

**Appendices for the Draft Environmental
Assessment for an Air Tour Management
Plan for
Mount Rushmore National Memorial**

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APPENDIX B

List of Acronyms, Abbreviations, and Glossary

Acronyms and Abbreviations

AAD	Average Annual Day
The Act	National Parks Air Tour Management Act of 2000
ACS	American Community Survey
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.
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CR GRID	Cultural Resource Geographic Research Information Display
dB	Decibels
dBA	Decibels (A-weighted scale)
DDT	Dichloro-diphenyl-trichloroethane
DNL	Day-night Average Sound Level (denoted by the symbol L _{dn})
DOT	United States 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
FR	Federal Register
FSDO	Flight Standards District Office
GHG	Greenhouse Gas
H ₂ O	Water Vapor
IOA	Interim Operating Authority
IPCC	Intergovernmental Panel on Climate Change
L ₅₀	The median or L ₅₀ 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
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding

MRNMHD	Mount Rushmore National Memorial Historic District
MSL	Mean Sea Level
MT	Metric Tons
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
The National Register	The National Register of Historic Places
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
O ₃	Ozone
The Park	Mount Rushmore National Memorial
Pb	Lead
PM	Particulate Matter
PM _{2.5}	Particulate matter sized 2.5 micrometers in aerodynamic diameter or less
PM ₁₀	Particulate matter sized 10 micrometers in aerodynamic diameter or less
SHPO	State Historic Preservation Office
SLAMS	State and Local Air Monitoring Stations
SO ₂	Sulfur Dioxide
TCP	Traditional Cultural Properties
TPY	Tons per Year
U.S.	United States
U.S.C.	United States Code
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

APPENDIX C

List of Preparers

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

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- Matthew Simon

APPENDIX D

Distribution List

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

Federal Agencies

- Bureau of Indian Affairs
- Bureau of Land Management
- Federal Emergency Management Agency
- Federal Highway Administration
- Federal Railroad Administration
- National Park Service
- Rep. Dusty Johnson – U.S. Representative from South Dakota
- Sen. John Thune – U.S. Senator from South Dakota
- Sen. Mike Rounds – U.S. Senator from South Dakota
- U.S. Army Corps of Engineers
- U.S. Department of Agriculture – Natural Resources Conservation Service
- U.S. Department of Commerce
- U.S. Department of Energy – Western Area Power Administration
- U.S. Department of Housing and Urban Development
- U.S. Department of the Interior
- U.S. Environmental Protection Agency Region VIII
- U.S. Fish and Wildlife Service
- U.S. Geological Survey – Dakota Water Science Center
- USDA Forest Service

South Dakota State Agencies

- Governor of South Dakota
- South Dakota Bureau of Finance and Management
- South Dakota Department of Agriculture
- South Dakota Department of Agriculture and Natural Resources - Air Quality Program
- South Dakota Department of Agriculture and Natural Resources – Surface Water Quality Program
- South Dakota Department of Game, Fish, and Parks – Division of Parks and Recreation
- South Dakota Department of Game, Fish, and Parks – Division of Wildlife
- South Dakota Department of Health
- South Dakota Department of Human Services
- South Dakota Department of Public Safety
- South Dakota Department of Tourism
- South Dakota Department of Transportation – Division of Planning and Engineering
- South Dakota Geological Survey
- South Dakota Governor's Office of Economic Development
- South Dakota Office of Emergency Management
- South Dakota Office of School and Public Lands

- South Dakota Public Utilities Commission
- South Dakota Secretary of State
- South Dakota Secretary of Transportation
- South Dakota State Historical Society

Pennington County and Local Agencies

- Mayor of Keystone, South Dakota
- Pennington County
- Pennington County Commission
- Pennington County Emergency Management Department
- Pennington County Fire Department
- Pennington County Highway Department
- Pennington County Planning Department
- Pennington County Sheriff

