

**Appendices for the Draft Environmental
Assessment for an Air Tour Management
Plan for
Bandelier National Monument**

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APPENDIX B

List of Acronyms, Abbreviations, and Glossary

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Acronyms and Abbreviations

The Act	National Parks Air Tour Management Act of 2000
ACS	American Community Survey
ADS-B	Automatic Dependent Surveillance-Broadcast
AEDT	Aviation Environmental Design Tool
AGL	Above Ground Level
ANSI	American National Standards Institute
APE	Area of Potential Effects
ATMP	Air Tour Management Plan
ATMP planning area	The area within which an ATMP regulates commercial air tours over a national park or within ½-mile outside the park's boundary during which the aircraft flies below 5,000 ft. AGL.
CCC	Civilian Conservation Corps
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH ₄	Methane
CO ₂	Carbon Dioxide
dB	Decibels
dBA	Decibels (A-weighted scale)
DNL	Day-night Average Sound Level (denoted by the symbol L _{dn})
DOT	U. S. Department of Transportation
EA	Environmental Assessment
EJ	Environmental Justice
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
ft.	Feet
FSDO	Flight Standards District Office
GHG	Greenhouse Gas
H ₂ O	Water Vapor
IOA	Interim Operating Authority
L ₅₀	The median sound level (in decibels) is the sound level exceeded 50 percent of the day
L _{Aeq}	Equivalent Continuous Sound Level
L _{dn}	Day-night Average Sound Level
L _{max}	The loudest sound level, in dBA, generated by the loudest event
L _{nat}	Median Daytime Natural Ambient
MBTA	Migratory Bird Treaty Act
MSL	Mean Sea Level

MSO	Mexican Spotted Owl
MT	Metric Tons
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHL	Bandelier CCC National Historic Landmark District
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
National Register	The National Register of Historic Places
O ₃	Ozone
PAC	Protected Activity Center
The Park	Bandelier National Monument
Pb	Lead
PM	Particulate Matter
SHPO	State Historic Preservation Office
SO ₂	Sulfur Dioxide
TCP	Traditional Cultural Property
TPY	Tons per Year
U.S.C.	United States Code
USFS	U. S. Forest Service
USFWS	U. S. Fish and Wildlife Service
VFR	Visual Flight Rules

APPENDIX C

List of Preparers

List of Preparers

Appendix C lists the names of the principal persons contributing information to this draft EA.

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APPENDIX D

Distribution List

Distribution List

The agencies have sent the following agencies and parties copies of the draft EA and draft ATMP documents for participation in the NEPA process.

Federal Agencies

- U.S Department of Agricultural - Rural Development
- U.S Department of Agriculture – Santa Fe National Forest
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Geological Survey
- U.S. Congress
- U.S. House of Representatives

New Mexico State Agencies

- Department of Game and Fish
- Department of Energy, Minerals, and Natural Resources
- N.M. House of Representatives
- N.M. Senate

County and Local Agencies

- Los Alamos County
- Santa Fe County
- Sandoval County

Community Organizations, Associations, Businesses, and Interest Groups

- Los Alamos Commerce and Development Corporation
- National Parks Conservation Association
- Western National Parks Association
- Friends of Bandelier
- Tewa Women United

Public Review

Copies of the draft EA are available for public review and comment. The full document is available via the following:

- **NPS Planning, Environmental and Public Comment website:**
<https://parkplanning.nps.gov/BandelierDraftATMPandEA>

APPENDIX E

Environmental Impact Analysis Methods

Draft Environmental Assessment for an Air Tour Management Plan for Bandelier National Monument

Environmental Impact Analysis Methodology

1.0 Introduction and Overview

The Federal Aviation Administration (FAA), in cooperation with the National Park Service (NPS) (the agencies), are working together to develop an Air Tour Management Plan (ATMP) for Bandelier National Monument (Park). In compliance with the National Environmental Policy Act (NEPA), the agencies prepared a draft Environmental Assessment (EA) for the Park's ATMP. The proposed action is to implement an ATMP for the Park and is described in Section 1.3 of the draft EA. This technical appendix describes the methodologies used for evaluating the potential for environmental impacts to occur from the alternatives considered in the draft EA.

The agencies have identified environmental impact categories that require detailed analysis in this draft EA due to the potential environmental impacts resulting from implementing the alternatives (refer to Section 1.5 of the draft EA for a discussion of the environmental impact categories not analyzed in detail). The methodologies in this document reflect the analysis that has been performed by environmental impact category for each of the alternatives. The results of these analyses are described in the Environmental Consequences sections of the draft EA. This methodology is based on the 2015 FAA 1050.1F Order and Desk Reference - *Environmental Impacts: Policies and Procedures*, and NPS NEPA policies and procedures (2015 NPS NEPA Handbook, 2015 NPS NEPA Handbook Supplemental Guidance - *Writing Impact Analysis Sections for EAs and EISs*).

Under the National Parks Air Tour Management Act of 2000 (the Act) and its implementing regulations an ATMP regulates commercial air tours over a national park or within ½-mile outside the park's boundary during which the aircraft flies below 5,000 feet (ft.) above ground level (ATMP planning area). Air tours outside of the ATMP planning area are not regulated under the ATMP. Unless otherwise noted, the study area for each environmental impact category is the ATMP planning area.

2.0 Environmental Baseline and Impact Analysis for the No Action Alternative

For all environmental impact categories described herein, impact analysis for each alternative discloses how environmental conditions would change relative to current conditions, which serves as the environmental baseline for this analysis. Impacts are analyzed relative to current conditions, so that they can be described and measured relative to a level for which data exists. Each analysis provides a comparative analysis between alternatives for each environmental impact category.

Existing conditions for air tour activity is defined as the three-year average of commercial air tours conducted over the Park from 2017-2019, along with operator-provided route and altitude information. Reporting data from 2013 and 2014 are considered incomplete as reporting protocols were not fully in place at that time and likely do not reflect actual flights. The agencies consider the 2017-2019, three-year average, existing conditions for the purposes of understanding both the existing number of commercial air tour flights over the Park and impacts from that activity. Flight numbers from a single

year were not chosen as the existing condition because the three-year average accounts for both variation across years and takes into account the most recent years prior to the COVID-19 pandemic. The 2020 COVID-19 pandemic resulted in atypical commercial air tour operations, which does not represent the conditions in a typical year. The agencies also decided against using 2021 or 2022 data due to continued abnormalities associated with the COVID-19 pandemic and the unavailability of reporting data for 2021 or 2022 during most of the planning effort.

The No Action Alternative represents a continuation of existing air tour conditions over the Park. The Act provided for existing commercial air tour operations occurring at the time the law was enacted to continue until an ATMP for the Park was implemented by expressly requiring the FAA to grant interim operating authority (IOA) to existing operators.^{1,2} Flights up to IOA are not considered part of the No Action Alternative, though in any given year the operator could conduct additional tours up to their IOA or they may fly fewer air tours than in the period from 2017-2019. The Affected Environment for each environmental impact category discloses existing conditions of commercial air tours over the Park as it relates to resources within the study area for each category. Impact analysis for the No Action Alternative discloses the effects on the environment that would occur with existing conditions carried into the future. There are no designated routes under the No Action Alternative, but for the purpose of defining the No Action Alternative for analysis, route information provided by the operator is used to define the routes for this alternative. There are no altitude restrictions under the No Action Alternative.

3.0 Impacts Considered

The analysis considers direct, indirect, and cumulative effects of each alternative described in Chapter 2 of the draft EA. The methodologies used in considering these effects to environmental impact categories are described by category in Section 4.0 of this document.

3.1. Direct Effects

Direct effects are those caused by the alternative and occur at the same time and place as implementation of the alternative. Direct effects consider the change from current resource condition, which is described in the Affected Environment, on environmental resources within the study area resulting from implementation of that alternative.

3.2. Indirect Effects

Indirect effects are those which are caused by the alternative and occur later in time or are farther removed in distance but are still reasonably foreseeable.

It is reasonably foreseeable that because of the capital investment air tour operators have in aircraft, facilities, and equipment, operators could seek to make up lost revenue from air tours over the Park resulting from a reduction in air tours by conducting air tour operations outside of the ATMP planning area to the extent possible. In accordance with Section 1508.1(g)(2) of Council on Environmental

¹ 49 U.S.C. § 40128(c)(2)(A)(i-ii)

² FR, Vol. 70, No. 194, October 7, 2005, page 58778

Quality (CEQ) NEPA regulations, the agencies considered reasonably foreseeable actions that could occur as a result of the alternative in the indirect effects analysis for each environmental impact category. The indirect effects analyses consider potential shifts in air tour operations resulting from implementation of each alternative and the potential for displacement of air tours outside of the ATMP planning area due to a reduction in the number of authorized flights per year compared to existing conditions.

Consistent with Section 1502.21 of CEQ NEPA regulations, the agencies have disclosed that specific air tour routes, altitudes, and numbers of tours are not available to assess impacts that would occur from air tours that are displaced outside the ATMP planning area, and the resultant environmental effects that would occur. In addition, because specific air tour routes are not available, it is not possible to identify all the other potential noise sources or sources of visual effects that might contribute to the acoustic or visual conditions if operators were to fly just outside the ATMP planning area. It is difficult to predict whether any displaced air tours would result in operations on alternative routes that could have effects within or outside the ATMP planning area. This is because the airspace outside of the ATMP planning area is uncontrolled airspace, and operators fly under Visual Flight Rules (VFR). VFR is based on the principle of “see and avoid,” and does not require specific routes or altitudes, excepting weather minimums (*see* 14 Code of Federal Regulations (CFR) § 91.155).³ Therefore, the exactness of routes and altitudes for air tours outside of the ATMP planning area flying VFR could vary depending on client demand, weather, fuel load, and other costs. *See* 40 CFR § 1502.21 (c)(1). Agencies are not required to conduct new scientific or technical research to analyze impacts and may rely on existing information to assess impacts. *See* 43 CFR § 1502.21(c).

For the purposes of disclosing the potential indirect effects of each alternative, the agencies have considered operator websites, the current availability of air tours over other lands outside the ATMP planning area, and the proximity of the operator’s facilities to other airports or heliports. The analysis considers current and historical flight patterns, the prevalence of features outside the ATMP planning area that may attract air tours (such as known points of interest), and the potential for operators to fly along the perimeter of the ATMP planning area and/or above 5,000 ft. above ground level (AGL) to continue to observe features within the ATMP planning area. Indirect effects analyses consider the number of air tours proposed in each alternative and the likely displacement of air tours outside the ATMP planning area. The draft EA qualitatively discusses what potential shifts in air tour operations would mean for resources within or outside of the ATMP planning area to the extent that they are present.

3.3. Cumulative Effects

Cumulative effects are effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Based on local knowledge

³ <https://www.faa.gov/files/gslac/courses/content/25/185/vfr%20weather%20minimums.pdf>

from NPS staff, the agencies have identified other ongoing and reasonably foreseeable actions to consider within each environmental impact category.

The cumulative effects analysis qualitatively considers the effects of each alternative along with any known past, present, or future actions that would contribute to environmental effects to resources in the ATMP planning area. The draft EA presents this analysis in a comparative manner across all alternatives and describes the context of the effect in terms of other environmental effects that are present or likely to occur within the ATMP planning area.

4.0 Analysis Methodology by Environmental Impact Category

The section presents the impact analysis methodologies used in development of the draft EA for each environmental impact category considered.

4.1. Noise and Noise-Compatible Land Use

The impact analysis for noise and noise-compatible land use discloses the noise generated from air tours under each alternative as modeled. The analysis also includes a comparison of the effects across alternatives. The methods used for the noise modeling are presented below and also described in the *Noise Technical Analysis*, Appendix F of the draft EA.

4.1.1. Noise Modeling

There are numerous ways to measure the potential impacts of noise from commercial air tours on the acoustic environment of a park, including intensity, duration, and spatial footprint of the noise. The ambient sound level data and air tour operational data are used as inputs into the FAA's Aviation Environmental Design Tool (AEDT) to compute the following metrics to be used for the noise technical analysis (Table 1).

Table 1. Primary Metrics Used for the Noise Technical Analysis.

Metric	Relevance and citation
Equivalent Continuous Sound Level, $L_{Aeq, 12\text{ hr}}$	The logarithmic average of commercial air tour sound levels, in dBA, over a 12-hour day. The selected 12-hour period is 7 AM to 7 PM to represent typical daytime commercial air tour operating hours.
Day-night Average Sound Level, L_{dn} (or DNL)	<p>The logarithmic average of sound levels, in dBA, over a 24-hour day, DNL takes into account the increased sensitivity to noise at night by including a 10 decibel (dB) penalty on noise events occurring between 10 PM and 7 AM local time.</p> <p>Note: Both $L_{Aeq, 12\text{ hr}}$ and DNL characterize:</p> <ul style="list-style-type: none"> Increases in both the loudness and duration of noise events The number of noise events during specific time period (12 hours for $L_{Aeq, 12\text{ hr}}$ and 24-hours for DNL)

Metric	Relevance and citation
	<p>If there are no nighttime events, then $L_{Aeq, 12hr}$ is arithmetically three dBA higher than DNL as the events are averaged over 24 hours instead of 12 hours.</p> <p>The FAA's (2015, Exhibit 4-1) indicators of significant impacts are for an action that would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.</p>
Time Audible Natural Ambient (not computed for the Park)	<p>The total time (minutes) that aircraft noise levels are audible to an attentive listener with normal hearing under natural ambient conditions.</p> <p>The natural ambient is the sound level exceeded 50 percent of the time, L_{50}, determined from the natural sound conditions found in an ATMP planning area, including all sounds of nature (i.e., wind, streams, wildlife, etc.), and excluding all human and mechanical sounds. Time audible does not indicate how loud the event is, only if it might be heard.</p>
Time Above 35 dBA	<p>The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA).</p> <p>In quiet settings, outdoor sound levels exceeding this level degrade experience in outdoor performance venues (American National Standards Institute (ANSI), 2007⁴); blood pressure increases in sleeping humans (Haralabidis et al., 2008⁵); maximum background noise level inside classrooms (ANSI/Acoustical Society of America S12.60/Part 1, 2010⁶).</p>

⁴ American National Standards Institute, Inc. (ANSI). (2007). Quantities and procedures for description and measurement of environmental sound — Part 5: Sound level descriptors for determination of compatible land use. *Acoustical Society of America*, ASA S12.9-2007/PART 5 (R2020), 1-20. https://www.techstreet.com/standards/asa-s12-9-2007-part-5-r2020?product_id=1534045

⁵ Haralabidis A.S., Dimakopoulou, K., Vigna-Taglianti, F., Giampaolo, M., Borgini, A., Dudley, M., Pershagen, G., Bluhm, G., Houthuijs, D., Babisch, W. Velonakis, M., Katsouyanni, K. & Jarup, L. (2008). Acute effects of night-time noise exposure on blood pressure in populations living near airports. *European Heart Journal*, 29(5), 658-664. <https://academic.oup.com/eurheartj/article/29/5/658/440015>

⁶ ANSI/Acoustical Society of America. (2010). Acoustical performance criteria, design requirements, and guidelines for schools, Part 1: Permanent schools. *Acoustical Society of America*, ANSI/ASA S12.60-2002/Part 1. [https://webstore.ansi.org/preview-pages/ASA/preview_ANSI+ASA+S12.60+Part+1-2010+\(R2020\).pdf](https://webstore.ansi.org/preview-pages/ASA/preview_ANSI+ASA+S12.60+Part+1-2010+(R2020).pdf)

Metric	Relevance and citation
Time Above 52 dBA	<p>The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA).</p> <p>At this background sound level, normal voice communication at five meters (two people five meters apart), or a raised voice to an audience at ten meters would result in 95% sentence intelligibility (United States Environmental Protection Agency, Office of Noise Abatement and Control, 1974⁷). This metric represents the level at which one may reasonably expect interference with park interpretive programs, activities that require communication from a distance and other general visitor communication.</p>
Maximum Sound Level, L_{max}	<p>The loudest sound level, in dBA, generated by the loudest event; it is event-based and is independent of the number of operations. L_{max} does not provide any context of frequency, duration, or timing of exposure.</p>

4.1.2. Indirect Effects

The indirect effects analysis for noise and noise-compatible land use considers potential shifts in air tour operations resulting from implementation of an alternative within the ATMP planning area and the potential for displacement of air tours outside of the ATMP planning area due to a reduction in the number of authorized flights per year compared to existing conditions. FAA considers that noise levels are generally significant if aircraft activity under the alternative would increase noise by annual DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that would be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the existing conditions for the same timeframe (FAA Order 1050.1F, Exhibit 4-1).

The analysis consists of two separate components:

- A noise analysis that, for the aircraft currently operating at the Park, assesses the activity threshold that would generate a noise exposure level at or above DNL 65 dB in a single location. Use of the DNL 65 dB threshold speaks to whether or not noise from air tours operating outside the ATMP planning area under the alternative would result in levels incompatible with noise-sensitive land use (i.e., DNL 65 dB), but the threshold of significance is a 1.5 dB or more increase at or above the resulting DNL 65 dB level as defined in FAA Order 1050.1F and 14 CFR Part 150.1.
 - The noise analysis considers the activity threshold two ways:

⁷ United States Environmental Protection Agency, Office of Noise Abatement and Control (1974). Information on levels of environmental noise requisite to protect public health and welfare with an adequate margin of safety. <https://www.nrc.gov/docs/ML1224/ML12241A393.pdf>

- For the aircraft type with the loudest noise level, what is the activity level that would generate a noise level at or above DNL 65 dB?
 - For the aircraft types and fleet mix distribution within the 2017-2019 peak month average day, what is the activity level that would generate a noise level at or above DNL 65 dB?
- An activity assessment that describes the potential number of aircraft operations that may occur at a given point outside the ATMP planning area over a 24-hour period due to a no air tour alternative or additional flights outside the ATMP planning area resulting from a decrease in annual operations.
 - The analysis assumed air tour operations would comply with applicable aviation safety regulations.

The results of this analysis are described in the indirect effects analysis in the environmental consequences discussion of the draft EA for Noise and Noise-Compatible Land Use.

4.1.3. Cumulative Effects

The impacts analysis for cumulative effects to noise and noise-compatible land use discloses the likely changes to the ambient condition (not natural ambient, which is disclosed in the Affected Environment section of the draft EA) as modeled for each alternative. The qualitative discussion includes mention of whether the overall soundscape would become louder, quieter, or stay the same. The cumulative impact analysis includes the noise from air tours plus other noise sources. The section also provides discussion of differences between alternatives.

4.2. Air Quality and Climate Change

4.2.1. Air Quality Analysis

The Environmental Protection Agency (EPA) has established the National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for six criteria air pollutants which can be harmful to human health and the environment.⁸ Primary standards protect public health, including sensitive populations such as children and the elderly, while secondary standards protect public welfare, including visibility impairment and damage to animals, vegetation, and buildings. The six criteria pollutants are:

- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen dioxide (NO₂)
- Ozone (O₃)⁹
- Particulate matter: aerodynamic diameter ≤ 2.5 μm (PM_{2.5})¹⁰ and aerodynamic diameter ≤ 10 μm (PM₁₀)

⁸ NAAQS Table: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>

⁹ Nitrogen oxides (NOX) and volatile organic compounds (VOC) are considered precursors to ground-level ozone and may be closely monitored in areas with ozone concerns.

¹⁰ Sulfur dioxide (SO₂), NOX, VOC, and ammonia are considered precursors to PM_{2.5}.

- Sulfur dioxide (SO₂)

The EPA designates geographic areas¹¹ based on their relation to the NAAQS by pollutant:

- Nonattainment Area: Areas of the country where air pollution levels persistently exceed one or more of the NAAQS.
- Attainment Area: Any area that meets the standard for all criteria pollutants.
- Maintenance Area: Any area that was formerly in nonattainment status for one or more criteria pollutants, but currently meets the standard for all criteria pollutants.

The General Conformity Rule (40 CFR Part 93) ensures that federal actions do not cause or contribute to new violations of the NAAQS, worsen existing NAAQS violations, or delay attainment of the NAAQS. Federal agencies are required to work with state, tribal, and local governments in nonattainment or maintenance areas to ensure their actions conform to relevant air quality plans.¹²

4.2.2. Study Area and Data Sources

The study area for the air quality analysis corresponds with the ATMP planning area. The study area is compared with geographic information systems data in EPA's Green Book¹³ to confirm attainment status (attainment, nonattainment, or maintenance by pollutant). The FAA's AEDT is used to derive emission rates for aircraft used in air tours over the Park. The route lengths by aircraft type and number of annual operations by aircraft type are derived from operator reporting data.

4.2.3. Methodology for Analyzing Air Quality Impacts

The impact analysis for air quality consists of five steps:

1. Calculate annual flight miles for each aircraft type operating over the ATMP planning area.

Annual flight miles over the ATMP planning area are calculated for each aircraft type by multiplying the total number of air tour operations by each route flown over the ATMP planning area.

2. Calculate emission rates for each aircraft used in air tours over the ATMP planning area.

The latest version of FAA's AEDT is used to develop emission rates (pounds of emissions per mile flown) for each aircraft. Emission rates for non-jet engines (i.e., those most likely conducting air tours) are based on emission factors in AEDT, which are primarily derived from the EPA's AP-42: Compilation of Emission Factors. Although the AP-42 emission factors represent the best available data, they have not been updated since the 1990s and most aircraft engines in use today are likely to be cleaner due to less-polluting fuels and improvements in engine emissions controls. Therefore, the calculated emission rates should be considered a conservative estimate of emission rates for aircraft used in air tours.

¹¹ Current Nonattainment Counties for All Criteria Pollutants:

<https://www3.epa.gov/airquality/greenbook/ancl.html>

¹² General Conformity: <https://www.epa.gov/general-conformity>

¹³ Nonattainment Areas for Criteria Pollutants (Green Book): <https://www.epa.gov/green-book>

3. Calculate emissions from air tours over the ATMP planning area.

For each aircraft type operating over the ATMP planning area, emissions (tons per year) are calculated by multiplying the annual flight miles (step 1) by the aircraft-specific emission factor (step 2). The sum of emissions across all aircraft types represents the total emissions (by alternative) for the ATMP planning area.

4. If the ATMP planning area is located in EPA's nonattainment and/or maintenance areas, compare emissions with *de minimis* thresholds.

To highlight the potential impacts to ambient air quality for all criteria pollutants, the emissions results are compared with the EPA's General Conformity *de minimis* thresholds for the most stringent¹⁴ nonattainment areas. EPA's General Conformity *de minimis* thresholds represent a surrogate for impacts to ambient air quality. If emissions estimates for all pollutants in the ATMP planning area are below *de minimis* thresholds, the proposed air tours are expected to result in negligible impacts to air quality.

5. If the ATMP planning area is located in EPA's attainment areas, disclose ATMP emissions to fulfill NEPA requirements.

Per the requirements of NEPA, disclosure of both baseline emissions and any change in emissions (comparison between the No Action Alternative and the action alternatives) shall be provided in the draft EA to understand the potential consequences to air quality. Since the ATMP planning area is located in an area of the United States that is in attainment for all regulated pollutants, there are no regulatory thresholds to compare that indicate the potential air quality impacts of said emissions. Rather, the reported emissions provide a basis of acknowledgement as to what the proposed project may contribute to the attainment air shed. For the purposes of ATMPs, only emissions changes from aircraft operations for each alternative are considered.

If adverse effects on air quality are predicted, the final step of the analysis is to determine whether:

- There are any practicable mitigation measures or alternatives that would avoid or reduce impacts to air quality; and
- A substantial need for action exists, and if other alternatives with less adverse impacts on air quality will still satisfy the purpose and need without resulting in exorbitant costs.

4.2.4. Climate Change Analysis

In February 2021, the CEQ rescinded the 2019 Draft NEPA Guidance on Consideration of Greenhouse Gas Emissions and is reviewing, for revision and update, the 2016 Final Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change. CEQ directs agencies to consider: (1) the potential effects of a proposed action on climate change as indicated by assessing greenhouse gas (GHG)

¹⁴ The most stringent non-attainment areas (i.e., lowest *de minimis* thresholds) are categorized as "extreme" for ozone (VOCs or NOX) and "serious" for particulate matter (PM₁₀, PM_{2.5}, NOX, VOC, and SO₂; ammonia is not considered for aircraft emissions as they relate to ATMPs).

emissions (e.g., to include, where applicable, carbon sequestration); and (2) the effects of climate change on a proposed action and its environmental impacts. Federal agencies are advised to use projected GHG emissions as a proxy for assessing an action's impact on climate change. The difference in GHG emissions between alternatives, as well as the total GHG emissions of the No Action Alternative, should be provided as part of the NEPA analysis. The 2016 CEQ guidance does not establish any particular quantity of GHG emissions as significant.

4.2.5. Study Area and Data Sources

The study area for GHG emissions is the ATMP planning area. FAA's AEDT is used to derive emission rates for aircraft used in air tours over the ATMP planning area. The route lengths by aircraft type and number of annual operations by aircraft type are derived from operator reporting data.

4.2.6. Methodology for Analyzing Greenhouse Gas Impacts

The GHG analysis includes the following four steps:

1. Calculate annual fuel burn for each aircraft type operating over the ATMP planning area.

Annual fuel burn (for use with fuel burn-based emission factors in step 2) are calculated from the annual flight miles using conversion factors given in FAA's AEDT. Annual flight miles over the ATMP planning area are calculated for each aircraft type by multiplying the total number of air tour operations by each route flown within the ATMP planning area.

2. Calculate GHG emission factors for each aircraft used in air tours in the ATMP planning area.

The latest version of AEDT is used to develop a CO₂ equivalents (CO₂e) emission factor in metric tons of emissions per gallon of fuel (MT CO₂/gal) for each aircraft. CO₂e emission factors in AEDT are calculated based on the quantity of aircraft fuel burned. Since the proposed action involves only aircraft operations, MT CO₂e will be assumed to be the same as the aircraft MT CO₂.¹⁵

3. Calculate GHG emissions from air tours over the ATMP planning area.

For each aircraft type operating over the ATMP planning area, the CO₂e emissions (MT per year) are calculated by multiplying the annual fuel burn (step 1) by the aircraft-specific emission factor (step 2). The sum of emissions across all aircraft types represents the total emissions (by alternative) for the ATMP planning area.

GHG emission inventory results are not compared to the NAAQS nor any other significant criteria. The results are provided for informational purposes as a means of disclosing the project's potential effects on GHGs and climate change.

If an increase in GHG emissions is predicted, the final step of the analysis involves considering whether there are areas within the scope of the project where such emissions could be reduced through

¹⁵ FAA 1050.1F Desk Reference. February 2020. Section 3.3 Environmental Consequences – Climate.

mitigation measures such as changes to more fuel-efficient aircraft, use of renewable fuels, and operational changes.

4.3. Biological Resources

The study area for biological resources includes the ATMP planning area. To the extent that habitat and species occurrences correlate, impacts to biological resources are expected to be similar within the ATMP planning area. Therefore, if habitat exists for a species but occurrence is unknown, the assumption is that the species could be present and has been analyzed accordingly.

The agencies have identified federally listed species, special status species, and any critical habitats within the Affected Environment discussion of the draft EA. For any species for which habitat does not encompass the entire ATMP planning area, habitat areas for these species are identified in order to connect data on effects of air tours, such as noise contours, to potential effects on species that utilize those areas. Based on the results of this review, the Park's natural resource managers and biologists have confirmed species within the ATMP planning area that have the potential to be affected by commercial air tours based on their knowledge of wildlife responses to commercial air tours.

For special status species and/or critical habitats which have the potential to be affected by commercial air tours, the agencies have performed a literature review for species-specific management guidelines such as recommended noise limits, time of year restrictions, aircraft standoff distances, or other mitigation measures that could be feasibly addressed by the ATMP parameters. The agencies have also sought technical assistance from the U.S. Fish and Wildlife Service for species-specific management guidelines and recommendations, the results of which have been integrated into the draft EA.

The draft EA includes a qualitative analysis of the effects to biological resources that could result from each alternative. The analysis discloses how ATMP operating parameters and the resultant resource conditions would change by comparing existing conditions to the parameters proposed for each alternative. For example, the draft EA identifies areas where noise levels would change, if routes had been shifted closer or further from sensitive habitat attributes, or if altitudes would increase or decrease as compared to existing conditions, and qualitatively discloses how that could affect biological resources. The analysis also discloses the effects of the use itself by analyzing the impacts of each alternative in the context of any documented management guidelines (as available). Based on this analysis, the agencies have also proposed an effect determination and will consult with the U.S. Fish and Wildlife Service in accordance with Section 7 of the Endangered Species Act.

4.4. Cultural Resources

The analysis methodology for cultural resources (inclusive of Historical, Architectural, Archeological and Cultural Resources) consists of evaluating the potential impacts of each alternative under consideration on cultural resources identified within the NEPA study area. Section 106 of the National Historic Preservation Act (NHPA Section 106) as set forth in 36 CFR Part 800 provides the framework for gathering the information needed to assess impacts on cultural resources under NEPA, per FAA's 1050.1F Desk Reference. The NEPA study area for cultural resources corresponds with the Area of Potential Effects (APE) identified as part of the Section 106 process and encompasses the potential effects of all alternatives under consideration. The APE may be revised and refined based on the

preferred alternative or the consultation process. Cultural Resources within the APE are identified in the Affected Environment of the draft EA.

Section 106 considers effects to properties (districts, sites, buildings, structures, or objects) that are listed in or eligible for listing in the National Register of Historic Places (National Register). The Section 106 process for the Park includes prehistoric or historic districts, sites, buildings, structures, and/or objects, as well as traditional cultural properties (TCPs) (inclusive of ethnographic resources and sacred sites) and cultural landscapes that have been previously documented in the APE or identified through consultation. NPS Management Policies (2006)¹⁶ define five types of cultural resources for consideration – archeological resources, cultural landscapes, ethnographic resources, historic and prehistoric structures, and museum collections. Because of the nature of the alternatives (i.e., no ground disturbance or physical incursion), the cultural resource identification focuses on resources that could be affected visually or by noise from aircraft. The focus of cultural resources identification is on those resources for which feeling and setting contribute to the properties' significance, including TCPs and other properties of cultural and religious significance to Native American Tribes and other consulting parties with relevant expertise. This analysis in the draft EA considers potential beneficial and adverse impacts to all cultural resources within the APE, including resources identified by the Park that may not fall under the Section 106 process, if present.

Park staff have provided information about cultural resources located within the Park boundaries and the consulting parties have identified TCPs and sacred sites within the APE. Additional records have been gathered from Park staff and through a records request of the New Mexico State Historic Preservation Office to identify any additional cultural resources within the APE. Historic property identification includes previously documented properties with no formal National Register evaluation as well as those previously listed or determined eligible for listing in the National Register. No additional survey will be conducted; unevaluated or undetermined properties will be treated as eligible for the purposes of Section 106 consultation and NEPA evaluation. Using this information, a list of cultural resources located within the APE is generated and those with unrestricted location data are mapped (any individual TCPs, sites of cultural or religious significance or boundaries of archeological districts included in the study area maps depict only general buffered areas to protect the location of sensitive sites).

