

Peaceful Chiricahua Skies

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Manager, Operations Support Group, AJV,C2
Attn.: Jesse Acevedo; Airspace Study: 24-AWP-91-NR
Federal Aviation Administration
10101 Hillwood Parkway
Fort Worth, TX 76177

(Submitted via email and certified mail; enclosed with the certified mail submission is a CD with referenced research and other related materials.)

Dear Mr. Acevedo:

On behalf of the undersigned organizations, thank you for accepting our comments on **Case no. 24-AWP-91NR**, the proposal to amend Special Use Airspace military operations areas Tombstone A, Tombstone B, Tombstone C, Outlaw, Jackal, Morenci, Reserve, Baghdad 1, Gladden 1, Sells 1, Ruby 1, Fuzzy; establish military operations areas Tombstone D, Tombstone E; and remove military operations areas Jackal Low in Arizona/New Mexico.

We request that the Federal Aviation Administration (FAA) reject this proposal from the Department of the Air Force (DAF).

Expanding military combat training in these areas presents serious safety concerns and is not acceptable.

In the below comments we especially call your attention to the following sections, which pertain to **aeronautical concerns**, including safety:

- **The NEPA process was not adhered to.** (page 4)

There are serious violations of the NEPA process, which apply to both the DAF and the

FAA as a cooperating agency. In addition, the FAA notice of its request for comments was not properly publicized, and serious input is likely missing as a result.

- **Input of Cooperating Agencies was not adequately disclosed or included in the analysis.** (pages 7-11)
- **There has been no substantive response to concerns about current violations of FAA regulations.** (pages 11-15 and Appendix B)
There have been a significant number of violations of FAA regulations documented before this proposal has been enacted.
- **There are frequent violations of current FAA rules that are not being addressed.** (page 19)
- **The DEIS discussion of intensity, regularity, or repetitive events is not accurate.** (page 20)
- **The DEIS analysis of Safety is inadequate.**
 - **The DEIS analysis of aircraft “mishaps” (crashes) is inadequate.** (pages 25-27)
 - **The DEIS analysis of flare usage and fire risk is factually inaccurate and inadequate.** (pages 27-32)
 - **The DEIS analysis of Noise is inadequate.** (pages 32-37)
 - **The DEIS analysis of avoidance of populated areas is inaccurate.** (pages 37-38)
 - **The DEIS analysis of the potential to experience a low-level overflight is inadequate and incorrect.** (page 38)
- **The DEIS analysis of the impact on public lands used for recreation is inaccurate and inadequate.** (pages 51-56)
Federal US code, as well as FAA regulations and recommendations, recognize the detrimental effects of military jet noise on wilderness and other ecologically sensitive areas, including areas designated under the Wilderness Act. This proposal blatantly ignores the effect of flights on these areas.
- **The DEIS analysis of Hazardous Materials is inadequate.** (pages 60-61)
- **Appendix B: Nuisance Flight Reports** (pages B1-B337)

In addition, the recent increase in both military and civilian flights in the MOAs as a result of the new militarization of the border is not considered in this proposal. To let this proposal move forward without considering this is an invitation for serious and perhaps life-sacrificing accidents.

As such, we recommend that the Air Force restrict its lower elevation and supersonic flights, and other combat training, such as dropping chaff and flares, to the Barry M Goldwater Range where it's already happening.

In addition, we request that the FAA consider 1) better monitoring and enforcement of current regulations, 2) consideration of avoidance zones for relevant areas, and 3) better communications between the local communities, the DAF, and the FAA.

I. Executive Summary

The Draft Environmental Impact Statement for Regional Special Use Airspace Optimization to Support Air Force Missions in Arizona has failed the people who are affected by this proposal. It is requested that the comment period be extended by 60 days; that additional public hearings be held in Cochise County, AZ, on Tribal lands, and in Tucson and Phoenix; and that the final EIS remedy and address the deficiencies identified here.

The comments below document concerns, including the following:

- **There is a Lack of Accountability in the overall EIS process.** There was not adequate public or agency involvement. Input from the public, government agencies, elected officials, and Tribal members was not appropriately disclosed, nor addressed. FOIA requests have been blocked, and information from key cooperating agencies has been withheld. Neither the letter nor the spirit of the National Environmental Policy Act (NEPA) was followed, and the overall opaqueness and deception is deeply concerning.
- **The Purpose and Need are not complete and are analytically inadequate.** Alternatives are not provided or analyzed adequately. Most importantly, the elimination of the Barry M. Goldwater Range (BMGR) as an alternative is not supported.
- **There is a failure to adequately analyze cumulative impacts,** including the retirement of A-10s and the proposed transformation of the 492nd Special Operations Wing (492 SOW) into the Air Force Special Operations Command (AFSOC) Power Projection Wing (PPW) at Davis-Monthan AFB.
- **There have been a large number of documented violations of Federal Aviation Administration (FAA) regulations, which are ongoing.** There are serious safety risks resulting from those violations of flights lower than permitted and over houses and people. In addition, there is a concern that if the rules are made more permissive, the violations will expand in a corresponding manner.
- **There is a failure to adequately assess the impacts of this proposal.** Safety risks, including fires, are not adequately considered. The analysis of noise includes flawed, outdated, and inaccurate information. Impacts to natural wilderness and wildlife

including listed species are trivialized, and input from key agencies is ignored. The economic base of tourism and recreation in the Tombstone MOA is not addressed, nor is the unique nature of this area as a biodiversity hotspot. Finally, the Wilderness Act provisions that apply to the two designated wilderness areas in this MOA are ignored.

It is our hope that these comments are regarded seriously. This location is home to many people and animals and is a unique location for visitors, scientists, and peace seekers from around the world. Please do not ruin it.

All sources referenced here are submitted in full in our mailed submission.

II. There is a Lack of Accountability in the overall EIS process.

A. The NEPA process was not adhered to.

Neither the letter nor the spirit of the National Environmental Policy Act (NEPA) has been held to in this process.

This policy requires the federal government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony. This DEIS is the antithesis of that idea.

Neither adequate alternatives nor adequate mitigations are provided in the DEIS.

It is evident that neither the public nor the required government agencies were appropriately involved in this process.

As such, it is requested that the comment period be extended by a minimum of 60 days and that the below deficiencies be remedied before this extension begins.

B. There was not adequate Public and Agency Involvement.

1. The public hearing process was inadequate.

No public hearings were held in the current Tombstone MOA, nor in Cochise County, AZ, the area most affected by this proposal. When hearings in this area were requested, the answer was, "We are not able to add other in-person

Hearing locations at this stage. Two Virtual Hearings are being conducted to ensure members of the public who are unable to attend the in-person Hearings for any reason have the opportunity to hear the same DAF presentation and provide verbal comment for the record,” (Keesling, 2024).

The attempt to substitute in-person hearings with virtual hearings ignores the realities of broadband in rural and Tribal areas. This is inequitable for these areas ([FCC](#), 2021).

As such, an extension to the comment period is requested, as well as a request that hearings be held in the Tombstone MOA including in Cochise County.

2. Public comments during scoping were not disclosed or appropriately considered.

It is the general process in NEPA to disclose public comments. In the scoping phase of this project, according to the DEIS, 6,667 comments were made by members of the public, Tribes or Pueblos, federal agencies, state and local agencies, elected officials, aviation groups or private pilots, airports, and non-governmental organizations.

None of these comments were disclosed publicly.

In Appendix D, the DEIS says, “Since a large number of substantive scoping comments were submitted, the DAF elected to summarize the comments” (D1-7). The DEIS instead tallied the comments, classified them as “non-substantive” or “substantive,” and provided a summary table of only those they judged to be “substantive.”

Without access to the actual comments, there is no way to verify or assess what is presented in the DEIS. This is a gross breach of the NEPA process.

To comply with NEPA, it is also critical to know who made which comments. Which were from members of the public, Tribes or Pueblos, federal agencies, state and local agencies, elected officials, aviation groups or private pilots, airports, and non-governmental organizations?

All of these comments were made in the spirit of being “public comments.” There is no privacy excuse that explains why they were not disclosed.

Note: This information was requested under FOIA, was not released, and is the subject of current litigation.

In addition to the above concerns, the “responses” presented in Appendix D, Table 8 were inadequate, incomplete, dismissive, and frankly insulting. Here are just a few examples:

- The comment that scoping meeting locations were inadequate was responded to with, “The scoping meeting locations provided sufficient geographic coverage for the areas most likely to be impacted by the proposal. Meeting location requests received during the scoping comment period were taken into consideration when determining the locations for Public Hearings” (D1-9).

This is factually inaccurate. The areas most likely to be impacted by the proposal are the Tombstone MOA and Tribal lands. These locations were not the site of meetings either during scoping or two years later during the DEIS comment period, despite many repeated requests (Keesling, 2022; Keesling, 2024).

- The request for interaction with Air Force representatives was answered with “Virtual Public Hearings will be held during the Draft EIS comment period” (D1-9). Neither those virtual hearings, nor the in-person hearings, provided any opportunity for formal interaction. In fact, it was explicitly stated that there would be no question and answers.
- The comment that meetings were not held on Tribal lands was answered by, “The DAF has consulted with government leaders of potentially affected Tribes in accordance with Section 106 of the National Historic Preservation Act. In-person meetings with Tribal leaders were held at their request” (D1-9). Private meetings with Tribal leadership in no way addresses the request for public hearings on Tribal lands.
- Beyond the process issues, nearly all of the comments related to lack of information, purpose and need, and other substantive concerns were

answered with short referrals to pages in the DEIS, which did not adequately address the concerns or comments. These issues and concerns are being addressed further elsewhere in these comments.

Overall, the DEIS did not adequately address the issues raised during scoping. It is requested that all scoping comments be disclosed in full, and that the final EIS address the concerns raised more completely and with facts and integrity.

3. Input of Cooperating Agencies was not adequately disclosed or included in the analysis.

According to NEPA, “A cooperating agency has the responsibility to:

- assist the lead agency by participating in the NEPA process at the earliest possible time
- participate in the scoping process
- develop information and prepare environmental analysis that the agency has special expertise in
- make staff support available.”

(Council on Environmental Quality, [40 CFR § 1501.6](#), 2020).

As stated in the Council on Environmental Quality’s memorandum to agencies regarding “Questions and Answers About the NEPA Regulations,” a lead agency, in this case the DAF, “has the responsibility to solicit cooperation from other federal agencies that have jurisdiction by law or special expertise on any environmental issue that should be addressed in the EIS being prepared” (Council on Environmental Quality, 1981). This memo goes on to state that cooperating agencies should take responsibility for specific issues, devote staff resources to this, and follow through with those tasks.

In the DEIS, the Federal Aviation Administration, National Park Service, United States Forest Service, and Arizona Game and Fish Department are listed as cooperating agencies. The DEIS says that each of these agencies “was given the opportunity to review the EIS prior to public release of the Draft EIS and provide feedback on potential impacts to their land management areas” (1-13).

However, the DEIS contains little or no information on the participation by the, the National Park Service (NPS) or the United States Forest Service (USFS) in the process. As an example, no comments from these agencies, during scoping or otherwise, are included in the DEIS.

When the National Park Service was asked about its participation, a representative replied that they did not know about the proposal at the time of scoping and only learned about it when the DEIS was issued. Toward the end of the comment period, they said they were working on comments on the DEIS. This does not appear to be consistent with the intended role of a cooperating agency under NEPA.

NEPA guidelines were also not followed in terms of the USFS's role as a cooperating agency. The USFS has made many statements about their participation, detailed below, which ultimately show that the DAF has withheld information from the public in this DEIS.

First, it is not clear when the USFS was given cooperating agency status, but according to the USFS, that status was likely requested by them at the very end of the scoping period (Angel, 2022).

Subsequent to the issuance of the DEIS, the USFS verbally responded to requests by the public for information by reporting that various forest service units, including the Coronado National Forest and others, made comments objecting to the DAF proposal. The USFS staff members reporting this were initially eager to share those comments with the public, however, subsequently said that a FOIA request would need to be submitted.

After this FOIA request was submitted by Karen Fasimpaur (Fasimpaur, 2024), there were several additional conversations with USFS staff. They reported that the USFS had submitted comments on concerns about the following areas: firestarts, fire operations, recreation, wildlife effects, and wilderness. These comments were combined into one document called the "Comment and Response Matrix Worksheet" and submitted to the DAF.

Again, while USFS staff members initially expressed a desire to share those comments with the public, ultimately, they reported that the DAF intervened, and this would not be possible. On October 10, 2024, the USFS issued a final

determination letter on Fasimpaur's FOIA request 2024-FS-R3-08044-F stating that:

"Two documents totaling seven pages are being withheld in full under exemption (b)(5) of the FOIA...

Documents being withheld pursuant to 5 U.S.C. § 552(b)(5) which pertains to inter- and intra- agency memoranda which are deliberative in nature; this exemption is appropriate for internal documents which are part of the decision-making process, and contain subjective evaluations, opinions and recommendations.

The confidential business and pre-decisional information have been redacted from the provided documents. This information is not generally available to the public and meets the definition of "deliberative" nature information for a business. This type of information is the type of information that would not normally be released to the public by a business or an individual. The release of this information would be harmful to the quality of an agency's decisions." (Bail, 2024)

The fact that the USFS comments were not disclosed in the DEIS and have been subsequently hidden from the public raises very serious concerns.