Community Organizations, Associations, Businesses, and Interest Groups

- South Dakota Wing – Civil Air Patrol

Tribal Nations

- Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation
- Cheyenne and Arapaho Tribes of Oklahoma
- Cheyenne River Sioux Tribe (of the Cheyenne River Reservation, South Dakota)
- Crow Creek Sioux Tribe (of the Crow Creek Reservation, South Dakota)
- Crow Tribe of Montana
- Eastern Shoshone Tribe of the Wind River Reservation, Wyoming
- Flandreau Santee Sioux Tribe of South Dakota
- Fort Belknap Indian Community of the Fort Belknap Reservation
- Kiowa Indian Tribe of Oklahoma
- Lower Brule Sioux Tribe of the Lower Brule Reservation
- Northern Arapaho Tribe of the Wind River Reservation, WY
- Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation
- Oglala Lakota Nation
- Ponca Tribe of Nebraska
- Rosebud Sioux Tribe of the Rosebud Indian Reservation
- Santee Sioux Nation, Nebraska
- Sisseton-Wahpeton Oyate of the Lake Traverse Reservation
- Spirit Lake Tribe
- Standing Rock Sioux Tribe of North & South Dakota
- Three Affiliated Tribes of the Berthold Reservation, North Dakota (Mandan, Hidatsa and Arikara)

- Nation)
- Turtle Mountain Band of Chippewa Indians of North Dakota
- Upper Sioux Community, Minnesota
- Yankton Sioux Tribe of South Dakota

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/MountRushmoreATMP>

APPENDIX E

Environmental Impact Analysis Methods

Draft Environmental Assessment for an Air Tour Management Plan for Mount Rushmore National Memorial

Environmental Impact Analysis Methodologies

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 Mount Rushmore National Memorial (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 the 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 (AGL) (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 the yearly average number of commercial air tours over the Park from 2017-2019 across the two current operators, with the possibility of operators flying up to their interim operating authority (IOA). The Act allowed 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 IOA to existing operators.^{1,2} The impacts of IOA are not analyzed nor included as the baseline condition for this alternative, though in any given year operators could conduct additional air tours up to their IOA or they may fly fewer air tours than in the period from 2017 to 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 operators and flight tracking data, as available, are 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 3 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, including over the ATMP planning area at or above 5,000 ft. AGL, to the extent possible. In accordance with Section 1508.1(g)(2) of Council on Environmental Quality (CEQ) NEPA regulations, the

¹ 49 U.S.C. § 40128(c)(2)(A)(i-ii)

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

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, including over the ATMP planning area at or above 5,000 ft. AGL, 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.

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 operator 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. AGL over the ATMP planning area 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 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

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

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 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)	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 on noise events occurring between 10 PM and 7 AM local time. Note: Both $L_{Aeq, 12\text{ hr}}$ and DNL characterize: - 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) If there are no nighttime events, then $L_{Aeq, 12\text{ hr}}$ is arithmetically three dBA higher than DNL as the events are averaged over 24 hours instead of 12 hours. 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.

Time Audible Natural Ambient	The total time (in minutes) that aircraft noise levels are audible to an attentive listener with normal hearing under natural ambient conditions. The natural ambient is the sound level exceeded 50 percent of the time L_{50}, determined from the natural sound conditions found in a 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.
Time Above 35 dBA	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA). In quiet settings, outdoor sound levels exceeding this level degrade experience in outdoor performance venues (American National Standards Institute (ANSI), 2007)⁴; blood pressure increases in sleeping humans (Haralabidis et al., 2008)⁵; maximum background noise level inside classrooms (ANSI/Acoustical Society of America S12.60/Part 1-2010)⁶.
Time Above 52 dBA	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA). 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, 1974)⁷. 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.

⁴ American National Standards Institute, Inc. (2007). Quantities and procedures for description and measurement of environmental sound — Part 5: Sound level descriptors for determination of compatible land use. ANSI/ASA S12.9-2007/PART 5 (R2020), 1-20. <https://webstore.ansi.org/Standards/ASA/ANSIASAS122007PartR2020>

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

⁶ American National Standards Institute, Inc. (2002). 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/Standards/ASA/ANSIASAS1260Part2010R2020>.

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. NPC Online Library, 550/9-74-004, 1-78. <https://www.nrc.gov/docs/ML1224/ML12241A393.pdf>

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.
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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, or over the ATMP planning area at or above 5,000 ft. AGL, 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:
 - 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 (PMAD), 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 $\leq 2.5 \mu\text{m}$ (PM_{2.5})¹⁰ and aerodynamic diameter $\leq 10 \mu\text{m}$ (PM₁₀)
- 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 national ambient air quality standards.
- 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 (GIS) data in EPA's Green Book¹³ to confirm attainment status (attainment, nonattainment, or maintenance by pollutant). The FAA's AEDT is used to derive

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}.