The agencies have reviewed the alternatives and determined if any of the cultural resources within the APE may be affected by each alternative and evaluated the magnitude of those impacts. The analysis includes a qualitative assessment of how the ATMP operating parameters for each alternative may affect resource conditions compared to current conditions. The agencies use the time above 35 dBA metric and 12-hour equivalent sound level metric from the *Noise Technical Analysis* (Appendix F) to quantitatively assess potential noise impacts to cultural resources from Alternative 3 as compared to the No Action Alternative. Noise data is used to identify where audible impacts may increase, decrease, or be introduced. Time above 52 dBA was used where noise increases are identified and modeled noise points can be associated with cultural resources. Point data does not include areas outside of the ATMP

¹⁶ NPS. (2006). Management policies. https://www.nps.gov/subjects/policy/upload/MP_2006.pdf

planning area that may be within the APE. As appropriate, maximum sound level and time audible metrics are also utilized for additional context on increases in noise intensity and/or duration and evaluation of whether impacts are adverse or beneficial to cultural resources where a quiet or natural setting contributes to the significance. Alternative 2 was not modeled, so the same data is not available for Alternative 2.

The impacts analysis considers the context and significant features of the resources as well as the nature of the impacts that may result from the action, including the intensity and severity of the impact. Effects to cultural resources would occur if implementation of the alternative would alter the characteristics of the resource that make it eligible for listing in the National Register or otherwise culturally significant. Examples of effects that adversely impact cultural resources are noted in 36 CFR 800.5(a). An adverse effect finding under Section 106 does not automatically trigger a significant impact under NEPA. The analysis of impacts will incorporate any measures developed through the Section 106 process to avoid, minimize or mitigate adverse effects. The relative effects to cultural resources are also qualitatively compared across all alternatives. The NEPA documentation will report consultation conducted as relevant to the delineation of the APE and Affected Environment. The results of Section 106 consultation and the FAA's proposed finding of effect will also be included for the preferred alternative when available. Relevant documentation of the Section 106 process will be included in Appendix G, *Cultural Resources Consultation and Summary*, for reference.

4.5. Wilderness

An evaluation of impacts to Wilderness character includes a qualitative analysis of how each alternative would affect the natural and solitude or primitive and unconfined recreation qualities of Wilderness character.

The results of the biological resources analysis are utilized to identify Wilderness areas that may experience potential impacts to the natural quality of Wilderness character and to identify potential impacts to solitude within Wilderness areas.

The analysis also considers the change in Wilderness character between current conditions and each alternative, as well as provides qualitative comparison across all alternatives.

4.6. Visitor Use and Experience and Other Recreational Opportunities

The impact analysis for visitor use and experience and other recreational opportunities is analyzed for Park visitors and air tour clients. The visitor analysis focuses effects on visitor points of interest and how visitors use those areas, interpretive programs, and Park management objectives related to visitor use and experience, as identified in the Affected Environment of the draft EA. The Affected Environment also identifies Park management zones and objectives that would apply to the management of commercial air tours. The environmental impact analysis quantitatively analyzes how the ATMP operating parameters and the resultant resource conditions for visitor use and experience would change by comparing existing conditions to the parameters proposed in the alternative. The analysis also utilizes the results of the *Noise Technical Analysis* (Appendix F) to identify potential impacts to visitor use and experience from the alternatives, including interpretive programs. As described in the *Noise Technical Analysis*, the time above 52 dBA metric represents the level at which one may reasonably

expect interference with Park interpretive programs. The locations of Park interpretive programs and the corresponding time above 52 dBA are noted in order to identify impacts to interpretive programs that could occur. The analysis also considers the different noise sensitivities of the different types of Park visitor and visitor experiences (e.g., backcountry vs. frontcountry), and how each of the alternatives could affect visitor use at those sites. For areas of the Park where visitors would have an expectation to hear natural sounds, the analysis includes a reference to the results of the time above 35 dBA metric. In addition to considering noise effects on the Park visitor experience, the analysis considers how visual effects could influence visitor use and experience (see method description for visual effects below). The relative effects to Park visitors are also qualitatively compared across all alternatives.

The impact analysis for other recreational opportunities applies to persons recreating outside the Park but within the ATMP planning area through the experience of air tours. Although they are not considered Park visitors, commercial air tours offer a recreational experience for those who wish to view the Park from a different vantage point. Impacts to the availability of this experience within the ATMP planning area are considered by qualitatively analyzing how the opportunity to see the Park from an air tour within the ATMP planning area would change as a result of each alternative by comparing existing conditions to the parameters proposed under each alternative. This analysis primarily considers how routes and the number of tours authorized by each alternative could affect the availability of this experience within the ATMP planning area for air tour clients.

4.7. Environmental Justice and Socioeconomics

The study area for the environmental justice (EJ) analysis includes the county or counties that are within or partially within the Park and ½-mile of its boundary. As stated in the 1050.1F Desk Reference, the combination of all study areas for the other relevant impact categories represents the potential impact area for EJ, because EJ impacts may be realized in conjunction with impacts to any other impact category. Refer to each environmental impact category's respective section in the draft EA for a description of the study area limits. The analysis incorporates data presented at the county level and from U.S. Census block groups that are within and adjacent to the ATMP planning area.

U.S. Census data is used to identify the percentage of the populations within the counties that are low-income (as identified by poverty status) and minority pursuant to U.S. Department of Transportation (DOT) Order 5610.2(a), otherwise known as "EJ populations." For the purposes of this EJ analysis, FAA uses the minority and low-income definitions provided in DOT Order 5610.2a. The average of the county income and minority population percentages is compared to block group level data on income and race and ethnicity within the study area to determine if the population is an EJ community of concern. A minority census block group considered as an EJ community is a census block group with a minority population percentage greater than the average minority population percentage of the study area. Any census block group with a minority population greater than the average of the study area is designated as a census block group of EJ concern. A low-income population census block group considered as an EJ community is a census block group with a greater percentage of low-income population than the average percentage of low-income population in the study area. Each census block group with a low-income population greater than the study area average is designated a census block group of EJ concern. State and local data have also been evaluated to confirm accuracy of findings.

The EJ analysis considers the ATMP operating parameters (i.e., locations of the commercial air tour routes, altitudes, and frequencies) under each alternative as well as the results of the analyses for Noise and Noise-Compatible Land Use, Air Quality and Climate Change, and Visual Effects, as well as the corresponding environmental effects of each alternative. The analysis identifies if each alternative would cause disproportionately high and adverse effects on low-income or minority populations within the study area. The definitions for disproportionately high and adverse effects provided in DOT Order 5610.2(a) is used to conduct the analysis. The significance of the impacts to EJ populations is determined by identifying the context, intensity, and relation the impact has to other environmental impact categories. Specifically, for each environmental impact category, the analysis identifies if an EJ population would sustain more of an impact than any other population segment. In doing so, the impacts to environmental impact categories are considered, as well as if the impacts would affect the EJ population in a way that the agencies determine is unique or significant to that population.

The socioeconomic analysis considers the effects the alternatives may have on local business activity. This could include businesses within the ATMP planning area that could be affected by noise or other effects of the ATMP, such as ranching operations, and will also evaluate effects of the alternatives on the commercial air tour industry and related businesses. Specifically, the draft EA analyzes how commercial air tour operators may support economic development by generating income for other ancillary tourism industry businesses. The draft EA describes how the number of flights authorized by each alternative compares to the current level of air tours reported by the operator.

Given the nature of the alternatives, the agencies do not anticipate impacts to the housing, race, age, or population conditions of the study area; therefore, effects to these socioeconomic characteristics within the study area have not been analyzed.

As they occur, the draft EA will document efforts that the agencies performed to incorporate EJ principles throughout the ATMP development process, including opportunities for engagement with EJ populations throughout the ATMP planning area.

4.8. Visual Effects

In accordance with FAA's 1050.1F Desk Reference, visual effects deal broadly with the text to which the alternatives would either: 1) produce light emissions that create annoyance or interfere with activities; or 2) contrast with, or detract from, the visual resources and/or visual character of the existing environment. As air tours occur during daylight, the draft EA focuses on visual effects on visual resources and character and not light emissions. Visual effects on resources discussed in other sections of the draft EA are discussed in those sections and a cross-reference to the Visual Effects section is provided.

Visual resources may include structures or objects that identify landscape features that are visually important or have unique characteristics. In addition, visual resources can include the cohesive collection of various individual visual resources that can be viewed at once or in concert from the area surrounding the site of the alternatives. Visual character refers to the overall visual makeup of the existing environment where the alternatives are located.

The study area for visual effects includes the Park and ½-mile buffer up to 5,000 ft. AGL, which corresponds with the ATMP planning area. The study area for visual effects also includes areas within the cultural resources APE. The impact analysis focuses on analyzing effects to Park viewsheds and notable visual resources, as identified in the Affected Environment, which notes any aesthetic value and unique aspects within the Park. The analysis analyzes how the ATMP operating parameters (e.g., number of tours, location of the routes, altitudes, and other ATMP elements that could affect Park viewsheds) for each alternative and the resultant Park viewshed resource conditions would change by comparing existing conditions to the parameters proposed in the alternative. The relative effects to Park viewsheds are also compared across all alternatives. Impacts to visual resources and visual character relate to a decrease in the aesthetic quality of the Park resulting from air tours. According to FAA's 1050.1F Desk Reference, significance of impacts is determined based on the degree the action would have to affect the visual character of the area, taking into consideration the importance, uniqueness, and aesthetic value; the degree to which the action contrasts with the visual resources or character; and the degree to which views are obstructed.

4.9. Department of Transportation Act Section 4(f) Resources

Section 4(f) is applicable to historic sites and publicly owned parks, recreation areas, and wildlife and waterfowl refuges of national, state, or local significance that may be impacted by transportation programs or projects carried out by the U.S. DOT and its operating administrations, including the FAA. The study area for considering Section 4(f) resources in this draft EA corresponds with the APE used for compliance with Section 106 of the NHPA.

Historic properties are identified as part of the Section 106 consultation process (see section above: Cultural Resources). Parks, recreational areas, and wildlife and waterfowl refuges are identified using public datasets from federal, state, and local sources. Each resource that intersects the study area is included in the Section 4(f) analysis. A list of these properties as well as a short description, the approximate size, and official(s) with jurisdiction has been compiled, and the properties was mapped.

As land acquisition, construction, or other ground disturbance activities would not occur under the ATMP, the alternatives would not have the potential to cause a permanent use of a Section 4(f) resource. Therefore, analysis of potential impacts to Section 4(f) resources is limited to identifying impacts that could result in a constructive use. Evaluating potential impacts to Section 4(f) resources focuses on changes in aircraft noise exposure and visual effects resulting from implementing the alternative. A constructive use of a Section 4(f) resource would occur if there was a substantial impairment of the resource to the degree that the activities, features, or attributes of the site that contribute to its significance or enjoyment are substantially diminished. This could occur as a result of both visual and noise impacts. The FAA has evaluated the Section 4(f) resources for potential noise (including vibration) and visual impacts for the preferred alternative to determine if there will be substantial impairment to Section 4(f) resources due to the preferred alternative that would result in a constructive use.

The methodology for the noise impacts analysis will reflect that described for the Noise and Noise-Compatible Land Use resource category (see above). The methodology for the visual impacts analysis reflects that described under the Visual Effects resource category (see above). As noted, both resource

analyses describe the effects of the alternative itself as well as the relative change from the environmental baseline.

Noise impacts on Section 4(f) resources are analyzed using location point data provided in the *Noise Technical Analysis* (Appendix F). Location points are used to model noise across multiple metrics (e.g., 12-hour equivalent sound level, time above 52 dBA) at specific points of interest in the study area, including forests, geological features, and historic sites, and often correspond to Section 4(f) resources. For Section 4(f) resources without corresponding location point data, noise impacts are assessed using the closest location point(s). The range of time (in minutes) above 52 dBA is reported for each Section 4(f) resource.

APPENDIX F

Noise Technical Analysis

Noise Technical Analysis: Bandelier National Monument

February 2023

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1. Introduction

The purpose of this report is to present the noise results used in the alternatives impact analysis discussed in the Bandelier National Monument (Park) Air Tour Management Plan (ATMP) draft Environmental Assessment (EA) and to document the inputs and assumptions used in the computer modeling of air tour aircraft activity. This information will provide the reader with the technical basis used to assess potential impacts to the following environmental impact categories – Noise and Noise-Compatible Land Use; Biological Resources; Department of Transportation Act Section 4(f) Resources; Cultural Resources; Environmental Justice and Socioeconomics; Visitor Use and Experience; and Wilderness.

Humans perceive sound as an auditory sensation created by pressure variations that move through a medium such as water or air. Sound is measured in terms of amplitude and frequency. Amplitude, which refers to the sound pressure level or intensity, is the relative strength of sound waves which humans perceive as loudness or volume and is measured in decibels (dB). Decibels work on a logarithmic scale, such that an increase of 10 dB causes a doubling of perceived loudness and represents a ten-fold increase in sound level. Thus 20 dB would be perceived as twice as loud as 10 dB, 30 dB would be perceived as 4 times louder than 10 dB, 40 dB would be perceived as 8 times louder than 10 dB, etc. (see Table 1).

Table 1. Subjective Effect of Change in Sound Level.

Change in Sound Level	Perceived Change to Human Ear
± 1 dB	Not Perceptible
± 3 dB	Threshold of Perception
± 5 dB	Obvious Change
± 10 dB	Twice / Half as Loud
± 20 dB	Fourfold or ¼ as Loud

The A-weighted decibel scale (dBA) is commonly used to describe sound levels because it reflects the frequency range to which the human ear is most sensitive.¹ The dBA scale from zero to 110 covers most of the range of everyday sounds, as shown in Figure 1. Note that sound levels in protected natural

¹ dBA (A-weighted decibels): Sound is measured on a logarithmic scale relative to the reference sound pressure for atmospheric sources, 20 µPa. Sound levels are reported in units of decibels (dB) (ANSI S1.1-1994, American National Standard Acoustical Terminology). A-weighting is applied to sound levels to account for the sensitivity of the human ear (ANSI S1.42-2001, Design Response of Weighting Networks for Acoustical Measurements). To approximate human hearing sensitivity, A-weighting discounts sounds below 1 kHz and above 6 kHz.

areas, such as the Park, are often lower than those of the ‘common’ outdoor areas shown, in the range of 20-30 dBA.

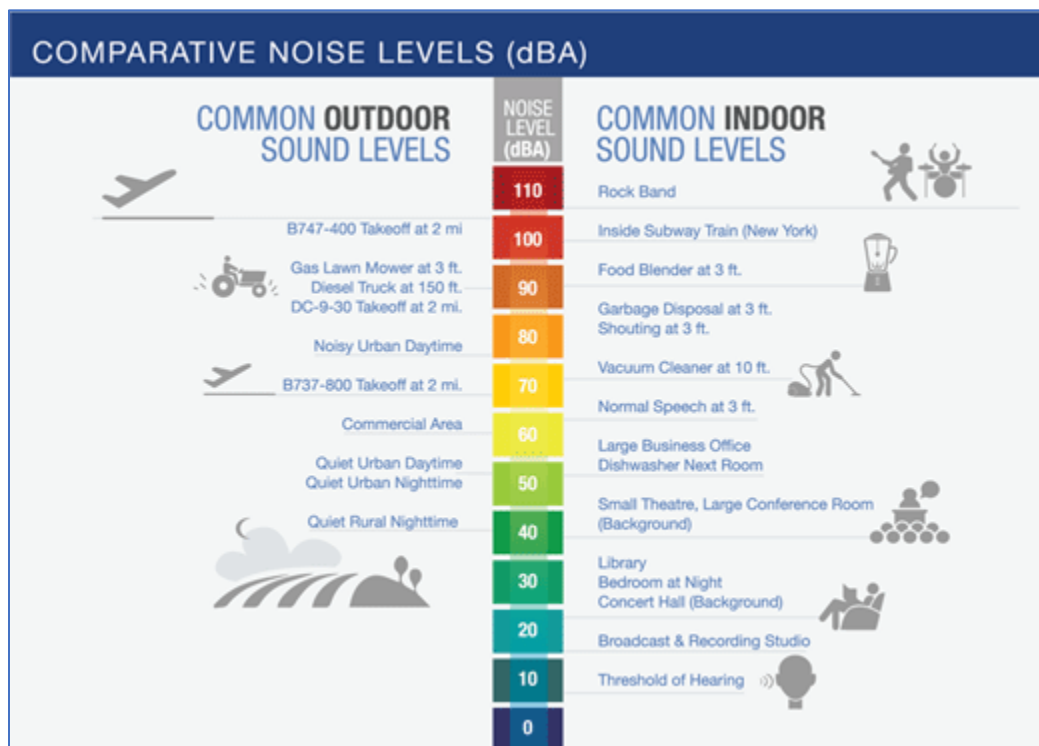


Figure 1. Comparative Sound Levels.²

Section 2 discusses the noise metrics. Section 3 discusses the affected environment and ambient soundscape. Section 4 discusses the noise model method and inputs while Section 5 discusses outputs. Sections 6 and 7 provide detailed noise results for each alternative. Section 8 discusses indirect effects.

2. Modeled Noise Metrics

There are numerous ways to measure the potential impacts of noise from commercial air tours on the acoustic environment of a park, including intensity, duration, and spatial footprint of the noise. The affected environment and impact analysis disclose noise metrics consistent with both Federal Aviation Administration (FAA) and National Park Service (NPS) noise guidance. The FAA noise evaluation is based on guidance under FAA Order 1050.1F and uses the yearly day night average sound level (DNL) metric; the cumulative noise energy exposure from aircraft over 24 hours. The NPS considers various different metrics to analyze impacts to park resources and values from noise, including equivalent sound level, time audible (the amount of time you can hear air tour aircraft noise), the amount of time that the noise from a commercial air tour operation would be above specific sound levels that relate to functional

² Source: https://www.faa.gov/regulations_policies/policy_guidance/noise/basics/

effects of noise and park management objectives (e.g., 35 and 52 decibels), and maximum sound level. These metrics are discussed further in Table 2. ***Note that time audible natural ambient was not computed for this Park, as the detailed data required to compute this metric was not available.***

Table 2. Primary Metrics Used for the Noise Analysis.

Metric	Relevance and citation
Equivalent Continuous Sound Level, $L_{Aeq, 12\text{ hr}}$	The logarithmic average of commercial air tour sound levels, in dBA, over a 12-hour day. The selected 12-hour period is selected to represent typical daytime commercial air tour operating hours.
Day-night Average Sound Level, L_{dn} (or DNL)	<p>The logarithmic average of sound levels, in dBA, over a 24-hour day, DNL takes into account the increased sensitivity to noise at night by including a 10 dB penalty between 10 PM and 7 AM local time.</p> <p>Note: Both $L_{Aeq, 12\text{ hr}}$ and DNL characterize:</p> <ul style="list-style-type: none"> Increases in both the loudness and duration of noise events; The number of noise events during specific time period (12 hours for $L_{Aeq, 12\text{ hr}}$ and 24-hours for DNL). <p>If there are no nighttime events, then $L_{Aeq, 12\text{ hr}}$ is arithmetically three dBA higher than DNL.</p> <p>The FAA's (2015, Exhibit 4-1) indicators of significant impacts are for an action that would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.</p>
Time Audible Natural Ambient (not computed for the Park)	<p>The total time (minutes) that aircraft noise levels are audible to an attentive listener with normal hearing under natural ambient conditions.</p> <p>The median natural ambient is the sound level exceeded 50 percent of the time (L_{50}), determined from the natural sound conditions found in a study area, including all sounds of nature (i.e., wind, streams, wildlife, etc.), and excluding all human and mechanical sounds. Time audible does not indicate how loud the event is, only if it might be heard.</p>
Time Above 35 dBA	<p>The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA).</p> <p>In quiet settings, outdoor sound levels exceeding 35 dBA degrade experience in outdoor performance venues (American National Standards Institute (ANSI), 2007). This level has also shown to cause blood pressure increases in sleeping humans</p>

Metric	Relevance and citation
	(Haralabidis et al., 2008); as well as exceeding recommended maximum background noise level inside classrooms (ANSI/Acoustical Society of America S12.60/Part 1, 2010).
Time Above 52 dBA	<p>The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA).</p> <p>This metric represents the level at which one may reasonably expect interference with Park interpretive programs. At this background sound level (52 dBA), normal voice communication at five meters (two people five meters apart), or a raised voice to an audience at ten meters would result in 95% sentence intelligibility (Environmental Protection Agency, Office of Noise Abatement and Control, 1974).</p>
Maximum Sound Level, L_{max}	The loudest sound level, in dBA, generated by the loudest event; it is event-based and is independent of the number of operations. L_{max} does not provide any context of frequency, duration, or timing of exposure.

3. Affected Environment

NPS defines acoustic resources as physical sound sources, including both natural sounds (wind, water, wildlife, vegetation) and cultural and historic sounds (battle reenactments, tribal ceremonies, quiet reverence). The acoustic environment is the combination of all the acoustic resources within a given area. This includes natural sounds and cultural sounds, as well as non-natural human-caused sounds. Soundscape can be defined as the human perception of those physical sound resources.

Natural sounds are also part of the biological or other physical resource components of the Park. Examples include:

- Sounds produced by birds, chipmunks, frogs, mountain lions, mountain goats, and bighorn sheep to define territories or aid in attracting mates;
- Sounds produced by bats to locate prey or navigate;
- Sounds received by mice or deer to detect and avoid predators or other danger;
- Sounds produced by physical processes, such as wind in the trees, claps of thunder, or falling water.

One of the natural resources of the Park is the natural soundscape, also referred to as the natural ambient or “natural quiet.” The natural ambient includes all of the naturally occurring sounds of the Park, as well as the quiet associated with still nights and certain seasons. An important part of the mission of the NPS is to preserve or restore the natural soundscapes associated with units of the National Park System (NPS Management Policies § 4.9, 2006).

The term existing ambient refers to the sound level of all sounds in a given area, and includes all natural sounds as well as all mechanical, electrical, and other human-caused sounds. Human-generated noise sources may include wheeled vehicles on roads, such as passenger vehicles, tour buses, and cyclists, and aircraft overflights consisting of high-altitude commercial jet aircraft, occasional NPS flights for research or other Park purposes, commercial air tour operations, and private general aviation aircraft. Human-generated noise within the Park is typically concentrated in travel corridors and areas of high visitor use.

To characterize the natural and existing ambient conditions, acoustic monitoring was conducted for the Park in 2012 (White, 2014). The median natural ambient (L_{nat}) was between 20.1 and 30.6 dBA during the summer months, and between 18.5 and 32.0 dBA during the winter months. The median daytime existing ambient (L_{50}) was between 23.2 and 34.9 dBA during the summer months, and between 20.4 and 34.4 dBA during the winter months. Aircraft and automobiles were noted as common sources of noise at the Park.

4. Noise Model Method

The FAA's Aviation Environmental Design Tool (AEDT), Version 3e (Lee et al., 2022) is the FAA-approved computer program for modeling noise under Appendix A of FAA's Part 150 Airport Noise Compatibility Planning (14 Code of Federal Regulations (CFR) sec. A150.103(a)). Requirements for aircraft noise modeling are defined in FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, and in Federal Aviation Regulations (FAR) 14 CFR Part 150, Airport Noise Compatibility Planning.

The noise model requires detailed information regarding the aircraft source, operational, and flight route information, as well as other information³ to compute various noise metrics that can be used to assess the potential impacts of noise from commercial air tours on the acoustic environment of a park.

Aircraft Data

The tour aircraft types identified for modeling are the Cessna 182 and Cessna 207 aircraft. The flight routes used for modeling the No Action Alternative and Alternative 3 are shown in Figure 2. A unique flight profile was developed for each modeled aircraft and route combination based on typical aircraft climb rates, descent rates, power settings and speeds during the different phases of flight (cruise, climb, and descent).

³ The noise model accounts for a number of effects over the propagation path between the aircraft source and receptor. Attenuation due to line-of-sight blockage from terrain features is computed utilizing terrain data obtained from the U.S. Geological Survey along with algorithms documented in SAE Aerospace Information Report (AIR) 6501. Atmospheric absorption is based on the 2012-2021 average temperature of 76 degrees Fahrenheit and 71% relative humidity and computed according to SAE-ARP-5534.

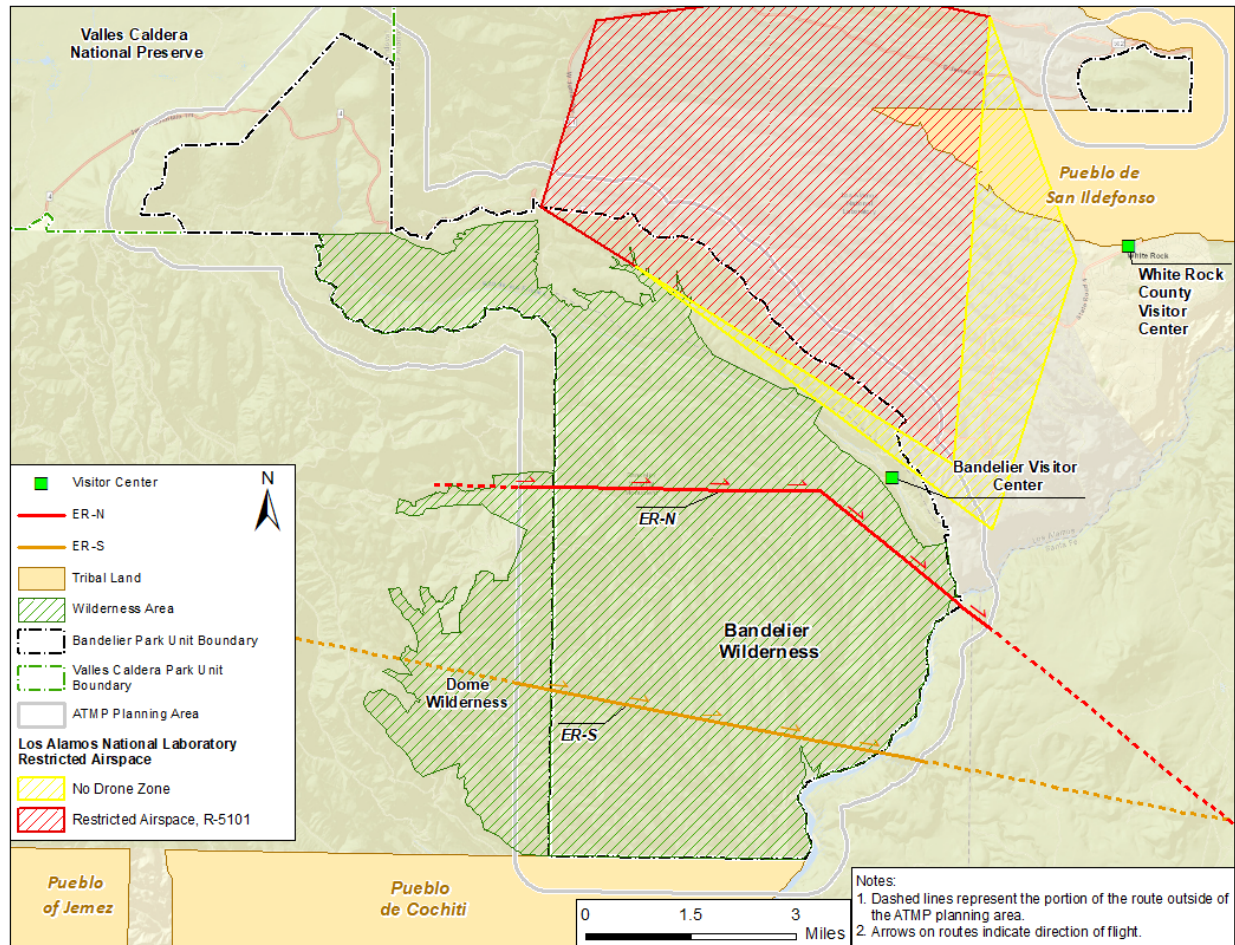


Figure 2. Air Tour Routes Model.

The analysis for the No Action Alternative is based on a peak month, average day⁴ (PMAD) of commercial air tour activity – identified as one operation. For the three-year average of commercial air tour activity from 2017-2019, the PMAD was identified in terms of number of operations, and then further assessed for the type of aircraft and route flown to determine if it is a reasonable representation of the commercial air tour activity over the Park. The existing commercial air tour operator provided route information for seven general route options and reported flying two types of fixed-wing aircraft – a Cessna 182 and a Cessna 207 – which results in fourteen potential aircraft/route combinations for analysis. Because the PMAD is identified as one operation, for purposes of the *Noise Technical Analysis*, the No Action Alternative modeled the ER-S orange route using a Cessna 182 aircraft (see Table 3). This route and aircraft combination was chosen as a representation of the most frequently utilized route for

⁴ As required by FAA policy, the FAA typically represents yearly conditions as the Average Annual Day (AAD). However, it was determined that a peak month, average day (PMAD) representation of the operations would more adequately allow for disclosure of any potential impacts. PMAD has therefore been used as a conservative representation of assessment of AAD conditions.

existing activity based on the best available information. Aircraft altitude was modeled based on information provided by the operator.

Under Alternative 3, air tours may utilize either the ER-N red route or ER-S orange route identified in Figure 2. For the purposes of the *Noise Technical Analysis*, an average day under Alternative 3 was modeled based on the average number of operations which may occur in a single day – one operation, using the aircraft and route combination most likely to be utilized under Alternative 3 – a Cessna 182 on the ER-S orange route. In other words, the Cessna 182 - ER-S orange route combination was chosen as the most logical representation of an average day of activity based on best available information for existing conditions. Additionally, noise modeling was performed for the Cessna 207 - ER-N red route combination, providing information regarding the potential noise effects of the second authorized aircraft and route under this alternative (see Table 3). Effects under the two scenarios not modeled (Cessna 207 – ER-S orange route or Cessna 182 – ER-N red route) are anticipated to be similar to the effects predicted by the modeled scenarios.

The altitude information in Table 3 is expressed as feet (ft.) above ground level (AGL) and mean sea level (MSL). AGL is a measurement of the distance between the ground surface and the aircraft, whereas MSL refers to the altitude of an aircraft above sea level, regardless of the terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying AGL altitudes, and vice versa, assuming uneven terrain is present below the aircraft.

Table 3. Aircraft, Routes and Number of Operations Modeled.

Route	Aircraft	No Action Alternative (2017-2019 PMAD)	Alternative 3 / ER-N Red Route	Alternative 3 / ER-S Orange Route
ER-S (Orange) 1,000 ft. AGL	Cessna 182	1		
ER-N (Red) 10,000 ft. MSL	Cessna 207		1	
ER-S (Orange) 10,000 ft. MSL	Cessna 182			1
	Total	1	1	1

5. Model Output

Two types of analyses were performed using FAA’s AEDT, Version 3e: 1) contour analysis; and 2) representative location point analysis. A noise contour presents a graphical illustration or “footprint” of the area potentially affected by the noise. Location point results present the metric results at specific points of interest. The NPS provided a list of 13 location points, geographically located across the ATMP planning area, where noise levels were to be evaluated. These locations are listed in Table 4 and shown geographically in Figure 3.