The DAF's and USFS's failure to disclose comments, underlying documents, data, and relevant analyses violates NEPA, as well as the public trust.

NEPA is designed to "ensure that agencies identify, consider, and disclose to the public relevant environmental information *early in the process before decisions are made* [emphasis added] and before actions are taken" (Council on Environmental Quality, 40 CFR § 1500.1(b), 2024; 40 C.F.R. § 1500.1(a), 2021). Such disclosure has been a centerpiece of NEPA since the statute was enacted in 1970.

The statute expressly requires that "the lead agency shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved" (42 U.S.C. § 4332). The status further says that "Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the

President, the Council on Environmental Quality *and to the public* [emphasis added]" (42 U.S.C. § 4332). This disclosure must be "to the fullest extent possible" (*Id.*; *Ground Zero Ctr. for Non-Violent Action v. United States Dep't of Navy*, 860 F.3d 1244, 1252, 9th Cir. 2017). NEPA regulations therefore have also long required that "Agencies shall . . . [m]ake environmental impact statements, the comments received, and any underlying documents available to the public pursuant to the provisions of the Freedom of Information Act, as amended" (40 C.F.R. § 1506.6(f), 2021, renumbered to 40 C.F.R. § 1501.9(c)(6), 2024).

NEPA is meant to "'guarantee[] that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision'" (*Or. Nat. Desert Ass'n*, 625 F.3d at 1099, quoting *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 768, 2004).

The goal of the EIS process is to foster "democratic decisionmaking" (*id.*) and "informed public participation" (*Cal. v. Block*, 690 F.2d 753, 761, 9th Cir. 1982). Accordingly, the NEPA statute and regulations, and judicial interpretation of these authorities, emphasize the importance of disclosure of relevant information to the public and transparency in the agency's decisionmaking process.

Early and full disclosure to the public of relevant information is essential in the NEPA process because non-disclosure thwarts the public's ability to comment on essential aspects of an agency's proposed action and its environmental impacts, thereby "frustrating NEPA's goal of allowing the public the opportunity to 'play a role in . . . the decisionmaking process'" (*Great Basin Res. Watch v. Bureau of Land Mgmt.*, 844 F.3d 1095, 1104, 9th Cir. 2016, quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349, 1989). Full disclosure of the agency's analysis and the data on which it relies is also essential: NEPA's "disclosure requirement obligates the agency to make available to the public high quality information, including accurate scientific analysis, expert agency comments and public scrutiny, before decisions are made and actions are taken" (*Ctr. for Biol. Diversity v. U.S. Forest Serv.*, 349 F.3d 1157, 1167, 9th Cir. 2003).

NEPA's purpose would be defeated if a critical part of the analysis could be omitted from an EIS and its appendices.

The DAF has failed to comply with these fundamental requirements of NEPA, both in the DEIS process and in their refusal to disclose comments, other relevant material, and underlying documents to the public in time to allow review of underlying documents and essential data and rely on them in the public comment process. Information essential to meaningful public comment has not been released despite FOIA requests from multiple organizations and individuals. The DAF's (and USFS's) stonewalling in the FOIA process and inadequate disclosures in the DEIS violate NEPA, and by themselves render the DEIS (and the eventual FEIS and ROD) unlawful.

It is unknown what the degree of participation was by the Arizona Game and Fish Department or the New Mexico Arizona Game and Fish Department. The concerns outlined above may pertain to these agencies and others as well.

It is requested that all public agency comments be disclosed in full and included in the final analysis.

C. There has been no substantive response to concerns about current violations of FAA regulations.

The DEIS does not respond to violations of FAA regulations that call for avoiding overflights of persons, vehicles, or structures in un-congested areas by 500 feet (FAA, 2024c, [14 CFR § 91.119](#)). Instead, the DEIS cites these regulations as though they are being followed, though they are not.

The responsible lead agencies have been unresponsive to reports of noise and disturbances from communities below their airspace, despite requests for response.

The below Figure 1: Nuisance Flights over the Tombstone MOA shows over 200 nuisance flight reports filed with Davis-Monthan and the Air National Guard for the Tombstone MOA between March 29, 2023 and October 2, 2024. (Note: These numbers are actually understated as they do not reflect reports that included more than one nuisance flight. Some reports reflect several days of nuisance instances). Details on these reports are available in Appendix B: Nuisance Flight Reports. Note that these reports are not all of the nuisance flight reports but only the ones that were copied to Peaceful Chiricahua Skies.

The following, Figure 2: Nuisance Flights over the Tombstone MOA - Enlarged, shows an enlargement of the northern portion of the Tombstone MOA around the Portal area.

Together these figures and Appendix B: Nuisance Flight Reports show: 1) There are significant nuisance flights, including many which violate FAA rules; 2) Those flights are concentrated in certain areas; and 3) Many of those nuisance flights are outside of current MOA boundaries. The DAF seems to have already moved into the proposed expansion area.

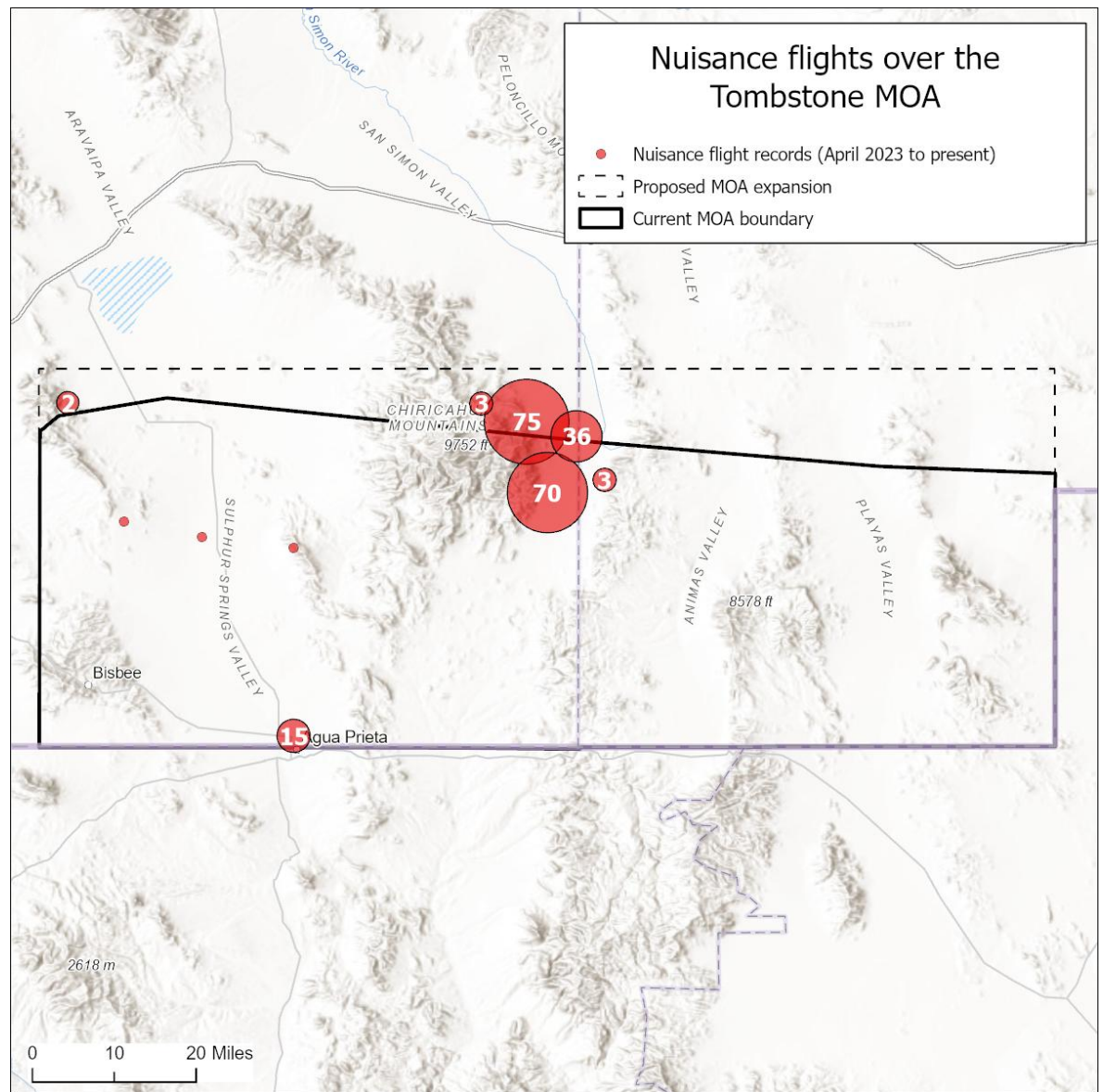


Figure 1: Nuisance Flights over the Tombstone MOA

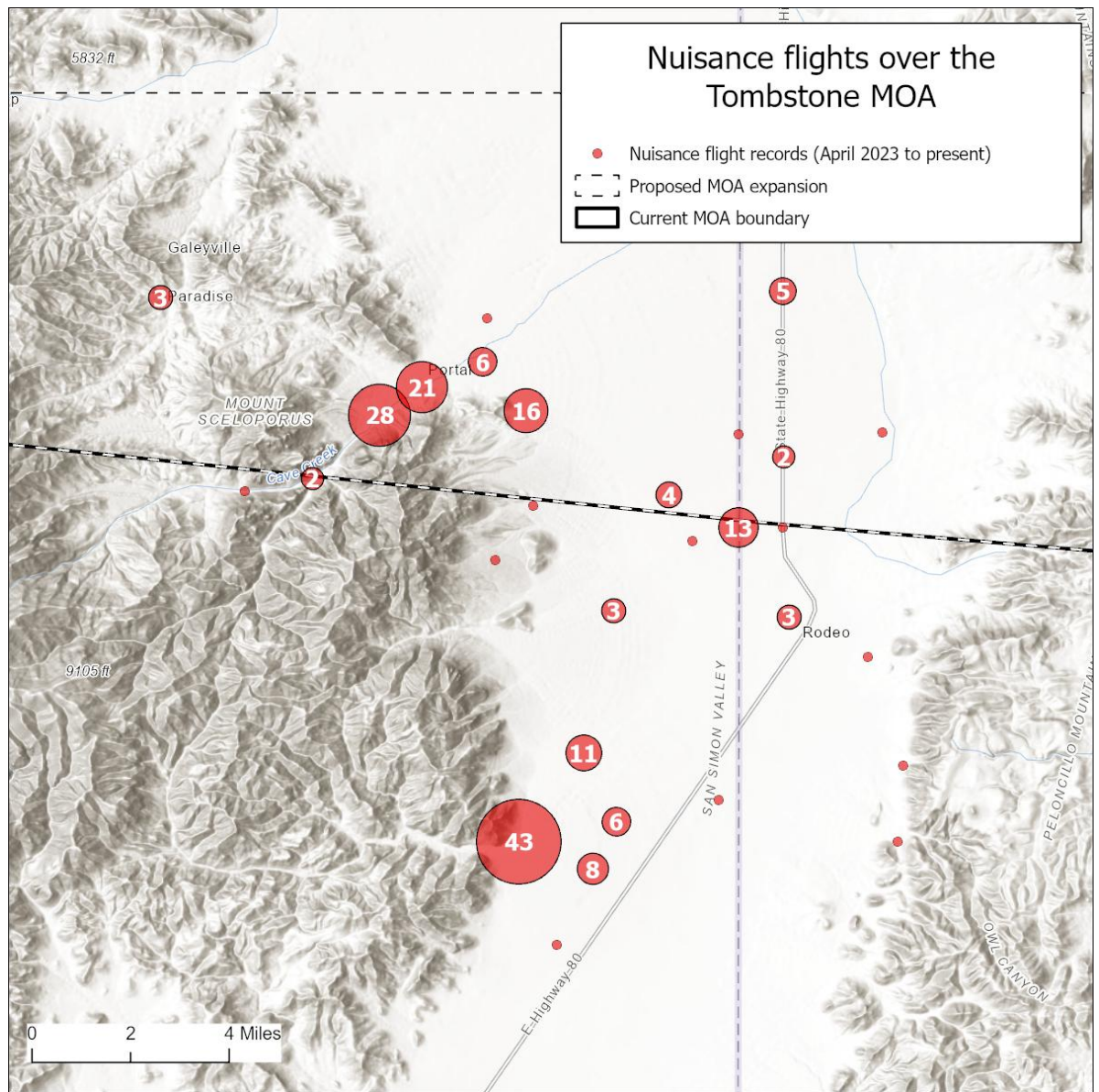


Figure 2: Nuisance Flights over the Tombstone MOA - Enlarged

When flight information was requested to corroborate these problems under FOIA, no information was supplied, and this is the subject of current litigation. This shows a consistent disregard for existing violations and a lack of regard for public input and concerns.

As such, it is requested that historical flight information be disclosed and that past violations be responded to. In addition, the degree of past violations should be

considered in terms of how expanded regulations may lead to even more egregious violations.