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>

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.

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 U.S. that is in attainment for all regulated pollutants, there are no regulatory

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).

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) 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 from reflects 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 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

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

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 for the preferred alternative 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) 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, as identified by 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 and Tribes have identified TCPs and sacred sites within the APE. Additional records have been gathered from the Midwest Archeological Center, the U.S. Forest Service Black Hills National Forest, Cultural Resource Geographic Research Information Display (GRID), South Dakota Archeological Research Center, and through a records request of the South Dakota State Historic Preservation Office (SHPO) 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, time above 52 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 Alternatives 3 and 4 as compared to the No Action Alternative. Noise data is used to identify where audible impacts may increase, decrease, or be introduced. Metrics used for this analysis included point data that is specific to cultural resources and included areas outside of the ATMP planning area that may be within the APE. 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 is 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 the appendix 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.

To identify potential impacts to solitude within Wilderness areas, the time audible natural ambient metric from the *Noise Technical Analysis* (Appendix F) is utilized.

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 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 any 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* (Appendix F), 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. front country), 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 audible, natural ambient 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 has 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 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 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 each operator. The analysis notes that the competitive bidding process may redistribute the number of flights and income between individual operators in the future.

Given the nature of the alternatives, the agencies do not anticipate impacts to the housing, race, age, or population conditions of the ATMP planning area; therefore, effects to these socioeconomic characteristics within the ATMP planning 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 extent 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 that are outside the ATMP planning area. 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, hovering/loitering, 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 DOT and its operating administrations, including the FAA. The study area for considering Section 4(f) resources in the EA is inclusive of 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. The study area for Section 4(f) analysis is the same as the APE identified as part of Section 106. 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 were 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 all alternatives to determine if there will be substantial impairment to Section 4(f) resources 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 environmental impact category (see above). The methodology for the visual impacts analysis reflects that described under the Visual Effects environmental impact 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: Mount Rushmore National Memorial

January 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 Mount Rushmore National Memorial (Park) Air Tour Management Plan (ATMP) 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 20-40 dBA.

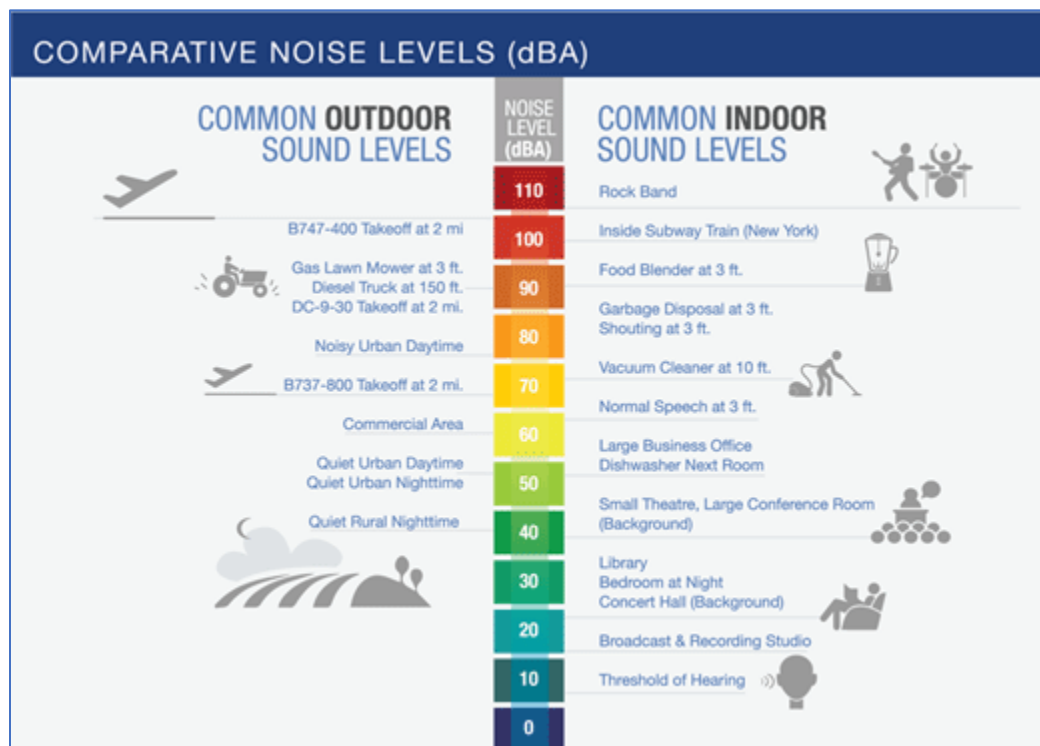


Figure 1. Comparative Sound Levels²

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.