Table 4. Location Points Modeled for Bandelier National Monument.

Location	Longitude (decimal degrees)	Latitude (decimal degrees)
1. Alcove House	-106.285	35.78887
2. Visitor Center	-106.271	35.779
3. Frijoles Rim	-106.262	35.75563
4. Upper Falls	-106.26	35.76431
5. Alamo Mesa	-106.291	35.7275
6. Turkey Springs	-106.351	35.7371
7. Lower Yapashi	-106.313	35.73156
8. Stone Lions	-106.323	35.76391
9. Horse Mesa	-106.347	35.78553
10. Capulin Canyon	-106.355	35.77673
11. Rio Grande	-106.271	35.72341
12. Tyuonyi Overlook	-106.28	35.7877
13. Frijoles Canyon Mouth	-106.254	35.75233

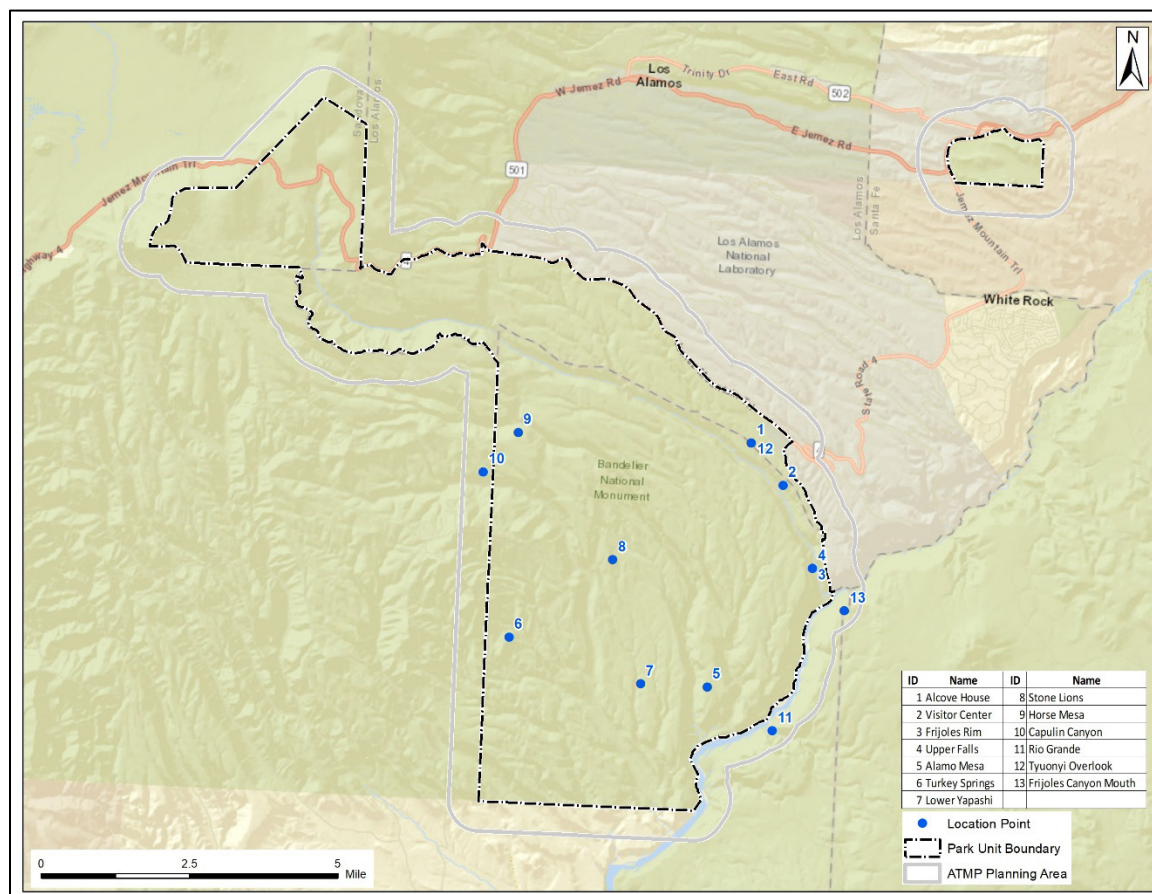


Figure 3. Location Points Modeled.

6. Noise Model Results / Environmental Consequences

This section provides figures and tables showing the detailed noise results, organized by alternative. Presented first are the noise contour result maps (Figure 4 and Figure 5), followed by tabular results (Table 5, Table 6, and Table 7) for the location points for each of the acoustic metrics modeled.

Note:

- Noise contour results are not presented for the $L_{Aeq,12hr}$ metric, as levels would not exceed 35 dBA for this metric for any of the alternatives.
- Noise results are not presented for the time audible metric as the detailed data required to compute this metric was not available.
- The noise contour map legends include the cumulative percentage of the total ATMP planning area covered by each contour level.

Alternative 1 (No Action Alternative)

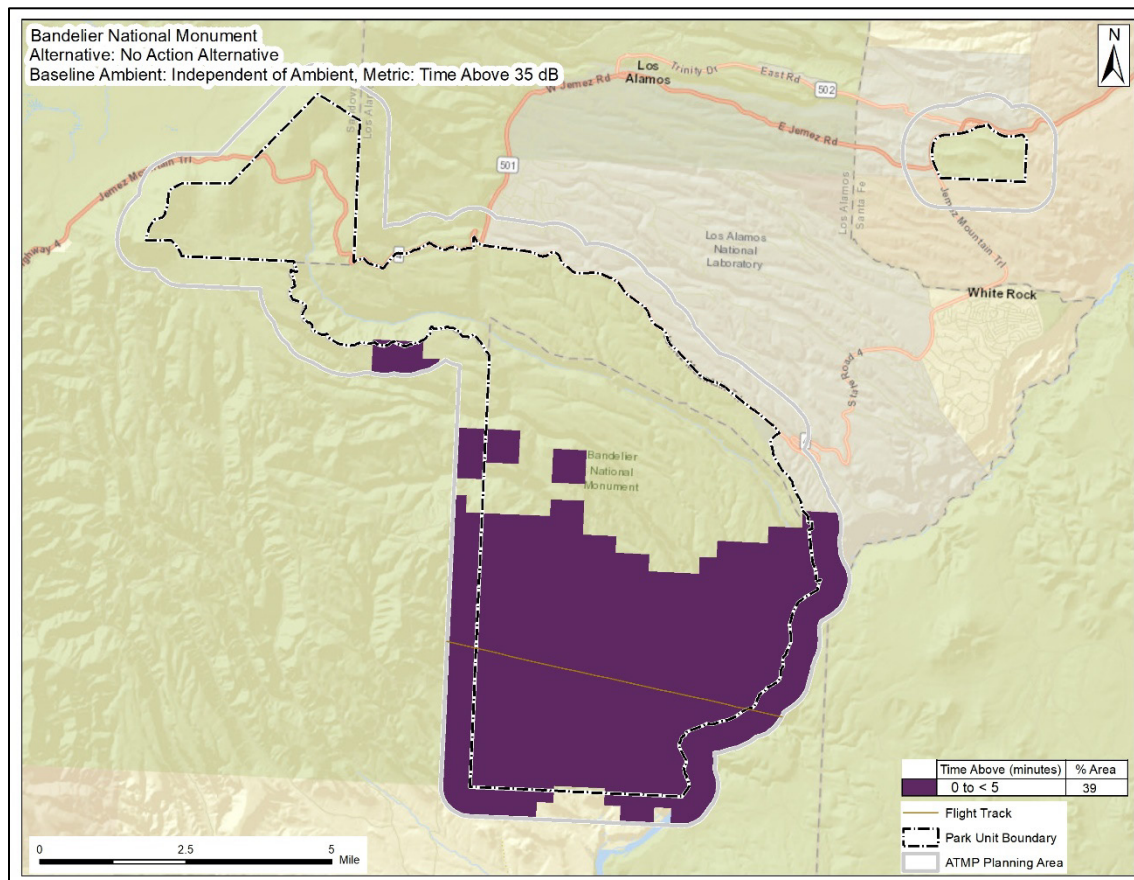


Figure 4. Time Above 35 dBA Map for the No Action Alternative.

Table 5. Location Point Results - No Action Alternative.

Location	12-Hour Equivalent Sound Level (dBA)*	Time Above 35 dBA (minutes)	Time Above 52 dBA (minutes)	Maximum Sound Level (dBA)
1. Alcove House	0	0.0	0.0	29.4
2. Visitor Center	0	0.0	0.0	36.4
3. Frijoles Rim	6.9	0.3	0.0	42.2
4. Upper Falls	0	0.0	0.0	34.2
5. Alamo Mesa	15.9	0.6	0.0	50.6
6. Turkey Springs	16.2	0.6	0.0	51.8
7. Lower Yapashi	14.7	0.6	0.0	48.9
8. Stone Lions	3.6	0.0	0.0	34.8
9. Horse Mesa	0	0.0	0.0	30.1
10. Capulin Canyon	0	0.0	0.0	23.0
11. Rio Grande	19.3	0.6	0.1	54.8
12. Tyuonyi Overlook	0	0.0	0.0	30.2
13. Frijoles Canyon Mouth	0	0.0	0.0	37.3

* As there are no nighttime events, DNL would be 3 dB less than the 12-hour equivalent sound level.

Alternative 3 – ER-N Red Route

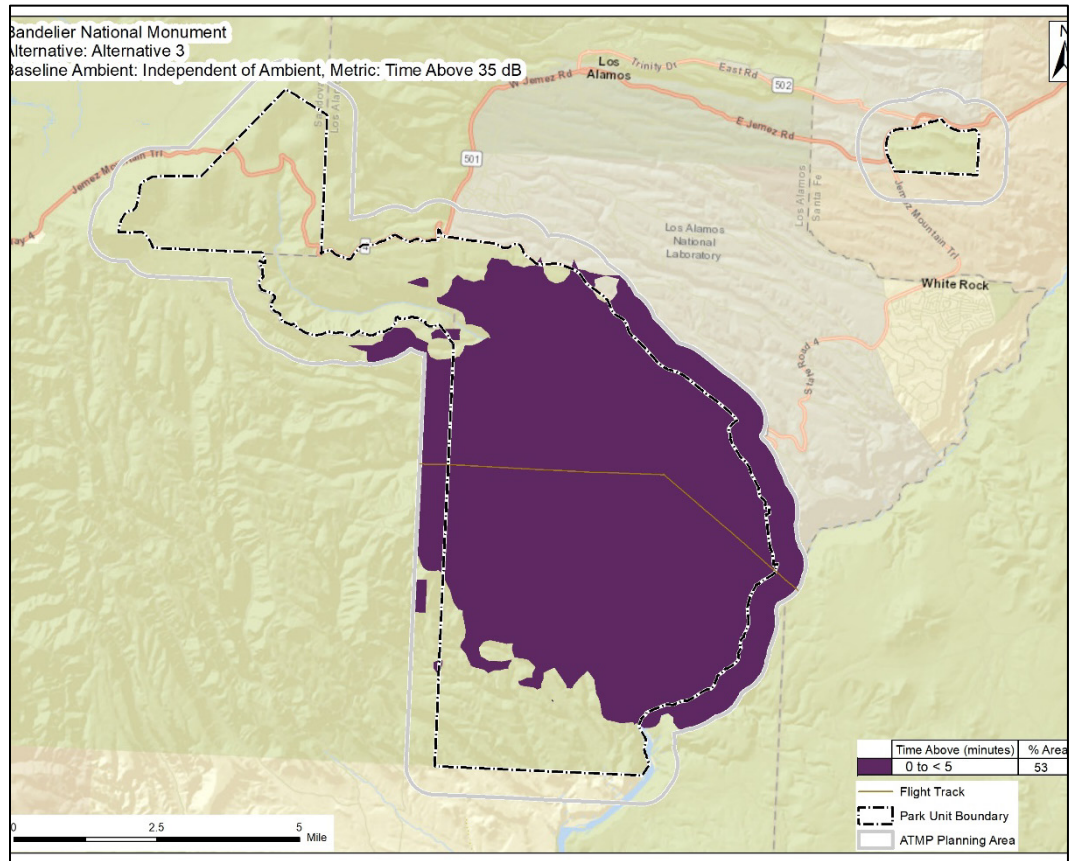


Figure 5. Time Above 35 dBA Map for Alternative 3 – ER-N Red Route.

Table 6. Location Point Results for Alternative 3 – ER-N Red Route.

Location	12-Hour Equivalent Sound Level (dBA)*	Time Above 35 dBA (minutes)	Time Above 52 dBA (minutes)	Maximum Sound Level (dBA)
1. Alcove House	19.7	1.6	0.0	51.0
2. Visitor Center	21.1	1.6	0.0	51.4
3. Frijoles Rim	24.4	1.9	0.4	56.0
4. Upper Falls	18.7	0.8	0.1	53.3
5. Alamo Mesa	15.2	2.4	0.0	41.1
6. Turkey Springs	11.5	0.8	0.0	39.7
7. Lower Yapashi	14.9	2.5	0.0	39.6
8. Stone Lions	21.9	2.3	0.0	51.8
9. Horse Mesa	23.3	1.6	0.3	54.6
10. Capulin Canyon	25.2	1.4	0.5	57.7
11. Rio Grande	14.7	1.4	0.0	43.0
12. Tyuonyi Overlook	19.7	1.7	0.0	50.8
13. Frijoles Canyon Mouth	22.7	1.3	0.3	53.9

* As there are no nighttime events, DNL would be 3 dB less than the 12-hour equivalent sound level.

Alternative 3 – ER-S Orange Route

Sound level would not exceed 35 dBA within the ATMP planning area; thus time above 35 dBA would be zero at all locations and contour results are not produced.

Table 7. Location Point Results for Alternative 3 – ER-S Orange Route.

Location	12-Hour Equivalent Sound Level (dBA)*	Time Above 35 dBA (minutes)	Time Above 52 dBA (minutes)	Maximum Sound Level (dBA)
1. Alcove House	0.5	0.0	0.0	23.6
2. Visitor Center	0.9	0.0	0.0	24.4
3. Frijoles Rim	1.8	0.0	0.0	26.5
4. Upper Falls	0.0	0.0	0.0	25.6
5. Alamo Mesa	2.5	0.0	0.0	28.0
6. Turkey Springs	2.5	0.0	0.0	28.2
7. Lower Yapashi	2.5	0.0	0.0	28.0
8. Stone Lions	1.9	0.0	0.0	26.6
9. Horse Mesa	1.0	0.0	0.0	25.2
10. Capulin Canyon	1.5	0.0	0.0	26.0
11. Rio Grande	2.4	0.0	0.0	27.7
12. Tyuonyi Overlook	0.5	0.0	0.0	23.7
13. Frijoles Canyon Mouth	1.8	0.0	0.0	26.3

* As there are no nighttime events, DNL would be 3 dB less than the 12-hour equivalent sound level.

7. Comparison of Alternatives by Metric

This section provides tables showing the detailed noise results, organized by metric for each of the four acoustic metrics modeled. A comparison of impacts between the No Action Alternative and Alternative 3 (Cessna 182 ER-S orange route scenario) is provided below. This scenario provides the most direct comparison between alternatives, including the effects of the altitude requirement that would be authorized for this route. A comparison between the No Action Alternative and the Cessna 207 ER-N red route scenario is not provided as the PMAD under the No Action alternative does not include nor reflect the effects of this aircraft and route combination and comparative results may be misleading. High-level observations of the differences between the No Action Alternative and Alternative 3 (Cessna 182 ER-S orange route) by metric include:

- 12-hour Equivalent Sound Level (Table 9):
 - Compared to the No Action Alternative, the average sound levels for Alternative 3, ER-S orange route are, on average, lower. Under either alternative, the 12-hour equivalent sound level does not exceed 35 dBA; noise footprint contour results are not produced.
- Time Above 35 dBA (Table 8 and Table 10):
 - Compared to the No Action alternative, the time above 35 dBA under Alternative 3, ER-S orange route, is lower. At location points #5 (Alamo Mesa), #6 (Turkey Springs), #7 (Lower Yapashi), and #11 (Rio Grande), it is reduced from 0.6 minutes to zero minutes.

At location point #3 (Frijoles Rim) it is reduced from 0.3 minutes to 0 minutes. At all other locations time above 35 dBA is zero minutes under both the No Action Alternative and Alternative 3 ER-S orange route.

- Time Above 52 dBA (Table 11):
 - Time above 52 dBA is reduced from 0.1 minute to zero minutes at location point #11 (Rio Grande). Time above 52 dBA is zero minutes at all other locations under both the No Action and Alternative 3 ER-S orange route.
- Maximum Sound Level (Table 12):
 - Compared to the No Action Alternative, the maximum sound levels for Alternative 3, ER-S orange route day are on average 13 dBA lower across all modeled location points.

Table 8. Comparison of Contour Results for Time Above 35 dBA.

Time Above 35 dBA Contour Results		% Area for No Action	% Area for Alternative 3 / ER-S Orange Route
	0 to < 5	39	0

Table 9. Comparison of Location Point Results for 12-hour Equivalent Sound Level.

Location	No Action Alternative	Alternative 3 / ER- S Orange Route
1. Alcove House	0	0.5
2. Visitor Center	0	0.9
3. Frijoles Rim	6.9	1.8
4. Upper Falls	0	0
5. Alamo Mesa	15.9	2.5
6. Turkey Springs	16.2	2.5
7. Lower Yapashi	14.7	2.5
8. Stone Lions	3.6	1.9
9. Horse Mesa	0	1.0
10. Capulin Canyon	0	1.5
11. Rio Grande	19.3	2.4
12. Tyuonyi Overlook	0	0.5
13. Frijoles Canyon Mouth	0	1.8

Table 10. Comparison of Location Point Results for Time Above 35 dBA.

Location	No Action Alternative	Alternative 3 / ER- S Orange Route
1. Alcove House	0.0	0.0
2. Visitor Center	0.0	0.0
3. Frijoles Rim	0.3	0.0
4. Upper Falls	0.0	0.0
5. Alamo Mesa	0.6	0.0
6. Turkey Springs	0.6	0.0
7. Lower Yapashi	0.6	0.0

Location	No Action Alternative	Alternative 3 / ER-S Orange Route
8. Stone Lions	0.0	0.0
9. Horse Mesa	0.0	0.0
10. Capulin Canyon	0.0	0.0
11. Rio Grande	0.6	0.0
12. Tyuonyi Overlook	0.0	0.0
13. Frijoles Canyon Mouth	0.0	0.0

Table 11. Comparison of Location Point Results for Time Above 52 dBA.

Location	No Action Alternative	Alternative 3 / ER-S Orange Route
1. Alcove House	0.0	0.0
2. Visitor Center	0.0	0.0
3. Frijoles Rim	0.0	0.0
4. Upper Falls	0.0	0.0
5. Alamo Mesa	0.0	0.0
6. Turkey Springs	0.0	0.0
7. Lower Yapashi	0.0	0.0
8. Stone Lions	0.0	0.0
9. Horse Mesa	0.0	0.0
10. Capulin Canyon	0.0	0.0
11. Rio Grande	0.1	0.0
12. Tyuonyi Overlook	0.0	0.0
13. Frijoles Canyon Mouth	0.0	0.0

Table 12. Comparison of Location Point Results for Maximum Sound Level.

Location	No Action Alternative	Alternative 3 / ER-S Orange Route
1. Alcove House	29.4	23.6
2. Visitor Center	36.4	24.4
3. Frijoles Rim	42.2	26.5
4. Upper Falls	34.2	25.6
5. Alamo Mesa	50.6	28.0
6. Turkey Springs	51.8	28.2
7. Lower Yapashi	48.9	28.0
8. Stone Lions	34.8	26.6
9. Horse Mesa	30.1	25.2
10. Capulin Canyon	23.0	26.0
11. Rio Grande	54.8	27.7
12. Tyuonyi Overlook	30.2	23.7
13. Frijoles Canyon Mouth	37.3	26.3

8. Indirect Effects of Potential Displacement of Air Tours Outside of the ATMP Planning Area

Because Alternative 2 would prohibit air tours within the ATMP planning area and Alternative 3 would reduce the number of routes on which air tours could be conducted within the ATMP planning area, it is reasonably foreseeable that current air tour operators could seek to make up lost revenue resulting from the implementation of those alternatives in other ways. One of the ways that operators could potentially generate revenue is by offering air tours outside of the ATMP planning area, as these would not be regulated by the ATMP. This type of shift in air tour activity is referred to as “air tour displacement,” and could consist of air tour operators shifting routes or altitudes to just outside the ATMP planning area, or over the ATMP planning area at or above 5,000 ft. AGL. This could result in impacts to acoustic resources and natural soundscapes of the locations where displaced air tours would occur.

Indirect Effects to ATMP Planning Area

Displaced air tours, if any, above the ATMP planning area (above 5,000 ft. AGL) would result in noise within the ATMP planning area. Compared to current conditions, the noise would be spread over a larger geospatial area and would be audible for a longer period, but at lower intensity. Thus, under Alternatives 2 and 3, some locations within the ATMP planning area may experience less intense noise but for a longer period when compared to current conditions. Additionally, other locations within the ATMP planning area not currently experiencing air tour noise may experience some noise under these alternatives when compared to current conditions. However, in both cases, the intensity of noise would likely be low given the aircraft altitude; any noise that might result could also be more easily masked by opportunistic sounds such as wind and various anthropogenic noise sources. In summary, while the area of noise could be greater under these alternatives, the intensity of noise, especially when compared to current conditions at locations near or directly below existing air tour routes, would be less.

Indirect Effects Outside the ATMP Planning Area

Displaced air tours have the potential to affect noise-sensitive locations outside the ATMP planning area. However, it is highly unlikely that displaced air tours would generate noise at or above DNL 65 dB as air tours under the No Action Alternative do not exceed 35 dBA $L_{Aeq,12hr}$ within the ATMP planning area.

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APPENDIX G

Cultural Resources Consultation and Summary

Appendix G: Cultural Resources Consultation and Summary

Historic Property List

Section 106 Consultation Correspondence

List of Historic Properties in the APE and Description of Historic Characteristics

Property Name	Property Type	Eligibility Status	Significant Characteristics
Bandelier CCC National Historic Landmark District	National Historic Landmark and Historic District	Listed	The Bandelier CCC National Historic Landmark was designed by NPS architects and landscape architects and built by the CCC (Civilian Conservation Corps) between 1933 and 1942. The district contains 31 buildings of Pueblo Revival design that serve as office space, residences for employees, and lodging for guests. It is significant for its association with the New Deal era in the areas of Social History and Art. It is also significant for its rustic Pueblo Revival architectural style and the careful design of the entrance road and other non-building elements. As a result of the application of rustic design principles, the cultural landscape today blends with its natural setting and conveys a strong sense of place. The rustic, pueblo revival architecture, the natural canyon setting, views and the experience of archeological sites and the riparian corridor all contribute to the unique feeling that the district conveys.
Bandelier National Monument Archeological and Historic District	Historic District	Listed	<p>The Bandelier National Monument Archeological and Historic District encompasses the entire park boundary and is significant for its association with the Archaic use of the Pajarito Plateau (5500 BCE-600 CE); Ancestral Pueblo occupation of the Pajarito Plateau (600-1600 CE); early historic use of the Pajarito Plateau (1600-1848); early scientific investigations and development of archaeology (1848-1932); early Native Arts revival efforts (1848-1932); homestead-era ranching, farming, and timber extraction (1848-1932); and the New Deal era and the CCC (1932-1942).</p> <p>The district contains 32 contributing buildings, 90 contributing structures, and 2,974 contributing sites¹. Many of the archaeological sites in the park are in good condition and retain a high level of integrity, but there are a series of natural and cultural disturbances that have affected them. The pre-Hispanic sites are associated with habitation of the area by Ancestral Pueblo peoples. The area saw</p>

¹ This number include the archaeological sites that exist within the boundary nominated to the National Register in 1970 and archaeological sites within the post-1970 expanded boundaries of the monument.

Property Name	Property Type	Eligibility Status	Significant Characteristics
			<p>limited occupation in historic times by historic Pueblo groups, nomadic Athabascan groups, Hispanos, and Euro-Americans.</p> <p>During the New Deal era and CCC construction, there was great emphasis on the visual impacts of development. Landscape architects took great care to provide pleasant surroundings in the built-up area to promote spectacular and unobstructed views of archaeological sites that contribute to the Park's history. A trail system was also constructed to direct visitors to scenic overlooks and to enhance their access to various archaeological sites.</p> <p>Areas of significance include archeology (prehistoric, historic), science, conservation, social history (exploration/settlement), commerce, industry, architecture, landscape architecture, art, Native American ethnic heritage, military, and entertainment/recreation.</p>
Mission 66 Historic District	Historic District	Eligible	<p>Bandelier National Monument's staff and public-use village on Frijoles Mesa is a Mission 66 Historic District comprised of a park employee housing area (4 buildings) and the Juniper Family Campground and associated roads and interpretive service structures. The Mission 66 Historic District is significant for its association with the unique Frijoles Mesa land swap between the National Park Service and the Atomic Energy Commission, through a 1961 executive order from President Dwight Eisenhower that made the village and park-services expansion possible. The village also represents a well-considered and largely intact 1963–1964 application of the national NPS Mission 66 program to the unique management challenges at the monument and upon the landform of Frijoles Mesa.</p> <p>The Mission 66 designers carefully sited the Bandelier Mission 66 Village for minimum disturbance of natural Frijoles Mesa vegetation, resulting in desirable privacy for campsites, and screening of the amphitheater and the residential area from campers and automobiles. In addition, siting of the Mission 66 houses in the residential area took advantage of topography and spacing of large pine trees to allow stunning views of St. Peter's Dome and the San Miguel Mountains to the west.</p>

Property Name	Property Type	Eligibility Status	Significant Characteristics
Bandelier National Monument Traditional Cultural Properties ²	TCP	Eligible	Many contributing sites within the Bandelier National Monument Archeological and Historic District are Ancestral Pueblo sites that are considered TCPs. Several tribes have informed the FAA that there are TCPs within the Park boundary and that extend beyond to the larger landscape of the area.

² Location is restricted and therefore cannot be shown on the APE map.



United States Department of the Interior
NATIONAL PARK SERVICE
Natural Resource Stewardship & Science
Natural Sounds and Night Skies Division



United States Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Office of Policy, International Affairs & Environment
Office of Environment and Energy

NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

March 29, 2021

Re: Initiation of consultation under Section 106 of the National Historic Preservation Act for the development of an Air Tour Management Plan at Bandelier National Monument

Dr. Jeff Pappas
Director and State Historic Preservation Officer
Department of Cultural Affairs
Historic Preservation Division
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

Dear Dr. Pappas:

The Federal Aviation Administration (FAA) and the National Park Service (NPS) (collectively, the agencies) are developing Air Tour Management Plans (ATMPs) for 23 parks including Bandelier National Monument. ATMPs apply to commercial air tours flown at or below 5,000 feet above ground level in and within ½ mile of a park boundary. The agencies have determined that development of an ATMP qualifies as an “undertaking” subject to Section 106 of the National Historic Preservation Act (NHPA). The purpose of this letter is to initiate Section 106 consultation with your office in accordance with 36 CFR 800.3(c), and solicit any initial comments you may have about the proposed undertaking.

In response to a May 1, 2020 court order, the agencies are working to complete all of the ATMPs by August 31, 2022.¹ The ATMPs are being developed in accordance with the National Parks Air Tour Management Act (NPATMA). NPATMA directs the agencies to either enter into voluntary agreements with air tour operators or establish ATMPs for national parks and adjacent tribal lands where commercial air tour operations are conducted or proposed, subject to certain exceptions not relevant here.

The FAA is acting as the lead federal agency overseeing compliance with Section 106 of the NHPA for this undertaking. The FAA will be coordinating its review under Section 106 with its compliance with the National Environmental Policy Act (NEPA). Each ATMP will be unique and therefore, each ATMP will be assessed individually under Section 106 and NEPA. We look forward to meaningful consultation on the air tours and their overall effect on historic properties.

¹ For more information about the court order and proposed plan, see:
https://www.faa.gov/about/office_org/headquarters_offices/arc/programs/air_tour_management_plan/

There will be no ground disturbance, construction or demolition associated with this undertaking. Air tours have been operating in Bandelier National Monument for over 20 years. Since 2005, these air tours have been conducted pursuant to interim operating authorizations (IOAs) as provided in NPATMA. The agencies are creating ATMPs to replace IOAs and, to the extent possible, will limit the number of annual air tour operations to the average flown between 2017 and 2019. At this time we anticipate little or no increase in air tour operations.

In accordance with 36 CFR 800.3 and NPATMA, the agencies have identified and initiated consultation with federally recognized tribes whose lands will be overflown or who have an interest or ancestral connections to one or more of the parks (See Attachment A). We would welcome your assistance in identifying additional consulting parties along with meaningful ways to engage the public. Information regarding ATMPs is available through a dedicated web site located at: https://www.faa.gov/about/office_org/headquarters_offices/arc/programs/air_tour_management_plan/. During the next phase of consultation, we will seek your input regarding the Area of Potential Effect and the identification of historic properties.

We will follow up with you in the next month. Should you wish to receive additional information regarding this undertaking, please contact Cathy Nadals at ATMPTeams@dot.gov or (202) 267-0746.

Sincerely,



Rob Lowe
Regional Administrator
Southwest Region
Federal Aviation Administration



Paul DePrey
Acting Superintendent
Bandelier National Monument
National Park Service

Attachment A: List of Tribes

ATTACHMENT A
TRIBAL CONSULTATION LIST

Tribe
Comanche Nation, Oklahoma
Fort Sill Apache Tribe of Oklahoma
Hopi Tribe of Arizona
Jicarilla Apache Nation, New Mexico
Kewa Pueblo, New Mexico
Navajo Nation, Arizona, New Mexico & Utah
Ohkay Owingeh, New Mexico
Pueblo of Acoma, New Mexico
Pueblo of Cochiti, New Mexico
Pueblo of Isleta, New Mexico
Pueblo of Jemez, New Mexico
Pueblo of Laguna, New Mexico
Pueblo of Nambe, New Mexico
Pueblo of Picuris, New Mexico
Pueblo of Pojoaque, New Mexico
Pueblo of San Felipe, New Mexico
Pueblo of San Ildefonso, New Mexico
Pueblo of Sandia, New Mexico
Pueblo of Santa Ana, New Mexico
Pueblo of Santa Clara, New Mexico
Pueblo of Taos, New Mexico
Pueblo of Tesuque
Pueblo of Zia, New Mexico
Ysleta Del Sur Pueblo
Zuni Tribe of the Zuni Reservation, New Mexico
Standing Rock Sioux Tribe of North & South Dakota
Apache Tribe of Oklahoma



U.S. Department
of Transportation
**Federal Aviation
Administration**

United States Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Office of Policy, International Affairs & Environment
Office of Environment and Energy

NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

August 27, 2021

Re: Continuing Consultation under Section 106 of the National Historic Preservation Act for the development of an Air Tour Management Plan at Bandelier National Monument

Michelle Ensey
Deputy State Historic Preservation Officer
New Mexico State Historic Preservation Office
407 Galisteo Street, Ste. 236
Santa Fe, NM 87501

Dear Michelle Ensey:

The Federal Aviation Administration (FAA), in coordination with the National Park Service (NPS), seeks to continue consultation with your office under Section 106 of the National Historic Preservation Act (NHPA) for the development of an Air Tour Management Plan (ATMP) at Bandelier National Monument (Park). The FAA initiated consultation with your office in a letter dated March 29, 2021.