In addition to the FAA regulations [14 CFR § 91.119](#) that are not being adhered to, there are other FAA regulations that request common sense best practices that are also not being adhered to. For example, the Section 7-5-6 Flights Over Charted U.S. Wildlife Refuges, Parks, and Forest Service Areas of Safety of Flight chapter of the Aeronautical Information Manual says, “Pilots are requested to maintain a minimum altitude of 2,000 feet above the surface of the following: National Parks, Monuments, Seashores, Lakeshores, Recreation Areas and Scenic Riverways administered by the National Park Service, National Wildlife Refuges, Big Game Refuges, Game Ranges and Wildlife Ranges administered by the U.S. Fish and Wildlife Service, and Wilderness and Primitive areas administered by the U.S. Forest Service,” ([FAA](#), 2024b).

This guideline is violated by the proposed action. It is also violated routinely even in current practice as documented by nuisance flight reports (See Appendix B: Nuisance Flight Reports and comments below for more information).

Similarly, FAA Advisory Circular 91-36D Visual Flight Rules (VFR) Flight Near Noise-Sensitive Areas says, “Excessive aircraft noise can result in annoyance, inconvenience, or interference with the uses and enjoyment of property, and can adversely affect wildlife. It is particularly undesirable in areas where it interferes with normal activities associated with the area’s use, including residential, educational, health, and religious structures and sites, and parks, recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites where a quiet setting is a generally recognized feature or attribute. Moreover, the FAA recognizes that there are locations in National Parks and other federally managed areas that have unique noise-sensitive values. The Noise Policy for Management of Airspace Over Federally Managed Areas, issued November 8, 1996, states that it is the policy of the FAA in its management of the navigable airspace over these locations to exercise leadership in achieving an appropriate balance between efficiency, technological practicability, and environmental concerns, while maintaining the highest level of safety,” ([FAA](#), 2004a).

It goes on to outline related “Volunteer Practices.” These include:

“a. Avoidance of noise-sensitive areas, if practical, is preferable to overflight at relatively low altitudes.

b. Pilots operating noise producing aircraft (fixed-wing, rotary-wing and hot air balloons) over noise sensitive areas should make every effort to fly not less than 2,000 feet above ground level (AGL), weather permitting. For the purpose of this AC, the ground level of noise-sensitive areas is defined to include the highest terrain within 2,000 feet AGL laterally of the route of flight, or the uppermost rim of a canyon or valley. The intent of the 2,000 feet AGL recommendation is to reduce potential interference with wildlife and complaints of noise disturbances caused by low flying aircraft over noise-sensitive areas,” ([FAA](#), 2004a).

Again, these best practices are violated by the proposed action and violated routinely even in current practice as documented by nuisance flight reports (See Appendix B: Nuisance Flight Reports and comments below for more information about this).

It is requested that both the DAF and the FAA examine these regulations, guidelines, and best practices and analyze the DAF’s proposed actions, as well as current actions, in light of this.

III. The Purpose and Need are not complete and are analytically inadequate.

A. The Purpose and Need for the proposal are not clearly established.

The DAF has not clearly established the need for the proposed action. The stated purpose is, “to alleviate training shortfalls and address evolving training needs for aircrews stationed at Davis-Monthan Air Force Base (AFB), Luke AFB, and Morris Air National Guard Base (ANGB) in Arizona” (1-1). However, no meaningful data or analysis of training needs or shortfalls is provided.

Merely saying that more training space is desired does not establish the need.

The DEIS goes on to say that the Barry M. Goldwater Range (BMGR) “is one of the Nation’s most capable and productive training ranges and is indispensable to the ability of the U.S. Armed Forces to produce combat-ready aircrews” and “consists of approximately 1.7 million acres and over 7,000 square miles of airspace” (1-3).

There is no coherent analysis of why the extreme combat training that is proposed to move to the MOAs cannot continue at BMGR, other than to say that “BMGR East is the only live-fire range in Arizona fully available to the DAF” (1-9) and that airspace is “saturated.”

No average annual sorties or hours of flight currently flown at BMGR is given. No proposed average annual sorties or hours of flight to be flown at BMGR is given. No aircraft type data or proposed activities are given. No analysis of the training needs or shortfall is given.

B. Adequate alternatives are not provided in the DEIS.

1. The discussion and analysis of the elimination of the Barry M. Goldwater Range (BMGR) as an alternative is incomplete and inadequate.

The DEIS claims that BMGR was analyzed as an alternative; however, little or no cost benefit or other analysis of that option was provided in the DEIS.

In the DEIS’ extremely brief half-page of narrative about why expansion of training at the BMGR was considered but eliminated, the DEIS says:

“Normal hours for BMGR East are Monday through Friday, 0730 to 2330 Local. The range is open one to two weekends per month from 0800 to 1700 Local to support ANG and Air Force Reserve flying schedules. Expanding the hours of operation to support more training missions would only be possible by opening more weekends, essentially making BMGR operational 7 days a week with a commensurate increase in range support personnel. The aircrews in Arizona must train during the operational hours for their home bases, which currently are limited to weekdays. In addition to the pilots, a significant number of maintenance and other support staff must be present when the aircraft are operational. An alternative for a wholesale change of hours of pilot and ground support personnel and range support personnel would substantially increase costs. Expanding the hours of operation at BMGR to include more weekends would not fully alleviate the current capacity issues or the anticipated future capacity issues once all of the F-35s are based at Luke AFB. Also, expanding the hours of BMGR to support more operations would not meet the selection standard to reduce use of BMGR for non-hazardous training. Therefore, this was not considered a viable alternative” (2-15).

Beyond its brevity and lack of analysis, there are many problems with this statement.

First, there is no supporting detail of how many sorties are currently flown at BMGR, what the nature of those sorties is, or how that relates to sorties at other bases discussed in the DEIS. That information is requested to be disclosed, along with accompanying analysis.

Second, moving low level combat training to populated and protected wilderness areas because the DAF does not want to staff weekends or nights is preposterous and irresponsible. Extending the hours of the BMGR needs more analysis. It is requested that information be supplied on the calculations of: 1) the cost of extending BMGR's hours; 2) the cost of the detrimental effects to residents, the environment, wildlife, the economy, etc. of affected areas in the MOAs and; 3) how those compare.

Third, no analysis of F-35 sorties or other pending changes is included in the DEIS. In addition, the pending retirement of the A-10's, which are to be replaced by aircraft that do not require the extreme low elevation training parameters, including lowering the supersonic floor from 30,000 feet to 5,000 feet, was not taken into consideration in the DEIS by its own admission. An honest, legally sufficient analysis of actual fighter jet (F-16s and F-35s) training is requested vis a vis the evaluation of BMGR as an alternative.

In light of this and after this information is provided, it is requested the Air Force seriously consider restricting its lower elevation and supersonic flights, and other combat training, such as dropping chaff and flares, to the Barry M Goldwater Range where it's already happening. The Air Force must not shift the burden of risk to rural and Tribal communities in southern AZ and NM.

BMGR is a currently available and feasible area for the proposed training to occur. The DEIS does not provide any serious analysis of this option, other than to discount it.

- 2. An alternative to implement Avoidance Zones for critical habitats was not analyzed adequately.**

Having Avoidance Zones for critical habitat areas is an obvious alternative that was apparently not given serious consideration. Section 1.1.7 of Appendix D2 mentions this alternative, but no analysis whatsoever is given.

Because the Tombstone MOA contains many of these critical habitat areas, an alternative of eliminating Tombstone A was suggested. In Appendix D2, the reply to this is, “The Tombstone MOA is a vital component of pilot training in Arizona and removing a significant portion of this low-altitude training airspace would not meet the selection standard to improve low-altitude training in the area, thus eliminating Tombstone A is not a viable alternative” (D2-6). This shows no analysis, and merely saying that it is needed does not demonstrate why this is not a viable alternative.

In the DEIS, there is some discussion of defined avoidance areas associated with Mexican Spotted Owl and Bald and Golden Eagle nests, but no specifics are included. The DEIS says there are no specific avoidance areas within Tombstone MOA. However, Mexican Spotted Owls, Bald Eagles, and Golden Eagles are all found here ([iNaturalist](#), 2024; [iNaturalist](#), 2024; [iNaturalist](#), 2024). Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act (United States Code, 1981, [16 USC 668-668d](#)) and the Migratory Bird Treaty Act 1918 (United States Code, 1918, [16 USC 703-712](#)). More information on the avoidance areas for Mexican Spotted Owls and Eagles in the Tombstone MOA is requested.

In addition, it is requested that an alternative with Avoidance Zones for the Chiricahua Wilderness Area, the Chiricahua National Monument, the Chiricahua Mountains Important Bird Area, and critical habitats for endangered and listed species (Beautiful Shiner, Chiricahua Leopard Frog, Jaguar, Mexican Spotted Owl, New Mexican Ridge-Nosed Rattlesnake, San Bernardino Springsnail, Yaqui Catfish, Yaqui Chub, and Yellow-Billed Cuckoo [Western DPS]) be explored in the EIS.

See Appendix C: Protected Public Lands in the Tombstone MOA (with proposed expansion) for a list of critical habitat areas and accompanying maps.

3. The discussion and analysis of the use of simulation technology or virtual reality as an alternative is incomplete and inadequate.

The DEIS eliminated the alternative of using simulators and virtuality reality training with little or no analysis.

However, simulator and virtual reality training is currently used in both private

industry and the military and has been shown to be effective ([Guthridge](#), 2023). It has been shown to be especially effective for F-35 training ([Hunter](#), 2023; [FAAC](#), 2024). Training in this way has been shown to save money and lower risk.

It is requested that the EIS do an analysis of the alternative of using simulators and virtuality reality training and disclose this information.

IV. There are frequent violations of current FAA rules that are not being addressed.

Throughout the DEIS, the DAF acknowledges Code of Federal Regulations Section 91.119 which defines FAA minimum safe altitudes for all flights. For example, the DEIS says, "In accordance with FAA minimum safe altitudes (14 CFR § 91.119), aircraft must avoid congested areas of a city, town, or settlement or any open-air assembly of people by 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft. Outside congested areas, aircraft must avoid persons, vessels, vehicles, or structures by 500 feet" (3-5).

In fact, this is part of the rationale the Air Force uses for its claims that there are no significant impacts of noise, dangerous aircraft crashes, and other safety risks as a result of this proposal.

However, these rules have been broken regularly and routinely over the past two years. This is documented by hundreds of nuisance flight reports made to the DAF and ANG (See Appendix B: Nuisance Flight Reports).

Data on actual military flights has been requested from the Air Force under FOIA to corroborate these violations. However, those requests were denied, and there is a pending lawsuit on that issue. Why is the DAF declining to respond to these complaints or to provide data on these flights?

Because this issue has an overall effect on the entire DEIS, it is requested that military flight data from the Tombstone MOA between January 1, 2022 and October 9, 2024 be disclosed, that this data be analyzed for FAA and airspace violations, and that a plan be developed to minimize this in the future.

In addition, it is requested that the final EIS include this data and analysis, as well as its impact on other assertions made in the EIS.

V. There is a failure to adequately analyze cumulative impacts.

A. The DEIS discussion of intensity, regularity, or repetitive events is not accurate.

The DEIS repeatedly says that negative consequences “would not occur with any sort of regularity or be a repetitive situation in any location” (3-104, 3-106, 3-117, etc.). As has been documented in the Tombstone MOA, that is not accurate. Even before this expanded proposal goes into effect, military training activities have been concentrated in areas, such as canyons in the Chiricahuas, which are populated and environmentally critical areas.

As shown above, Figure 1: Nuisance Flights over the Tombstone MOA shows over 200 nuisance flight reports filed with Davis-Monthan and the Air National Guard for the Tombstone MOA between March 29, 2023 and October 2, 2024. Details on these reports are available in Appendix B: Nuisance Flight Reports. Note that these reports are not all of the nuisance flight reports but only the ones that were copied to Peaceful Chiricahua Skies.

The above, Figure 2: Nuisance Flights over the Tombstone MOA - Enlarged, shows an enlargement of the northern portion of the Tombstone MOA around the Portal area.

Together these figures and Appendix B: Nuisance Flight Reports show: 1) There are significant nuisance flights, including many which violate FAA rules; 2) Those flights are concentrated in certain areas; and 3) Many of those nuisance flights are outside of current MOA boundaries.

It is requested that the USAF provide historical flight records and analyze them for intensity, regularity, or repetitive events in specified areas of the Tombstone MOA and other MOAs.

Because the DEIS’s claim of lack of regularity or repetitiveness underlies the entire DEIS, the existing analysis is inadequate.

It is requested that the final EIS disclose and analyze data on actual sorties and the intensity, regularity, and repetitiveness in specific areas, including the canyons and mountains of the Tombstone MOA.

B. The DEIS includes A-10s which are being retired.

The DEIS states that, “This Draft EIS analysis was started prior to the decision to retire A-10 aircraft, which was enabled by adoption of the Fiscal Year 2023 Presidential Budget and passing of the 2024 National Defense Authorization Act. Thus, this Draft EIS includes A-10 operations” (cover sheet).