Table 2. Primary Metrics Used for the Noise Analysis

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)	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. Note: Both $L_{Aeq, 12\text{ hr}}$ and DNL characterize: • 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) If there are no nighttime events, then $L_{Aeq, 12\text{ hr}}$ is arithmetically three dBA higher than DNL. 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.
Time Audible Natural Ambient	The total time (in minutes) that aircraft noise levels are audible to an attentive listener with normal hearing under natural ambient conditions. 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.
Time Above 35 dBA	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA). In quiet settings, outdoor sound levels exceeding 35 dBA 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).

Metric	Relevance and Citation
Time Above 52 dBA	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA). 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 (United States Environmental Protection Agency, Office of Noise Abatement and Control, 1974).
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 number of events, 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 certain environments, 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 Soundscape Management).

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. On the ground, 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 at the Park, detailed sound level measurements were conducted at two locations in 2003, resulting in the identification of two acoustic zones representing regions with similar acoustic conditions (Table 3) (Lee et al., 2016). These acoustic sampling locations were chosen to be representative of the natural ecological zones or broad ecosystems of the Park and ATMP planning area, but were not intended to directly measure the amount of air tour noise. Median daytime natural ambient sound levels (L_{50}) were 34 dBA in both zones; median daytime existing ambient sound levels were 40 dBA in the historic zone to 48 dBA in the development zone where visitors are more prevalent. The median or L_{50} sound level (in decibels) is the sound level exceeded 50 percent of the day. Additional acoustic monitoring was conducted by NPS for the Park in 2007 and 2012 (Lynch, 2012). The 2007 study was intended to record current conditions at a backcountry location in the Park. The natural ambient sound level at this location was approximately 22 dBA. The purpose of the 2012 study was to characterize existing sound levels during a time of unusually high Park visitation.

Table 3. Acoustic Conditions

Acoustic Sampling Area	Daytime Natural Ambient, L_{50} (dBA)	Daytime Existing Ambient, L_{50} (dBA)	Description
Zone 1 (Development Zone, Grand View Terrace)	34	48	Natural sounds in this zone include wind through the low brush and goats. Human sounds include aircraft, vehicles, amphitheater announcements, and visitors.
Zone 2 (Historic Zone, Presidential Trail)	34	40	Natural sounds in this zone include wind through the low brush and birds. Human sounds include aircraft, vehicles, amphitheater announcements, and visitors.

Ambient Map Data

From the detailed data collected in 2003, an ambient “map” of the natural soundscape³ of the ATMP planning area was developed to be used in computer modeling (Figure 2). Lee et al. (2016) provides further technical detail on the acoustical monitoring and development of the ambient map.

³ Natural Ambient/Soundscape (L_{50}): The sound level exceeded 50 percent of the time 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. All ambient data were based on a 12-hour time period, i.e., 7 AM to 7 PM, which are the typical operating hours for air tours.