This letter presents a description of the proposed undertaking in accordance with 36 CFR 800.3(a) and 800.16(y) and a proposed Area of Potential Effect (APE) pursuant to 36 CFR 800.4(a)(1). The FAA has completed its initial historic property identification effort within the proposed APE in accordance with 36 CFR 800.4. The FAA specifically requests your comments on our proposed APE and initial historic property identification efforts.

Description of the Undertaking

The proposed ATMP would apply to commercial air tours over the Park, within a half-mile outside the boundary of the Park, and over tribal lands within or abutting the Park. The FAA and the NPS have documented the existing conditions for the commercial air tour operations at the Park. The FAA and the NPS consider the existing operations for air tours to be an average of 2017-2019 annual air tours flown, which is 101 air tours. A three-year annual average is used because it reflects the most accurate and reliable air tour conditions, and accounts for variations across multiple years. Commercial air tours over the Park are conducted in a fixed-wing aircraft: CE-182-R. At the park, commercial air tours will fly no lower than 2,600 feet (ft.) above ground level (AGL), depending on the route and location over the park.

The proposed ATMP would authorize commercial air tour operations at the Park in accordance with the following conditions:

- 101 commercial air tours per year;
- Commercial Air tours shall be conducted on the routes shown in **Attachment A**. While over the Park, air tours will fly no lower than 2,600 ft. AGL, referencing the topographic high-point within ½-mile of the flight path;
- The aircraft type authorized to be used for commercial air tours is a CE-182-R fixed wing aircraft. Any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced;
- Air tours may operate two hours after sunrise until two hours before sunset, as defined by the National Oceanic and Atmospheric Administration (NOAA).¹ Air tours may operate any day of the year, except under circumstances provided in the bullet below;
- If the operator has converted to quiet technology aircraft, the operator will be allowed to conduct tours beginning one hour after sunrise until one hour before sunset on all days that flights are authorized;
- The NPS may establish temporary no-fly periods that apply to commercial air tours for special events or planned Park management. Absent exigent circumstances or emergency operations, the NPS will provide a minimum of 15 days written notice to the operator for any restrictions that temporarily restrict certain areas or certain times of day, or 60 days written notice to the operator for any full-day restrictions in advance of the no-fly period. Events may include tribal ceremonies or rituals as determined by affected tribes;
- Operators would submit semi-annual reports to the FAA and the NPS regarding the number of commercial air tours conducted by the operator over the Park;
- When made available by Park staff, the operator/pilot will take at least one training course per year conducted by NPS staff;
- At the request of either of the agencies, the Park staff, the local FAA Flight Standards District Office (FSDO), and the operator will meet once per year to discuss the implementation of the ATMP and any amendments or other changes to the ATMP;
- For situational awareness when conducting tours of the Park, the operators will utilize frequency 122.9 and report when they enter and depart a route. The pilot should identify their company, aircraft, and route to make any other aircraft in the vicinity aware of their position.

Proposed Areas of Potential Effects

The proposed APE for this undertaking (36 CFR 800.4(a)(1)) as defined at 36 CFR 800.16(d) is the geographic areas within which the undertaking may directly or indirectly cause alterations in the character or use of any historic properties, if any such properties exist. The proposed FAA and NPS approval of the ATMP does not require land acquisition, construction, or ground disturbance, and the FAA anticipates no physical effects to historic properties. The FAA is therefore focusing its assessment on the potential introduction of visual or audible elements that could diminish the integrity of any identified significant historic properties.²

¹ Sunrise and sunset data is available from the National Oceanic & Atmospheric Administration Solar Calculator, <https://www.esrl.noaa.gov/gmd/grad/solcalc/>

² The term historic property is defined in 54 U.S.C. 300308 and 36 CFR 800.16(l)(1).

In establishing the proposed APE, the FAA sought to include areas where any historic property present could be affected by noise from or sight of commercial air tours over the Park or adjacent tribal lands. The FAA will consider the number and altitude of commercial air tours over historic properties in these areas to further assess the potential for visual effects and any incremental change in noise levels that may result in alteration of the characteristics of historic properties qualifying them for the National Register of Historic Places (NRHP).

The FAA proposes an APE comprising the area of the Park and a half-mile outside the boundary of the Park, excluding the Tsankawi Section, as depicted in **Attachment A** below.

Preliminary Historic Property Identification

The FAA, in cooperation with the NPS, has undertaken preliminary efforts to identify historic properties within the APE. In so doing, the FAA has taken into consideration the views of consulting parties, past planning, research and studies, magnitude and nature of the undertaking, the degree of Federal involvement, the nature and extent of potential effects on historic properties and the likely nature of historic properties within the APE in accordance with 36 CFR 800.4(b)(1). As such, the historic property identification effort has focused on properties for which setting and feeling are characteristics contributing to the property's NRHP eligibility. The FAA is also considering whether air tours could affect the use of traditional cultural properties (TCPs) associated with cultural practices, customs or beliefs that continue to be held or practiced today. NPS staff at Bandelier National Monument have informed the FAA that a number of tribes have indicated that they consider the entire park is part of a larger sacred landscape.

The FAA, with assistance from the park, has identified two historic properties within the APE for which feeling and setting are characteristics that make the properties eligible for listing on the NRHP. These historic properties are shown in the proposed APE map provided at **Attachment A** and listed in **Attachment B**.

Review Request

The FAA requests that you provide comments you may have regarding the proposed APE and initial historic property identification of historic properties. The FAA also requests your assistance in identifying any other historic properties that may be located within or near the APE. Should you wish to receive additional information regarding this undertaking, please contact Cathy Nadals at Catherine.L.Nadals@faa.gov and (202) 267-0746 or the ATMP team at ATMPTeam@dot.gov. We will reach out in the next couple of weeks to schedule a follow up via phone or video conference.

Sincerely,



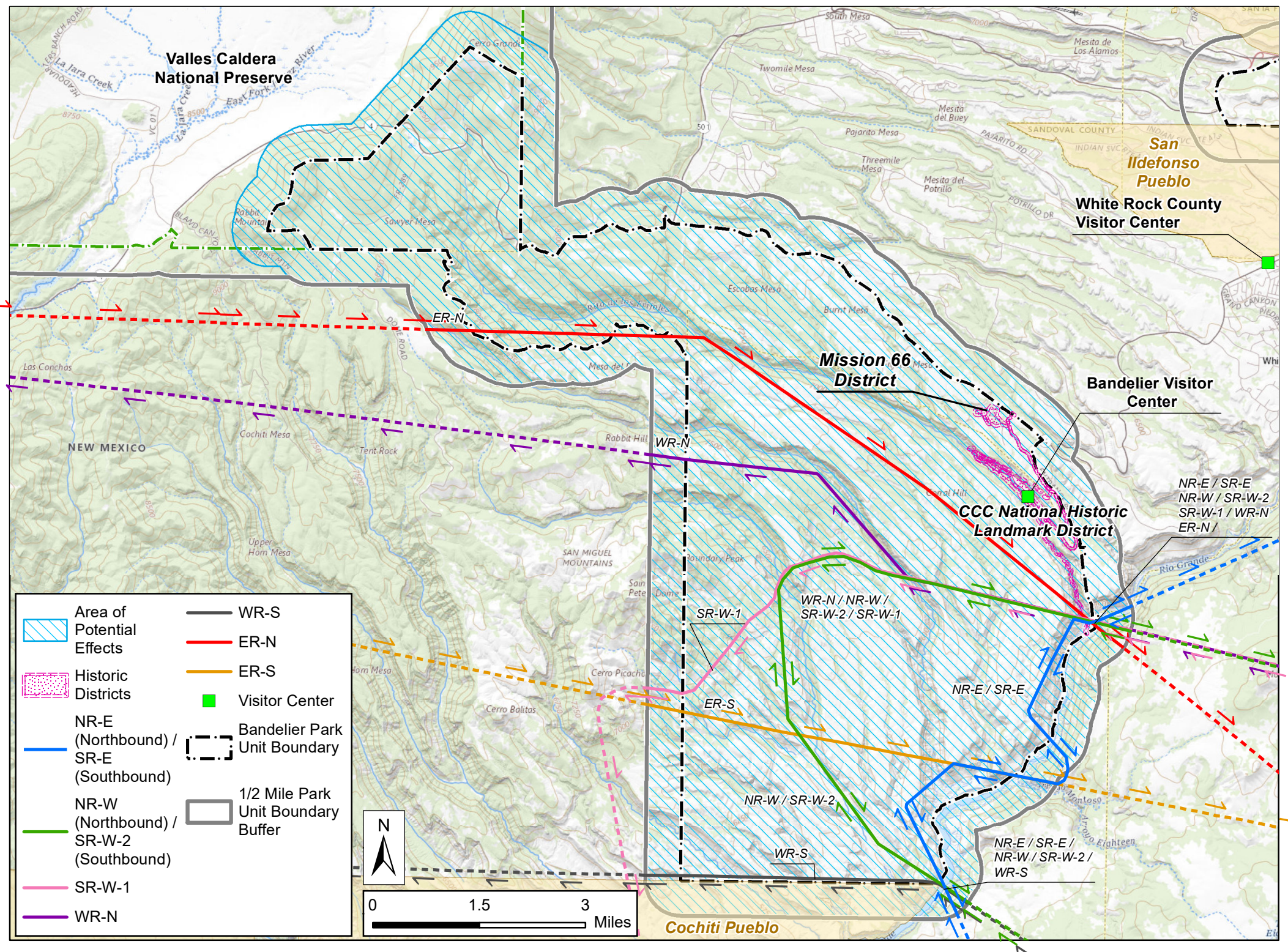
Cathy Nadals
Cultural Resource Specialist
Federal Aviation Administration

Attachments

- A. APE Map including proposed Commercial Air Tour Routes
- B. List of Historic Properties in the APE

**ATTACHMENT A
AREA OF POTENTIAL EFFECT MAP
INCLUDING
COMMERCIAL AIR TOUR ROUTES**

Area of Potential Effects Map for ATMP at Bandelier National Monument



ATTACHMENT B
LIST OF HISTORIC PROPERTIES IN THE APE

ID	Historic Property Name	Historic Status
1	Bandelier CCC National Historic Landmark District	Listed
2	Bandelier National Monument Archeological and Historic District (Mission 66 District)	Listed



Michelle Lujan
Grisham, Governor

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE (505) 827-6320 FAX (505) 827-6338

September 1, 2021

Cathy Nadels
Cultural Resource Specialist
Federal Aviation Administration
Catherine.L.Nadels@faa.gov

Re: Continuing Consultation under Section 106 for the development of an Air Tour
Management Plan at Bandelier National Monument

Dear Ms. Nadels:

Thank you for your letter regarding the proposed Area of Potential Effects (APE) and preliminary identification efforts for the referenced undertaking. The State Historic Preservation Office has no concerns with the proposed APE or the preliminary identification efforts.

Although Bandelier National Monument encompasses many archaeological sites, I agree that the Bandelier CCC National Historic Landmark District and the Mission 66 District are the two properties likely to be affected by air tours. At this time, I am not aware of any other properties within or near the APE that could be considered but tribal consultation may identify traditional cultural properties, including archaeological sites, that have the potential to be affected.

Please do not hesitate to contact me if you have any questions. I can be reached by telephone at (505) 827-4064 (office), (505) 490-3928 (cell), or by email at michelle.ensey@state.nm.us.

Sincerely,

Michelle M. Ensey
Deputy State Historic Preservation Officer &
State Archaeologist

Log: 115792

From: [Bernstein, Bruce](#)
To: [ATMPTeam](#); [Nadals, Catherine L <FAA>](#)
Cc: [jamie_civittello@nps.gov](#); [Gina_Pearson@nps.gov](#); [karen_belvin@nps.gov](#); [laura_martin@nps.gov](#); [Ashley_Pipkin@nps.gov](#); [sierra_mandelko@nps.gov](#); [phil_wilson@nps.gov](#); [adam_beeco@nps.gov](#); [Manning, Derek \(Volpe\)](#); [Rimol, Kaitlyn \(Volpe\)](#); [Schmidt, Jonathan \(Volpe\)](#); [ctoya@iemez pueblo.org](#); [thpo@sanipueblo.org](#); [jayson.romero@cochiti.org](#); [Ben Chavarria](#); [mamitchell@pueblooftesuque.org](#)
Subject: Re: Section 106 Consultation for Air Tours at Bandelier National Monument_Pueblo of Pojoaque, New Mexico
Date: Wednesday, September 15, 2021 11:05:55 AM
Attachments: [Outlook-plban2fq.png](#)

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Dear Ms. Nadals,

Thank you for the opportunity to comment on development of an Air Tour Management Plan at Bandelier National Monument. The Pueblo appreciates your agency's efforts to construct a plan to minimize damage to the cultural and natural landscape of the Monument. Nonetheless, it is the Pueblo of Pojoaque's perspective that air tours should not be allowed at Bandelier because it violates the sacred landscape of the area and its continuing use by Pueblo communities and people. Clearly and indisputably, air tours will affect the use of traditional cultural properties (TCPs) and Ancestral sites and shrines located throughout the region. *"The FAA is also considering whether air tours could affect the use of traditional cultural properties (TCPs) associated with cultural practices, customs or beliefs that continue to be held or practiced today. NPS staff at Bandelier National Monument have informed the FAA that a number of tribes have indicated that they consider the entire park is part of a larger sacred landscape."* The EA must take Tribal viewpoints into serious consideration.

It is positive that mentioned in your letter is that the APE will be areas of historic properties that could be affected by noise and sight of aircraft. Historic properties are a broad and unspecific category in which, certainly, Native built and used space is included. There are 5000 Ancestral sites in the region, over 2000 in the Monument so it is uncertain how any of these properties will be avoided and not affected. *"In establishing the proposed APE, the FAA sought to include areas where any historic property present could be affected by noise from or sight of commercial air tours over the Park or adjacent tribal lands."*

"The proposed APE for this undertaking (36 CFR 800.4(a)(1)) as defined at 36 CFR 800.16(d) is the geographic areas within which the undertaking may directly or indirectly cause alterations in the character or use of any historic properties, if any such properties exist." The Pueblo of Pojoaque appreciates that the APE includes this consideration, however, as stated above with the density of cultural properties and their continuous use the air tours will contribute to their degradation as well as be intrusive to the privacy of continuous use of the area by Pueblo peoples.

Finally, the Pueblo sincerely hopes that FAA and NPS will take into consequential consideration the permanent effects of visible and audible intrusions from aircraft flights. *"The*

proposed FAA and NPS approval of the ATMP does not require land acquisition, construction, or ground disturbance, and the FAA anticipates no physical effects to historic properties. The FAA is therefore focusing its assessment on the potential introduction of visual or audible elements that could diminish the integrity of any identified significant historic properties."

While completing this email, an email was received about a public meeting this evening (September 15). While a public meeting is notably different than a consultation, the Pueblo hopes that the last-minute notification does not presage consultations.

Thank you for your consideration.

Bruce Bernstein, PhD

Tribal Historic Preservation Officer

P'osuwageh Owingeh - Pueblo of Pojoaque

O: 505-455-5505

C: 505-795-6152



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From: ATMPTeam <ATMPTeam@dot.gov>

Sent: Friday, August 27, 2021 1:50 PM

To: Bernstein, Bruce <bbernstein@pojoaque.org>

Cc: jamie_civitello@nps.gov <jamie_civitello@nps.gov>; Gina_Pearson@nps.gov <Gina_Pearson@nps.gov>; karen_belvin@nps.gov <karen_belvin@nps.gov>; laura_martin@nps.gov <laura_martin@nps.gov>; Ashley_Pipkin@nps.gov <Ashley_Pipkin@nps.gov>; sierra_mandelko@nps.gov <sierra_mandelko@nps.gov>; phil_wilson@nps.gov <phil_wilson@nps.gov>; adam_beeco@nps.gov <adam_beeco@nps.gov>; Manning, Derek (Volpe) <Derek.Manning@dot.gov>; Nadals, Catherine L <FAA> <catherine.l.nadals@faa.gov>; Rimol, Kaitlyn (Volpe) <Kaitlyn.Rimol@dot.gov>; Schmidt, Jonathan (Volpe) <Jonathan.Schmidt@dot.gov>

Subject: Section 106 Consultation for Air Tours at Bandelier National Monument_Pueblo of Pojoaque, New Mexico

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recognize the sender and know the content is safe.

Dear Bruce Bernstein:

The Federal Aviation Administration (FAA) and the National Park Service (NPS) are continuing our Section 106 consultations with your office for the development of an Air Tour Management Plan (ATMP) at Bandelier National Monument. The FAA is acting as the lead federal agency for purposes of complying with Section 106 for this undertaking.

We are writing you now to present a description of the undertaking in accordance with 36 CFR 800.3(a) and 800.16(y) along with our proposed Area of Potential Effect (APE) pursuant to 36 CFR 800.4(a)(1). FAA has also completed its initial historic property identification in accordance with 36 CFR 800.4 and requests your assistance in identifying additional historic properties that may be located within the proposed APE.

Please let us know if you have any comments regarding our proposed APE and initial historic property identification efforts.

Should you would wish additional information about any of the above, please contact me at catherine.l.nadals@faa.gov or (202) 267-0746 and ATMPTeams@dot.gov.

Thank you for your time and consideration.

Best Regards,
Cathy Nadals



Pueblo de San Ildefonso
Office of the Governor

SI-GC21-163

September 23, 2021

Patrick Suddath
Superintendent
Bandelier National Monument
15 Entrance Rd.
Los Alamos, NM 87544

RE: Air Tour Management Plan

Dear Superintendent Suddath:

We are writing in response to the National Park Service's (NPS) and Federal Aviation Administration's (FAA) proposed Air Tour Management Plan (ATMP) for Bandelier National Monument. We have reviewed the draft Air Tour Management Plan the proposal, participated in the public meeting for the Bandelier National Monument Air Tour Management Plan and reviewed documentation associated with the continuing consultation under Section 106 of the National Historic Preservation Act.

We would like to provide context for the Pueblo de San Ildefonso's comments on the ATMP. The Pueblo de San Ildefonso considers Bandelier to lie within the ancestral domain of the pueblo and considers the documented cultural resources within to be the material evidence of the occupation of the monument by our ancestors whose spiritual presence resides within the domain. In addition, there are extensive resources within the monument that are not documented but are associated with traditional and ceremonial practices conducted since time immemorial into the present.

Given the context above, we feel any form of increased air tours within the boundaries of the monument and its surrounding area, has the potential to affect maintenance of traditional and ceremonial practices by the Pueblo de San Ildefonso. We also believe there is a potential for air tours to affect or contaminate the spiritual domain and presence of our pueblo ancestors. For these reasons we are opposed to any action that authorizes increased air tours over Bandelier.

Regardless of height restrictions, we feel there will be an adverse effect to wildlife, birds and other animals within the confines of the monument and adjacent lands managed by a variety of communities and agencies. These wildlife resources are an extension of the ecosystem important to the maintenance of traditional Pueblo lifeways.

Another item that has not been addressed is the potential for the Air Tour Management Plan to affect restricted airspace over Los Alamos National Laboratory (LANL). Although we do not know the details of LANL's air space, we understand that airspace to include portions of lands included within the ancestral domain of the Pueblo.

With regard to potential adverse effects to historic properties as defined under Section 106 of the National Historic Preservation Act, there is further work that needs to be completed. When discussing the Area of Potential Effect (APE), we have some concerns. Your proposed APE allows for the potential of noise from or sight of commercial air tours over the Monument and adjacent tribal lands. This would adversely affect the qualities that make historic properties eligible for the National Register, without accounting for certain kinds of historic properties that might not be captured during archaeological survey. We feel the inventory of historic properties based upon archaeological survey is incomplete and would benefit from additional inventory documenting ethnographic use within the APE. In addition, your APE appears to consider only Monument lands and adjacent tribal lands. There are lands managed by other jurisdictions including private, municipal, state and federal such as Santa Fe and Los Alamos Counties, Forest Service, BLM and DOE lands.

The Pueblo de San Ildefonso considers the lands of the monument as well as surrounding lands on a variety of land jurisdictions within the ancestral domain to be a traditional cultural landscape of which the archaeological resources form only a part. Based on the ethnographic study of the Tsankawi Unit of Bandelier we assert that Bandelier and surrounding lands are part of the San Ildefonso cultural landscape which.....

“...is a living landscape because the spirits of San Ildefonso ancestors continue to reside at ancestral sites and the San Ildefonso people continue to use the land in cultural practices. This cultural landscape, including Tsankawi, is integral to the identity of San Ildefonso people and crucial in the retention and transmission of San Ildefonso cultural and history. (Spears, Hopkins and Ferguson 2019)”

This statement would hold for all lands contained within the immediate ancestral domain of San Ildefonso encompassing the Pajarito Plateau, the Jemez Mountains, the Rio Grande and the canyon of the Caja del Rio. As such we would maintain that the inventory of historic properties is incomplete and does not account for the additional non-archaeological cultural components of the cultural landscape that have the potential for those components or the larger cultural landscape to be eligible as historic properties. Nor does the inventory account for the potential noise and visual effects to those properties that make the cultural landscape and its components eligible for the National Register.

Aside from the process associated with Section 106 and the environmental analysis for the National Environmental Policy Act (NEPA) it is important for the Monument and the FAA to understand that the Pueblo de San Ildefonso does not support authorization of air tours over Bandelier National Monument under any circumstances or mitigating measures. Furthermore, we would encourage any existing air tours be discontinued immediately.

We thank you for providing the Pueblo de San Ildefonso the opportunity to make our position clear with regard to the Air Tour Management Plan for Bandelier National Monument. Please do not hesitate to contact my office to discuss this matter further.

Sincerely,



Christopher A. Moquino
Governor
Pueblo de San Ildefonso

CC: Catherine Nadals, FAA (Catherine.L.Nadals@faa.gov)
Scott McFarland, NPS
Senator Martin Heinrich
Senator Ben Ray Lujan
Representative Teresa Leger Fernandez
Pueblo de San Ildefonso Tribal Council



P.O. Box 309

Acoma, New Mexico 87034

PUEBLO OF ACOMA
Tribal Historic Preservation Office

TELEPHONE: 505-552-5124

505-552-5127

December 9, 2021

Mr. David C. Suomi
Regional Administrator
Northwest Mountain Region
Federal Aviation Administration
1601 Lind Avenue Southwest
Renton, WA 98057

Dear Mr. Suomi and team,

Thank you for your letter to the Pueblo of Acoma dated March 26, regarding *Initiation of consultation under 36 CFR 800, the National Park Air Tour Management Act, and Invitation for Government-to-Government Tribal consultation pursuant to Executive Order 13175 and FAA Order 1210.20*. The Pueblo of Acoma appreciates the Federal Aviation Administration's (FAA) solicitation of our input and your effort to address our concerns.

The Pueblo of Acoma continues to claim cultural affiliation to many areas in New Mexico, Arizona, Colorado, and Utah including those within the boundaries of Arches National Park, Bandelier National Monument, Canyon de Chelly National Monument, and Canyonlands National Park. Furthermore, the Acoma Tribal Historic Preservation Office (ATHPO), recognizes each of these places contains the cultural and archeological "footprints" of our ancestors, along with cultural landscape, shrines, and gathering places, and because they remain tied to our present-day village of Haak'u, they are also considered Traditional Cultural Properties.

The Pueblo of Acoma has concerns with the proposed Air Tours. Our concerns stem from the direct experience the Pueblo of Acoma has had over the years with both authorized and non-authorized "fly-overs." We have seen the direct effect the flyovers can have on fragile historic structures and sensitive cultural areas in and around the pueblo. Sadly, it has been our experience that although the pueblo has requested "no-fly" periods for tribal ceremonies, non-authorized flights still occur and have lasting consequences on tribal members as they continue mark cultural observances and practice with sensory intrusions from flights.

The average number of tours projected for a three-year period, at Bandelier National Monument, is 101 air tours. The Pueblo of Acoma experiences "fly-overs" on an annual basis, from military aircraft, private aircraft, helicopters, and commercial aircraft, and understands the direct effects on the buildings, sacred

areas, livestock grazing, and wildlife patterns. Although the air tours have operated for over 20 years, the Pueblo remains concerned with the cumulative effects that will occur from direct flyovers, as well as the disruption caused to these sacred places.

The Pueblo of Acoma requests continued consultation on this proposal, as well as feedback from other tribes. Should you have any questions or concerns you can contact me at (505) 552-5124 ext. 5538 or at sconcho@poamail.org.

Respectfully,

A handwritten signature in black ink, appearing to read 'Steven Concho', with a stylized flourish at the end.

Steven Concho
Pueblo of Acoma Tribal Historic Preservation Officer

CC: HPO
Administration
Cathy Nadals
Rob Lowe
Raquel Girvin
Southeast Utah Group, NPS
Bandelier National Monument, NPS
Canyon de Chelly National Monument, NPS

SANTA CLARA

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INDIAN PUEBLO

ESPANOLA, NEW MEXICO
87532
OFFICE OF GOVERNOR

January 18, 2022

Rob Lowe
Regional Administrator
FAA Southwest Region
Federal Aviation Administration

Patrick Suddath
Superintendent
Bandelier National Monument
National Park Service

Catherine Nadals
Cultural Resources Specialist
Office of Environment and Energy
Federal Aviation Administration

John Wensel
Manager
FAA Flight Standards District Office
Federal Aviation Administration

Re: Santa Clara Pueblo Consultation Comments on the FAA's Draft Air Tour Management Plan for Bandelier National Monument

Dear Mr. Lowe, Mr. Suddath, Ms. Nadals, and Mr. Wensel,

On behalf of Santa Clara Pueblo, we respectfully submit the following comments on the Federal Aviation Administration (FAA) and National Park Service's (NPS) Draft Air Tour Management Plan (ATMP) for Bandelier National Monument in New Mexico. Santa Clara Pueblo is a federally recognized sovereign Tribal Nation with deep ties to Bandelier and its surrounding cultural landscape. It is a part of our ancestral migration history and holds a pivotal role in the expression of our Pueblo identity today. As such, it is vital that the parameters for any air tours of the area be designed and implemented through tribal consultation to ensure that our interests in Bandelier are appropriately protected.

The FAA and NPS are responsible for fulfilling the federal government's trust obligations to Tribal Nations, including our Pueblo, by ensuring that our interests are accounted for in all federal actions, programs, and policies that they undertakes. It is Administrator Dickson, Director Sams, and the staff of both agencies' solemn duty to ensure that this responsibility is upheld. Consultation with Tribal Leaders is key to this work.

We would like to thank the FAA and NPS for holding a one-on-one virtual consultation with our Pueblo prior to the submission of these written comments. Direct engagement between agency leadership and Pueblo leadership on a one-on-one basis is the strongest form of consultation. It honors the political government-to-government relationship that exists between our Pueblo and

the United States. It also enables for meaningful consultation around emergent issues in a way that fosters robust dialogue and mutually agreed upon outcomes. We encourage the FAA and NPS to continue to engage in high level, one-on-one tribal consultations going forward.

In the spirit of this consultation to advance the protection of the culturally important and sacred area of the Bandelier National Monument, I express the following comments and concerns on behalf of Santa Clara Pueblo, with due and utmost respect.

I. Santa Clara Pueblo's Opposition to Air Tours over Bandelier National Monument

Our Pueblo opposes the continuation of air tours over Bandelier National Monument. We request the full termination of such tours to best protect this critical and irreplaceable cultural landscape.

The lands that today comprise Bandelier National Monument are part of Santa Clara Pueblo's ancestral homeland. The lands are directly linked to our oral tradition, culture, and migration history. They also form a living part of the spiritual sanctuary of our people. Our ancestors continue to occupy Bandelier, and our people regularly access these lands for ceremonial purposes. The strong cultural and spiritual connections we hold extend throughout and beyond Bandelier's current boundaries. These ties are also shared by our sister Pueblos and other Tribal Nations.

The designation of Bandelier as a National Monument in 1916 imposed artificial boundaries across this key cultural landscape. There are thousands of documented tribal cultural properties (TCPs) within Bandelier, as well as countless unregistered sacred and culturally significant sites. The Draft ATMP itself recognizes the cultural significance of Bandelier, noting that it includes "one of the largest concentrations of Ancestral Pueblo archeological sites in the American Southwest" to which "[a]ffiliated pueblo Indian groups still have strong traditional associations and ties." See Draft ATMP at Section 2.1.

Our Tribal Historic Preservation Office strives to protect these sites in accordance with applicable law, but our limited available resources, lack of co-management authority, and inconsistencies in tribal consultation make this a steady challenge.

Flyovers from air tours in any quantity or capacity pose an unacceptable risk to Bandelier. While we can understand the draw of experiencing such a beautiful landscape from above, the potential and actual harm that arises in connection with each flight is far too great. An accident or discharge from an aircraft could permanently damage or destroy parts of the National Monument. Further, the noise and visual pollution of the air tours disrupts the conduct of ceremonies, the tranquility of our people accessing the lands for reflection or cultural purposes, and stresses wildlife. Our tribal interests in protecting our cultural heritage and religious expression—which are beyond value must be found to inherently outweigh those of recreational tourism.

Further, terminating the conduct of air tours over Bandelier would be consistent with the no-fly zones currently in place over the adjacent Valles Caldera Park Unit and the Los Alamos National Laboratory. Designating Bandelier as a similar no-fly zone would lead to greater uniformity in the protection of these important cultural and natural landscapes in New Mexico.

II. Comments on the Draft ATMP

Our Pueblo, as stated herein, opposes the operation of air tours over Bandelier National Monument. Should the FAA and NPS continue to authorize this activity it is essential that the preferences of our Pueblo and other Tribal Nations be incorporated into the applicable ATMP to the greatest extent possible. To that end, we offer the following recommendations on the Draft ATMP.

Section 1.0 – Introduction

We recommend that the Introduction be amended to include specific reference to tribal cultural protection and tribal consultation. Congress expressly found in the National Parks Air Tour Management Act of 2000, as amended—which mandates the development and implementation of applicable ATMPs—that "the protection of tribal lands from aircraft overflights is consistent with protecting the public health and welfare and is essential to the maintenance of the natural and cultural resources of Indian tribes." *See* Pub. L. 106-181 at Sec. 802(4). The Introduction should directly address this Congressionally-established priority.

Further, we recommend that the Introduction include discussion on the federal requirement that Tribal Nations be actively involved in the decision-making process related to the ATMP and any associated voluntary agreement. NPS and FAA are required "to solicit the participation of any Indian tribe whose tribal lands are, or may be, overflown by aircraft involved in a commercial air tour operation over the park or tribal lands to which the plan applies, as a cooperating agency," 49 U.S.C. § 40128(b)(4)(D), as well as to "consult with any Indian tribe" whose lands are or may be overflown pursuant to a voluntary agreement, 49 U.S.C. § 40128(b)(7)(C). Tribal involvement decisions related to overflight activities is a matter of sovereignty that should be emphasized in the opening section of the ATMP.