This is disingenuous as these thousands of A-10 sorties will be replaced by aircraft that do not require the extreme low elevation training parameters, including lowering the supersonic floor from 30,000 feet to 5,000 feet.

It is requested that the analysis of the retirement of the A-10s and the replacement plane sorties be disclosed to show the actual need for extreme low elevation training.

C. The DEIS does not include the introduction of F-35s.

The DEIS states that, “The F-35 basing was addressed in a previous NEPA decision document (DAF, 2012), but the basing was not fully complete at the time of preparation of this EIS; therefore, the additional F-35 sorties are not accounted for in the current operations data presented...” (2-8).

The F-35s are known to be considerably louder than current planes flying in the MOAs. This is a significant and a substantive omission.

The information on the introduction of F-35s must be disclosed and analyzed as a part of this proposal and this EIS.

It is requested that this data be disclosed, analyzed, and included in this EIS.

D. The DEIS does not include the proposed transformation of the 492nd Special Operations Wing (492 SOW) into the Air Force Special Operations Command (AFSOC) Power Projection Wing (PPW) at Davis-Monthan AFB.

The only mention of this significant development in military operations in the Tombstone MOA in the DEIS is in Appendix G, which says, “The timeline for beddown and changes to the aircraft inventory at Davis-Monthan AFB are not

yet known, however, the beddown would not affect the proposed airspace modifications being addressed in this EIS nor would it negate the requirement for these modifications...It is expected that AFSOC use of the airspace would be similar to existing users and not present a cumulative effect” (G-3).

This is disingenuous as this change would significantly affect this EIS and must be examined and analyzed. Without any analysis of this here, the cumulative effects are unknown. Putting this in a separate EIS is deceptive ([USDAF](#), 2024). It is requested that this data be disclosed, analyzed for its impact on this proposal and be included in this EIS.

E. The DEIS fails to fully assess the cumulative impacts from increased use of VR-259 and 263.

The Tombstone MOA, particularly those areas of the Chiricahua Mountains lying beneath VR-259 and VR-263 are already experiencing the negative impacts of noise, danger to people, economic harm to local businesses, and depreciation of the property values due to low altitude combat training.

These planes are often breaking current FAA regulations as commented in the community’s many nuisance flight reports (See Appendix B: Nuisance Flight Reports).

The DAF and ANG have shown limited capability or interest in following up on these complaints.

The DEIS includes little or no information about the VRs, and their cumulative impact is not adequately analyzed.

It is requested that this data be disclosed, analyzed, and included in this EIS.

VI. There is a failure to adequately assess impacts.

A. The DEIS analysis of Affected Environment and Environmental Consequences is inadequate.

1. The DEIS analysis of overall impact on water, earth and natural resources is not adequate.

The DEIS states that, “The Proposed Action would be limited to the modification of airspace to support military training operations and would not include any components that would touch or directly affect the quantity, flows, percolation rate, or accessibility of surface or ground water resources. The use of chaff and flares does not affect water quality or aquatic habitats,” and “There are no activities proposed that would impact the geology, topography, or soils in the affected environment. The use of chaff and flares does not affect soil chemistry” (3-2).

Merely saying that there is no effect does not make it the case. Saying that operations in the air do not affect the water or earth surface is naive and obfuscatory.

In addition, the DEIS also says that flares are made of “magnesium and Teflon (polytetrafluoroethylene)” (F-7), a type of per- and polyfluoroalkyl synthetic chemicals (PFAS) that are known not to degrade easily in the environment and are commonly known as “forever chemicals.” These chemicals have been shown to pollute soil, especially when burned, which is obviously the case with flares ([International Chemical Secretariat](#), 2022; [Citizens for Safe Water Around Badger](#), 2024).

PFAS are widely regarded as presenting environmental hazards to both water and soil as documented by the EPA and others ([EPA](#), 2024). The Air Force is already being sued for PFAS-related mitigations and clean-up, and yet this DEIS proposes increased combat training here that would increase PFAS exposure ([U.S. Department of Defense](#), 2024).

Chaff also presents dangers to water, earth and natural resources. A 2023 DOD report discloses that PFAS including “about a dozen fluoropolymers, including fluoroelastomers, are ingredients in polymer bonded explosives, pyrotechnics, and propellant components used in munitions, decoy flares, and chaff ” ([U.S. Department of Defense](#), 2023).

A report written by researchers from the Navy states that, “Currently, DOD severely restricts the use of chaff in training in order to reduce pollution of the environment and to protect civilian airspace” and goes on to discuss the research on the dangers of chaff ([Arfsten, et al.](#), 2021).

There are numerous studies about the environmental dangers of both chaff and flares ([Citizens for Safe Water Around Badger](#), 2024; [AFCEC](#), 2024). However, this and other research is ignored in this DEIS, which instead takes the position that there is no effect. This defies common sense as well as research findings.

This DEIS's denial that PFAS contamination is an issue leads one to wonder what other hazardous effects on water, earth and natural resources have been omitted.

In addition, sonic booms are known to increase danger of rock and landslide, weaken cliffs and overhangs, and damage or destroy sensitive landscape features like hoodoos. An EPA study included documentation of damage to National Park cliff dwellings and rock formations ([EPA](#), 1971).

Finally, the DAF dumping of chaff and flares over public property or property of another that is not a lawful dump is not only an affront to the natural resources but could be as much as a Class 6 felony under Ariz. Rev. Stat. Ann. §13-1603 ([Arizona Revises Statutes](#), 2024a). While the DAF may be exempt from these and other environmental protection laws, it begs the question of why this is the case.

It is requested that the EIS further disclose and analyze the impacts of this proposal on water, earth and natural resources

2. The DEIS analysis of increased flights in BMGR and elsewhere is inadequate.

The DEIS states that, "The use of energy supplies would be jet fuel used during training operations; however, this is not expected to be a substantial increase or use of energy supplies beyond what is used currently. Therefore,

natural resources and energy supply are not evaluated in detail in this EIS" (3-2).

The DEIS claims both that there is not an increase in overall flights as a result of this proposal and that there will be significantly increased flights in all MOAs.

It is stated that these flights will be shifted from the BMGR. However, it is also stated that the BMGR is needed for more and more hazardous sorties. No data is disclosed in this DEIS about numbers of flights in the BMGR, either currently or under the new proposal.

This omission of data and seemingly contradictory claims about the number of flights leaves many questions.

It is requested that data must be disclosed and analyzed for all MOAs and the BMGR and any other areas that are affected by this proposal. Based on this, the effects on water, earth or natural resources must be disclosed and analyzed.

B. The DEIS analysis of Safety is inadequate.

1. The DEIS analysis of aircraft “mishaps” (crashes) is inadequate.

The DEIS states, “It is impossible to predict the precise location of an aircraft accident; however, the probability of an aircraft crashing into a populated area is extremely low” (3-18).

As a first support to this, the DEIS says that the areas of flights have low population densities. No data is provided regarding this other than county-wide averages. The populations in the canyons of the Chiricahuas that are currently being used most frequently for low level flights have increased. It is requested that the EIS include mapping of current population and structures in these areas, as well as data on sorties flown there over the last two years.

Secondly, the DEIS says that “pilots of aircraft are instructed to avoid direct overflight of population centers at very low altitudes” (3-18). Based on first person reports from residents in this area, frequent, low altitude flights over populated areas are happening (See Appendix B: Nuisance Flight Reports, as well as Figures 1 and 2). The DAF and ANG have declined to respond to these reports and have declined to supply flight data. It is requested that this

data be disclosed and that more serious attention be given to these dangerous flights. It is only a matter of time before one of the pilots “hot dogging” in the canyons and breaking regulations crashes into a canyon wall, causing either fire or loss of life. It only takes one accident for there to be severe consequences.

Thirdly, the DEIS says that the “limited amount of time the aircraft is over any specific geographic area limits the probability that a disabled aircraft would impact a populated area” (3-18). Again, the many nuisance flight reports demonstrate that flights are being concentrated in certain populated areas, making a catastrophic crash more likely in these areas (See Appendix B: Nuisance Flight Reports).

It is only common sense that with the significant increase in flights in the Tombstone MOA, there will be an increasing likelihood of crashes.

In addition, there have already been numerous DAF “mishaps” or crashes. According to the Air Force Times, “Six F-16s have been involved in accidents so far this year. About three Fighting Falcons have been totaled each year on average for the past decade” ([Cohen](#), 2022). The Aviation Safety Network documents 21 F-35 crashes in the ten years since its service ([Aviation Safety Network](#), 2024).

Serious crashes have included: a 2004 fatal F-16 crash on the Tohono O’odham Nation ([USDAF](#), 2004); a 2015 fatal F-16 crash near Douglas, AZ ([Tankersley](#), 2015); a 2016 fatal F-16 crash near Bagdad, AZ ([Associated Press](#), 2016); a 2017 fatal F-16 crash near Safford, AZ ([Associated Press](#), 2017); a 2023 collision between an F-16 and a drone ([Loew](#), 2024b; DOD incident report, 2024); and a 2024 F-35 crash near Albuquerque, NM ([Winston](#), 2024). There are many other crashes not included here. The number of serious crashes in just the local area belies the DAF assertion that the probability of a crash is extremely low, and with substantially increased numbers of flights, that probability increases.

The use of military drones is not mentioned in the DEIS. A local news outlet recently reported “22 incidents between October 2022 and June 2023 where Air Force fighter pilots reported seeing or colliding with drones in mid-flight” ([Loew](#), 2024a). It is requested that data and analysis on the use of both

civilian and military drones in the MOAs be included in the DEIS.

It is requested that data on actual military flights in the Tombstone MOA be disclosed and that this data be analyzed against the location of homes and other structures in this area. It is also requested that data and analysis of aircraft “mishaps” (crashes) be done. The fact that the DAF does not generally publicly release its findings, requires FOIAs to get information, and is currently not responding to FOIAs, shows a pattern of hiding information. In addition, the data on crashes in the DEIS is based on flight hours; however, the number of flight hours for both current and proposed sorties is not given. It is requested that this data be disclosed and analyzed to get a more accurate risk assessment.

A combined analysis of all of the above information and safety risk is requested in the EIS.

2. The DEIS analysis of flare usage and fire risk is factually inaccurate and inadequate.

The DEIS says, “Fire risk associated with flares stems from an unlikely, but possible, scenario of a flare reaching the ground or vegetation while still burning” (3-17).

Despite this, there is documentation of many large and costly fires having been started by military flares. Fires in New Jersey in 2007 ([Feuer](#), 2007; [Associated Press](#), 2007), Oregon in 2018 ([Schick](#), 2018), on San Carlos Apache Tribal lands (Rambler, 2022), fires on Tohono O'odham lands, and the Telegraph Fire in Arizona in 2021 ([Resnik](#), 2021) were all likely started by military flares.

In regards to the files on San Carlos Apache lands, Chairman Terry Rambler has documented at least ten fires caused by DAF flares on San Carlos Apache land, providing maps and pictures (Rambler, 2022).

While there may not be final probable cause determinations in these fires, there are rarely probable cause determination in wildfires. Because of the remote locations of these fires' origins and the environments of severe burning, it is difficult to make a definitive determination. However, the facts

are that military jets were dropping flares at these fire origin locations at the time that the fires started and, in some cases, flare remains were found at the site of the start of the fire.

The Telegraph fire of 2021 burned over 180,000 acres, destroyed 51 structures, threatened lives, destroyed critical habitat, and cost millions of dollars (Inciweb, 2021; [State of Arizona](#), 2021; [Grigg](#), 2021). In the case of this fire, the incident command said that there was a high probability that the fire was caused by some military fighter jets in the area that day ([Resnik](#), 2021). Federal, state, and local officials have all asked the DAF to reconsider dropping flares at lower elevations because of fire risk (Ruppel, 2022; [Arcand](#), 2024; [Resnik](#), 2021).

The DEIS also says that, “Thus, the increased number of flares proposed does not directly correlate to an increased fire risk” (3-21). This defies not only research, but also common sense. If there are more flares dropped at a lower elevation as proposed, there must be an increased risk of fire.

The DEIS discusses the safety risk of dud flares, saying that the risk is too small to be considered. However, if just one dud flare ignites, a wildfire of catastrophic dimensions could result. For example, the 2011 Horseshoe 2 fire burned for almost two months burning approximately 223,000 acres of habitat or 70% of the mountain range ([Mueller](#), 2017).

In addition, dud flares can cause serious injury and even death of humans. In 2017, a woman in Graham County found a flare in the desert, which exploded in her face, causing severe burns, skin grafts, and months of recovery. The Air Force confirmed that the flare was theirs ([Rodewald](#), 2017).

Because dud flares present a risk of both personal injury and fire risk, the following actions have been suggested: “considering a public information program in areas where flares are used over non-DOD land to educate the public about the hazards of dud flares and proper procedures to follow if a dud flare is found” ([Brandin et al.](#), 1997).

It is requested that the EIS disclose the incidence of past dud flare accidents, consider such a training program, and provide mitigation plans and funds.

The DEIS says that “Implementing restrictions on the use of flares based on local fire conditions is a best management practice that is currently implemented for each MOA and is defined in individual unit policies. These restrictions vary depending on the local conditions beneath the MOA and would continue as part of the Proposed Action” (3-17). More information and analysis on this are requested.