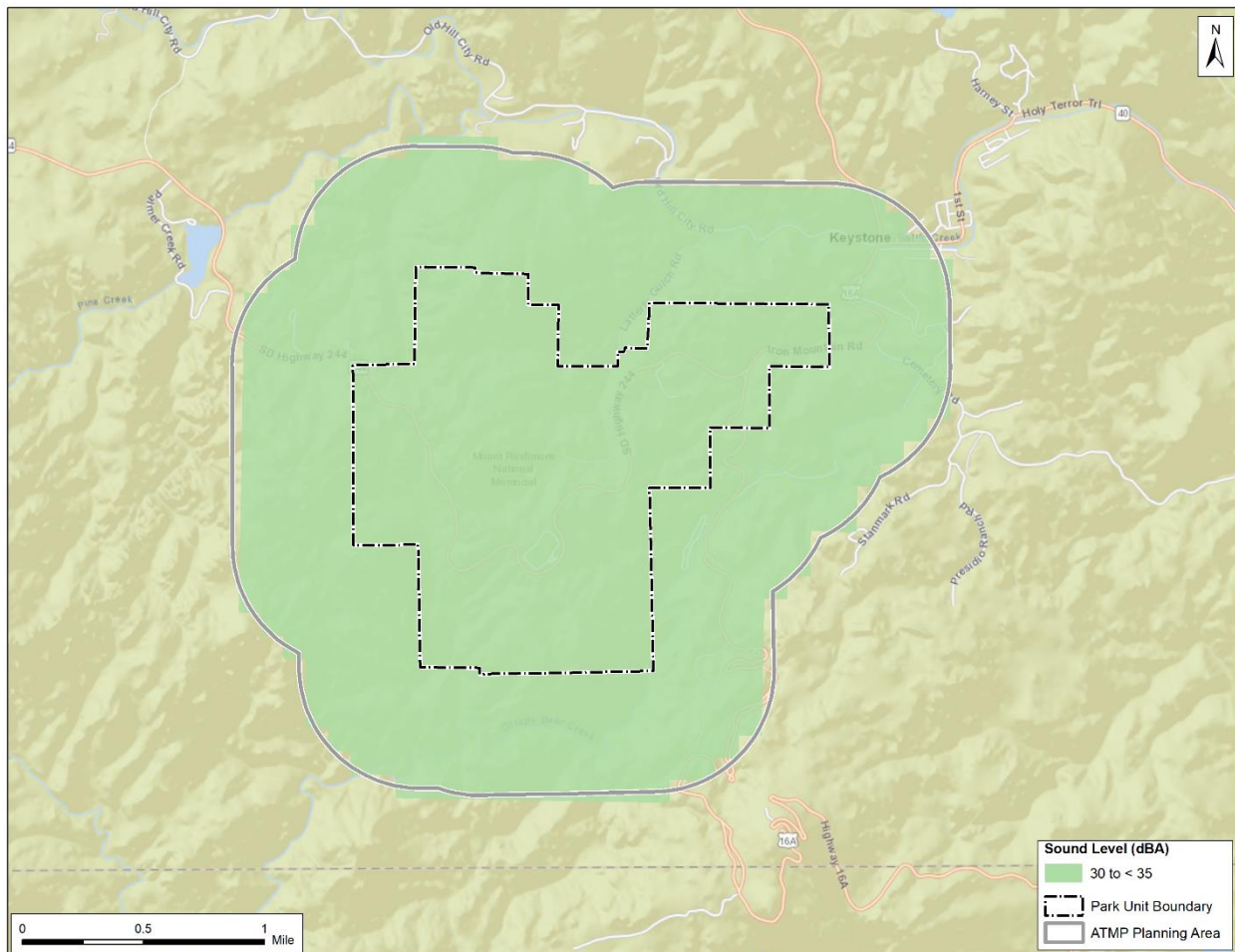


Figure 2. Ambient map – Natural Ambient L₅₀

The contribution of aircraft noise during the sound level measurements provides a snapshot in time and is not necessarily a representative characterization of the existing ambient under current conditions (as described in the No Action Alternative and in Section 4 below). The existing ambient under current conditions was determined by adding the noise exposure due to existing air tours (Figure 7), modeled using the FAA Aviation Environmental Design Tool (AEDT), Version 3e (see Section 4), to the Existing Ambient without Air Tours shown in Figure 3. The Existing Ambient without Air Tours is defined as the composite, all-inclusive sound associated with a given environment, excluding the sound source of interest, in this case, commercial air tour aircraft. It does include all other human-caused sound sources that were audible at the measurement site; visitors, vehicles, amphitheater announcements, commercial jets, and general aviation aircraft. The result of this process is the Cumulative Existing Ambient (Figure 4).