It is important to stress that such involvement not be cabined to the development of this ATMP or the initial negotiation and operation of a voluntary agreement. Tribal engagement and active input into the overflight activities are *ongoing* requirements that honor our sovereign, permanent interests in the land being overflown. We must be engaged at all stages of the overflight process to ensure our interests are accounted for, including through periodic reassessment as to whether amendment to or even suspension of the ATMP or a voluntary agreement is appropriate.

Section 2.0 – Applicability

We recommend that the agencies include a new additional management objective under Section 2.1 to "Protect tribal and pueblo natural resources and cultural heritage and the exercise of indigenous religious beliefs and ceremonial practices." The existing management objective to "Protect sensitive cultural and historic sites" is insufficient, in our view, to address tribal concerns. The FAA and NPS have legal, moral, and trust obligations to safeguard tribal interests through the operation of this ATMP. Incorporation of our suggested management objective would be consistent with these obligations by providing greater specificity as to higher interests of Tribal Nations that are at stake in Bandelier that must be protected. It would also better demonstrate the agencies' commitment to honoring our tribal sovereignty.

It is our understanding that the provisions in this section related to the above ground level and lateral location requirements are carried forth from the implementing regulations for the National Parks Air Tour Management Act at 14 C.F.R. § 136.33(d). We suggest that the FAA and NPS consider a regulatory change to raise the above ground level minimum threshold for applicability from "below 5,000 feet" to "below 7,500 feet." A heightened minimum threshold would capture more flights and be consistent with the use of alternate thresholds for certain national parks. *See, e.g., Pub. L. 100-91 at Section 2(b).*

Section 3.0 – Conditions for the Management of Commercial Air Tour Operations at the Park

As previously stated, we strongly prefer that no tours take place at all to best protect our cultural interests, archeological resources, the tranquility of the site for visitors and ceremonial experiences, and the welfare of local wildlife. In the alternative, our Pueblo supports the imposition of tighter restrictions on the operation of commercial air tours at Bandelier. We recommend the following conditions be imposed under the ATMP.

Section 3.1 – Annual Commercial Air Tours Authorized. Authorization of seventy-five (75) annual commercial flights which are strictly limited to air tour operator Mr. Bruce M. Adams of Southwest Safaris. Our proposed annual limit is intended to further limit the potential disturbances caused by commercial air tours, particularly as domestic and international tourism within the National Parks System continues to escalate.

Section 3.2 – Commercial Air Tour Routes and Altitudes. Air tours should not fly below 3,800 feet above ground level (ABL) with reference to the topographic high-point within ½ mile of the applicable flight path. An expansion of the minimum ABL is justifiable as a matter of privacy to better protect those engaged in spiritual practices or ceremony at or near Bandelier, as well as to better insulate the covered area from noise pollution. We also believe that a heightened minimum ABL threshold would better advance the management objective of protecting raptor and migratory bird populations within Bandelier that typically fly at altitudes ranging from 700 feet to 3000 feet. Avoiding collisions with low-flying aircraft would be better achieved with a heightened ABL minimum threshold that is consistent with these avian flight behaviors.

We ask that the SR-E (Southbound) route proposed in the Draft ATMP be eliminated due to concerns over the route's proximity to and direct overlap with known Pueblo traditional cultural properties. This area is highly sensitive to our Pueblo. The overflight of any aircraft, though particularly those at lower altitudes as used in air tours, along route SR-E is disruptive to and disrespectful of this living cultural landscape.

We are concerned about the direct overflight of route SR-W-1 and proximity of route SR-W-2 (Southbound) to Cochiti Pueblo lands. With deference to any recommendations that may be made directly by Cochiti Pueblo, we recommend that these routes be shifted east of the Rio Grande so that they no longer crossover Cochiti Pueblo lands.

Section 3.3 – Aircraft Type. Our Pueblo supports the restriction of aircraft type to the CE-182-R (small four seat fixed engine plane). Larger aircraft and helicopters are highly disruptive

to the experience of being in nature or in a sacred space. The Draft ATMP's proposal to limit the only authorized aircraft type to CE-182-R fixed engine planes would prohibit those nuisances.

Section 3.4 – Day/Time. Authorization of no more than two (2) flights on a daily basis, which may begin only after the sun has been risen for two hours and must conclude at least two hours prior to sunset, as those times are defined by the National Oceanic and Atmospheric Administration. Air tours may operate throughout the year, except for on a day or period of days designated as culturally significant by a Tribal Nation or for other occasions, as provided in the following section.

Section 3.5 – Restrictions for Particular Events. Tribal ceremonies and cultural events due not lend themselves to Western notions of advance planning for the purposes of providing notice to air tour operators within a set period of days. The imposition of such a requirement is culturally insensitive and largely inappropriate. We recommend that the ATMP state that for annual recurring events, which are to be designated by the relevant Tribal Nation. However, our people have the religious right to access Bandelier as they deem necessary for the conduct of personal and community ceremonies. These may be undertaken with minimal notice of as short as twenty-four (24) hours. Honoring this right of our people to their religious exercise must be a part of the final ATMP. Accordingly, we recommend that it state an air tour operator can expect to receive notice of a restricted route or routes within ten (10) days of a recurring annual event and within twenty-four (24) hours of a private or community requested event. Such restrictions may apply only for a portion of the day or as a full-day prohibition on air tours depending on the circumstances.

Section 3.6 – Required Reporting. We recommend that this section be amended to include a statement that the FAA and NPS will share the semi-annual operator reports with local Tribal Nations, subject to any redactions that may be required to protect the personal identification data (such as social security number or home address) and confidential financial information of the air tour operator. Tribal access to these reports is important for understanding how routes are being used and at what frequency. Such information will facilitate informed decision-making by Tribal Nations as to whether to request consultation on or amendment to the ATMP.

3.7 – Additional Requirements. We suggest that the operator/pilot training course set forth under Section 3.7A be amended to include the participation of a tribal representative alongside NPS staff. The tribal representative would further the operator/pilot's understanding of the cultural significance of Bandelier to Tribal Nations, which will in turn "enhance the interpretive narrative" for visitors and, thus, advance the mission and management objectives of the ATMP. The direct participation of a tribal representative, who shall be designated by local Tribal Nations, also demonstrates the NPS and FAA's respect for tribal sovereignty, our mutual interests in Bandelier and other federally protected lands, and the Nation-to-Nation relationship that exists between Tribal Nations and the United States.

We also ask that Section 3.7B be amended to include the participation of a tribal representative or tribal representatives in the annual meeting between the NPS, FAA Flight Standards District Office, and the operator. Tribal Nations, including our Pueblo, have direct interests in effective implementation of the ATMP for Bandelier. We must be given a seat at the table where discussions about its strengths and weaknesses take place. The absence of a tribal representative at the annual

meeting is a glaring omission that must be corrected in the next iteration of this document. Further, we suggest that Section 3.7B be amended so that an annual meeting can also be called at the request of a Tribal Nation.

Section 3.8 – Quiet Technology Incentives. We recommend making the adoption of quiet technology aircraft a requirement for conducting air tours over Bandelier. Facilitating peaceful enjoyment of the area is a key goal that advances the recreational, spiritual, and other uses of Bandelier. It also mitigates the stress to wildlife, particularly protected species, otherwise caused by low-flying aircraft.

Section 3.9 – Violations; Forfeiture of Flights. We strongly recommend the incorporation of a new section providing for the imposition of penalties in the event of violations of the conditions for the management of commercial air tours at Bandelier or of this ATMP generally. Upon the report of an alleged violation of this ATMP, we suggest that the air tour operator be directed to suspend all flights within forty-eight (48) hours of receipt of notice of said violation. The air tour operator should be given at least twenty-one (21) days to cure the said violation, provided that extenuating circumstances may require a longer period of time for compliance (such as for supply chain accommodations). In the event that the violation cannot be cured within the stipulated time, the approval of the air tour operating to conduct flights should be suspended for a reasonable period of time of not less than one (1) month. In the event that an air tour operator engages in an egregious violation of this ATMP—such as conducting a flight during a tribally designated prohibited period or within sight of a ceremonial activity, for example—we request that no period of cure be provided and the air tour operator's approval to conduct flights be immediately suspended for the remainder of the calendar year. Respect for tribal sovereignty and religious practices lies at the heart of this ATMP. Sanctions must be strong enough to incentivize compliance with its provisions, otherwise it is merely guidance and will not adequately protect our interests.

Section 4.0 – Justification for Measures Taken

We have no comment on this section.

Section 5.0 – Compliance

Our Pueblo recommends that Section 5.0 be amended so as to impose a twenty-one (21) day requirement for modifying the existing Interim Operating Agreement's Operations Specifications for compliance with the final ATMP. As written, there is no deadline stipulated for when the existing Operations Specifications would need to be modified to require such compliance which causes concern.

Section 6.0 – New Entrants

We strongly oppose the granting of any "new entrant" operating authority at Bandelier. It is our position that no air tours should take place over this culturally, historically, and spiritually significant landscape. Should any air tours take place, we do not support their extension beyond the current operator, Southwest Safaris, that has been in operation for an established period of time. Expansion of air tour operations to new entrants will only lead to increased noise pollution,

,heightened risks of accidents and damage to cultural properties, disruption of wildlife habitat, and the overall diminishment of visitors' experiences at the National Monument.

In the event that an option for new entrants is maintained, our Pueblo asks that the number of annual flights permitted over Bandelier remain capped at a total of seventy-five (75) flights among all operators servicing the National Monument. Any new entrant should be subject to the same restrictions as currently proposed for Southwest Safaris in terms of permitted aircraft type and operating hours.

Section 7.0 – Competitive Bidding

We ask that additional environmental review—which should include impacts on wildlife and on tribal cultural properties—be held as mandatory in relation to any new entrant application without exception. A Tribal Historic Preservation Officer (THPO) should be directly involved in the review process alongside FAA and NPS officers. Countless tribal cultural properties occupy Bandelier that are both documented and unidentified. As such, it is vitally important that a THPO or THPOs be an active part of the review. Only Pueblo and other Native people with ties to the Bandelier cultural landscape will have the traditional knowledge to identify sites and assess potential impacts on them by air tour related activities. Their knowledge cannot be substituted by federal officials or other third parties.

Section 8.0 – Adaptive Management

We do not consider changes to routes, altitudes, or other operating parameters as "minor" for the purposes of justifying the use of an adaptive management measure that may not require a formal ATMP amendment. As a Pueblo with deep and living ties to Bandelier we view any change to operating activities, routes, and altitudes, among others, as a direct concern. Adaptive management measures should not be used to circumvent the Nation-to-Nation relationship nor as a means of excluding Tribal Nations. We should be informed of all proposed changes via a timely and official communication from the FAA and NPS that is issued before any decisions are made in relation to the changes so that we have an opportunity to comment on them through consultation. We recommend strongly that this section be amended so that adaptive management measures apply only to strictly administrative factors and not to operating activities, and that a requirement for the timely communication of any proposed modifications to the ATMP to Tribal Nations be added.

Section 9.0 – Amendment

Our Pueblo recommends that Section 9.0 be amended to provide that a Tribal Nation with ancestral and/or contemporary ties to Bandelier may notify the FAA and NPS that it has determined the ATMP is not adequately protecting the National Monument's resources, is adversely affecting aviation safety, or new information or changed circumstances have arisen. As currently written, the amendment process may only be initiated by a federal agency. To honor the Nation-to-Nation relationship and the interests of Tribal Nations that the FAA and NPS are duty-bound to protect pursuant to the trust obligation and federal law, it would be appropriate for Tribal Nations to also hold the option of requesting an amendment to the ATMP.

Section 10.0 – Conformance of Operations Specifications

We have no comment on this section.

Section 11.0 – Effective Date

We have no comment on this section.

III. Conclusion

On behalf of Santa Clara Pueblo, thank you for conducting this consultation on the Draft ATMP for Bandelier National Monument. It is critical that the FAA and NPS continue to engage in collaborative discussions with our Pueblo and other Tribal Nations whose ancestral history and contemporary interests are directly impacted by the management of this vital cultural landscape. Such follow-up should include the meaningful incorporation of revisions into the Draft ATMP that are reflective of the comments we raise herein, as well as the opportunity for Tribal Leaders to review and comment on those revisions prior to their internal finalization at the FAA and NPS.

Kunda; Thank you,

A handwritten signature in blue ink, appearing to read "J. Michael Chavarria", is written over a horizontal line.

J. Michael Chavarria, Governor
Santa Clara Pueblo

Phillip Quintana
Governor



David C. Gordon
Lt. Governor

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February 21, 2022

Submitted Via Email

National Park Service
Natural Sounds and Night Skies Division
BAND ATMP
1201 Oakridge Dr., Suite 100
Fort Collins, CO 80525

Re: Pueblo de Cochiti Comments on Bandelier National Monument Draft Air Tour Management Plan

The Pueblo de Cochiti ("Pueblo") submits the following comments as a National Environmental Policy Act ("NEPA") consulting party in response to the Bandelier National Monument Draft Air Tour Management Plan ("ATMP") issued jointly by the Federal Aviation Administration ("FAA") and National Park Service ("NPS") on September 3rd, 2021, and as a consulting Tribe on the associated National Historic Preservation Act ("NHPA") Section 106 Process. The ATMP provides terms and conditions for commercial air tours conducted over Bandelier National Monument (Monument) pursuant to the National Parks Air Tour Management Act with the objective to develop acceptable and effective measures to mitigate or prevent the significant adverse impacts of commercial air tours on natural and cultural resources, visitor experiences, and tribal lands.

As a preliminary matter, the Pueblo is concerned with the inadequate level of consultation the FAA and NPS has provided to our Pueblo as a NEPA and NHPA consulting party leading to the development of the draft ATMP. The two letters issued and providing notice do not constitute meaningful tribal consultation or engagement in development of the draft ATMP, which is severely inadequate in its protections for traditional cultural properties, cultural resources, and sacred sites. Meaningful tribal consultation is a comprehensive, responsive, and ongoing process in which federal agencies and representatives work together to ensure development of a project and subsequent decision-making protects tribal interests with the goal of reaching free, prior, and informed consent. We look forward to continued engagement with the FAA and NPS in development of a ATMP that implements our Pueblo's cultural and technical expertise, guidance, and recommendations to preserve, to the maximum extent possible, cultural resources and sacred sites by prohibiting, in whole, commercial air flights over the Bandelier National Monument, a non-renewable and already heavily-impacted Pueblo cultural landscape. For our

Pueblo, this invaluable cultural landscape is a place of retreat and prayer to ensure the strength of our community and continued way of life, and we will continue to ensure its protection for generations to come, just as we have done since time immemorial.

The Pajarito Plateau, including the Monument's designated areas, is a vast, multi-layered living cultural landscape consisting of separate overlapping cultural landscapes of individual Pueblos and Tribes. This area's cultural and historical resources are the focal point of the Monument, and the primary reason for the Monument's establishment. As noted in the draft ATMP, this region holds one of the largest concentrations of Ancestral Pueblo archaeological sites in the Southwest including over 3,000 sites, and many more that are not documented. Since time immemorial, our Cochiti Pueblo people have occupied and ecologically stewarded extensive areas of this cultural landscape, including areas encompassed by the Monument. The Pueblo maintains a strong cultural affinity in ongoing interactions including through story, song, prayer, ceremony, and pilgrimage with this landscape and the gifts considered by the Pueblo to be both cultural and natural resources—plants, animals, air, soil, and water. The entirety of this area, including individual sites, are central to the maintenance and revitalization of our cultural knowledge, histories, and practices. Protection of the ecological and spiritual relationships between our Pueblo and the resources this landscape holds is central to the longevity of our identity as Cochiti Pueblo people and remains a priority in our legacy preservation efforts.

Cochiti Pueblo continues to be an active steward of the Bandelier cultural landscape and significantly involved in its management through the NPS. Our Pueblo oral histories and traditional ecological knowledges reaffirmed by the richness of cultural resources in this area connect us back to our ancestors' time in Frijoles Canyon, now encompassed by the Monument boundaries. In 2000, a study by the National Park Service identified Cochiti Pueblo as traditionally associated with the Monument designated area and was included in the formation of a Tribal Advisory Committee in 2003, where the Pueblo has since advocated for meaningful management-level tribal decision-making in protection of cultural resources and maintenance of historical and cultural context and setting for ongoing religious cultural use. Unfortunately, the regulatory mechanism for NPS consultation continues to be unsuccessful as consultation is continually devolved into a procedural "checking the box" requirement. As a result, our Pueblo continues to document the myriad of cases in which NPS has up to this point, proven ineffective at safeguarding cultural sites and maintaining historic cultural setting within the Monument. Ongoing, unsustainable tourist visit levels have—and continue to—result in disturbance and removal of sacred Pueblo cultural items, vandalism and destruction of sites, disrespectful and inappropriate use of sites, and disturbance of tribal cultural and religious activities. NPS has not made a concerted effort to inventory and remedy this situation, provide alternatives for cultural resource management and preservation, and advocate for tribal regulatory authority for Pueblos to engage in management-level decision making in protection of cultural resources.

Our Pueblo also continues to advocate for resources not archaeological in nature, including traditional cultural properties, sacred sites, shrines, springs, plant and mineral gathering places, viewsheds, and other important natural features and sites. The Pueblo continues to contribute to

ecological and watershed management and restoration activities of this landscape and is well aware that ecologies of plants and animals of this landscape severely damaged by five historic wildfires are in need of immediate protection and further restoration activities. Vegetation including juniper savannas, piñon-juniper woodlands, canyon-wall shrublands, ponderosa, pine forests, riparian forests, mixed conifer forests, and montane grasslands all provide important cultural resources, medicines, and foods that are of ongoing use to our community. Similarly, populations of wildlife including migratory birds and endangered species like the Mexican spotted owl also have important cultural roles. In addition, the NPS air tour assessments from other Parks have documented some concern that the rotor wash from helicopters approaching too close to cliff dwellings could disturb materials in context (e.g., pollen, soils, etc.). To allow continued commercial air tours would only cause, both directly and indirectly, further vulnerability and damage to the precious and sensitive vegetation and wildlife, especially during important species-specific breeding and rearing seasons not yet studied and incorporated into the Monument's management plan. Vegetation and wildlife in this area are in need of continued public avoidance and joint agency-tribal restoration activities to ensure their longevity and continued health of the region's ecology overall.

Allowing the continuation of commercial air tours will only exacerbate the existing challenges NPS and Tribes continue to experience in protecting cultural resources and tribal religious use by enabling continued viewing access to Monument visitors, noise pollution, and wildlife disruption. Commercial air tour operations also result in noise-induced vibration that can cause significant short-term and long-term adverse effects on the integrity of natural and man-made structures, objects, and sites. Depending on the character of the sound, the effects range from audible rattle, to items "walking" across surfaces, to fatigue cracking, and potentially to direct or indirect structural damage (Hanson et al, 1991).¹ Even though one flight may be insignificant, there have been hundreds of flights conducted over the past, which may have resulted in a serious unmitigated, cumulative, and irreversible impacts to the Monument's cultural resources, structures, objects, and sites. Environmental reviews including noise modeling have been conducted, results reviewed, and incorporated into ATMPs at other National Parks including at Big Cypress National Preserve and Biscayne National Park to ensure management objectives are met. Accordingly, we request that NPS fulfill obligations under Public Law 100-91 requiring the assessment and evaluation of the effects of aircraft overflights on historical and cultural resources within the Bandelier National Monument.

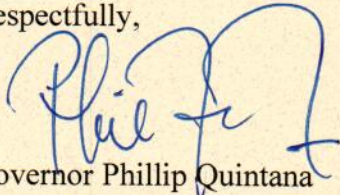
In consideration of our Pueblo's concerns, we request, as part of the NHPA Section 106 process, an assessment be undertaken by NPS to inventory the full extent of existing damages, theft, inappropriate use of sites, intrusion on privacy of tribal religious practices, and other impacts resulting from undermanagement of tourism and visitors to the Monument. This should necessarily include any noise and vibrational impacts to sites, structures, wildlife, and vegetation that may have occurred as a result of unchecked commercial air tours operating before and under interim authority, and an inventory of sites vulnerable and subject to potentially damaging sound

¹Hansen, A.J. Conserving Biodiversity in Managed Forests. 1991. Available at: https://www.researchgate.net/publication/255559506_Conserving_Biodiversity_in_Managed_Forests

exposures. We request this assessment and its findings be reviewed, evaluated, and incorporated into the final ATMP decision to avoid further adverse impacts to the Monument's precious cultural and natural resources. For the reasons discussed above, Cochiti Pueblo fully opposes the continuation of air tours over Bandelier National Monument and urges the NPS and FAA to use the administrative authority granted under the National Parks Air Tour Management Act of 2000 to prohibit, in whole, commercial air tour operations over the Monument. The Pueblo also urges the FAA and NPS to conduct a full environmental impact statement alongside ongoing NHPA Section 106 consultations to ensure the development a robust analysis informing an ATMP that will prevent any significant impacts to cultural resources, traditional cultural properties, and sacred sites in consultation with Pueblos and Tribes.

For years, our Pueblo has urged NPS to carry out the statutory obligation to meaningfully consider and protect Bandelier's cultural resources and its historic qualities for use by Pueblos, Tribes, and all those who come to learn from our past. We look forward to continue working with NPS and FAA to ensure decision-making on the ATMP that is reflective of the critical need to preserve this sacred and irreplaceable cultural landscape for generations to come.

Respectfully,



Governor Phillip Quintana
Cochiti Pueblo



United States Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Office of Policy, International Affairs & Environment
Office of Environment and Energy

NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

January 26, 2023

Re: Continuing Consultation under Section 106 of the National Historic Preservation Act for the development of an Air Tour Management Plan for Bandelier National Monument

Michelle Ensey
Deputy State Historic Preservation Officer
New Mexico State Historic Preservation Office
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

Dear Michelle Ensey:

The Federal Aviation Administration (FAA), in coordination with the National Park Service (NPS), seeks to continue consultation with your office under Section 106 of the National Historic Preservation Act (NHPA) for the development of an Air Tour Management Plan (ATMP) at Bandelier National Monument (the Park). At this time, FAA requests your comments on the historic properties we have identified within the area of potential effects (APE), in accordance with 36 CFR 800.4, as detailed below.

The FAA initiated consultation with your office in a letter dated March 29, 2021. In a follow-up letter dated August 27, 2021, we described the proposed undertaking in more detail, proposed the APE, and provided the results of our preliminary identification of historic properties within the proposed APE. On September 1, 2021, your office concurred with the APE and the initial historic property identification efforts.

This letter describes FAA's further efforts to identify and evaluate historic properties within the APE depicted in **Attachment A** and the results of those efforts, as summarized below.

Identification of Historic Properties

The FAA, in cooperation with the NPS, coordinated with park staff to identify known historic properties located within the APE. The FAA also coordinated with the New Mexico Historic Preservation Division (State Historic Preservation Office) to collect data for previously identified properties that may be listed in or eligible for listing in the National Register of Historic Places (National Register). Data from the New Mexico Preservation Division was received on February 10, 2022 and updated on December 16, 2022. The FAA also consulted with the federally recognized tribes among the list of consulting parties enclosed as **Attachment B** regarding the identification of any other previously unidentified historic properties that

may also be located within the APE. In addition to the previously identified historic properties, Park staff and tribes have informed FAA there are Traditional Cultural Properties (TCPs) located within the APE. While the TCPs are noted in **Attachment C** in a general manner, these are not mapped in Attachment A to ensure confidentiality.

The historic property identification effort has focused on identifying properties for which setting and feeling are characteristics contributing to a property's National Register eligibility, as they are the type of historic property most sensitive to the effects of aircraft overflight. These may include isolated properties where a cultural landscape is part of the property's significance, rural historic districts, outdoor spaces designed for meditation or contemplation and certain TCPs. The FAA has taken into consideration the views and input of consulting parties, past planning, research and studies, magnitude and nature of the undertaking, degree of Federal involvement, nature and extent of potential effects on historic properties, and the likely nature of historic properties within the APE in accordance with 36 CFR 800.4(b)(1). The presence of TCPs and the historic characteristics of the previously identified historic districts have been added to the preliminary list of historic properties to generate the revised historic property list enclosed as **Attachment C**.

Consultation Summary

The FAA contacted 27 federally recognized tribes via letter on March 26, 2021 inviting them to participate in consultation and request their expertise regarding historic properties, including TCPs that may be located within the APE. On August 27, 2021, the FAA sent the identified federally recognized tribes a Section 106 consultation letter describing the proposed undertaking in greater detail in which we proposed an APE and provided the results of our preliminary identification of historic properties. On December 3, 2021 and December 9, 2021, the FAA sent follow up emails to the federally recognized tribes once again inviting them to participate in Section 106 consultation.

On December 15, 2021 and December 20, 2021, the FAA followed up with phone calls to those tribes that did not respond to our prior consultation requests. The FAA received responses from six tribes expressing interest in participating in the Section 106 consultation process: Pueblo of Acoma, Pueblo of Isleta, Pueblo de San Ildefonso, Pueblo of Tesuque, Pueblo of Picuris, and Pueblo of Santa Clara. Two tribes asked to opt out of additional consultation for the undertaking: Pueblo of Sandia and Pueblo of Santa Ana.

On September 15, 2021 the FAA received comments from the Pueblo of Pojoaque via email informing the FAA that there are 5,000 Ancestral sites in the region, over 2,000 of which are within the Park. They also noted that TCPs and ancestral sites and shrines located throughout the region continue to be in use by the community.

The FAA received comments from Governor Christopher A. Moquino in a letter dated September 23, 2021, which notes that the Pueblo de San Ildefonso considers the Park to lie within the ancestral domain of the Pueblo de San Ildefonso and considers the documented cultural resources within the Park to be the material evidence of the occupation of the monument by their ancestors, whose spiritual presence continues to reside within this domain. The letter points out that there are extensive resources within the Park that are not documented and are associated with traditional and ceremonial practices conducted since time immemorial into the present. The Pueblo de San Ildefonso considers the lands of the Park, as well as lands beyond the Park boundary, to be a traditional cultural landscape of which the archaeological resources form only a part.

The FAA received comments from Acoma Tribal Historic Preservation Officer (THPO) Steven Concho of the Pueblo of Acoma in a letter dated December 9, 2021. In those comments, the Pueblo of Acoma noted they continue to claim cultural affiliation to many areas in New Mexico, Arizona, Colorado, and Utah. The THPO recognizes each of these places contains the cultural and archaeological “footprints” of their ancestors, along with cultural landscapes, shrines, and gathering places. In their comments, the Pueblo of Acoma informed the FAA that there are TCPs within the Park.

In a letter dated January 18, 2022, the FAA received comments from the Santa Clara Pueblo’s Governor, Michael Chavarria. The letters explains that the Santa Clara Pueblo has deep ties to the Park and its surrounding cultural landscape. The letter notes that the Park is part of their ancestral migration history and holds a pivotal role in the expression of the Santa Clara Pueblo’s identity today. The letter also informed the FAA that there are thousands of documented tribal cultural properties within the Park, as well as countless unregistered sacred and culturally significant sites.

The FAA also received comments from Governor Phillip Quintana of the Cochiti Pueblo in a letter dated February 21, 2022. In those comments, the Cochiti Pueblo expresses concern regarding the level of consultation the FAA and NPS have provided for the Pueblo. They mention that the two consultation letters they received in March and August of 2021 do not constitute meaningful consultation. The Cochiti Pueblo also expressed that Bandelier National Monument is an invaluable cultural landscape and a place of retreat and prayer to ensure the strength of their community and continued way of life. The letter mentions that the Cochiti Pueblo maintains a strong cultural affinity in ongoing interactions including through story, song, prayer, ceremony, and pilgrimage with this landscape and the gifts considered by the Cochiti Pueblo to be both cultural and natural resources - plants, animals, air, soil, and water. The entirety of this area, including individual sites, are central to the maintenance and revitalization of their cultural knowledge, histories, and practices.

As a result of comments received asking for more meaningful consultation, the FAA has held meetings under EO 13175 and Section 106 with Pueblo de Cochiti, Pueblo of Pojoaque, Pueblo de San Ildefonso, and Pueblo of Santa Clara.

The tribes whom the FAA contacted as part of this undertaking are included in the list of consulting parties is enclosed as **Attachment B**.

Review Request

In accordance with 36 CFR 800.4, the FAA has made a reasonable and good faith effort to identify historic properties within the APE. Those efforts resulted in the identification of two historic districts within the APE, including the entire park that encompasses many contributing properties, and TCPs within the Park boundary that extend beyond to the larger landscape. The identified historic properties are listed in **Attachment C** and shown in the APE map provided in **Attachment A**.

The FAA requests that you provide any comments you may have regarding the historic property identification efforts. In particular, we would appreciate your views regarding the significant characteristics of listed or eligible properties, and any information you might have that would help us to identify additional properties for which setting or feeling is a characteristic of significance.

Should you have any questions regarding any of the above, please contact Judith Walker at 202-267-4185 or Judith.Walker@faa.gov and copy the ATMP team at ATMPTeam@dot.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Judith Walker', with a long horizontal flourish extending to the right.