Research indicates that the “main issue with flares is their potential to start fires that can spread and have significant adverse impacts on the environment” ([Brandin et al.](#), 1997). As a result, it is recommended that the following action be undertaken by the DOD:

- “Avoiding use of flares over areas sensitive to fire hazards during high-risk periods.
- Establishing a capability to analyze fire risks on a site-specific basis.” ([Brandin et al.](#), 1997)

This region has been in a long term drought for 30 years ([Arizona State Climate Office](#), 2024). In the current environment of climate change, there is always a high risk of fire here ([ClimateCheck](#), 2024). In this environment, dropping 30,000 flares per year at 2,000 feet above ground level is dangerous and creates a serious risk of fire.

Finally, is requested that the comments of the USFS on this issue be disclosed, considered, and analyzed.

In a message from March 2022, Coronado District Ranger Doug Ruppel wrote to the Portal community:

“I share the communities [sic] concerns about the proposal from the Air Force, regarding potential changes to the Tombstone MOA. The lower levels for subsonic flight as well as supersonic flight will impact wilderness values and solitude, as well as ecological processes throughout the area but especially in the vicinity of Cave Creek, Southfork and the Chiricahua Wilderness.

The lowering of levels for dispensing flares and chaff has significant potential to increase our fire risk at key times of the year throughout the

Chiricahuas and Peloncillos. The Forest Service has had several instances of wildland fire ignitions caused almost certainly by flares from Air Force training flights. In the spring of 2021, the Telegraph Fire, near Globe Arizona, was likely ignited by a flare dropped from an Air Force, Air National Guard training flight. This fire cost the taxpayers approximately \$35 million and put more than 1,000 firefighters at risk, in extremely rough terrain, at the height of the southwestern fire season. Economic losses to the surrounding communities and risk exposure for private individuals were significant as well. This could easily occur in the Tombstone MOA if the proposed changes are adopted.” (Ruppel, 2022).

Further, in a May 23, 2022 letter from Tamara Angel, Acting Director of Biological & Physical Resources for USFS, the following were listed as key concerns with the DAF proposal:

“Fire-Starts -- One of our primary concerns with lowering the altitude for operations is the increased chance for fire-starts from flares that do not immediately extinguish.

Fire Operations -- Lowering the altitude of operations to the levels proposed over NFS lands creates a grave safety concern whereby USAF pilots may cross areas where aerial fire operations are occurring.” (Angel, 2022)

Subsequent to the issuance of the DEIS, the USFS verbally reported that various forest service units, including the Coronado National Forest and others, made comments objecting to the DAF proposal. The USFS staff was initially eager to share those comments with the public, however, subsequently said that a FOIA request would need to be submitted.

After this FOIA request was submitted by Karen Fasimpaur (Fasimpaur, 2024), there were several additional conversations with the USFS. They reported that the USFS had submitted comments on concerns about the following areas: firestarts, fire operations, recreation, wildlife effects, and wilderness. These comments were combined into one document called the “Comment and Response Matrix Worksheet” and submitted to the DAF.

Again, while USFS staff members initially expressed a desire to share those comments with the public, ultimately, they reported that the DAF intervened, and this would not be possible. On October 10, 2024, the USFS issued a final determination letter on Fasimpaur's FOIA request 2024-FS-R3-08044-F stating that:

"Two documents totaling seven pages are being withheld in full under exemption (b)(5) of the FOIA...

Documents being withheld pursuant to 5 U.S.C. § 552(b)(5) which pertains to inter- and intra- agency memoranda which are deliberative in nature; this exemption is appropriate for internal documents which are part of the decision-making process, and contain subjective evaluations, opinions and recommendations.

The confidential business and pre-decisional information have been redacted from the provided documents. This information is not generally available to the public and meets the definition of "deliberative" nature information for a business. This type of information is the type of information that would not normally be released to the public by a business or an individual. The release of this information would be harmful to the quality of an agency's decisions." (Bail, 2024)

The fact that the USFS comments were not disclosed in the DEIS and have been subsequently hidden from the public raises very serious concerns. The "quality" of the decisions made as a part of this process would seem to require that all relevant information, especially from consulting agencies, be disclosed.

It is requested that USFS comments, comments from other agencies, and related comments be analyzed and included in the EIS.

The fact that the DAF does not generally publicly release its findings, requires FOIAs to get information, and is currently not responding to FOIAs, shows a pattern of hiding information.

In light of the many areas of inaccuracy, incomplete data, and inadequate analysis, it is requested that the Safety section of the DEIS be reanalyzed in light of the data supplied here.

C. The DEIS analysis of Noise is inadequate.

1. The DEIS relies on noise modeling instead of actual noise measurements, leading to inadequate analysis.

The DEIS relies on noise modeling instead of actual noise measurements. It says that “the Proposed Action has not yet happened; therefore, real time measurement of new aircraft noise in an area is not possible” (3-23).

However, measurement of even current noise in the MOA would show alarming levels that could cause hearing loss (See below). In addition, noise could be measured at the BMGR where lower-level flights are currently being done.

2. The DEIS analysis using DNL vs. single event noise levels is misleading and inaccurate, leading to inadequate analysis.

The majority of the DEIS’s analysis relies on DNL measurements.

The DEIS’ reliance on DNL as a measure is inadequate and misleading. As the DEIS acknowledges, DNL is an average, not the actual sound that a person hears. DNL is not a measure sensitive to very loud, isolated events, such as an F-16 overflight, which may not even register using this measure, but could cause hearing loss (See below).

Many government agencies and studies, more current than the ones cited in the DEIS, conclude that DNL is not an appropriate measurement for the type of noise being analyzed in this proposal. The GAO says that “because DNL combines the effects of several components of noise into a single metric, it does not provide a clear picture of the flight activity or associated noise levels at a given location,” ([United States Government Accountability Office](#), 2021).

The DEIS uses DNL in a way that dilutes the effects of short-term noise impacts over a long-period of time which covers up the actual impacts. For

short-term noise such as fighter jet pass, Lmax and SEL, should be used as other EISs do.

The use of DNL is not appropriate for this proposal and the analysis and conclusions are not adequate as a result.

3. The DEIS analysis of the overall nuisance factor of noise is misleading and inadequate.

The DEIS uses inappropriate measures and old data to conclude to claim repeatedly that noise is not an issue, saying that the noise from their planes is “generally compatible with all land uses” (3-41).

The DEIS’s discussion of the long-term annoyance is based on old data and studies. As an example, the Finegold study of 1994 has been refuted by newer data that has found annoyance levels to be much more severe. Studies in 1992 and 1994 that found 12.3% of people to be highly annoyed at levels of DNL 65 decibels have been updated to show 60.1 – 70.9 % levels of high annoyance at the same DNL levels (Finegold, 1994; [United States Government Accountability Office](#), 2021; [Civil Aviation Authority](#), 2018; [Mestre](#), 2008).

Both the GAO and the FAA have called for more research in this area, saying that older research is not valid ([United States Government Accountability Office](#), 2021).

In the specific case of the Tombstone MOA, there have been a large number of low and extremely loud overflights. Many of those flights have been through mountain passes or canyons, which are known to increase the noise level through reverberation, thereby increasing both noise and the annoyance factor. Members of the community have filed hundreds of nuisance flight reports, stating that noise is a primary concern (Appendix B: Nuisance Flight Reports).

The primary reason many people have moved here and many more choose to spend recreational or research-related work time here is because of the relative quiet here. Those land uses directly relate to annoyance levels, and this has not been taken into account in these studies.

Despite its conclusions to the contrary, the DAF has undertaken no study or analysis of how noise affects land uses here.

It is requested that the DAF look at current data on annoyance levels, do community studies of annoyance levels in the Tombstone MOA, and analyze that in relation to the actual land uses here.

4. The DEIS analysis of the health effects of noise, including the potential for hearing loss, resulting from this proposal is inaccurate.

The DEIS says “Because no person or place beneath any of the training airspace associated with this EIS would be exposed to noise levels greater than 80 dB DNL, noise induced hearing loss is not discussed further in this analysis” (3-24).

As discussed above, DNL is not an appropriate measure to gauge the risk of hearing loss.

In terms of Lmax, a measurement of maximum sound level, the DEIS says, “An F-16 direct overflight with afterburner at 100 feet AGL would have an Lmax as high as 131 dB” (3-30). The CDC says “any sound that’s 85 decibels or higher can cause hearing loss” ([CDC](#), 2018).

The Hearing Center for Excellence (HCE) has a mission “to provide support to enhance operational performance, mission readiness, and quality of life through collaborative leadership and advocacy for hearing and balance health,” ([HCE](#), 2024). HCE was established by the Department of Defense (DOD) “to focus on the prevention, diagnosis, mitigation, treatment, and rehabilitation of hearing loss and auditory injury,” ([HCE](#), 2024). HCE was legislated by Congress in the National Defense Authorization Act and directed to partner with the VA, institutions of higher education, and other public and private organizations. HCE’s work is research-based and staff includes clinical audiologists ([Fallon](#), 2019).

On the HCE website, which is geared to help military and veterans, families, providers, and researchers, “quick facts” are provided. These include:

“Quick fact #4 - Unprotected, repeated exposure to loud sounds over a period of time can cause permanent inner ear damage” ([HCE](#), 2024).

“Quick fact #5 - Noise-induced hearing loss, or NIHL, can develop gradually over time with multiple exposures to loud noises or be the result of a one-time exposure to high-intensity noise” ([HCE](#), 2024).

“Quick fact #17 - Any exposure to 140 dB sound (e.g., gunshot or firecracker) can cause immediate damage and actual pain” ([HCE](#), 2024).

“Quick fact #33 - Long or repeated exposure to sounds at or above 85 decibels can cause hearing loss” ([HCE](#), 2024).

The levels of noise and resulting hearing loss cited here are within the ranges that the DEIS acknowledges as resulting from the proposed action.



Figure 3: Quick Facts from HCE website ([HCE](#), 2024)

The CDC's National Institute for Occupational Safety and Health's recommended exposure limit (REL) for occupational noise exposure is 85-dBA REL. For those whose noise exposure equals or exceeds that, they recommend hearing protection, evaluations, and other precautions, as hearing loss is a concern ([Chan](#), 1998). While exposure to loud aircraft overflights is not the same

as occupational noise exposure, there is definite concern of hearing loss from this level of noise.

In the DEIS, the effects of noise-induced vestibular damage are ignored. Vestibular organs are in the inner ear near the hearing organ, and studies suggest vestibular organs are more sensitive to lower frequency sounds, which is characteristic of sonic booms. Numerous studies document noise-induced vestibular damage ([Stewart, Holt, et al., 2020](#); [Stewart, Kanicki, et al., 2020](#)).

Sonic booms present other health issues, which are not analyzed in the DEIS. These can include not only hearing loss but ill effects such as falls and automobile accidents. Supersonic flight has been banned over land since 1974 in the United States ([FAA](#), 14 CFR § 91. 818, 1974). The reasons for this are noise, property damage, annoyance, and negative impacts on humans and animals ([Sullivan et al., 2010](#)).

Sonic booms and other loud noises resulting from military overflights are known to be amplified many times over their original effect in mountainous and canyon areas. This is a particular problem in the Tombstone MOA where low elevation military flights are often through canyons that amplify their sound.

The DEIS fails to analyze many other categories of health impairments known to be caused by aviation noise, including sleep disturbance, cardiovascular disease, and children's cognitive performance ([Mestre, 2008](#); [K. Jones, 2013](#); [K. Jones, 2009](#); [Civil Aviation Authority, 2016](#); [K. Jones, 2010](#); [Molitor et al., 2023](#); [FICAN, 1997](#)).

Overall, the many health effects of the noise under this proposal are not adequately analyzed. It is requested that further analysis of these be done in the EIS.

5. The DEIS analysis of avoidance of populated areas is inaccurate.

The DEIS states that "Even in areas of the MOAs where no special flight restrictions apply, experiencing noise from an aircraft that is directly overhead at the lowest possible altitude would be relatively rare" (3-30).

Even before this proposed expansion has taken effect, residents in the Tombstone MOA are already experiencing significant noise from aircrafts that are flying directly overhead at low altitudes. See data on nuisance flight reports in Appendix B: Nuisance Flight Reports.

6. The DEIS analysis of the potential to experience a low-level overflight is inadequate and incorrect.

The DEIS states “As shown, the potential to experience an overflight at 100 feet, which corresponds to the highest single event noise levels for an overflight, is either nil or very low in all MOAs for all alternatives (no more than 1 percent)” (3-32).

Even before this proposed expansion has taken effect, residents in the Tombstone MOA are already experiencing significant noise from aircrafts that are flying directly overhead at low altitudes.

Figure 1: Nuisance Flights over the Tombstone MOA, Figure 2: Nuisance Flights over the Tombstone MOA - Enlarged, and the data on nuisance flight reports in Appendix B: Nuisance Flight Reports show: 1) There are significant low-level flights, including many which violate FAA rules; and 2) Those flights are concentrated in certain areas, including the Portal area and Horseshoe Canyon (As shown above).

7. There is no analysis in the DEIS of the impact of veterans, people with PTSD, and others with behavioral health issues.

