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25 September 2024

Grace Keesling
Air Force Environmental Impact Analysis Process/National Environmental Policy Act Division
Joint Base San Antonio-Lackland
San Antonio, TX 78236

RE: Draft Environmental Impact Statement (EIS) for Regional Special Use Airspace Optimization to Support Air Force Missions in Arizona; NMERT 3740

Dear Grace Keesling,

The New Mexico Department of Game and Fish (Department) has reviewed the Draft EIS for the Regional Special Use Airspace Optimization project (Project). The proposed action is to alleviate training shortfalls and address evolving training regional airspace needs by requesting that the Federal Aviation Administration implement regional airspace modifications to include adjusting the times of use, the horizontal dimensions, and the altitudes to support low-altitude training; authorizing supersonic training at lower altitudes and the use of chaff; and lowering the minimum release altitude for flares. The Department appreciates the opportunity to review this Project and outlines our recommendations to mitigate impacts to wildlife from the proposed action below

The Department does not support any alternatives that would increase the number of low-level (500 ft Above Ground Level) flights, lowered airspace, the release of flares and chaff, or supersonic operations over land identified in the State Wildlife Action Plan ([SWAP](#)) as a Conservation Opportunity Area (COA). COAs contain high numbers of Species of Greatest Conservation Need (SGCN) and the proposed actions could cause ecological disturbances (see details below). All three Military Operation Areas (MOAs) in New Mexico overlap COAs; thus, the Department supports Alternative 1- No action.

Release of flares and chaff:

- Silicon dioxide (SO₂) makes up 52-56% of chaff (by weight) and results from a study conducted on the impact of air pollution on avian species found that even low levels of SO₂ at 1.4 ppm can impair their mucociliary systems, which are vital for clearing respiratory contaminants and reducing disease risk. Birds exposed to higher SO₂ concentrations (over 1000 ppm) showed respiratory distress, and most exposed to 5000 ppm ultimately died (Sanderfoot and Holloway 2017).
- Ground surveys were conducted on two MOAs where chaff was used and plastic end caps, foil, and paper wrappers (all chaff debris) were found on the ground post-chaff deployment (Arfsten et al. 2001). This is concerning due to the potential for grazing wild mammals found in the proposed Project area to potentially ingest this chaff debris and

for the potential impacts of chaff on local water quality, especially given the diversity of SGCN and harvestable fish potentially found in the Project area (see species list in previously-provided NMERT report).

- The main issue with flares is their potential to start fires that can spread and have significant adverse impacts on habitats and SGCN within COAs. The relative risk of wildfires can be estimated using a combination of computer modeling and input databases, with information on meteorological conditions and the flammability of various types of vegetation. There are also datasets available regarding [historic fire occurrence](#). The Department recommends the Air Force consider using wildfire risk model results or other appropriate sources of information to inform when and where flares are used (Brandin et al. 1997).

Lowered flight ceiling and supersonic operations

- The Department acknowledges the parameters under which the noise impact modeling for the Tombstone, Morenci, and Reserve MOAs was performed. However, guidelines that protect human hearing apply to many terrestrial mammals because they are based on studies of laboratory animals. Sensitivity to sound varies among species and the Day-Night Average Sound Level method will not apply to mammals with very different hearing, such as bats (Bowles 1995). Tombstone MOA is home to three state-listed (see species list in previously-provided NMERT report) and one federally listed bat (Mexican long-nosed bat [*Leptonycteris nivalis*]). Given that the Department is not aware of any method of determining the true impact that supersonic operations may have on the feeding and reproductive behaviors of these nocturnal pollinators, the Department agrees with the statement from the Draft EIS on page 3-77 that “Adverse impacts to special status species from noise disturbance is possible with the Proposed Action”.

The following state-endangered plants have been documented near and potentially within the project area footprint (see species list in previously-provided NMERT report) and may need to be considered and/or mitigated for while designing and implementing project activities, especially given the potential for flares to cause wildfires:

1. Night-blooming cereus (*Peniocereus greggii* var. *greggii*)
2. Chihuahua scurfpea (*Pediomelum pentaphyllum*)
3. Swale paintbrush (*Castilleja ornata*)
4. Tomentose paintbrush (*Castilleja tomentosa*)
5. Arizona crested coralroot (*Hexalectris arizonica*)
6. Coleman’s coralroot (*Hexalectris colemanii*)
7. Parish’s Alkali Grass (*Puccinellia parishii*)

The Department recommends that the Air Force contact Erika Rowe, (erika.rowe@emnrd.nm.gov) at the [New Mexico Endangered Plant Program](#) of the Energy, Minerals, and Natural Resources Department, regarding potential presence and conservation needs for state-listed plants.

Additionally, the Department would suggest the following be incorporated into the Draft EIS:

- On page 3-69 of the EIS, the Department’s [SWAP](#) and SGCN list should be mentioned, as should the [New Mexico Wildlife Conservation Act](#).
- The Bird/Wildlife Aircraft Strike Hazard (BASH) management plan is referenced. The Department mentions the availability of [Bird Cast](#), a live forecast map for avian migration, as a source of information potentially relevant to this management plan.

Thank you for the opportunity to review and submit comments regarding this project. Please contact Erin Salano, Terrestrial Habitat Specialist, at erin.salano@dgf.nm.gov or (505) 321-5485 with any questions.

Sincerely,

Virginia Seamster, Ph.D.
Assistant Chief for Technical Guidance, Ecological and Environmental Planning Section

References

Arfsten D. P., Lt., C. L. Wilson, Lt., and B. J. Spargo. 2001. Human and environmental health issues related to use of radio frequency chaff. *Navy Medicine* 92(5):12-16. <https://cswab.org/wp-content/uploads/2021/11/Chaff-Human-and-Environmental-Health-Issues-Paper-Arfsten-et-al-2001-1.pdf>.

Bowles, A. E. 1995. Responses of wildlife to noise. Pages 109-156 *in* R. L. Knight, and K. J. Gutzwiller, editors. *Wildlife and recreationists: coexistence through management and research*. Island Press, Washington, D.C..

Brandin, R., T. Belnek, S. Bernatas, G. Bertolin, A. Bilbao, B. Bowser, C. Crabtree, S. Goodan, A. Hasen, and D. Hengel. 1997. Environmental effects of self-protection chaff and flares. Science Applications International Corporation, McLean, Virginia, USA. <https://ntrl.ntis.gov/NTRL/dashboard/searchResults/titleDetail/PB98110620.xhtml>.

Sanderfoot, O. V., and T. Holloway. 2017. Air pollution impacts on avian species via inhalation exposure and associated outcomes. *Environmental Research Letters* 12(8):083002. <https://doi.org/10.1088/1748-9326/aa8051>.