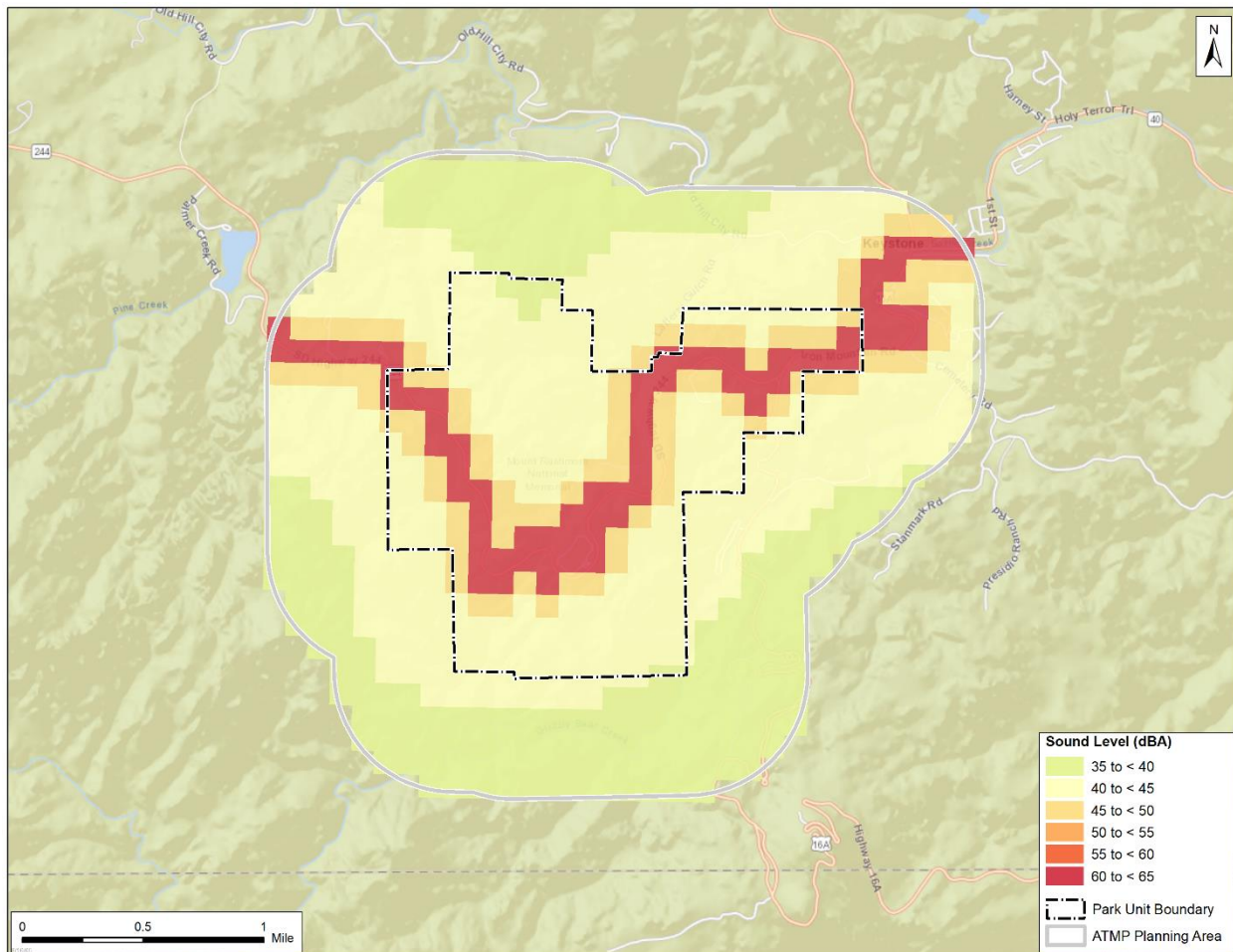


Figure 3. Ambient map – Existing Ambient without Air Tours L_{50} ⁴

⁴ Because it is not feasible to carry out field data collection efforts in all areas of a park, the effect of localized sound sources, such as from roadways, were modeled using the Federal Highway Administration's Traffic Noise Model®. Details of modeled roadway sound sources can be found in Lee et al. (2016).