The DEIS includes no analysis of the impact of noise on veterans, people with Post Traumatic Stress Disorder (PTSD), and people with other similar behavioral health issues. When this issue was raised in scoping comments, the DAF elected not to address it saying, “Section 3.4, Noise provides the results of the noise study. Other resource areas address those noise impacts on various human and environmental resources” (D-131).

This issue is important to military service men and women and was brought up by many, both in scoping and during public comments on the DEIS. The callous dismissal of these issues is unconscionable.

This topic is particularly important in the Tombstone MOA, both because of the number of veterans and other people with PTSD who come to this quiet area to heal and the number of behavioral health treatment centers that have been established here because of the quiet.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) defines PTSD as “an anxiety disorder that develops in relation to an event which creates psychological trauma in response to actual or threatened death, serious injury, or sexual violation” (American Psychiatric Association, 2022).

The development of PTSD varies by person. Scientists do not understand why some people are affected by it and others are not. However, factors associated with developing PTSD include the intensity of the trauma, losing a loved one, and/or being injured during the trauma. Other factors include intensity of the event, proximity to the event, control over the event, as well as the help and support offered during and after the event.

PTSD flashbacks can be triggered by things that remind people of the original traumatic event. For veterans, loud overflight noise is an obvious trigger ([U.S. Department of Veterans Affairs](#), 2024).

In summary and in light of the many areas of inaccuracy, incomplete data, and inadequate analysis, it is requested that the Noise section of the DEIS be reanalyzed in light of the data supplied here. In addition, measurements of current noise levels should be done, and community annoyance measures should be taken.

D. The DEIS analysis of Natural Resources is inadequate.

1. The DEIS analysis does not include or adequately consider input from appropriate agencies on the effects on wildlife.

Appendix L2 includes a response from the USFWS, but the concerns expressed in that letter were not addressed.

No information was included from USFS, NPS, or either the Arizona or New Mexico Departments of Game and Fish. These are agencies that should have

been consulted, and it is requested that their input be sought, disclosed, and analyzed in the EIS.

In a message from March 2022, Coronado District Ranger Doug Ruppel wrote to the Portal community:

“I share the communities [sic] concerns about the proposal from the Air Force, regarding potential changes to the Tombstone MOA. The lower levels for subsonic flight as well as supersonic flight will impact wilderness values and solitude, as well as ecological processes throughout the area but especially in the vicinity of Cave Creek, Southfork and the Chiricahua Wilderness.”

(Ruppel, 2022)

Further, in a May 23, 2022 letter from Tamara Angel, Acting Director of Biological & Physical Resources for USFS, the following was listed as key concerns with the DAF proposal:

“Wildlife Effects -- The increase in noise from the lower-level sonic flights may likely disrupt wildlife, including some threatened and endangered species.”

(Angel, 2022)

Subsequent to the issuance of the DEIS, the USFS verbally reported that various forest service units, including the Coronado National Forest and others, made comments objecting to the DAF proposal. The USFS staff was initially eager to share those comments with the public, however, subsequently said that a FOIA request would need to be submitted.

After this FOIA request was submitted by Karen Fasimpaur (Fasimpaur, 2024), there were several additional conversations with the USFS. They reported that the USFS had submitted comments on concerns about the following areas: firestarts, fire operations, recreation, wildlife effects, and wilderness. These comments were combined into one document called the “Comment and Response Matrix Worksheet” and submitted to the DAF.

Again, while USFS staff members initially expressed a desire to share those comments with the public, ultimately, they reported that the DAF intervened,

and this would not be possible. On October 10, 2024, the USFS issued a final determination letter on Fasimpaur's FOIA request 2024-FS-R3-08044-F stating that:

"Two documents totaling seven pages are being withheld in full under exemption (b)(5) of the FOIA...

Documents being withheld pursuant to 5 U.S.C. § 552(b)(5) which pertains to inter- and intra- agency memoranda which are deliberative in nature; this exemption is appropriate for internal documents which are part of the decision-making process, and contain subjective evaluations, opinions and recommendations.

The confidential business and pre-decisional information have been redacted from the provided documents. This information is not generally available to the public and meets the definition of "deliberative" nature information for a business. This type of information is the type of information that would not normally be released to the public by a business or an individual. The release of this information would be harmful to the quality of an agency's decisions." (Bail, 2024)

These concerns were not disclosed or analyzed in the DEIS. It is requested that USFS comments, comments from other agencies, and related comments be analyzed and included in the EIS.

2. The DEIS analysis of effects on wildlife is inadequate.

The DEIS says, "it is difficult to generalize animal responses to noise disturbances across species and more work is needed to determine if noise adversely impacts wildlife" (3-77). The DEIS goes on to provide research that noise at the levels expected have detrimental effects on animals, before ultimately contradicting that by saying that "there are no significant impacts to natural resources" (3-90).

According to USFWS, USFS, NPS, and many research studies, the actions proposed by the DEIS will significantly impact natural resources, including wildlife. The failure to disclose comments from some of these agencies invalidates the analysis in this DEIS.

In Appendix L2, a letter from Mark A. Lamb with USFWS says in part, “We anticipate the proposed action, through noise, sonic booms, potential for fire ignitions, and other actions could affect a suite of federally-listed mammals, birds, reptiles, amphibians, fish, and plants...” (Lamb, 2023).

If “noise, sonic booms, potential for fire ignitions, and other actions” affect federally-listed animals, they will obviously also affect other wildlife in the Tombstone MOA.

The unique biodiversity and wildlife in the Tombstone MOA and particularly in the Chiricahua and Peloncillo Mountains are well known. The American Museum of Natural History operates the non-profit biological Southwestern Research Station here. Thousands of researchers from around the world come to the Tombstone MOA to study the unique animals and habitat.

Among the many threats to those animals and habitats, the extreme noise proposed in the DEIS presents the greatest threat.

As background, the auditory range for non-human mammals is 7-160 kHz ([Bowles](#), 1995). Changes in noise levels of just a few decibels significantly affect how animals respond, and the weather can affect sound levels by up to 50 dB ([Pater et al.](#), 2009).

Terrestrial wildlife response to noise begins at levels of 40 dBA, and impacts, including decline in reproductive success, have been documented below 50 dBA. There are declines in species diversity at 40 dBA, avoidance of noisy environments at 70 dBA, declines in reproductive success at 43-58 dBA, and difficulty locating mates at 75 dBA ([Shannon et al.](#), 2015). These levels are well below the noise levels of flights given in the DEIS.

Numerous research studies document the adverse effect of aircraft noise on wildlife species. In 2003, Pepper et al. conducted a review of research on the effects of aircraft noise on wildlife. Research documented adverse effects including flushing responses in Bald Eagles, aircraft-to-bird collisions, masking, hearing loss, fright response, reproduction, and mortality. Some of these studies were inconclusive, and the researchers state that more research is necessary ([Pepper et al.](#), 2003).

Wildlife exposed to sonic booms or other loud noise from aircraft passes have been shown to experience panic and fear responses leading to injury, nest abandonment, disruption of migration patterns, and physical harm, especially with smaller animals or ones like bats with sensitive hearing ([Manci et al.](#), 1988).

Other research looking at the impact of low-altitude aircraft on wildlife concludes that there is a very high impact from aircraft noise that may cause direct mortality, destruction of nests, and/or reduced use or abandonment of an area or nests ([Churchill and Holland](#), 2003).

Springtime noise stress on deer and other ungulates, such as pronghorn, is well documented. Aircraft flyovers near habitat for ungulates in the spring has severe consequences for individual young animals. Ungulates have the lowest annual energy stores in late winter and spring when females are in pregnancy, and stress during that time is especially harmful ([Churchill and Holland](#), 2003).

In addition, loud overflights may cause fright responses and pose a danger for deer and other ungulates when they escape to higher ground for safety. These animals climb up steep and unstable terrain to avoid predation. If disturbed by aircraft on steep terrain, the danger of falling is very high if animals are in terror and distress on a cliff.

Research also shows that noise stress reduces immune function in wildlife. Frequent and intense exposure to loud noise causes the release of stress hormones, which, if it becomes chronic, can decrease the immune condition of wildlife leading to higher susceptibility of infection and disease ([Alquezar and Macedo](#), 2019; [Berkhout et al.](#), 2023).

Extreme noise also causes animals to abandon habitat. Noise that affects whether animals can hear predators, prey, or mates causes animals to abandon areas ([Francis and Barber](#), 2013).

The impact of noise on bats is also severe and not adequately analyzed in the DEIS. Bats are critical species, acting as indicators of ecosystem health and serving as bioindicators ([Jones, G., et al.](#), 2009). Because bats rely on auditory information to forage for food, noise affects bats' echolocation abilities ([Bunkley et al.](#), 2015). The greatly increased number of flights would have a profound and obvious effect on bat populations.

In addition, research has shown that chaff can interfere with bats' echolocation and predation abilities. According to one study, "Fairly dense clouds of falling chaff or clumps of chaff that did not deploy correctly could temporarily affect flying bats by creating clutter that could confuse them when using echolocation to avoid obstacles and to hunt for insects. Accumulation of chaff on the ground or on surface waters could cause wildlife to avoid these areas for foraging" ([Brandin et al.](#), 1997).

There are also severe effects of this proposal on bird populations. The Tombstone MOA and particularly the Chiricahua and Peloncillo Mountains are renowned as areas of unique habitat for birds. This MOA is home to the Chiricahua Mountains Important Bird Area (IBA), 289,600 acres designated by the National Audubon Society to including a Global IBA for Mexican Spotted Owl ([Arizona IBA Program](#), 2024), and the Cave Creek Canyon Birds of Prey Zoological and Botanical Area, 26,240 acres approved by the USFS in 2018 ([USDA](#), 2018). Whitewater Draw State Wildlife Area IBA, a 1,509-acre Global IBA for Sandhill Cranes, is another critical habitat that would be affected by this proposal ([Audubon](#), 2024).

There are 375 bird species in the Chiricahua Mountains (Taylor, 1997; [Audubon](#), 2024; [Arizona IBA Program](#); 2024), and this is a critical bird area. The birds in the Chiricahuas include the Mexican Spotted Owls and studies have found between 10 and 18 breeding pairs of Mexican Spotted Owls in this area (Snyder, 1995; [Audubon](#), 2024).

Research into both Mexican Spotted Owls and other raptors has shown a greater flush probability with increasing noise levels ([Delaney et al.](#), 1999; Awbrey & Bowles, 1990; Bowles & Kull, 1990). The Delaney research identified stimulus distance as a critical factor and recommends that military helicopters maintain an avoidance of at least 105 meters (344.6 feet) and separating potential overflights by at least seven days. In the Lincoln National Forest, flyovers have also been prohibited during the February-August nesting season ([Delaney et al.](#), 1999).

Migratory and molting sites for birds have been documented to be disturbed by noise from flights. Waterfowl and migratory birds congregate in wetland areas while migrating and when most vulnerable to predation during periods of molting. Disturbance of large groups of congregating birds dramatically

increases the likelihood of direct mortality from aircraft strikes ([Churchill and Holland](#), 2003).

In addition, critical nesting habitats of birds are affected. Birds and mammals that nest in trees are vulnerable to disturbance by low-flying aircraft. Distress can cause young to fall to their death and the downwash can knock nests out of tree or cliff habitat ([Churchill and Holland](#), 2003).

Finally, the USFS recently issued a statement on noise levels for trail work crews, saying noise levels above 69 dB would adversely affect breeding and nesting Mexican Spotted Owls (Hamedani, 2024). This is obviously far below the levels of 130 decibels that the DEIS says occurs with low level flights.

The DEIS excludes other wildlife including reptiles, amphibians, and small mammals, saying, “Due to the nature of the Proposed Action, and the fact that no ground disturbance would occur under the airspace, no effects to reptiles, small mammals (except bats), amphibians, fish, and invertebrates, or their associated habitats are anticipated” (3-68).

This statement lacks scientific rigor and is frankly ridiculous. The noise of overhead flights, as well as the dropping of thousands of flares and bundles of chaff, has an obvious effect on these animals. Further, the USFWS has already expressed an anticipated effect on these populations, including rodents, snakes, frogs, and others (Lamb, 2023). It is requested that the EIS address this omission and analyze effects on these wildlife populations.

In addition to the dangers of noise, there are significant impacts to wildlife as a result of possible wildfires. DEIS discounts this by saying, “The possibility of a wildfire from flare usage impacting wildlife habitat would be remote” (3-84).

Despite this, there is documentation of many large and costly fires having been started by military flares. (See section VI. B. 2. above.) With the region in a long term drought ([Arizona State Climate Office](#), 2024) and with the current environment of climate change, there is always a high risk of fire here ([ClimateCheck](#), 2024). Dropping 30,000 flares per year at 2,000 feet above ground level exacerbates the risk of fire.

This is particularly concerning for the Tombstone MOA because the very same areas of canyon and mountain habitat that are home to wildlife are extremely difficult for firefighting crews to reach and control. This was evidenced by the 2011 Horseshoe 2 fire which burned for almost two months, burning approximately 223,000 acres of habitat or 70% of the mountain range ([Mueller](#), 2017). A fire caused by military flares would have devastating effects on habitat and the wildlife that lives there.