Judith Walker
Federal Preservation Officer
Senior Environmental Policy Analyst
Environmental Policy Division (AEE-400)
Federal Aviation Administration

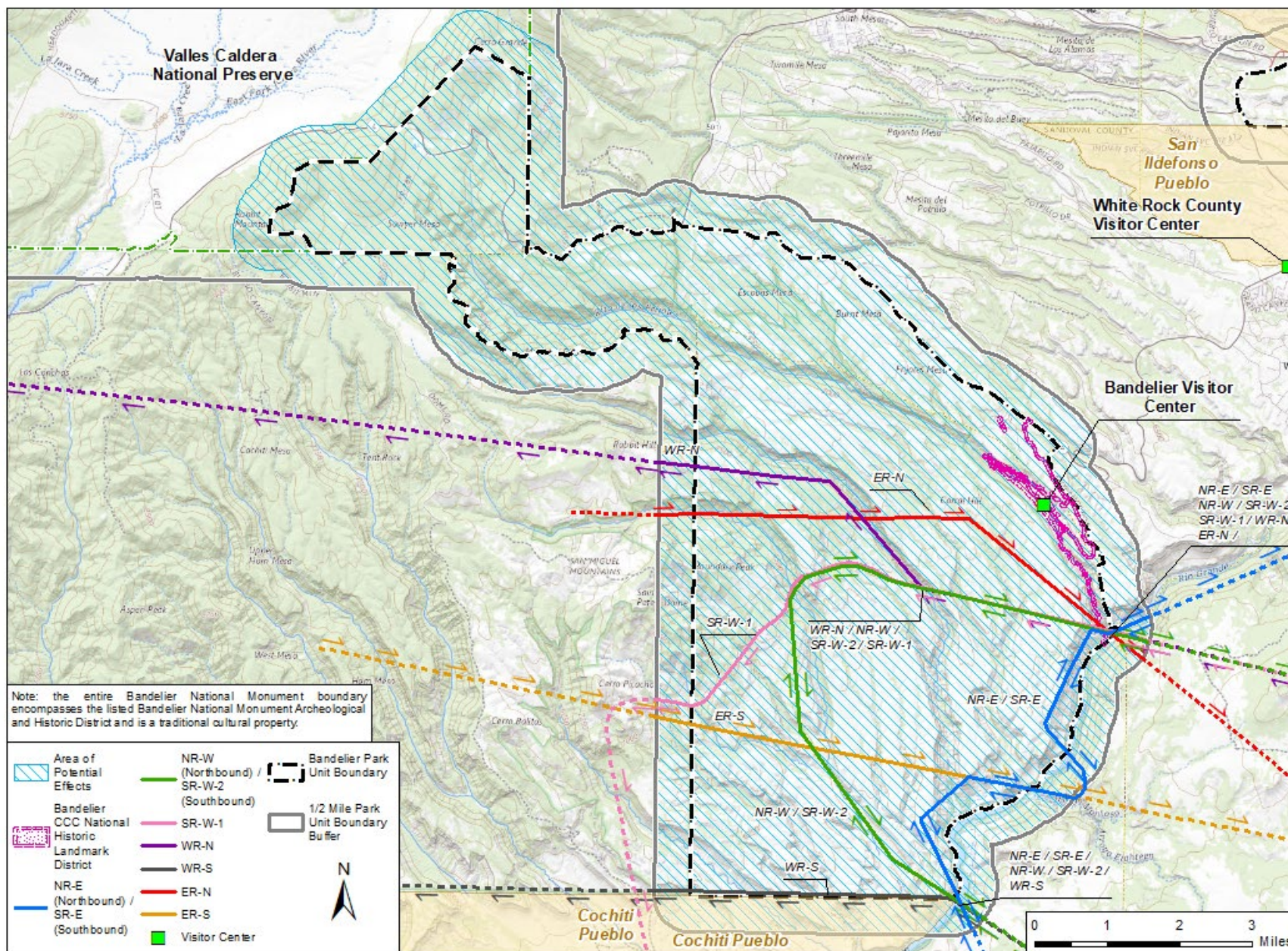
Attachments

- A. APE Map Including Existing Commercial Air Tour Routes
- B. List of Parties Invited to Participate in Consultation for the Undertaking
- C. List of Historic Properties in the APE and Description of Historic Characteristics

ATTACHMENT A

**Area of Potential Effects Map
Including Existing
Commercial Air Tour Routes**

Area of Potential Effects Map for ATMP at Bandelier National Monument



ATTACHMENT B

List of Additional Consulting Parties Invited to Participate in Section 106 Consultation

Adams, Bruce M. (Southwest Safaris)
Apache Tribe of Oklahoma
Comanche Nation, Oklahoma
Fort Sill Apache Tribe of Oklahoma
Hopi Tribe of Arizona
Jicarilla Apache Nation, New Mexico
Kewa Pueblo, New Mexico
Los Alamos National Laboratory ¹
National Trust for Historic Preservation
Navajo Nation, Arizona, New Mexico & Utah
New Mexico State Land Office
Ohkay Owingeh, New Mexico
Pueblo de Cochiti, New Mexico
Pueblo de San Ildefonso, New Mexico
Pueblo of Acoma, New Mexico
Pueblo of Isleta, New Mexico
Pueblo of Jemez, New Mexico
Pueblo of Laguna, New Mexico
Pueblo of Nambe, New Mexico
Pueblo of Picuris, New Mexico
Pueblo of Pojoaque, New Mexico
Pueblo of San Felipe, New Mexico
Pueblo of Sandia, New Mexico ¹
Pueblo of Santa Ana, New Mexico ¹
Pueblo of Santa Clara, New Mexico

Pueblo of Taos, New Mexico
Pueblo of Tesuque
Pueblo of Zia, New Mexico
Santa Fe National Forest
Standing Rock Sioux Tribe of North & South Dakota
Tewa Women
Ysleta Del Sur Pueblo
Zuni Tribe of the Zuni Reservation, New Mexico

¹Consulting party has opted out of further Section 106 consultation for the undertaking.

ATTACHMENT C

List of Historic Properties in the APE and Description of Historic Characteristics

Property Name	Property Type	Eligibility Status	Significant Characteristics
Bandelier CCC National Historic Landmark District	National Historic Landmark and Historic District	Listed	The Bandelier CCC National Historic Landmark was designed by NPS architects and landscape architects and built by the CCC (Civilian Conservation Corps) between 1933 and 1942. The district contains 31 buildings of Pueblo Revival design that serve as office space, residences for employees, and lodging for guests. It is significant for its association with the New Deal era in the areas of Social History and Art. It is also significant for its rustic Pueblo Revival architectural style and the careful design of the entrance road and other non-building elements. As a result of the application of rustic design principles, the cultural landscape today blends with its natural setting and conveys a strong sense of place. The rustic, pueblo revival architecture, the natural canyon setting, views and the experience of archeological sites and the riparian corridor all contribute to the unique feeling that the district conveys.
Bandelier National Monument Archeological and Historic District (Mission 66 District)	Historic District	Listed	<p>The Bandelier National Monument Archeological and Historic District (Mission 66 District) encompasses the entire park boundary and is significant for its association with the Archaic use of the Pajarito Plateau (5500 BCE-600 CE); Ancestral Pueblo occupation of the Pajarito Plateau (600-1600 CE); early historic use of the Pajarito Plateau (1600-1848); early scientific investigations and development of archaeology (1848-1932); early Native Arts revival efforts (1848-1932); homestead-era ranching, farming, and timber extraction (1848-1932); and the New Deal era and the CCC (1932-1942).</p> <p>The district contains 32 contributing buildings, 90 contributing structures, and 2,974 contributing sites*. Many of the archaeological sites in the park are in good condition and retain a high level of integrity, but there are a series of natural and cultural disturbances that have affected them. The pre-Hispanic sites are associated with habitation of the area by Ancestral Pueblo peoples. The area</p>

			<p>saw limited occupation in historic times by historic Pueblo groups, nomadic Athabascan groups, Hispanos, and Euro-Americans.</p> <p>During the New Deal era and CCC construction, there was great emphasis on the visual impacts of development. Landscape architects took great care to provide pleasant surroundings in the built-up area to promote spectacular and unobstructed views of archaeological sites that contribute to the Park's history. A trail system was also constructed to direct visitors to scenic overlooks and to enhance their access to various archaeological sites.</p> <p>Areas of significance include archeology (prehistoric, historic), science, conservation, social history (exploration/settlement), commerce, industry, architecture, landscape architecture, art, Native American ethnic heritage, military, and entertainment/recreation.</p>
Bandelier National Monument Traditional Cultural Properties	TCP	Eligible	<p>Several contributing sites within the Bandelier National Monument Archeological and Historic District are Ancestral Pueblo sites that are considered TCPs. Several tribes have informed the FAA that there are TCPs within the Park boundary and that extend beyond to the larger landscape of the area.</p>

* This number include the archaeological sites that exist within the boundary nominated to the National Register in 1970 and archaeological sites within the post-1970 expanded boundaries of the monument.



Michelle Lujan
Grisham, Governor

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE: (505) 827-6320
EMAIL: nm.shpo@dca.nm.gov

February 10, 2023

Judith Walker
Federal Preservation Officer
Senior Environmental Policy Analyst
Environmental Policy Division (AEE-400)
Federal Aviation Administration

SENT VIA EMAIL ONLY

Re: Continuing Consultation under Section 106 of the National Historic Preservation Act for
the development of an Air Tour Management Plan at Bandelier National Monument

Dear Ms. Walker:

Thank you for your letter regarding the Federal Aviation Administration's (FAA) efforts to identify historic properties within the area of potential effects (APE).

As noted in your letter, several Native American tribes consider Bandelier National Monument to be a traditional cultural landscape. There are many traditional cultural properties (TCPs) within the Monument; however, Attachment C states, "Several contributing sites within the Bandelier National Monument Archaeological and Historic District are Ancestral Pueblo sites that are considered TCPs." I recommend replacing "Several" with "Many." According to the National Register Nomination for the District, there are nineteen shrines within Bandelier National Monument. In addition, thousands of archaeological sites are Ancestral Puebloan and many of these archaeological sites, such as kivas, rock art sites, and trails may be considered traditional cultural properties by the tribes.

Please do not hesitate to contact me if you have any questions. I can be reached by telephone at (505) 827-4064 (office), (505) 490-3928 (cell), or by email at michelle.ensey@dca.nm.gov.

Sincerely,

Michelle M. Ensey
Deputy State Historic Preservation Officer &
State Archaeologist

Log: 115792



United States Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Office of Policy, International Affairs & Environment
Office of Environment and Energy

NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

April 20, 2023

Re: Continuing Consultation and Finding of No Adverse Effect under Section 106 of the National Historic Preservation Act for the development of an Air Tour Management Plan for Bandelier National Monument

Michelle Ensey
Deputy State Historic Preservation Officer
New Mexico State Historic Preservation Office
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

Dear Michelle Ensey:

Introduction

The Federal Aviation Administration (FAA), in coordination with the National Park Service (NPS) (together, the agencies), seeks to continue consultation with your office under Section 106 of the National Historic Preservation Act (NHPA) for the development of an Air Tour Management Plan (ATMP) for Bandelier National Monument (the Park). At this time, the FAA requests your concurrence with its proposed finding that the undertaking would have no adverse effect on historic properties, in accordance with 36 CFR 800.5(c). On this date, we are also notifying all consulting parties of this proposed finding and providing the documentation below for their review.

In accordance with the requirements of 36 CFR 800.11(e), this letter provides: a description of the undertaking - an ATMP that would not permit commercial air tours in the planning area (the preferred alternative under the National Environmental Policy Act (NEPA)); the Area of Potential Effects (APE); a description of steps taken to identify historic properties; a description of historic properties in the APE and the characteristics that qualify them for listing in the National Register of Historic Places (National Register); and an explanation of why the criteria of adverse effect do not apply to this undertaking. This letter also describes the Section 106 consultation process and public involvement for this undertaking.

The FAA initiated Section 106 consultation with your office by letter dated March 29, 2021. In a follow-up letter dated August 27, 2021, we described the proposed undertaking in more detail, proposed a preliminary APE, and provided our initial list of historic properties identified within the APE. In a letter dated January 26, 2023, we provided an updated list of historic properties identified within the APE for

review and comment. Similar letters were sent to all consulting parties listed in **Attachment A**. Section 106 consultation with tribes is further described below.

Public participation for this undertaking was integrated with the National Parks Air Tour Management Act (NPATMA) process. The agencies published a notice of availability of the draft ATMP in the Federal Register on September 3, 2021. The public comment period on the draft ATMP was from September 3, 2021, through October 3, 2021. A public meeting was held on September 15, 2021. The draft ATMP authorized the same number of annual flights as the average number of flights from 2017-2019 and maintained routes and altitudes similar to what is currently flown under existing conditions. The agencies received 2,237 discrete comments, of which 197 were about potential effects on cultural resources and 348 were about tribal concerns. The rest of the comments were not relevant to Section 106. Some of the relevant comments noted the draft ATMP did not acknowledge compliance with the NHPA and should not be signed by the NPS until it does. Many commenters expressed opposition to the draft ATMP due to impacts to the cultural landscape. Commenters also referenced the sacred importance of the Park to tribal culture. Since the publication of the draft ATMP, and in response to objections from the public and tribes to continuing air tours at existing conditions, the agencies changed the draft ATMP to eliminate air tours within the planning area (see description of undertaking below).

Description of the Undertaking

The undertaking for the purposes of Section 106 compliance is implementing an ATMP that applies to all commercial air tours over the Park and within ½ mile outside the Park's boundary. Under NPATMA and its implementing regulations, a commercial air tour subject to the ATMP is any flight conducted for compensation or hire in a powered aircraft where a purpose of the flight is sightseeing over the Park, or within ½ mile of its boundary, during which the aircraft flies:

- (1) Below 5,000 feet above ground level (except solely for the purposes of takeoff or landing, or necessary for safe operation of an aircraft as determined under the rules and regulations of the FAA requiring the pilot-in-command to take action to ensure the safe operation of the aircraft); or
- (2) Less than one mile laterally from any geographic feature within the Park (unless more than ½ mile outside the Park boundary).

The area regulated by the ATMP is referred to as the ATMP planning area. Overflights that do not meet the definition of a commercial air tour above are not subject to NPATMA and are thus outside the scope of the ATMP.

The agencies have documented the existing conditions for commercial air tour operations over the Park. One commercial air tour operator, Southwest Safaris, currently conducts tours over the Park. The agencies consider the existing operations for commercial air tours to be an average of 2017-2019 annual air tours flown, which is 101 air tours that occurred, on average, 99 days per year (thus, a single tour occurred on most days). A three-year average is used because it reflects the most accurate and reliable air tour conditions, and accounts for variations across multiple years. Under existing conditions, commercial air tours over the Park are conducted using a fixed wing aircraft, CE-182-R. The fixed-wing operator flew 101 tours in 2017, 76 tours in 2018, and 125 tours in 2019. Southwest Safaris conducts commercial air tours on the nine routes depicted in **Attachment B**. Reported minimum altitudes range

from 800 ft. to 1,000 ft. AGL, depending on the route¹. Under existing conditions, the operators are not required to use these routes and may change the routes without notice to the agencies.

The proposed undertaking would prohibit commercial air tour operations within the ATMP planning area. A summary of the undertaking elements is shown in the table below:

SUMMARY OF ATMP ELEMENTS

General Description and Objectives	Prohibits air tours within the ATMP planning area to maximize achievement of Park management objectives. Air tours could continue to fly outside the ATMP planning area (i.e., at or above 5,000 feet AGL or more than ½-mile outside of the Park's boundary).
Annual/Daily Number of Flights	None in ATMP planning area.
Routes	None in ATMP planning area.
Minimum Altitudes	Flights over the Park at or above 5,000 feet AGL could occur as they are outside the ATMP planning area. Flights more than ½-mile outside the Park boundary could similarly still occur as they are also outside the ATMP planning area.
Time of Day	N/A
Day of Week	N/A
Seasonal	N/A
Quiet Technology (QT) Incentives	N/A
Annual Meeting, Operator Training and Education	N/A
Restrictions for Particular Events	N/A
Adaptive Management	N/A
Initial Allocation, Aircraft Type, Competitive Bidding, and New Entrants	N/A
Monitoring and Enforcement	Monitoring would occur to ensure operators are complying with the terms and conditions of the ATMP.
Interim Operating Authority²	Terminates 180 days from the effective date of the ATMP.

¹ Altitude expressed in units above ground level (AGL) is a measurement of the distance between the ground surface and the aircraft, whereas altitude expressed in median sea level (MSL) refers to the altitude of aircraft above sea level, regardless of the terrain below it. Aircraft flying at a constant MSL altitude would simultaneously fly at varying AGL altitudes, and vice versa, assuming uneven terrain is present below the aircraft.

² Commercial air tours over the Park are currently conducted under interim operating authority (IOA) that the Act required the FAA to grant air tour operators. Interim operating authority does not provide any operating parameters (routes, altitudes, etc.) for commercial air tours other than an annual limit. Under the Act, IOA for a park terminates by operation of law 180 days after an ATMP is established for that park.

Area of Potential Effects (APE)

The undertaking does not require land acquisition, construction, or ground disturbance. In establishing the APE, the FAA sought to include areas where any historic property present could be affected by noise from or sight of commercial air tours that may take place under any of the selectable draft alternatives, including those over the Park or those that are reasonably foreseeable to take place adjacent to the ATMP planning area. The FAA considered the number and altitude of commercial air tours over historic properties in these areas to further assess the potential for visual effects and any incremental change in, or elimination of, noise levels that may result in alteration of the characteristics of historic properties qualifying them for listing in the National Register.

The APE was delineated based on the undertaking's potential effects in consultation with the SHPO and in consideration of input by consulting parties. The APE for this undertaking comprises the Park plus ½ miles outside the boundary of the Park, excluding the Tsankawi Unit, which is currently not overflown by commercial air tours, as depicted in **Attachment B** below.

The APE for the undertaking was proposed in the Section 106 consultation letter dated August 27, 2021, which was sent to all consulting parties. Your office concurred with the proposed APE in a letter dated September 1, 2021. The agencies also received a comment from Pueblo de San Ildefonso in a letter dated September 23, 2021, noting concerns that the APE did not include additional lands that are managed by other jurisdictions beyond the Park and adjacent tribal lands. The agencies met with the Pueblo de San Ildefonso to discuss their concerns. No additional comments were received regarding the APE. Therefore, the APE has not changed.

Summary of Section 106 Consultation with Tribes

The FAA contacted 27 federally recognized tribes via letter on March 26, 2021, inviting them to participate in consultation and requesting their expertise regarding historic properties, including TCPs that may be located within the APE. On August 27, 2021, the FAA sent the identified federally recognized tribes a Section 106 consultation letter describing the proposed undertaking in greater detail in which an APE was proposed and the results of the preliminary identification of historic properties were provided. On December 3, 2021, and December 9, 2021, the FAA sent follow up emails to the federally recognized tribes once again inviting them to participate in Section 106 consultation.

On December 15, 2021, and December 20, 2021, the FAA followed up with phone calls to those tribes that did not respond to prior consultation requests. The FAA received responses from six tribes expressing interest in participating in the Section 106 consultation process: Pueblo of Acoma, Pueblo of Isleta, Pueblo de San Ildefonso, Pueblo of Tesuque, Pueblo of Picuris, and Pueblo of Santa Clara. Two tribes asked to opt out of additional consultation for the undertaking: Pueblo of Sandia and Pueblo of Santa Ana.

On September 15, 2021, the FAA received comments from the Pueblo of Pojoaque via email informing the FAA that there are 5,000 Ancestral sites in the region, over 2,000 of which are within the Park. They also noted that TCPs and ancestral sites and shrines located throughout the region continue to be in use by the community. Pueblo of Pojoaque expressed that air tours should not be allowed at Bandelier National Monument because they would violate the sacred landscape of the area and its continued use by Pueblo communities and people. They also noted that air tours would affect the use of TCPs and ancestral sites and shrines located throughout the region.

The FAA received comments from Pueblo de San Ildefonso Governor Christopher A. Moquino in a letter dated September 23, 2021, which notes that the Pueblo de San Ildefonso considers the Park to lie within the ancestral domain of the Pueblo de San Ildefonso and considers the documented historic properties within the Park to be the material evidence of the occupation of the monument by their ancestors, whose spiritual presence continues to reside within this domain. The letter further points out that there are extensive resources within the Park that are not documented and are associated with traditional and ceremonial practices conducted since time immemorial into the present. The Pueblo de San Ildefonso considers the lands of the Park, as well as lands beyond the Park boundary, to be a traditional cultural landscape of which the archaeological resources form only a part. Additionally, Pueblo de San Ildefonso expressed that air tours within the boundaries of Bandelier National Monument and its surrounding area has the potential to affect traditional and ceremonial practices by the Pueblo de San Ildefonso. The tribe also noted that there is a potential for air tours to affect the spiritual domain and presence of the Pueblo de San Ildefonso's ancestors.

The FAA received comments from Acoma Tribal Historic Preservation Officer (THPO) Steven Concho of the Pueblo of Acoma in a letter dated December 9, 2021. In those comments, the Pueblo of Acoma noted they continue to claim cultural affiliation to many areas in New Mexico, Arizona, Colorado, and Utah. The THPO recognized each of these places contains the cultural and archaeological "footprints" of their ancestors, along with cultural landscapes, shrines, and gathering places. In their comments, the Pueblo of Acoma informed the FAA that there are TCPs within the Park. The Pueblo of Acoma also expressed concerns about the impacts of air tours on fragile historic structures and sensitive cultural areas in and around the Pueblo. Pueblo of Acoma stated that although they have "no-fly" periods for tribal ceremonies, unauthorized flights still occur and have lasting consequences on tribal members as they continue to mark cultural observances and practice with sensory intrusions from flights. The Pueblo additionally expressed concern about cumulative effects that occur from direct flyovers. The FAA invited the Pueblo to engage in Government-to-Government consultation with FAA and NPS leadership at the Park pursuant to Executive Order 13175.

In a letter dated January 18, 2022, the FAA received comments from the Pueblo of Santa Clara's Governor, Michael Chavarria. The letters explain that the Pueblo of Santa Clara has deep ties to the Park and its surrounding cultural landscape. The letter notes that the Park is part of their ancestral migration history and holds a pivotal role in the expression of the Pueblo of Santa Clara's identity today. The letter also informed the FAA that there are thousands of documented tribal cultural properties within the Park, as well as countless unregistered sacred and culturally significant sites.

The FAA also received comments from Governor Phillip Quintana of the Pueblo de Cochiti in a letter dated February 21, 2022. In those comments, the Pueblo de Cochiti expressed concern regarding the level of consultation the FAA and NPS have provided for the Pueblo. They mention that the two consultation letters they received in March and August of 2021 do not constitute meaningful consultation. The Pueblo de Cochiti also expressed that Bandelier National Monument is an invaluable cultural landscape and a place of retreat and prayer to ensure the strength of their community and continued way of life. The letter mentions that the Pueblo de Cochiti maintains a strong cultural affinity in ongoing interactions including through story, song, prayer, ceremony, and pilgrimage with this landscape and the gifts considered by the Pueblo de Cochiti to be both cultural and natural resources - plants, animals, air, soil, and water. The entirety of this area, including individual sites, is central to the maintenance and revitalization of their cultural knowledge, histories, and practices. The Pueblo de

Cochiti notes that allowing the continuation of commercial air tours will exacerbate the existing challenges NPS and tribes continue to experience in protecting cultural resources and tribal religious use by enabling continued viewing access to the Park's visitors, noise pollution, and wildlife disruption. Commercial air tour operations also result in noise-induced vibration that can cause significant short-term and long-term adverse effects on the integrity of natural and man-made structures, objects, and sites.

As a result of comments received asking for more meaningful consultation, the FAA has held meetings under Executive Order 13175 and Section 106 with Pueblo de Cochiti, Pueblo of Pojoaque, Pueblo de San Ildefonso, and Pueblo of Santa Clara. Through this consultation, the tribes have repeatedly stated that they consider the entire landscape of the Pajarito Plateau to be sacred and believe air tours are inappropriate and adversely impact the cultural landscape and TCPs throughout.

The tribes whom the FAA contacted as part of this undertaking are included in the list of consulting parties enclosed as **Attachment A**.

Identification of Historic Properties

In accordance with 36 CFR 800.4, the FAA has made a reasonable and good faith effort to identify historic properties within the APE. As the undertaking would not result in physical effects, the identification effort focused on identifying properties where setting and feeling are characteristics contributing to a property's National Register eligibility, as they are the type of historic properties most sensitive to the effects of aircraft overflights. These may include isolated properties where a cultural landscape is part of the property's significance, rural historic districts, and outdoor spaces designed for meditation or contemplation. The FAA is specifically considering whether air tours could affect the use of TCPs associated with cultural practices, customs or beliefs that continue to be held or practiced today. In so doing, the FAA has taken into consideration the views of consulting parties, past planning, research and studies, the magnitude and nature of the undertaking, the degree of Federal involvement, the nature and extent of potential effects on historic properties, and the likely nature of historic properties within the APE in accordance with 36 CFR 800.4(b)(1).

The initial identification of historic properties relied upon data submitted by the NPS regarding known historic properties in the Park. The FAA also coordinated with the New Mexico Historic Preservation Division (State Historic Preservation Office) to collect data for previously identified properties that may be listed in or eligible for listing in the National Register. Data from the New Mexico Preservation Division was received on February 10, 2022 and updated on December 16, 2022. The FAA also consulted with the federally recognized tribes among the list of consulting parties enclosed as **Attachment A** regarding the identification of any other previously unidentified historic properties that may be located within the APE. In a letter dated September 23, 2021, the Pueblo de San Ildefonso expressed that air tours would adversely affect the qualities that make historic properties eligible for the National Register, without accounting for certain kinds of historic properties that might not be captured during archaeological survey. The Pueblo de San Ildefonso noted that the inventory of historic properties based upon archaeological survey is currently incomplete and would benefit from additional inventory documenting ethnographic use within the APE.

In addition to the previously identified historic properties, Park staff and affiliated tribes have informed FAA there are TCPs located within the APE. While the TCPs are noted in **Attachment C** in a general manner, these are not mapped in **Attachment B** to ensure confidentiality.

A preliminary list of historic properties was provided to all consulting parties for their review and comment in a letter dated August 27, 2021. A letter dated January 26, 2023, sent to all consulting parties, described FAA's further efforts to identify and evaluate historic properties within the APE and provided results of those efforts. Your office provided a response in a letter dated February 10, 2023, in which you agreed that several Native American tribes consider Bandelier National Monument to be a traditional cultural landscape. You also recommended that the agencies replace the word "several" with "many" when referring to the contributing sites within the Bandelier National Monument Archaeological and Historic District. The agencies have made that change in the description of significant characteristics in **Attachment C**. The agencies did not receive comments from other consulting parties identifying additional historic properties within the APE.

The effort described resulted in the identification of four historic properties within the APE for which feeling and setting are characteristics that make the properties eligible for listing on the National Register, which are listed in **Attachment C**. Those historic properties identified with available non-restricted location data are shown in the APE map provided in **Attachment B**. There are thousands of additional below-ground archaeological sites within the APE; however, these below-ground archaeological resources are not further described in this letter because feeling and setting are not characteristics that make these properties eligible for listing on the National Register and there is no potential for the undertaking to affect these resources.

Assessment of Effects

The undertaking could have an effect on a historic property if it alters the characteristics that qualify the property for eligibility for listing or inclusion in the National Register. The characteristics of the historic properties within the APE that qualify them for inclusion in the National Register are described in **Attachment C**. Effects are considered adverse if they diminish the integrity of a property's elements that contribute to its significance. The undertaking does not include land acquisition, construction, or ground disturbance and will not result in physical effects to historic properties. The FAA, in coordination with the NPS, focused the assessment of effects on the potential for adverse effects from the introduction of audible or visual elements that could diminish the integrity of the property's significant historic features.

Assessment of Noise Effects

To assess the potential for the introduction of audible elements, including changes in the character of aircraft noise, the agencies considered whether there would be a change in the annual number, daily frequency, routes, or altitudes of commercial air tours, as well as the type of aircraft used to conduct those tours. The level of commercial air tour activity under the ATMP is expected to improve the protection of cultural resources within the APE.

The ATMP prohibits commercial air tours within the ATMP planning area and would reduce noise effects to historic properties. Therefore, the undertaking would not alter the characteristics of historic properties within the APE in comparison to existing conditions. The elimination of air tours within the ATMP planning area will reduce maximum noise levels at sites directly below commercial air tour routes compared to existing conditions. All historic properties within the APE would experience a reduction in noise from air tours.

For purposes of assessing noise impacts from commercial air tours on the acoustic environment of the Park under NEPA, the FAA noise evaluation is based on Yearly³ Day Night Average Sound Level (L_{dn} or DNL); the cumulative noise energy exposure from aircraft over 24 hours. The DNL analysis indicates that the undertaking would not result in any noise impacts that would be “significant” or “reportable” under the FAA’s policy for NEPA.⁴

As part of the ATMP noise analysis, the NPS provided supplemental metrics to further assess the impact of commercial air tours in quiet settings: time above 35 dBA and time above 52 dBA. These metrics account for the amount of time in minutes that aircraft sound levels are above a given threshold (i.e., 35 dBA and 52 dBA). In quiet settings, outdoor sound levels exceeding 35 dB degrade experience in outdoor performance venues (American National Standards Institute (ANSI), 2007). Interference with Park interpretive programs would reasonably occur at 52 dBA. **Attachment D** provides further information about the supplemental noise metrics and presents the results of modeling.

Attachment D presents noise contours (i.e. graphical illustration depicting noise exposure) for existing conditions and the representative location point analysis. Under existing conditions, noise related to commercial air tours is greater than 35 dBA for less than 1 minute a day within the ATMP planning area. All historic properties within the APE will experience the elimination of noise related to commercial air tours within the ATMP planning area. Because noise is modeled using conservative assumptions (see **Attachment D**) and implementing the ATMP would eliminate flights and routes within the ATMP planning area, noise is expected to be reduced within the ATMP planning area. The elimination of air tours within the ATMP planning area will also reduce the likelihood that an air tour would interrupt traditional practices such as ceremonies, as compared to existing conditions. Therefore, the undertaking would not diminish the integrity of any historic property’s significant historic features.

Assessment of Visual Effects

Recognizing that some types of historic properties may be affected by visual effects of commercial air tours, the agencies considered the potential for the introduction of visual elements that could alter the characteristics of a historic property that qualify it for inclusion in the National Register. Aircraft are transitory elements in a scene and visual impacts tend to be relatively short. The elimination of flights within the ATMP planning area make it unlikely a historic property within the ATMP planning area would experience a visual effect from the undertaking. The agencies also considered the experience of tribal members who may be conducting ceremonies or practices that could involve looking toward the sky. The elimination of air tour aircraft overhead represents an improvement over existing conditions.

The ATMP prohibits commercial air tours within the ATMP planning area and would not introduce visual elements that would alter the characteristics of any historic property that qualifies it for inclusion in the National Register. All historic properties within the APE would experience a reduction in visual intrusions from air tours, therefore the undertaking would not introduce visual elements that would alter the characteristics of any historic property that qualifies it for inclusion in the National Register.

³ Yearly conditions are represented as the Average Annual Day (AAD)

⁴ Under FAA policy, an increase in the Day-Night Average Sound Level (DNL) of 1.5 dBA or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dBA noise exposure level, or that will be exposed at or above the DNL 65 dBA level due to a DNL 1.5 dBA or greater increase, is significant. FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Exhibit 4-1. Noise increases are “reportable” if the DNL increases by 5 dB or more within areas exposed to DNL 45-60 dB, or by 3 dB or more within areas exposed to DNL 60-65 dB. FAA Order 1050.1F, Appendix B, section B-1.4.

Indirect Effects

Because the undertaking would eliminate air tours within the ATMP planning area, the agencies also considered the potential for indirect effects on historic properties within the APE that could occur from air tours displaced outside the ATMP planning area as a result of the undertaking. It is unlikely that the operator would continue to conduct commercial air tours of the Park by flying along the perimeter of the ATMP planning area because it is difficult to see the predominant features of the Park from outside the ATMP planning area. Since the operator cannot fly on the north side of the Park due to restricted air space, it is unlikely there would be new or different impacts in that area. Flights at or above 5,000 ft. AGL are unlikely due to the Park's elevation and safety requirements for unpressurized aircraft flying over 10,000 ft. MSL for more than 30 minutes. If air tours are conducted at or above 5,000 ft. AGL over the ATMP planning area, the increase in altitude would likely decrease impacts on ground level resources as compared to current conditions because the noise would be dispersed over a larger geographical area. Noise from air tours conducted at or above 5,000 ft. AGL would be audible for a longer period, but at lower intensity. Similarly, aircraft are transitory elements in a scene and visual impacts tend to be relatively short, especially at higher altitudes.