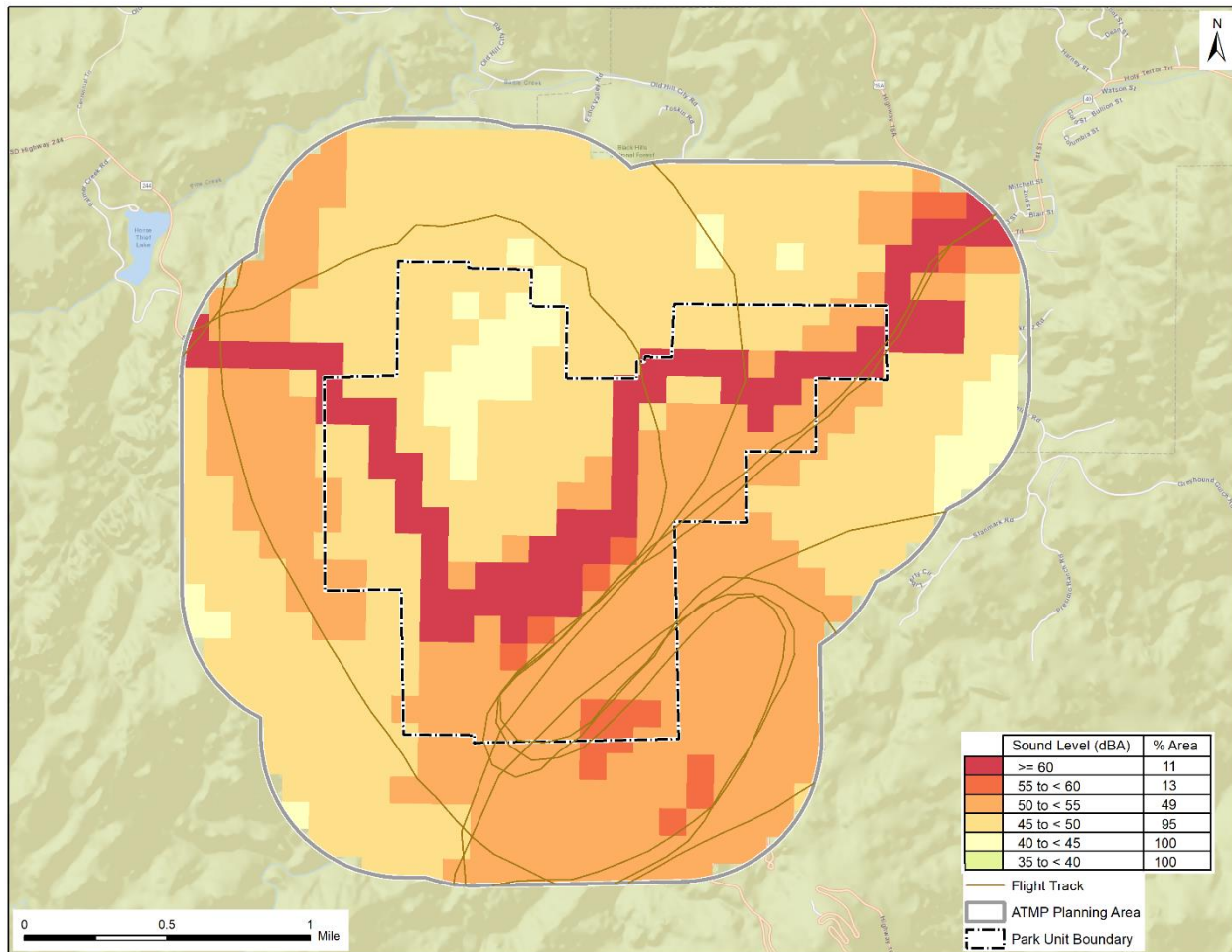


Figure 4. Cumulative Existing Ambient for Existing Conditions

4. Noise Model Method

The FAA's 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 14 CFR Part 150, Airport Noise Compatibility Planning.

The noise model requires detailed information regarding the aircraft source, operational, and flight route information (obtained from the air tour operators), as well as other information⁵ to compute

⁵ 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 Society of Automotive Engineers (SAE) Aerospace Information Report 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.

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 Robinson R-44 and Cessna 206 aircraft. The flight routes used for modeling the alternatives are shown in Figure 5.