It is requested that all of these impacts be analyzed in the EIS.

3. The DEIS analysis of effects on endangered or listed species is inadequate.

Appendix L1-1 of the DEIS lists 80 Arizona Species of Greatest Conservation Need that Occur Beneath Airspace and 33 New Mexico Species of Greatest Conservation Need that Occur Beneath Airspace. There are far more of these species in the Tombstone MOA than in any other MOA, yet the Tombstone MOA is the one that is proposed to bear the great impact from this proposal of increased combat training.

In a letter to the DAF dated February 23, 2022, U.S. Fish and Wildlife Service Acting Field Supervisor Mark A. Lamb says:

“We anticipate the proposed action, through noise, sonic booms, potential for fire ignitions, and other actions could affect a suite of federally-listed mammals, birds, reptiles, amphibians, fish, and plants, including, but not limited to the jaguar (*Panthera onca*), Mount Graham red squirrel (*Tamiasciurus hudsonicus grahamensis*), New Mexico meadow jumping mouse (*Zapus hudsonius luteus*), Mexican long-nosed bat (*Leptonycteris nivalis*), Mexican spotted owl (*Strix occidentalis lucida*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed cuckoo (*Coccyzus americanus*), narrow-headed gartersnake (*Thamnophis rufipunctatus*), northern Mexican gartersnake (*Thamnophis eques megalops*), New Mexican ridge-nosed rattlesnake (*Crotalus willardi obscurus*), and Chiricahua leopard frog (*Rana chiricahuensis*). We anticipate an analysis for the non-essential experimental Mexican wolf (*Canis lupus baileyi*) and northern aplomado falcon (*Falco femoralis septentrionalis*) populations may be necessary, as well as the proposed

threatened cactus ferruginous pygmy owl (*Glaucidium brasilianum cactorum*),” (Lamb, 2023).

The DEIS does not address protections or mitigations for these or the other listed species in the Tombstone MOA. It is requested that this be addressed in the EIS.

Further, the DEIS says “There are no studies or data on ocelot or jaguar responses to jet overflights. Both species have the potential to occur beneath airspace with a proposed floor of 100 feet AGL (Tombstone MOA). Though both species are rare and therefore the potential for exposure to EIS for Regional Special Use Airspace Optimization to Support Chapter 3 Air Force Missions in Arizona Draft August 2024 3-88 overflights is low, the proposed overflights could disturb any individuals overflown. Therefore, the Proposed Action may affect, but is not likely to adversely affect ocelots and jaguars” (3-87 - 3-88).

Jaguars and ocelots are both endangered species with final critical habitat overlapping the Tombstone MOA ([USFWS](#), 2024a; [USFWS](#), 2024b).

There is no evidence or analysis provided that the proposed action will not affect ocelots, jaguars, or other listed species. In fact, the preponderance of evidence and the opinions of researchers is that they would be adversely affected.

Studies indicate that overflights and noise can influence the behavior and physiology of large mammals with varying levels of disruption depending on the species and context. Studies have demonstrated the impacts of noise on large cats, particularly pumas, which share many behavioral similarities to jaguar and ocelot. Noise leads to reduced feeding time, increased kill rates (due to less feeding time), increased fear responses, and potential cascading ecological effects. Broader ecosystem impacts from overflights could result as well. ([Smith et al.](#), 2017).

The DEIS does not include Mexican Desert Bighorn Sheep as a Species of Greatest Conservation Need that Occur Beneath Airspace. However, there are many documented observations of Mexican Desert Bighorn Sheep in the Tombstone MOA ([iNaturalist](#), 2024b).

It is requested that the EIS address the impacts to endangered or listed species and propose plans for mitigation.

4. Adequate mitigations for harm to wildlife are not provided in the DEIS.

No mitigations for the impacts on natural resources were offered in the DEIS. There was a statement that such mitigations, if required, would be included in the EIS.

These mitigations are clearly required.

It is requested that the above research and data be analyzed in the EIS; that experts including USFWS, USFS, NPS, AZGFD, and NMGFD be consulted; that the consultations and recommendations be disclosed; and that the following mitigations be considered.

First, exclusion or avoidance zones should be established for all protected lands as described in Appendix C of these comments.

In addition, spring flyovers should be avoided to protect ungulates and bird habitat. In addition, flyovers should be avoided over the steep terrain habitat of the Tombstone MOA. Flyovers should also be avoided over and around wetlands, including Whitewater Draw.

E. The DEIS analysis of Land Management and Recreation is inadequate.

1. The DEIS analysis of the impact on recreation is inadequate.

The DEIS says that “Subsonic noise exposure greater than 65 dB DNL is considered generally incompatible with residential, public use (i.e., schools), or recreational and entertainment areas (FICUN 1980)” (3-91).

See section D for a discussion of the inappropriateness of this measure of noise, as well as the annoyance and other hazards of this noise.

The DEIS goes on to say, “Therefore, no incompatible land uses, no significant impacts to land uses, and no significant impacts to recreational

uses would occur as a result of increases in noise related to the Proposed Action” (3-91).

The DEIS has done no meaningful analysis of land uses in the Tombstone MOA. The wild lands in this area that would be affected by this proposal are unique places of biodiversity. Researchers and hobbyist wildlife observers come from around the world to see unusual species of birds, reptiles, amphibians, and other animals. Not only would this wildlife be affected by this proposal, but the people who come to experience them in peace and quiet would be affected by this increased military training action.

None of this has been taken into consideration or analyzed in the DEIS.

In a message from March 2022, Coronado District Ranger Doug Ruppel wrote to the Portal community:

“I share the communities [sic] concerns about the proposal from the Air Force, regarding potential changes to the Tombstone MOA. The lower levels for subsonic flight as well as supersonic flight will impact wilderness values and solitude, as well as ecological processes throughout the area but especially in the vicinity of Cave Creek, Southfork and the Chiricahua Wilderness” (Ruppel, 2022).

In addition, it is requested that the comments of the USFS on this issue be disclosed and analyzed. In a May 23, 2022, letter from Tamara Angel, Acting Director of Biological & Physical Resources for USFS, the following was listed as key concerns with the DAF proposal:

“Recreation Experience -- The proposed low level sonic flights would diminish recreationists’ solitude experience” (Angel, 2022).

Subsequent to the issuance of the DEIS, the USFS verbally reported that various forest service units, including the Coronado National Forest and others, made comments objecting to the DAF proposal. The USFS staff was initially eager to share those comments with the public, however, subsequently said that a FOIA request would need to be submitted.

After this FOIA request was submitted by Karen Fasimpaur (Fasimpaur, 2024), there were several additional conversations with the USFS. They reported that the USFS had submitted comments on concerns about the following areas: firestarts, fire operations, recreation, wildlife effects, and wilderness. These comments were combined into one document called the “Comment and Response Matrix Worksheet” and submitted to the DAF.

Again, while USFS staff members initially expressed a desire to share those comments with the public, ultimately, they reported that the DAF intervened, and this would not be possible. On October 10, 2024, the USFS issued a final determination letter on Fasimpaur’s FOIA request 2024-FS-R3-08044-F stating that:

“Two documents totaling seven pages are being withheld in full under exemption (b)(5) of the FOIA...

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These concerns were not disclosed in the DEIS, which is a violation of NEPA and public trust. It is requested that USFS comments, comments from other agencies, and related comments be analyzed and included in the EIS.

The DEIS goes on to say that “This experience would not occur with any sort of regularity or be a repetitive situation in any location” (3-104).

As has been documented in the Tombstone MOA, that is not accurate. Even before this expanded proposal goes into effect, military training activities have been concentrated in areas, such as canyons in the Chiricahuas, which are populated and environmentally critical areas.

See Appendix B: Nuisance Flight Reports for more information documenting this.

It is requested that the DAF provide historical flight records and analyze them for intensity, regularity, or repetitive events in specified areas of the Tombstone and other MOAs.

It is further requested that the DEIS do an analysis of the recreational land uses of this area and the effect this proposal would have on them.

2. The DEIS analysis of the impact on public lands used for recreation is inaccurate and inadequate.

The Tombstone MOA with the proposed expansion includes over 914,000 acres of public lands, including over 90,000 acres of wilderness, over 26,000 acres of Zoological Botanical Area, over 40 miles of the Continental Divide National Scenic Trail, and over 3,000 acres of NPS land. (See Figures 4 and 5 below and Appendix C for a list of protected public lands).

These lands include two National Wildlife Refuges, two Wilderness areas, three formally recognized Globally Important Bird Areas, two Research Natural Areas, eight Wilderness Study Areas, six Areas of Critical Environmental Concern, two Habitat Management Areas, and portions of the Continental Divide National Scenic Trail.

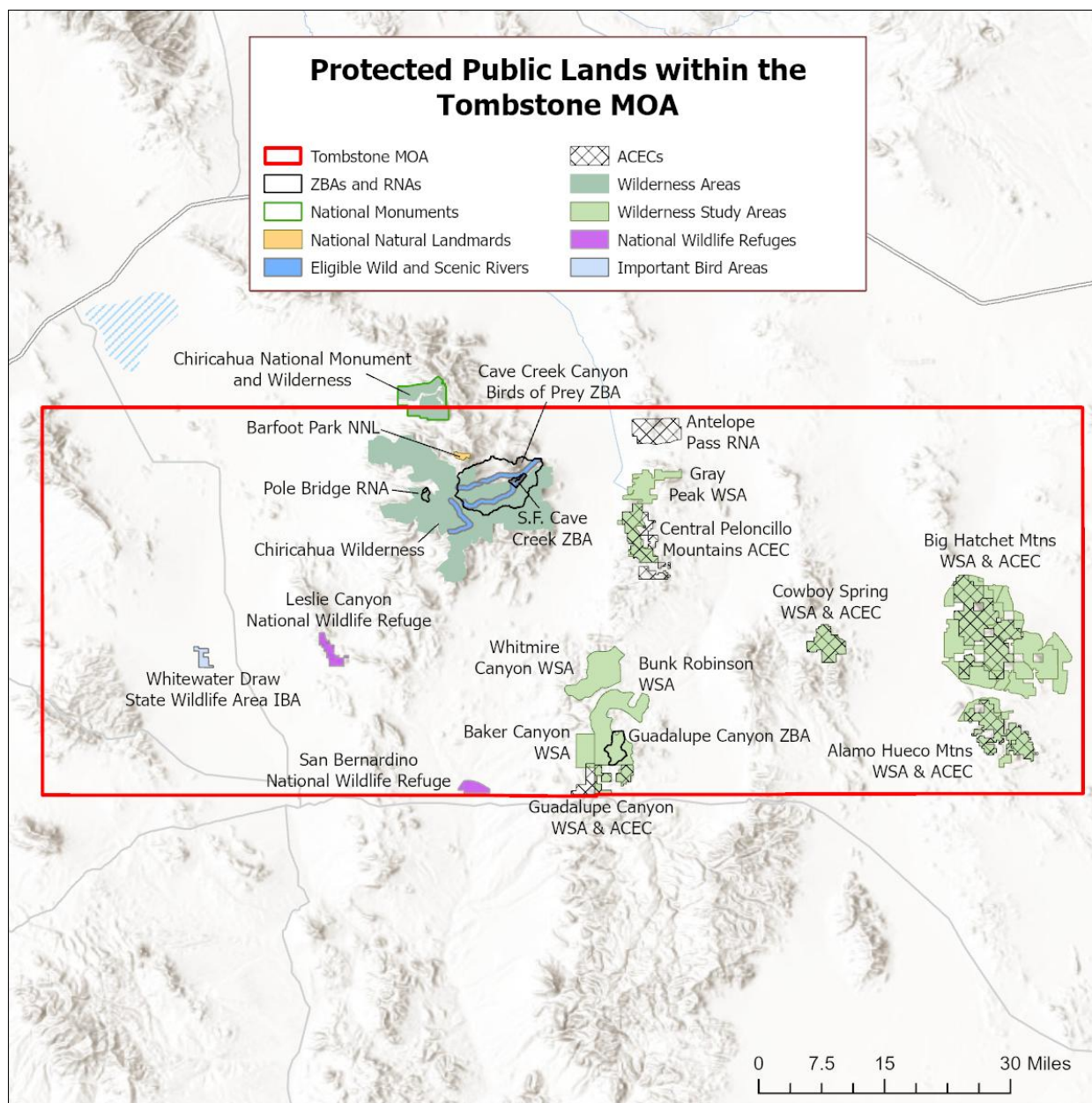


Figure 4: Protected Lands within the Tombstone MOA

These are not appropriate areas in which to do military combat training.

The federal government knows the detrimental effects of military jet noise on wilderness and other ecologically sensitive areas. In 1987, Congress passed Public Law 100-91, the National Parks Overflights Act, which required the Department of the Interior to develop recommendations that “shall provide for substantial restoration of the natural quiet and experience of the park and protection of public health and safety from adverse effects associated with aircraft overflight” ([United States Code](#), Public Law 100-91, 1981).