Finding of No Adverse Effect Criteria

To support a Finding of No Adverse Effect, an undertaking must not meet any of the criteria set forth in the Advisory Council on Historic Preservation's Section 106 regulations at 36 CFR 800.5(a). This section demonstrates the undertaking does not meet those criteria. The undertaking would not have any physical impact on any property. The undertaking would not result in any alteration or physical modifications to historic properties. The undertaking would not remove any property from its location. The undertaking would not change the character of any property's use or any physical features in any historic property's setting. As discussed above, the undertaking would not introduce any auditory or visual elements that would diminish the integrity of the significant historical features of any historic properties in the APE. The undertaking would not cause any property to be neglected, sold, or transferred.

Proposed Finding and Request for Review and Concurrence

FAA and NPS approval of the undertaking would not alter the characteristics of any historic properties located within the APE in a manner that would diminish its integrity as there would be a reduction in audible or visual effects from existing conditions. Based on the above analysis, the FAA proposes a finding of no adverse effect on historic properties. We request that you review the information and respond whether you concur with the proposed finding within 30 days of receiving this letter.

Should you have any questions regarding any of the above, please contact Judith Walker at 202-267-4185 or Judith.Walker@faa.gov and copy the ATMP team at ATMPTeam@dot.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Judith Walker', with a stylized, sweeping flourish extending to the right.

Judith Walker
Federal Preservation Officer
Senior Environmental Policy Analyst
Environmental Policy Division (AEE-400)
Federal Aviation Administration

Attachments

- A. List of Consulting Parties
- B. APE Map including existing Commercial Air Tour Routes
- C. List of Historic Properties in the APE and Description of Historic Characteristics
- D. Summary of Noise Technical Analysis from NEPA Review

ATTACHMENT A
List of Consulting Parties

Adams, Bruce M. (Southwest Safaris)
Apache Tribe of Oklahoma
Comanche Nation, Oklahoma
Fort Sill Apache Tribe of Oklahoma
Hopi Tribe of Arizona
Jicarilla Apache Nation, New Mexico
Kewa Pueblo, New Mexico
Los Alamos National Laboratory*
National Trust for Historic Preservation
Navajo Nation, Arizona, New Mexico & Utah
New Mexico State Land Office
Ohkay Owingeh, New Mexico
Pueblo de Cochiti, New Mexico
Pueblo de San Ildefonso, New Mexico
Pueblo of Acoma, New Mexico
Pueblo of Isleta, New Mexico
Pueblo of Jemez, New Mexico
Pueblo of Laguna, New Mexico
Pueblo of Nambe, New Mexico
Pueblo of Picuris, New Mexico
Pueblo of Pojoaque, New Mexico
Pueblo of San Felipe, New Mexico
Pueblo of Sandia, New Mexico*
Pueblo of Santa Ana, New Mexico*
Pueblo of Santa Clara, New Mexico
Pueblo of Taos, New Mexico

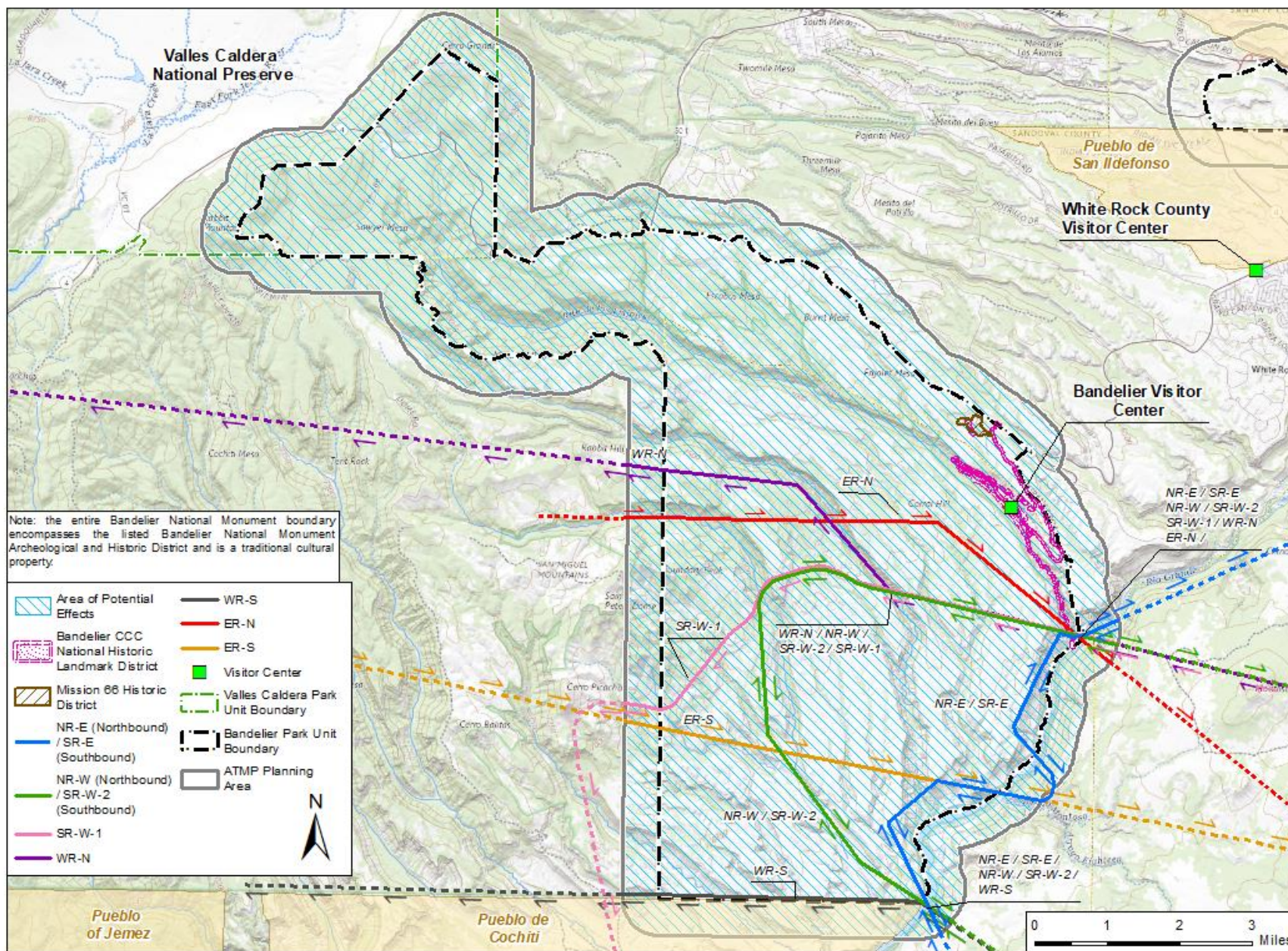
Pueblo of Tesuque
Pueblo of Zia, New Mexico
Santa Fe National Forest
Standing Rock Sioux Tribe of North & South Dakota
Tewa Women
Ysleta Del Sur Pueblo
Zuni Tribe of the Zuni Reservation, New Mexico

*Consulting party has opted out of further Section 106 consultation for the undertaking.

ATTACHMENT B

**Area of Potential Effects Map
Including
Existing Commercial Air Tour Routes**

Area of Potential Effects Map for ATMP at Bandelier National Monument



ATTACHMENT C

List of Historic Properties in the APE and Description of Historic Characteristics

Property Name	Property Type	Eligibility Status	Significant Characteristics
Bandelier CCC National Historic Landmark District	National Historic Landmark and Historic District	Listed	The Bandelier CCC National Historic Landmark was designed by NPS architects and landscape architects and built by the CCC (Civilian Conservation Corps) between 1933 and 1942. The district contains 31 buildings of Pueblo Revival design that serve as office space, residences for employees, and lodging for guests. It is significant for its association with the New Deal era in the areas of Social History and Art. It is also significant for its rustic Pueblo Revival architectural style and the careful design of the entrance road and other non-building elements. As a result of the application of rustic design principles, the cultural landscape today blends with its natural setting and conveys a strong sense of place. The rustic, pueblo revival architecture, the natural canyon setting, views and the experience of archeological sites and the riparian corridor all contribute to the unique feeling that the district conveys.
Bandelier National Monument Archeological and Historic District	Historic District	Listed	<p>The Bandelier National Monument Archeological and Historic District encompasses the entire park boundary and is significant for its association with the Archaic use of the Pajarito Plateau (5500 BCE-600 CE); Ancestral Pueblo occupation of the Pajarito Plateau (600-1600 CE); early historic use of the Pajarito Plateau (1600-1848); early scientific investigations and development of archaeology (1848-1932); early Native Arts revival efforts (1848-1932); homestead-era ranching, farming, and timber extraction (1848-1932); and the New Deal era and the CCC (1932-1942).</p> <p>The district contains 32 contributing buildings, 90 contributing structures, and 2,974 contributing sites⁵. Many of the archaeological sites in the park are in good condition and retain a high level of integrity, but there are a series of natural and</p>

⁵ This number include the archaeological sites that exist within the boundary nominated to the National Register in 1970 and archaeological sites within the post-1970 expanded boundaries of the monument.

Property Name	Property Type	Eligibility Status	Significant Characteristics
			<p>cultural disturbances that have affected them. The pre-Hispanic sites are associated with habitation of the area by Ancestral Pueblo peoples. The area saw limited occupation in historic times by historic Pueblo groups, nomadic Athabascan groups, Hispanos, and Euro-Americans.</p> <p>During the New Deal era and CCC construction, there was great emphasis on the visual impacts of development. Landscape architects took great care to provide pleasant surroundings in the built-up area to promote spectacular and unobstructed views of archaeological sites that contribute to the Park's history. A trail system was also constructed to direct visitors to scenic overlooks and to enhance their access to various archaeological sites.</p> <p>Areas of significance include archeology (prehistoric, historic), science, conservation, social history (exploration/settlement), commerce, industry, architecture, landscape architecture, art, Native American ethnic heritage, military, and entertainment/recreation.</p>
Mission 66 Historic District	Historic District	Eligible	<p>Bandelier National Monument's staff and public-use village on Frijoles Mesa is a Mission 66 Historic District comprised of a park employee housing area (4 buildings) and the Juniper Family Campground and associated roads and interpretive service structures. The Mission 66 Historic District is significant for its association with the unique Frijoles Mesa land swap between the National Park Service and the Atomic Energy Commission, through a 1961 executive order from President Dwight Eisenhower that made the village and park-services expansion possible. The village also represents a well-considered and largely intact 1963–1964 application of the national NPS Mission 66 program to the unique management challenges at the monument and upon the landform of Frijoles Mesa.</p> <p>The Mission 66 designers carefully sited the Bandelier Mission 66 Village for minimum disturbance of natural Frijoles Mesa vegetation, resulting in desirable privacy for campsites, and screening of the amphitheater and the residential area from campers and automobiles. In addition, siting of the Mission 66 houses in the residential area took advantage of topography and spacing of large pine</p>

Property Name	Property Type	Eligibility Status	Significant Characteristics
			trees to allow stunning views of St. Peter's Dome and the San Miguel Mountains to the west.
Bandelier National Monument Traditional Cultural Properties ⁶	TCP	Eligible	Many contributing sites within the Bandelier National Monument Archeological and Historic District are Ancestral Pueblo sites that are considered TCPs. Several tribes have informed the FAA that there are TCPs within the Park boundary and that extend beyond to the larger landscape of the area.

⁶ Location is restricted and therefore cannot be shown on the APE map.

ATTACHMENT D

Summary of Noise Technical Analysis from NEPA Review

There are numerous ways to measure the potential impacts from commercial air tours on the acoustic environment of a park, including intensity, duration, and spatial footprint of the noise. The metrics and acoustical terminology used for the ATMPs are shown in the table below.

Metric	Relevance and citation
Equivalent sound level, $L_{Aeq, 12\text{ hr}}$	The logarithmic average of commercial air tour sound levels, in dBA, over a 12-hour day. The selected 12-hour period is selected to represent typical daytime commercial air tour operating hours.
Day-night average sound level, L_{dn} (or DNL)	<p>The logarithmic average of sound levels, in dBA, over a 24-hour day, DNL takes into account the increased sensitivity to noise at night by including a 10 dB penalty between 10 PM and 7 AM local time.</p> <p>Note: Both $L_{Aeq, 12\text{hr}}$ and DNL characterize:</p> <ul style="list-style-type: none"> Increases in both the loudness and duration of noise events The number of noise events during specific time period (12 hours for $L_{Aeq, 12\text{hr}}$ and 24-hours for DNL) <p>If there are no nighttime events, then $L_{Aeq, 12\text{hr}}$ is arithmetically three dBA higher than DNL.</p> <p>The FAA's (2015, Exhibit 4-1) indicators of significant impacts are for an action that would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.</p>
Time Above 35 dBA ⁷	<p>The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA)</p> <p>In quiet settings, outdoor sound levels exceeding 35 dB degrade experience in outdoor performance venues (American National Standards Institute (ANSI), 2007). This level is also shown to cause blood pressure increases in sleeping humans (Haralabidis et al., 2008); as well as exceeding recommended maximum background noise level inside classrooms (ANSI S12.60/Part 1-2010).</p>

⁷ dBA (A-weighted decibels): Sound is measured on a logarithmic scale relative to the reference sound pressure for atmospheric sources, 20 μPa . Sound levels are reported in units of decibels (dB) (ANSI S1.1-1994, American National Standard Acoustical Terminology). A-weighting is applied to sound levels to account for the sensitivity of the human ear (ANSI S1.42-2001, Design Response of Weighting Networks for Acoustical Measurements). To approximate human hearing sensitivity, A-weighting discounts sounds below 1 kHz and above 6 kHz.

Metric	Relevance and citation
Time Above 52 dBA	<p>The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA)</p> <p>This metric represents the level at which one may reasonably expect interference with park interpretive programs. At this background sound level (52 dB), normal voice communication at five meters (two people five meters apart), or a raised voice to an audience at ten meters would result in 95% sentence intelligibility (United States Environmental Protection Agency, Office of Noise Abatement and Control, 1974).</p>

Aircraft, Routes and Number of Operations Modeled

Route	Aircraft	Existing Conditions
ER-S (Orange) 1,000 ft. AGL	Cessna 182	1
ER-N (Red) 10,000 ft. MSL	Cessna 207	
ER-S (Orange) 10,000 ft. MSL	Cessna 182	
	Total	1

Two types of analyses were performed using FAA’s AEDT, Version 3e: 1) contour analysis and 2) representative location point analysis. A noise contour presents a graphical illustration or “footprint” of the area potentially affected by the noise. Location point results present the metric results at specific points of interest. The NPS provided a list of 13 location points, geographically located across the ATMP planning area, where noise levels were to be evaluated. These locations are geographically shown in Figure 1 and listed in Figure 2.

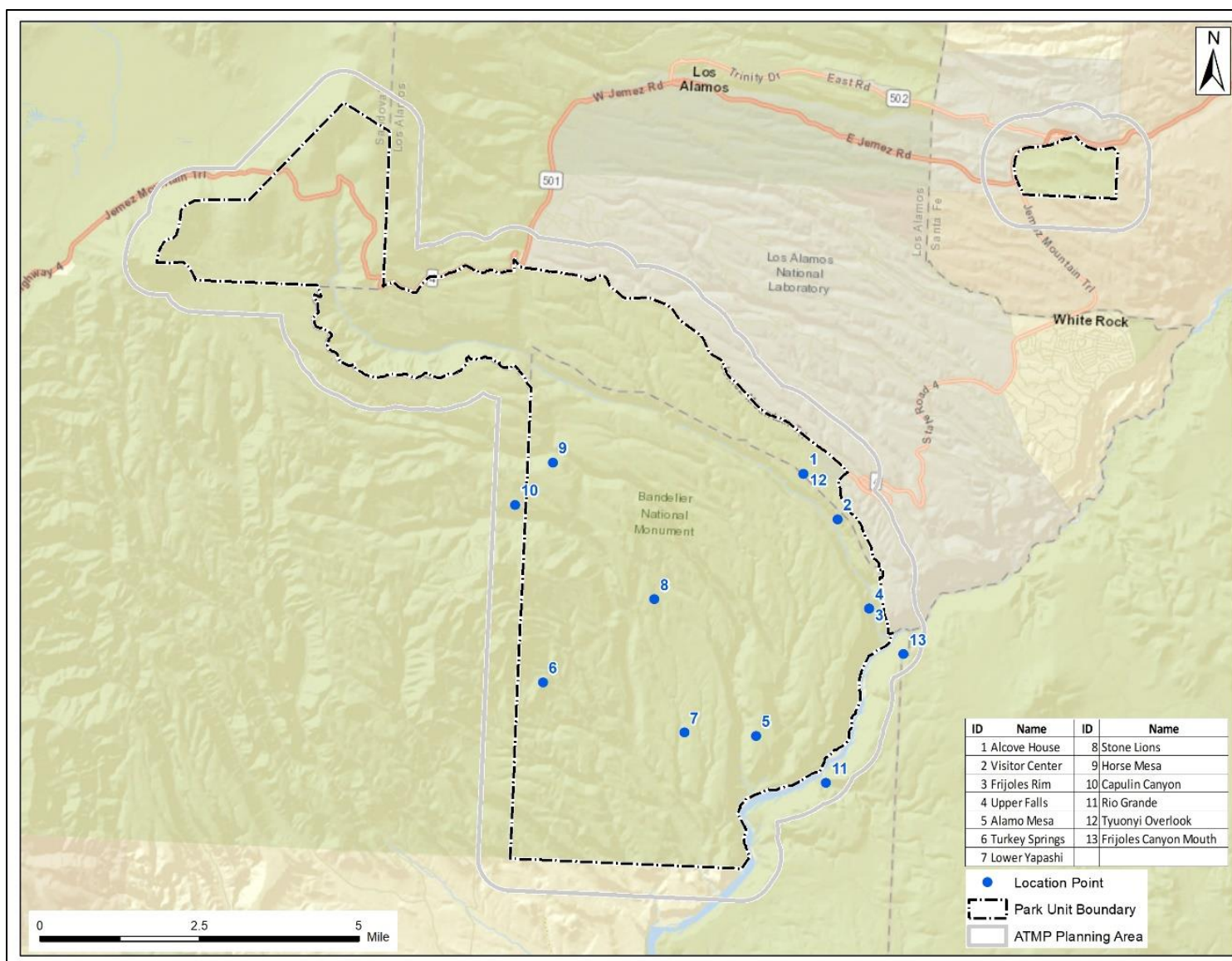


Figure 1. Location Points Modeled

Figure 2. Location point results – Existing Conditions

Location	12 Hour Equivalent Sound Level (dBA)*	Time Above 35 dBA (minutes)	Time Above 52 dBA (minutes)
1. Alcove House	0	0.0	0.0
2. Visitor Center	0	0.0	0.0
3. Frijoles Rim	6.9	0.3	0.0
4. Upper Falls	0	0.0	0.0
5. Alamo Mesa	15.9	0.6	0.0
6. Turkey Springs	16.2	0.6	0.0
7. Lower Yapashi	14.7	0.6	0.0
8. Stone Lions	3.6	0.0	0.0
9. Horse Mesa	0	0.0	0.0
10. Capulin Canyon	0	0.0	0.0
11. Rio Grande	19.3	0.6	0.1
12. Tyuonyi Overlook	0	0.0	0.0
13. Frijoles Canyon Mouth	0	0.0	0.0

* As there are no nighttime events, DNL would be 3 dB less than the 12-hour equivalent sound level.

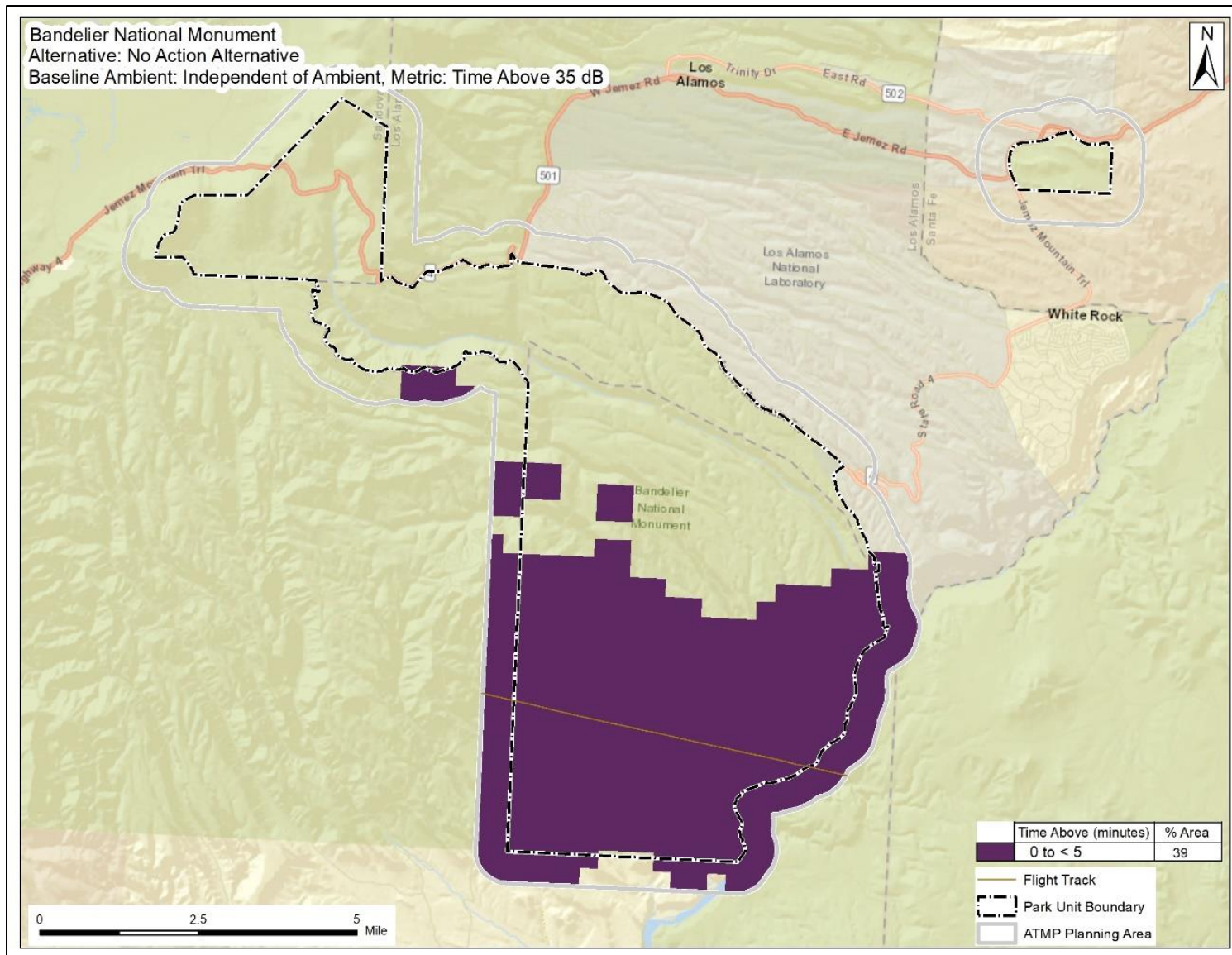


Figure 3. Time Above 35 dBA map for existing conditions

APPENDIX H

Section 7 Consultation



United States Department of the Interior
NATIONAL PARK SERVICE
Natural Resource Stewardship & Science
Natural Sounds and Night Skies Division



U.S. Department
of Transportation
Federal Aviation
Administration

United States Department of Transportation
FEDERAL AVIATION ADMINISTRATION
Office of Policy, International Affairs & Environment
Office of Environment and Energy

NATIONAL PARKS AIR TOUR MANAGEMENT PROGRAM

May 31, 2023

Re: Section 7 Endangered Species Act No Effect Determination for Bandelier National Monument Air Tour Management Plan

The Federal Aviation Administration (FAA), in cooperation with the National Park Service (NPS) (collectively, the agencies), is developing an Air Tour Management Plan (ATMP) for Bandelier National Monument (the Park). The agencies are preparing documentation for the draft ATMP in accordance with the National Parks Air Tour Management Act of 2000 (NPATMA) and other applicable laws. This memorandum documents the agencies' *No Effect* determination associated with the proposed action for the purpose of compliance with Section 7 of the Endangered Species Act (the ESA). In addition, this memorandum documents the analysis for birds protected under the Migratory Bird Treaty Act (MBTA).

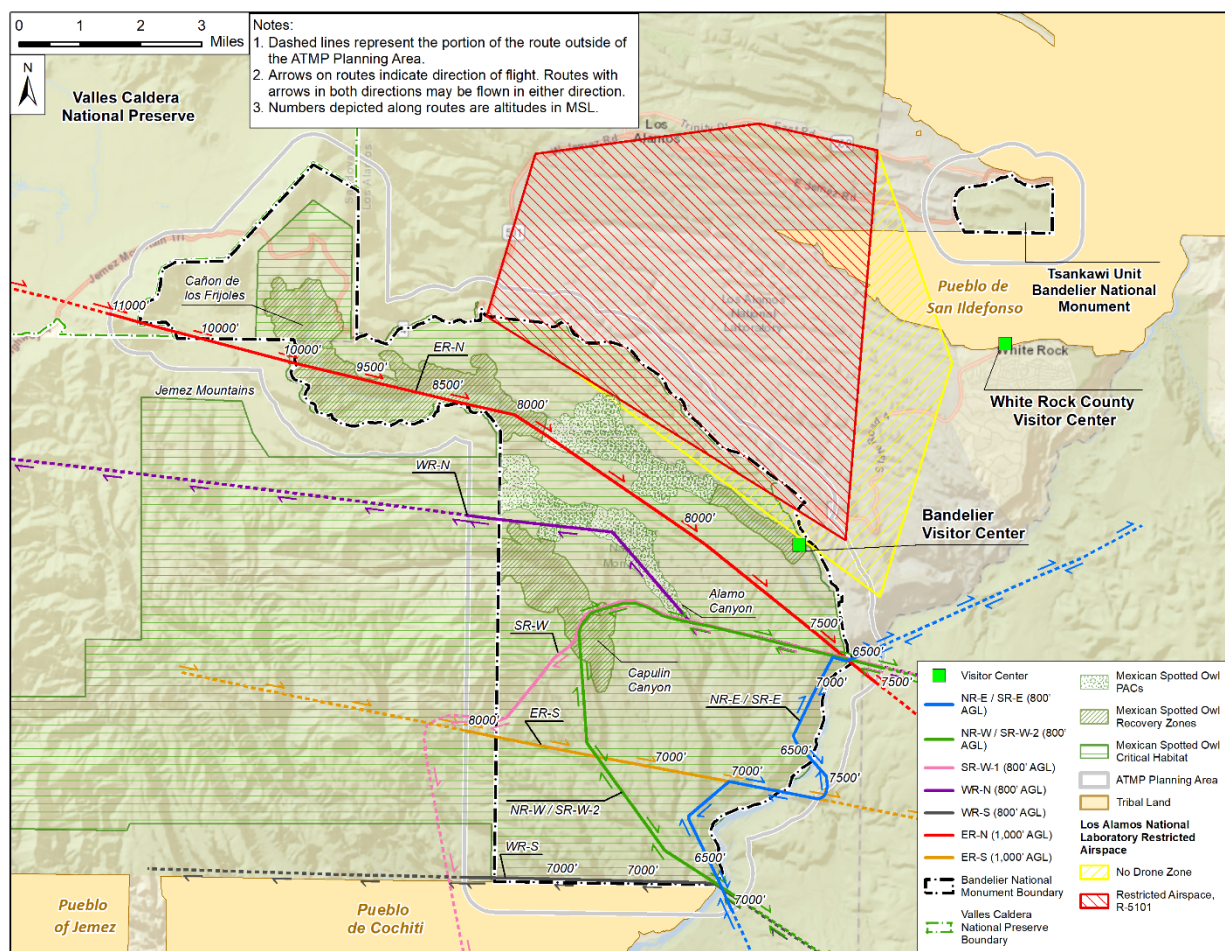
Action Area

The action area is the area that includes all direct and indirect effects within the action area, which includes the Park and the land within a ½-mile boundary from the Park depicted in Figure 1. The draft ATMP applies to all commercial air tours within the action area. A commercial air tour subject to the ATMP is any flight, conducted for compensation or hire in a powered aircraft where a purpose of the flight is sightseeing over the Park, during which the aircraft flies:

- (1) Below 5,000 feet (ft.) above ground level (except solely for the purposes of takeoff or landing, or necessary for safe operation of an aircraft as determined under the rules and regulations of the FAA requiring the pilot-in-command to take action to ensure the safe operation of the aircraft); or
- (2) Less than one mile laterally from any geographic feature within the Park (unless more than ½-mile outside the Park boundary).

As air tours outside of the action area are outside the jurisdiction of the ATMP, there would be no limitations on the annual number of air tours that could occur, and no designated routes could be set outside of the action area.

Northeast of the Park and within the action area, there is restricted airspace over Los Alamos National Laboratory. No commercial air tour operators have the authority to fly over this airspace nor do they have the authority to fly over Valles Caldera National Preserve, which is located to the northeast of the Park's boundary.



Description of the Proposed Action

The proposed action is implementation of an ATMP for the Park which establishes conditions for the management of commercial air tour operations. The ATMP will remain in effect until amended, at which time the agencies would reinitiate consultation pursuant to 50 CFR 402.16. The relevant operating parameters of the ATMP are discussed in detail below.

The proposed action prohibits commercial air tours within the action area (i.e., below 5,000 ft. AGL over the Park and outside the Park but within ½-mile of its boundary). Additionally, commercial air tours cannot fly in nearby restricted air space over Los Alamos National Laboratory nor over Valles Caldera National Preserve. Therefore, air tours could only be conducted outside the action area in unrestricted areas. Air tours outside of the action area would not be regulated under the ATMP. An unknown number of air tours may continue to fly more than ½-mile outside of the Park's boundary, in

unrestricted airspace, or over the action area at or above 5,000 ft. AGL. There would be no limitations on the number of such air tours that could occur.

Aircraft monitoring and enforcement would occur under the proposed action to ensure that the commercial air tour operator is complying with the terms and conditions of the ATMP by not conducting tours below 5,000 ft. AGL over the action area. The NPS and the FAA would both be responsible for the monitoring and oversight of ATMP implementation.

Listed Species and Critical Habitat Evaluated for Effects

The U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation tool and the NPS species list was used to assess the potential for any federally listed species or designated critical habitat that may occur within the action area. Based on this review, the agencies identified the following species and/or critical habitats that have the potential to occur within this area (see Table 1).

The agencies analyzed potential impacts for all federally listed species with suitable habitat within the action area with a focus on several federally listed species, some of which are noise sensitive species that occur within the action area (see Table 1).

