslope biases that help hide animals from a person's view should be investigated, and if the data indicate this is a bias, the survey method should be modified to correct this bias.

As discussed in our comments above under page 117, to determine whether management actions are effectively managing for the tortoise and other species of wildlife and plants, data should be collected on local populations and rangewide, as well as on habitat requirements. Please explain in the INRMP how the past and future survey plans for the tortoise comply with the data needed to determine whether the USAF and USMC are effectively managing for the conservation of the Sonoran desert tortoise. This information is necessary to determine whether the implementation of the Candidate Conservation Agreement for the Sonoran Desert Tortoise in Arizona (USFWS et al. 2015) of which the USAF and USMC are signatories is being effectively implemented.

Please ensure that the design of water catchments/artificial watering sites allows target animals access but prevents tortoises and other small animals from entering the catchments, becoming trapped, or drowning. Catchments should be monitored regularly and searched for animal remains to determine whether these catchments are inadvertently killing wildlife and the species and numbers affected.

Management Goals and Objectives

In this section of the INRMP, management goals, objectives and specific projects are identified. Please ensure that the USAF and USMC identify in this section all goals, objectives and projects that will be implemented to achieve the commitments made in the Candidate Conservation Agreement for the Sonoran Desert Tortoise in Arizona (USFWS et al. 2015). These projects should be rated as ahigh priority for implementing.

Page 183: Project 1.1.1: "For native plant populations, monitor long-term vegetation monitoring plots on five-year intervals at BMGR East and continue regional collaboration to analyze and contextualize data. Initiate a similar program of vegetation monitoring on BMGR West."

We request that the vegetation monitoring include both perennial and annual plant species and native and non-native species. The monitoring design that is implemented should be statistically robust and science-based. We support adding BMGR West to this Project as the project should include the entire Range.

In addition, we request that an adaptive management project be added to the projects on vegetation. As an example of an adaptive management project, if a wildfire occurs on the Range, the frequency of the vegetation monitoring should increase in that area, ideally occur within a few weeks after the fire and more frequently thereafter to adequately assess the successional process and changes to the vegetation community following the wildfire. The results of this frequent monitoring would

help determine when revegetation efforts should be implemented, the methods that would be used to produce the greatest success, and the native species that would be revegetated.

A similar adaptive management project should be added for the tortoise and other special status species.

Project 1.2.1: "Monitor invasive plant and animal species through annual (at minimum) patrols of range roads, known infestation sites, potential infestation areas, identifying and reporting areas of concern for treatment using the cloud app at BMGR East and West."

For this Project, we support the use of technology to report and record identified areas of invasive species. We suggest that when monitoring/collecting data during surveys for native vegetation, these statistically robust survey methods also collect data on non-native species. Further, we suggest that the Project should include the removal/treatment of non-native plant species prior to the plants setting seed for that growing season to reduce the production of seeds and contribution to the seed bank to reduce the production of non-native species during the succeeding growing season.

Page 184: For Project 1.2.4, please add the Sonoran desert tortoise as a species that is adversely affected by the presence of these non-native invasive plant species.

Page 185: Project 1.4.1 – "Survey new and/or existing sites of Sonoran Desert tortoise occupation at BMGR East and identify suitable habitat every three years to continue the 56 RMO's long history of tortoise conservation and management, support listing decisions, and prevent designation of critical habitat."

We suggest this objective be expanded to clarify of reference how new sites will be selected and that the survey methods implements are statistically rigorous. In addition, we suggest the results of the surveys and analysis of the data be included in a report that is posted online and easily available to the public to access. In addition, we suggest that recurring surveys for the tortoise occur in BMGR West in suitable habitat for the species be conducted.

We note this is the only project in the INRMP for the tortoise. We found no project that would be implemented if the survey results for the tortoise showed a downward trend. Using monitoring data to identify a management issue and change management to improve the status of a species, aka adaptive management, should be a project that is added to the INRMP for the tortoise and other special status species, rather than waiting 5 or more years for the next INRMP to add it. We request that the USAF and USMC add this adaptive management project, as we believe existing data from some tortoise monitoring plots show a decline in tortoise densities/numbers on the Range. Absent this commitment and direction in the INRMP to change management as needed, the USAF and USMC would implement one project that only monitors the tortoise (or other species), potentially documenting their decline until they were extirpated from some of the Range.

Page 187: Project 1.5.3 "Opportunistically assess and annually document the trespass livestock population at BMGR East and use results to develop a plan to remove trespass livestock and prevent further incursions, as needed."

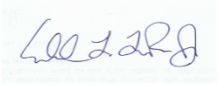
We recommend the USAF and USMC use their pilots or drones to routinely assess and document trespass livestock. The use of pilots or drones would accomplish two projects, training time for the pilots and drone users and collection of needed data to effectively implement this part of the INRMP. The data collected from these flights could then be entered into a data base to track their locations and used to implement Project 1.5.4, annually fund a contract to monitor and control trespass of animals and livestock.

Page 191, 9.2 Monitoring INRMP Implementation
"The BMGR's natural resource management has been mostly limited to actions taken for the benefit of protected or special status species (e.g., Sonoran pronghorn, acuña cactus, and FTHL)." Please add that the Sonoran desert tortoise is a special status species. As such ensure that the action in the INRMP reflect those needed to benefit this species.

Table 10.1 Priority Level of Workplan: The Council disagrees with some of the designations for projects. We strongly recommend that Project 1.2.3 be designated as a high priority for reasons provided early in this letter.

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 funded, authorized, or carried out by the USAF or USMC that may affect desert tortoises, and that any subsequent environmental documentation for this INRMP 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 INRMP.

Respectfully,



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Literature Cited

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[USFWS et al.] U.S. Fish and Wildlife Service, Bureau of Land Management, Bureau of Reclamation, National Park Service, Department of Defense, Customs and Border Protection, U.S. Forest Service, Natural Resources Conservation Service, Arizona Game and Fish Department, and Arizona Department of Transportation. 2015. Candidate Conservation Agreement for the Sonoran Desert Tortoise (*Gopherus morafkai*) in Arizona. May 27, 2015. https://www.blm.gov/sites/blm.gov/files/policies/IMAZ-2016-004-a1.pdf.