Currently, the FAA’s Aeronautical Information Manual 7-5-6 requests that pilots “maintain a minimum altitude of 2,000 feet above the surface of the following: National Parks, Monuments, Seashores, Lakeshores, Recreation Areas and Scenic Riverways administered by the National Park Service, National Wildlife Refuges, Big Game Refuges, Game Ranges and Wildlife Ranges administered by the U.S. Fish and Wildlife Service, and Wilderness and Primitive areas administered by the U.S. Forest Service” ([FAA](#), 2024b). It is not clear why this requirement does not apply to military flights. No analysis of this is included in the DEIS.

The USFS and the NPS are aware of the detriments of aircraft noise on its federally-protected land ([NPS and USAF](#), 2002; [McClosky](#), 2024; [Fleming et al.](#), 2005).

The DEIS does not include any comments from the USFS and NPS of the impact of this proposal on these protected lands or about their consultation or opinions on this proposal. This information has been requested but was not made available.

It is requested that all of the above considerations, as well as information from the USFS and NPS, be disclosed and analyzed in the EIS.

3. The DEIS analysis of the impact on wilderness areas is inaccurate and inadequate.

There are two wilderness areas in the Tombstone MOA with the proposed expansion: the Chiricahua National Monument Area and the Chiricahua Wilderness.

Both were established under the Arizona Wilderness Act of 1984, which does not expressly allow low-level military flights.

These lands were designated under the Wilderness Act of 1964 to be a part of the National Wilderness Preservation System ([United States Code](#), Public Law 98-406, 1984).

The DEIS does not address this point, except to state that the DAF does not intend to land planes in the wilderness. They say that “Dropping chaff or flares is a governmental activity for a government purpose (similar to aerial firefighting, patrolling, or rescue)” (D1-18).

The Wilderness Act defines wilderness as follows:

“A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value” ([United States Code](#), Public Law 98-406, 1984).

Under the Wilderness Act, the following are expressly prohibited:

- commercial enterprise
- permanent road
- temporary road
- use of motor vehicles
- motorized equipment

- motorboats
- landing of aircraft
- mechanical transport
- structure or installation

([United States Code](#), Public Law 88-577, 1964)

The Wilderness Act says that “the use of aircraft or motorboats, where these uses have already become established, may be permitted to continue subject to such restrictions as the Secretary of Agriculture deems desirable” ([United States Code](#), Public Law 88-577, 1964).

As this proposal represents an expanded use of aircraft, it is not clear that this is permitted. It is requested that this matter be analyzed further and put before the Secretary of Agriculture.

Clearly, neither the spirit nor the letter of the Wilderness Act is meant to include military combat training with planes flying at 100 feet AGL and dropping chaff and flares.

4. There is no analysis of the impact to the Chiricahua National Monument.

The Chiricahua National Monument includes 12,025 acres established on April 18, 1924 to protect its extensive hoodoos and balancing rocks. Approximately 85% of the Chiricahua National Monument is protected under the Chiricahua National Monument Wilderness.

A significant portion of the Chiricahua National Monument is in the Tombstone MOA as expanded. However, the Chiricahua National Monument is not discussed in the DEIS except to list its acreage in charts of public lands and to say that:

“The change in subsonic noise exposure (DNL) would likely be noticeable in this area and a person recreating in the area could experience the occasional low-level overflight. As described previously, the sound may be annoying or startling to a person or wildlife, may mask natural sounds like bird calls or rustling leaves, or temporarily interrupt outdoor

conversation. This experience would not occur with any sort of regularity or be a repetitive situation in any location” (3-104).

This does not constitute adequate or really any analysis of the monument and the impacts of this proposal on it.

Recently, the U.S. Senate has deliberated on making the Chiricahua National Monument a National Park. This would have a significant economic impact on the area. The proposal of the DAF would have a major effect on this plan.

The DEIS makes no mention or analysis of this.

It is requested that an analysis of this be conducted and disclosed in the EIS.

F. The DEIS analysis of Socio Economics is inadequate.

1. The DEIS analysis of the impact of this proposal on property values is inadequate.

The DAF public hearing video states that “Noise levels could affect housing values,” but that statement is then contradicted in the DEIS, which states that “Noise exposure would not be at a level expected to impact property values,” (ES-10) and that “it would not be expected that the Proposed Action would have any quantifiable impacts to the existing housing values within the region” (3-117).

Many studies show that property values are affected by noise levels. In addition to the requirement for home sellers to disclose the value-reducing fact that their properties are beneath a DAF combat training zone, a 2003 meta-analysis of property values concluded that the noise discount was about 0.50 to 0.60% per dB. “A given property located at 55 dB would sell for about 10-12 percent less if it was located at 75 dB, all other things held constant. Stated differently, under these same circumstances, a \$200,000 house would sell for \$20,000 to \$24,000 less” (Nelson, 2003; Aliyu, 2016; Mestre, 2008).

A research thesis by USAF Captain Melissa Johnson analyzed DAF aircraft noise and the effect on property values, concluding “it has been found that

the noise being created by DAF aircraft is associated with a negative impact on local community housing values” (Johnson, 2006).

The impact of noise on real estate values is recognized by the cities of Chicago and Burlington, VT, which are both reviewing noise ordinances that would instruct county assessors to devalue real estate property taxes in high-noise areas using existing sales data for these areas (Hakes, 2024; Rossi, 2016).

In the Tombstone MOA, Arizona statute 28-8484 requires that realtors disclose military aircraft training activity in the area (Arizona Revised Statutes, 2024b; Tucson Association of Realtors, 2022). Realtors and land owners in the area have expressed concerns that this will inevitably affect property values.

It is requested that data of the effects of this proposal on property values be disclosed and analyzed for all MOAs affected by this proposal.

2. The DEIS analysis of the impact of this proposal on tourism and recreation is inadequate.

The DEIS states that “None of these factors [economic growth, housing, businesses, etc.] would be impacted by the Proposed Action or alternatives” (3-114).

The Tombstone MOA and in particular the Chiricahua Mountains and Cave Creek Canyon has a significant tourism and recreation economy. Ecotourists come from around the world to see this unique area of biodiversity and wildlife. Many businesses depend on this.

Cave Creek Canyon is considered by many to be one of the best and most accessible ecological classrooms in the US. Its extraordinary diversity draws professional and amateur naturalists from around the world.

The American Museum of Natural History operates the non-profit biological Southwestern Research Station here. Some of their recent offerings include: Bat Field Survey Training; Bat Acoustic Training; Herpetology Field Course; and the Lepidoptera Course. Birding and nature tours have included the

Spring Migration Birding Tours and the Monsoon Birding and Nature Tour. Researchers and students use the Southwestern Research Station, and it is also open to the public with a hummingbird seating area and a gift shop.

There is no analysis of the impact of this proposal on these businesses and organizations.

Further, there are many who come here to visit the national forests, national monument, and other natural spaces. These visitors spend money on other products and services that are vital to the economy here.

While the DEIS says that “This experience would not occur with any sort of regularity or be a repetitive situation in any location,” the regular presence of DAF overflights is already affecting the tourism business here, and the proposed increase will only make that worse.

The DEIS includes no meaningful analysis of the impact of this proposal on recreation or tourism here. A full cost benefit analysis to the community must be prepared.

It is requested that this analysis be done in the EIS.

3. The DEIS analysis of the impact of this proposal on livestock is inadequate.

The DEIS says “The Proposed Action is not expected to have a significant impact on domestic animals or livestock. The noise from overflights may startle domestic animals, but detrimental harm is unlikely. Thus, the Proposed Action would not significantly impact ranching or livestock industries” (3-117).

Domesticated animals and livestock are shown to experience panic and fear responses leading to injury from loud noises and sonic booms ([Manci et al., 1988](#)). Concerns have also been raised about livestock eating chaff ([Arfsten et al., 2001](#)).

In 1990, the DAF commissioned a study called, “The Effects of Aircraft Noise and Sonic Booms on Domestic Animals.” The authors explored the

discrepancy between research that predicted little hazard from low-altitude military flights and the large number of “claims levied against the U.S. Air Force (USAF) for damages to domestic animals,” which were paid out. They also stated that, “ the effects can be great, ranging from panicking animals to inducing catastrophic declines in reproductive capacity,” ([Bowles, Awbrey, & Yochem](#), 1990). After extensive research and the development of a “straw man” model, the report concluded that the noise effects on animals are poorly understood and that more research is needed ([Bowles, Awbrey, & Yochem](#), 1990). It is requested that the DAF provide copies of domestic animal claims from the last five years, including the settlement amounts on these complaints.

Finally, beyond the damage to animals themselves, the many ranchers and recreational riders who ride horses as a part of their daily life have expressed fear of animals experiencing sonic booms and other loud aircraft noise that could cause accidents and falls.

It is requested that more data be gathered and analyzed on the effect of this proposal on livestock and domestic animals, including the numbers and settlement amounts on complaints related to domestic animal claims.

G. The DEIS analysis of Hazardous Materials is inadequate.

The DEIS says “The introduction of hazardous materials into the environment could occur by an aircraft mishap or crash” (3-138), and then concludes “There would be the potential for hazardous materials to be introduced into the environment under airspace areas in the unlikely case of an aircraft mishap. The potential impacts associated with the unlikely release of hazardous materials (to include hydrazine), radioactive materials, or composite materials would be the same as those described under Alternative 1 – No Action. The DAF has SOPs in the event of an aircraft mishap to identify potential hazardous materials and situations, protect responding personnel and the environment from immediate hazards, and to provide guidelines for the ultimate cleanup and disposal of the crash residues. Aircraft mishaps are rare; therefore, hazardous material releases from aircraft mishaps under Alternative 2 would be minimal” (3-141).

First, the potential impacts for the proposed Alternative 2 – Proposed are not the same as Alternative 1 – No Action. Alternative 2 proposes more than twice the

flights as Alternative 1. This results in a corresponding higher risk of crashes and of the resulting introduction of hazardous materials into the environment.

In addition, the risk of crashes is not as rare as the DAF implies. See section VI. B. 1.

Finally, the introduction of hazardous materials into the environment as a result of a crash is not as innocuous as the DAF makes it seem. According to the Department of Defense's Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP), "The F-16 fighter uses a form of hydrazine (H-70, 30% diluted by water) to power its emergency power unit (EPU), as shown below. Hydrazine is corrosive, toxic, and highly flammable" ([Strategic Environmental Research and Development Program](#), 2024).

Recently thirteen Airmen at Luke Air Force Base, Arizona were taken to the hospital amid concerns that the emergency power unit of the F-16 fighter jet they were working on had accidentally activated ([Roza](#), 2024). Such an accident is very severe and would affect not only military staff, but local residents, wildlife, air, soil, and water.

It is requested that the EIS disclose information about previous hazardous materials accidents, analyze that information in light of the proposal, and provide appropriate mitigations.

H. The DEIS analysis of Visual Effects is inadequate.

The DEIS says "The Proposed Action would not result in any physical changes to the visual setting of underlying lands. Therefore, the Proposed Action has no potential to change the visual or aesthetic quality of any landscape" (3-145) and "These effects would not cause a visual impact because visual change is temporary" (3-145).

The statement that the proposed action has no potential to change the visual or aesthetic quality of any landscape is false. The skies here are an integral part of our beautiful landscape. Having loud and frightening military combat planes flying through the skies and canyons of the Tombstone MOA has a huge effect on the aesthetic quality of the landscapes. This has already been seen by many

residents and visitors here and documented in nuisance flight reports. This will only get worse with the proposed expansion.

In addition, the DEIS says, “Aircraft lighting at night would cause no change that would create annoyance or interfere with activities or contrast with or detract from the visual character of the existing environment” (3-142).

Many parts of the Tombstone MOA, including the Chiricahua and Peloncillo Mountain regions are recognized globally for their dark skies. Cochise County ordinances on light pollution are stringent in order to preserve our dark skies ([Cochise County Zoning Regulations](#), 2024).

Dark skies are valued by both professional and hobbyist astronomers. In monitoring the night sky brightness over the past seven years at the Sugarloaf site at the Chiricahua National Monument, researchers have shown that its sky is pristine and is one of the darkest sites in the continental US. It is critical that such a beautiful night sky be preserved, for the sake of people and of nature.

The following are some of the organizations, businesses, and locations in the Tombstone MOA dedicated to this pursuit:

- Arizona Sky Village in Portal, AZ is a destination community for astronomers, which has both homes for full-time residents and rentals for visitors around the world.
- Dark Sky New Mexico in Animas, NM provides remote telescope hosting, facilities and lodging, and event hosting for astrophotographers and astronomers.
- In 2021, the Chiricahua National Monument became the 104th designated International Dark Sky Park in the world.
- The Tucson Amateur Astronomy Association operates the Chiricahua Astronomy Complex in Pearce, AZ.

The DEIS has not included these aspects of visual effects, which would be greatly changed by the proposed actions. Saying that these changes are “temporary” or that the visual setting of the underlying lands would not be affected is false.

It is requested that the EIS analyze these visual effects and the consequences for the Tombstone MOA.

Thank you for considering the comments of the undersigned organizations and businesses.
Please keep all of us on the list of interested parties as this process proceeds.

Sincerely,

Peaceful Chiricahua Skies, a coalition that includes the following groups:

Karen Fasimpaur and Kim Vacariu, Organizers

Peaceful Chiricahua Skies

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