Because the proposed action would prohibit commercial air tours within the action area, it is reasonably foreseeable that current air tour operators could offer air tours outside of the action area, as the areas beyond the action area would not be regulated by the draft ATMP. This type of shift in air tour activity is referred to as "air tour displacement," and could consist of air tour operators shifting routes or altitudes to just outside the action area, some of which could result in impacts to wildlife to the extent that they are present near the locations where the displaced air tours would occur. It is difficult to predict with specificity if, where, and to what extent any air tours would be displaced to areas outside the action area, including at altitudes above 5,000 ft. AGL. It is reasonably foreseeable that the operator would continue to fly to points of interest outside of the action area. The operator would be unlikely to continue to conduct tours of the Park by flying along the perimeter of the ATMP planning area because it is difficult to see the predominant features of the Park from outside the ATMP planning area, but the operator may fly along the perimeter of the ATMP planning area in order to conduct air tours of destinations other than the Park. The operator currently flies multiple tours over other parks and lands across six states and could fly these tours more frequently. The majority of destinations and tours offered by the operator are to the west and northwest of the Park, and the airport used for most flights is located to the southeast of the Park. The northwest corner of the Park borders Valles Caldera National Preserve, another National Park Service Unit for which there is currently no authority to conduct air tours over this area, and the northern and eastern sides of the Park border restricted airspace over Los Alamos National Laboratory. Due to flight restrictions to the north and east of the Park, it is unlikely that displaced air tours would result in new or different impacts in these areas. Due to these flight restrictions, there may be a slight increase in flights to the west and south of the ATMP planning area if air tours were displaced outside of the ATMP planning area.

The indirect effects of dispersed air tours on threatened and endangered species were considered in the Draft Environmental Assessment for an Air Tour Management Plan for Bandelier National Monument. As part of that assessment, the current impacts of commercial air tours conducted within the action area and those displaced by the proposed action to threatened and endangered species were identified in order to compare the effects of the proposed action to the current conditions. It is noted that no

adverse effects to species were identified in the current conditions, which includes the potential impacts of 101 commercial air tours per year (based on the three-year average of flights between 2017-2019). The noise impacts resulting from these air tours were identified to be very low and infrequent, thus not resulting in impacts to species. Additionally, it was concluded that any indirect effects to wildlife caused by dispersed air tours under any of the alternatives evaluated would not likely be widespread and would be temporary in nature and infrequent on both a daily and annual basis.

Table 1. Listed Species Potentially Occurring in the Action Area with No Effect Determination

Birds Scientific Name	Birds Common Name	Birds Status (Federal)	Birds Critical Habitat (Y/N)	Birds Occurrence in the Park
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	Threatened	N	Present
<i>Empidonax traillii eximius</i>	Southwestern Willow Flycatcher	Endangered	N	Present
<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	Threatened	Y	Present
Mammals Scientific Name	Mammals Common Name	Mammals Status (Federal)	Mammals Critical Habitat (Y/N)	Mammals Occurrence in the Park
<i>Canis lupus baileyi</i>	Mexican Wolf	Endangered	N	Not Present
<i>Zapus hudsonius luteus</i>	New Mexico Meadow Jumping Mouse	Endangered	N	Possibly Present
Amphibians Scientific Name	Amphibians Common Name	Amphibians Status (Federal)	Amphibians Critical Habitat (Y/N)	Amphibians Occurrence in the Park
<i>Plethodon neomexicanus</i>	Jemez Mountains Salamander	Endangered	Y	Present
Fish Scientific Name	Fish Common Name	Fish Status (Federal)	Fish Critical Habitat (Y/N)	Fish Occurrence in the Park
<i>Hybognathus amarus</i>	Rio Grande Silvery Minnow	Endangered	N	Not Present
<i>Oncorhynchus clarkii virginalis</i>	Rio Grande Cutthroat Trout	Candidate	N	Present
Insects Scientific Name	Insects Common Name	Insects Status (Federal)	Insects Critical Habitat (Y/N)	Insects Occurrence in the Park
<i>Danaus plexippus</i>	Monarch Butterfly	Candidate	N	Unknown

Table 1 includes the species identified by USFWS as potentially occurring in the area. A Section 7 determination for each species listed as threatened or endangered under the ESA is provided below. The proposed action does not involve ground-disturbing activities or other activities with the potential to impact aquatic or terrestrial habitat. Therefore, the agencies determined the proposed action will have *No Effect* on amphibians (including the Jemez Mountains salamander), fish, and invertebrates. The

endangered Mexican spotted wolf (*Canis lupus baileyi*) is not found in the Park, nor does the Park contain adequate habitat for this species, and therefore is not included in this discussion.

Yellow-Billed Cuckoo

The threatened yellow-billed cuckoo (*Coccyzus americanus*) is a large insectivore whose yellow bill is almost as long as its head. Riparian habitat is important for the survival of this species, as yellow-billed cuckoos nest in riparian areas and use river corridors as travel routes during migration. Within the action area, suitable habitat for this species is located in riparian areas along the Rio Grande. Three individuals have been documented in the Park, however after multiple surveys, no nesting pairs have been observed. There is no designated critical habitat located inside the action area.

Effect Determination

While the yellow-billed cuckoo can be found in in riparian areas and are known to use river corridors in the Park as travel routes, under the proposed action, commercial air tours would not be conducted within the action area. The presence of noise from commercial air tours being conducted within the action area would be eliminated. Therefore, the agencies have determined the proposed action would have **No Effect** on the yellow-billed cuckoo.

Southwestern Willow Flycatcher

The endangered southwestern willow flycatcher (*Empidonax traillii extimus*) (flycatcher) is one of four subspecies of willow flycatcher. Flycatchers are small insectivores that winter in Central America and southern Mexico. Habitat for this species includes riparian corridors with trees that have complex branching patterns that can support flycatcher nests (NPS, 2014). Although there is no active NPS survey of this species, flycatchers have been observed in the Park along the Rio Grande, one of the most populous breeding sites for this species (USFWS, 2013). The breeding season occurs from May to September.

Effect Determination

While the southwestern willow flycatcher has been observed in the Park, under the proposed action, commercial air tours would not be conducted within the action area. The presence of noise from commercial air tours within the action area would be eliminated, removing the potential impact caused by commercial air tours. Therefore, the agencies have determined the proposed action would have **No Effect** on the southwestern willow flycatcher.

Mexican Spotted Owl

The threatened Mexican spotted owl (*Strix occidentalis lucida*) (MSO) is listed as threatened under the ESA and is one of three subspecies of spotted owl and are distinguished by their chestnut brown color and white and brown spots. Their diet consists of small mammals. MSO hunt at night and are considered a “perch and pounce” predator that use elevated perches to locate prey by sight and sound. The prey base of MSO is strongly affected by climatic variation, and the annual survival and reproduction of MSO has been positively correlated with previous year’s precipitation (Jacobs et al., 2015).

MSO are an indicator species for old growth habitat, as they consistently avoid managed forests (NPS, 2014). Most of the suitable habitat for MSO in the action area is located in the Bandelier Wilderness.

Nesting-roosting zones cover about 20% of the Park and have steep slopes (Jacobs et al., 2015). Preferred habitat for breeding includes mixed-conifer forest habitat associated with relatively steep-walled canyons, and the Douglas fir (*Pseudotsuga menziesii*) is the most common tree used for nesting (NPS, 2014). Nesting pairs have been documented in the Upper Alamo Canyon and Frijoles Canyon, and surveys for this species within the Park are ongoing.

Mated pairs of MSO are territorial and adults remain on the same territory each year, although not all birds nest every year. The breeding season is sporadic, but nesting occurs March through August and juveniles typically leave their natal territory in September (NPS, 2015). The clutch size of MSO is one to three eggs, which hatch in early May.

This species has designated critical habitat and protected activity centers (PACs), which are areas that encompass a minimum of 600 acres surrounding known MSO nest and roost sites. The Park is considered critical habitat for this species, and PACs are located within the Park (see Figure 1).

Effect Determination

There are many documented MSO in the Park. However, under the proposed action, air tours would not be conducted within the action area, which would eliminate this source of noise as a potential impact to MSO behavior. Additionally, no commercial air tours would be conducted to pose a threat to MSO from potential collisions in the action area. Therefore, the agencies have determined the proposed action would have **No Effect** on the Mexican spotted owl.

New Mexico Meadow Jumping Mouse

The endangered New Mexico meadow jumping mouse (*Zapus hudsonius luteus*) (jumping mouse) is a subspecies of the meadow jumping mouse listed as threatened under the ESA that is dark yellow to brown in color with elongated feet and a long, bicolored tail. This subspecies lives in densely-vegetated riparian areas from southern Colorado and central New Mexico to eastern Arizona. Suitable habitat for the jumping mouse includes tall sedges and forbs in wetland vegetation that has reached full growth potential associated with seasonally available, flowing water (USFWS, 2020).

The jumping mouse has critical habitat designated outside of the action area in Colorado, Arizona, and other counties of New Mexico. While the Park does not contain designated critical habitat, it does contain suitable habitat for jumping mouse in the canyon areas.

The jumping mouse is active from late May to early October in high elevation areas and mid-May to late October in low elevation areas along the Rio Grande River. They nest in dry soils and have been observed in the Park along the stream in the upper regions of Frijoles Canyon (Bogan et al., 2007). Floods in the Park may have washed away populations of jumping mouse; the Park will conduct monitoring for this species from 2023 to 2024.

Effect Determination

Suitable habitat for the New Mexico meadow jumping mouse can be found within the Park in various areas. However, under the proposed action, air tours would not be conducted within the action area. The removal of commercial air tours within the action area would eliminate this source of noise from

having potential impacts to the New Mexico meadow jumping mouse. Therefore, the agencies have determined the proposed action would have **No Effect** on the New Mexico meadow jumping mouse.

Summary of Determinations for ESA-Listed Species

A *No Effect* determination under the ESA means that there would be no consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other connected activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.

As discussed, the proposed action prohibits air tours within the action area, which provides the greatest protection to threatened and endangered species. Therefore, the ATMP results in no meaningful, measurable, or noticeable impacts on the species listed in Table 1. In accordance with Section 7 of the ESA, the agencies have determined that the proposed action will have **No Effect** on the species present within the action area including the yellow-billed cuckoo (*Coccyzus americanus*), the southwestern willow flycatcher (*Empidonax traillii extimus*), the Mexican spotted owl (*Strix occidentalis lucida*), and the New Mexico Meadow jumping mouse (*Zapus hudsonius luteus*).

Species Protected Under the MBTA

The agencies also analyzed potential impacts to non-ESA listed species that are protected under the MBTA (see Table 2).

Because the proposed action would prohibit commercial air tours within the action area, it is reasonably foreseeable that current air tour operators could offer air tours in unrestricted airspace outside of the action area, as the areas beyond the action area would not be regulated by the ATMP. Commercial air tours cannot fly in nearby restricted air space over Los Alamos National Laboratory nor do any operators have operating authority to fly over Valles Caldera National Preserve. It is difficult to predict with specificity if, where, and to what extent any air tours would be displaced to unrestricted airspace outside the action area, including at altitudes above 5,000 ft. AGL. However, air tours outside of the action area are outside the jurisdiction of the ATMP.

Based on the analysis below, there would be no impacts from the proposed action on species protected under the MBTA.

Table 2. Species Protected Under the Migratory Bird Treaty Act Potentially Occurring in the Action Area

Scientific Name	Common Name	Occurrence in the Park
<i>Accipiter gentilis</i>	Northern Goshawk	Present
<i>Aquila chrysaetos</i>	Golden Eagle	Present
<i>Falco peregrinus</i>	Peregrine Falcon	Present
<i>Haliaeetus leucocephalis</i>	Bald Eagle	Unknown

Northern Goshawk

Northern goshawk (*Accipiter gentilis*) are birds of prey that can be identified by their broad wings and long, rounded tails. Their diet includes small rodents and songbirds. Although northern goshawks are a perch and pounce predator, they have also been documented pursuing prey on foot in forested habitats (USFWS, 2011).

They are medium distance migrants that do not begin migration until forced to do so by winter weather or lack of food, although fall migration in the western U.S. typically occurs from August to November (USFWS, 2011). The range of the northern goshawk spans the U.S., and this species has been documented in the Park but are not actively being monitored.

Northern goshawk nest in the lower branches of large conifers or deciduous trees. They return to their nesting sites in March and nest in late April to early May. The main threat to populations of northern goshawk is loss of preferred nesting habitat due to logging. Under the proposed action, no impacts to northern goshawks would occur.

Golden Eagle

Golden eagles (*Aquila chrysaetos*) are large aerial predators with a diet that consists of small mammals and occasionally reptiles. Suitable habitat for this species includes grasslands, woodlands, and canyonlands near hills, cliffs, and bluffs. Golden eagles migrate from Canada and the northeastern U.S. to other regions of the U.S. with a milder winter and less snow cover. They migrate during midday along cliff lines and escarpments.

Nesting season occurs from March to August. Golden eagles tend to avoid nesting in urban or densely forested habitat, and construct their nests on cliffs, tall trees that provide aerial views of the surrounding habitat, or man-made structures like towers. Nests are large and heavy, and can be up to 8 ft. in diameter and 20 ft. deep (USFWS, 2021).

Golden eagles have been observed in the Park, but the NPS is not actively monitoring this species. Similar to bald eagles, golden eagles are protected under the Bald and Golden Eagle Protection Act, the MBTA, and the Lacey Act, which has helped their populations recover from hunting. Under the proposed action, no impacts to golden eagles would occur.

Peregrine Falcon

The peregrine falcon is a carnivorous bird of prey with a diet that consists primarily of other birds and is augmented by rare intakes of small mammals, reptiles, or insects. This species nests along remote cliffs and ledges in mountainous areas, where their nests, called scrapes, are just small depressions in gravel. Nesting occurs from mid to late May through early August and their clutch size is two to three eggs. Peregrine falcons have been observed in the Park and nest in Frijoles and Alamo Canyon cliff exposures, and peak migration occurs in May and September through early October.

Pollutants such as dichloro-diphenyl-trichloroethane (DDT) caused egg-shell thinning, resulting in the listing of this species as endangered under the ESA in 1973 (NPS, 2021). Limiting the use of DDT allowed populations to recover, and this species was delisted in 1999, where their populations have since slowly increased and are now considered to be stable. Threats to peregrine falcons include poisoning from DDT-based pesticides and illegal shooting.

When peregrine falcons were exposed to helicopters and fixed-wing aircraft overflights from 1,000 meters (3,281 ft.) or less, or at slant distances of 550 meters (1,804 ft.), 2-3% of individuals had in-flight responses; when active nests were approached at the same slant distances, peregrine falcons have been observed attacking these aircraft (Nordmeyer, 1999). Studies suggest that although peregrine falcons have shown reactions to aircraft, they display stronger reactions and are therefore more sensitive to disturbance from humans, other animals, and boats than they are to overflights from helicopters or fixed-wing aircraft (Nordmeyer, 1999; Roby et al., 2002; Palmer et al., 2003). Studies recommend a standoff distance of 2,640 ft. between from active nest for human activities (Richardson and Miller, 1997; Colorado Division of Wildlife, 2020). Under the proposed action, no impacts to peregrine falcons would occur.

Bald Eagle

Bald eagles (*Haliaeetus leucocephalis*) are large birds of prey with a diet that consists primarily of rodents. Bald eagles inhabit seacoasts, forest valleys, mountain regions, lakes, and rivers, and only occur in the Park as winter migrants. Bald eagles mate for life and aggressively defend nests during the breeding season. In New Mexico, bald eagle nests are constructed in large cottonwood or ponderosa pine trees near water sources (NPS, 2014). Clutch sizes are one to three eggs, and adults will use the same nests each year. Chicks hatch and fledge throughout the spring.

In 2007, the USFWS estimated there were 9,789 breeding pairs across the southern U.S., which led to the bald eagle being delisted in those regions from the ESA and later removed from the federal list of endangered species. The population size of this species has increased since 2007, and continues to increase, as bald eagles are provided protection under both the MBTA and the Bald and Golden Eagle Protection Act.

In 2007, the USFWS prepared National Bald Eagle Management Guidelines. These guidelines provide landowners, land managers, and others who share public and private lands with bald eagles with procedures for when and under what circumstances the Bald and Golden Eagle Protection Act applies to project activities. Additionally, the guidelines include standoff distances of 1,000 ft. for aircraft at nests during the breeding season, foraging areas, and communal roost sites. In 2016, the USFWS released the Final Programmatic Environmental Impact Statement for the Eagle Rule Revision, which analyzed the effects of revised incidental take permit regulations. In 2022, USFWS published a proposed rule and draft EA proposing additional changes to the eagle incidental take permitting program. Threats to bald eagles include habitat loss from development in coastal areas, pesticide poisoning, and illegal shooting.

In consideration of the effects of aircraft on bald eagles, when helicopters flew at altitudes of 60 – 120 meters (197 – 394 ft.), bald eagles flushed from perching or nesting about half of the time, with juveniles flushing more often than adults, and eagles feeding or standing on the ground flushing more often than perched eagles (Stalmaster and Kaiser, 1997). Eagles rarely flushed when helicopter overflights were conducted at altitudes greater than 300 meters (984 ft.) (Stalmaster and Kaiser, 1997). Nesting eagles were more likely to flush than non-nesting eagles during helicopter overflights, but nesting eagles rarely responded to fixed-wing aircraft at altitudes of 50 – 150 meters (164 – 492 ft.) (Watson, 1993). Under the proposed action, commercial air tours will not be conducted in the action area and therefore are not expected to be stressors on bald eagles nor inhibit foraging, feeding, breeding or nesting.

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United States Department of the Interior

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In Reply Refer To:

April 17, 2023

Project Code: 2023-0069739

Project Name: Bandelier National Monument - Air Tour Management Plan

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 *et seq.*), the Migratory Bird Treaty Act as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act as amended (16 USC 668-668(c)). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area, and to recommend some conservation measures that can be included in your project design.

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the ESA of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the ESA is to provide a means whereby threatened and endangered species and

the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (NEPA; 42 USC 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico State agencies. These lists, along with species information, can be found at the following websites.

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program:
<https://www.emnrd.nm.gov/sfd/rare-plants/>

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html, integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

In addition to responsibilities to protect threatened and endangered species under the ESA, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 CFR 10.12 and 16 USC 668(a)). For more information regarding these Acts see <https://www.fenws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a Federal nexus) or a Bird/Eagle Conservation Plan (when there is no Federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>. We also recommend review of the Birds of Conservation Concern list (<https://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>) to fully evaluate the effects to the birds at your site. This list identifies migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent top conservation priorities for the Service, and are potentially threatened by disturbance, habitat impacts, or other project development activities.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 thereby provides additional protection for both migratory birds and migratory bird habitat. Please visit <https://www.fws.gov/migratorybirds/pdf/management/executiveordertoprotectmigratorybirds.pdf> for information

regarding the implementation of Executive Order 13186.

We suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State protected and at-risk species fish, wildlife, and plants.

For further consultation with the Service we recommend submitting inquiries or assessments electronically to our incoming email box at nmesfo@fws.gov, where it will be more promptly routed to the appropriate biologist for review.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New Mexico Ecological Services Field Office

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(505) 346-2525

PROJECT SUMMARY

Project Code: 2023-0069739

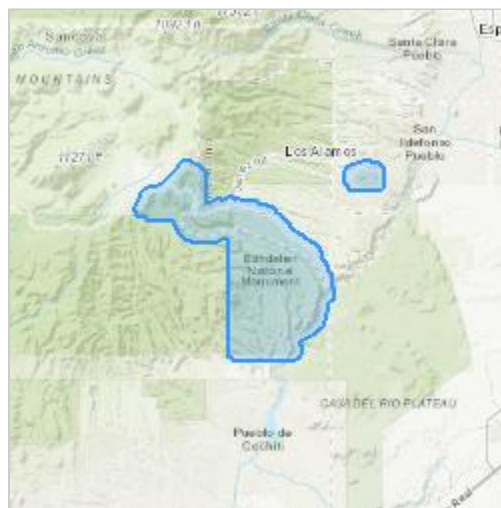
Project Name: Bandelier National Monument - Air Tour Management Plan

Project Type: Recreation Operations

Project Description: The Federal Aviation Administration (FAA) and the National Park Service (NPS) are working together to develop an air tour management plan (ATMP) pursuant to the National Parks Air Tour Management Act of 2000. The National Parks Air Tour Management Act applies to all commercial air tour operations over a unit of the National Park System and requires the FAA, in cooperation with the NPS, to develop an ATMP or Voluntary Agreement for parks and tribal lands where operators have applied to conduct commercial air tours.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.784677,-106.31147206191574,14z>



Counties: Los Alamos , Sandoval , and Santa Fe counties, New Mexico

ENDANGERED SPECIES ACT SPECIES

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Mexican Wolf <i>Canis lupus baileyi</i> Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3916	Endangered
New Mexico Meadow Jumping Mouse <i>Zapus hudsonius luteus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7965	Endangered

BIRDS

NAME	STATUS
Mexican Spotted Owl <i>Strix occidentalis lucida</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

AMPHIBIANS

NAME	STATUS
Jemez Mountains Salamander <i>Plethodon neomexicanus</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4095	Endangered

FISHES

NAME	STATUS
Rio Grande Cutthroat Trout <i>Oncorhynchus clarkii virginalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/920	Candidate
Rio Grande Silvery Minnow <i>Hybognathus amarus</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1391	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

There are 2 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Jemez Mountains Salamander <i>Plethodon neomexicanus</i> https://ecos.fws.gov/ecp/species/4095#crithab	Final
Mexican Spotted Owl <i>Strix occidentalis lucida</i> https://ecos.fws.gov/ecp/species/8196#crithab	Final

IPAC USER CONTACT INFORMATION

Agency: Department of Transportation

[REDACTED]

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Aviation Administration

[REDACTED]

APPENDIX I

Section 4(f) Analysis

Section 4(f) Analysis

Section 4(f) Parks and Recreational Areas

Table 1 lists Section 4(f) parks and recreational areas identified in the study area. All data sources were accessed the week of January 30, 2023.

Table 1. Section 4(f) Parks and Recreational Resources in the Study Area.

Property Name	Official(s) with Jurisdiction	Property Type	Description	Approximate Size (acres)
Bandelier National Monument	National Park Service	National Monument	Bandelier National Monument protects over 33,000 acres of canyon and mesa country as well as evidence of a human presence going back over 11,000 years.	33,000 ac (33,000 ac within study area)
Valles Caldera National Preserve	National Park Service	National Preserve	The preserve is known for its huge mountain meadows, abundant wildlife, and meandering streams.	88,900 ac (1,900 ac within study area)
Santa Fe National Forest	U.S. Forest Service	National Forest	The Santa Fe National Forest is 1.6 million acres of mountains, valleys and mesas ranging from 5,000 to 13,000 feet in elevation.	1.6 million ac (7,530 ac within study area)
Jemez National Recreation Area	U.S. Forest Service	National Recreation Area	The Jemez Ranger District is home to the Jemez National Recreation Area, located within the Jemez Mountains.	57,700 ac (68 ac within study area)
Cochiti Reservoir	U.S. Army Corps of Engineers	Recreation Reservoir	Cochiti Lake is a U.S. Army Corps of Engineers managed lake located in Sandoval County, New Mexico, and within the boundaries of the Pueblo de Cochiti Nation on the Rio Grande about 50 miles upstream from Albuquerque.	1,570 ac (262 ac within study area)

Noise Effects Analysis on Section 4(f) Resources

Noise modeling for Bandelier National Monument (the Park) included two types of analyses: contour analysis and representative location point analysis. A noise contour presents a graphical illustration or “footprint” of the area potentially affected by the noise. Contours were developed for the following

metrics: 12-hour equivalent sound level, time audible for natural ambient, and time above 35 dBA. Location point results present the metric results at specific points of interest. The NPS provided a list of 13 location points, geographically located across the entire Park, where noise levels were to be evaluated. Location point analysis was conducted for the same set of metrics, as well as time above 52 dBA and the maximum sound level. Refer to Appendix F, *Noise Technical Analysis*.

To assess time above 52 dBA at Section 4(f) resources under the ATMP, location points within 1.5 miles of each Section 4(f) resource were identified. These location points are listed in Table 3 for each Section 4(f) resource and the corresponding time above 52 dBA. The time above 52 dBA at each location point and the range of time above 52 dBA at Section 4(f) resources based on nearby location points were then calculated and reported as high and low values. This range is reported in Table 2 for each Section 4(f) property. See Figure 1 for a map of location points and Section 4(f) resources at the Park.

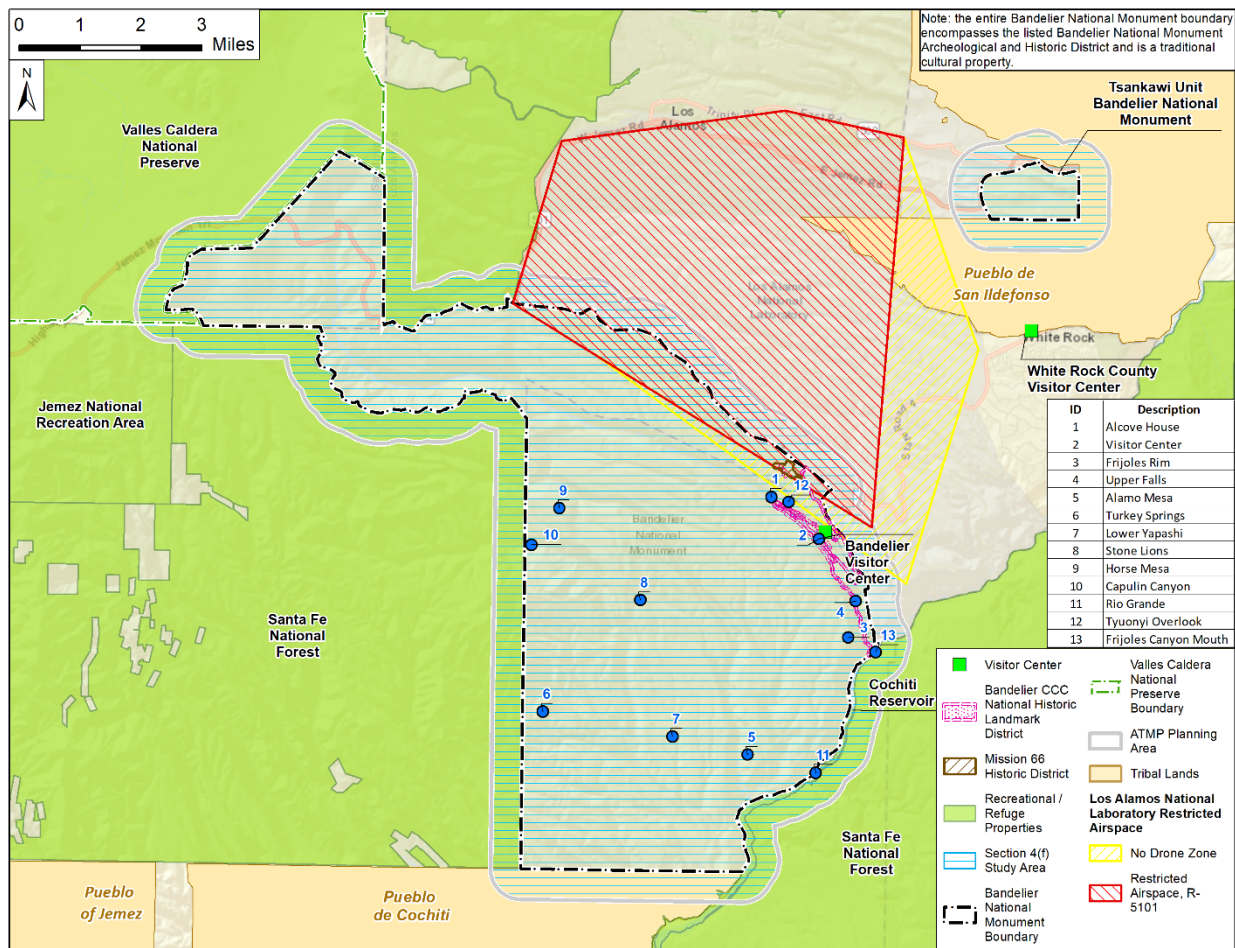


Figure 1. Section 4(f) Resources and Location Points in the Study Area.

Table 2 shows the low and high modelled time above 52 dBA values under Alternative 3 at each Section 4(f) resource. Table 3 shows the distance between each Section 4(f) resource and nearby location point and the time above 52 dBA at the corresponding location point. A distance of 0.00 miles indicates that

the location point falls within the Section 4(f) property. The longest time above 52 dBA in the study area on days when air tours occur is 0.5 minutes.

Table 2. Low and High Modelled Values for Time Above 52 dBA Under Alternative 3 for Section 4(f) Resources.

Section 4(f) Resource	Time Above 52 dBA – Low (minutes)	Time Above 52 dBA – High (minutes)
Bandelier CCC National Historic Landmark and Historic District	0	0.4
Cochiti Reservoir	0	0.4
Santa Fe National Forest	0	0.5
Mission 66 Historic District	0	0
Jemez National Recreation Area*	N/A	N/A
Valleys Caldera National Preserve*	N/A	N/A

*No noise modeling points within 1.5-miles of resource.

Table 3. Section 4(f) Resources and Corresponding Location Point Data for Air Tours Under Alternative 3.

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA under Alternative 3 / ER-S Orange Route (Minutes)	Time Above 52 dBA under Alternative 3, ER-N Red Route (Minutes)
Bandelier CCC National Historic Landmark District	1	Alcove House	0	0	0
Bandelier CCC National Historic Landmark District	12	Tyuonyi Overlook	0.09	0	0
Bandelier CCC National Historic Landmark District	4	Upper Falls	0	0	0.1
Bandelier CCC National Historic Landmark District	3	Frijoles Rim	0.25	0	0.4
Bandelier CCC National Historic Landmark District	13	Frijoles Canyon Mouth	0.09	0	0.3
Bandelier CCC National Historic Landmark District	2	Visitor Center	0	0	0
Cochiti Reservoir	13	Frijoles Canyon Mouth	1.02	0	0.3
Cochiti Reservoir	11	Rio Grande	0	0	0
Cochiti Reservoir	3	Frijoles Rim	1.18	0	0.4
Cochiti Reservoir	5	Alamo Mesa	0.73	0	0

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA under Alternative 3 / ER-S Orange Route (Minutes)	Time Above 52 dBA under Alternative 3, ER-N Red Route (Minutes)
Mission 66 Historic District	1	Alcove House	0.43	0	0
Mission 66 Historic District	2	Visitor Center	1.03	0	0
Mission 66 Historic District	12	Tyuonyi Overlook	0.40	0	0
Santa Fe National Forest	6	Turkey Springs	0.33	0	0
Santa Fe National Forest	9	Horse Mesa	0.56	0	0.3
Santa Fe National Forest	10	Capulin Canyon	0.11	0	0.5
Santa Fe National Forest	11	Rio Grande	0.06	0	0
Santa Fe National Forest	13	Frijoles Canyon Mouth	0.025	0	0.3

Table 4. Distribution to Officials with Jurisdiction for Section 4(f) Resources.

Entity Name	Address
National Park Service	15 Entrance RD Los Alamos, NM 87544
National Park Service	Valles Caldera National Preserve PO Box 359 Jemez Springs, NM 87025
U.S. Army Corps of Engineers	82 Dam Crest Road Pena Blanca, NM 87041-5015
U.S. Forest Service	11 Forest Lane Santa Fe, NM 87508