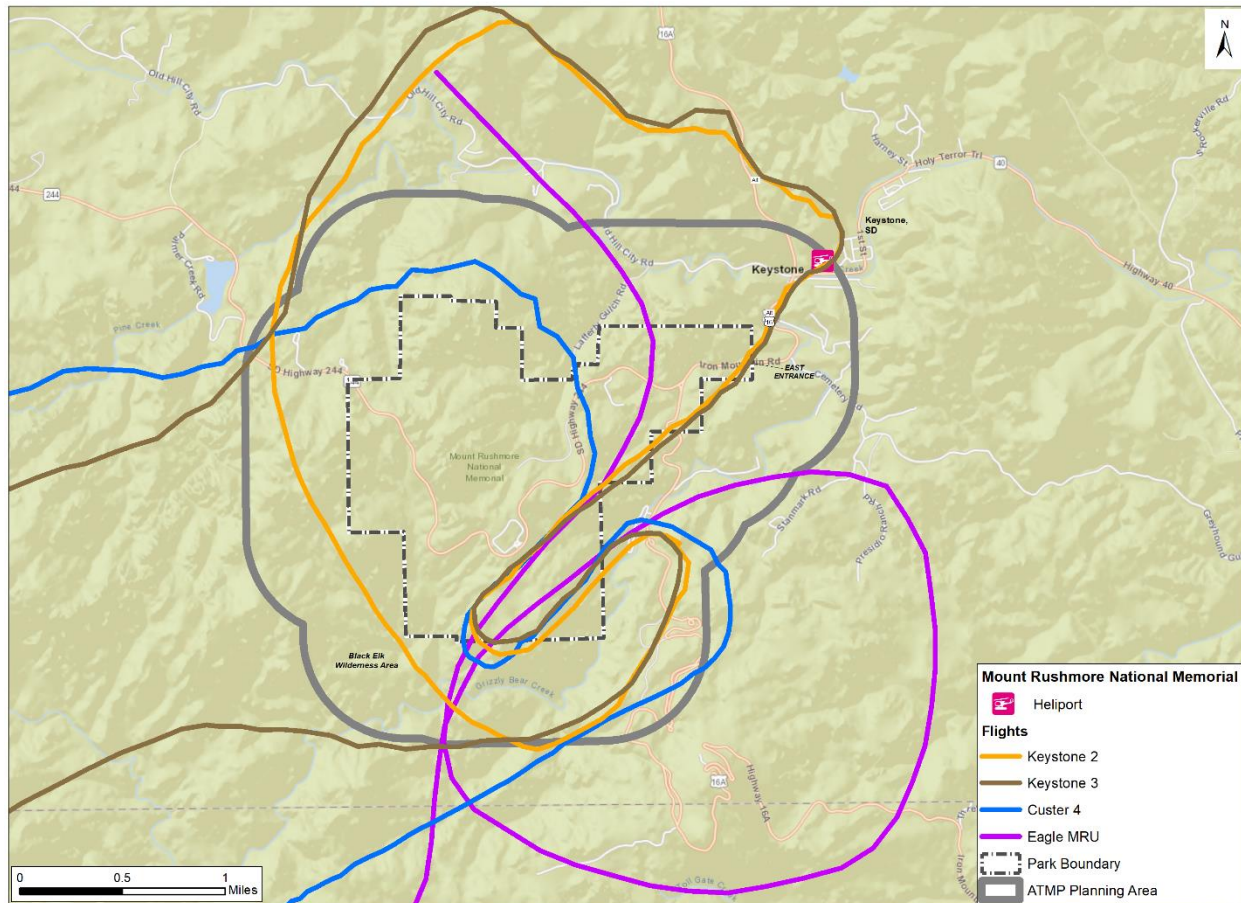


Figure 5. Air Tour Routes Modeled

A unique noise modeling 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).

The analysis for the No Action Alternative is based on a peak month, average day⁶ (PMAD) of commercial air tour activity. For the three-year average of commercial air tour activity from 2017-2019,

⁶ As required by FAA policy, the FAA typically represents yearly conditions as the Average Annual Day (AAD). However, it was determined that a PMAD representation of the operations would more adequately allow for

the PMAD was identified in terms of number of operations, and then further assessed for the type of aircraft and route flown to ensure it is a reasonable representation of the commercial air tour activity over the park. For the ATMP planning area, the PMAD was identified as summarized in Table 4. Altitudes were modeled based on information provided by the operators.

The analyses for Alternatives 3 and 4 are based on the number of aircraft operations for each aircraft and route combination identified and are summarized in Table 4.

Table 4. Aircraft, Routes, and Number of Operations Modeled

Route	Aircraft	No Action Alternative (2017-2019 PMAD)	Alternative 3	Alternative 4
Keystone 2	Robinson R-44	18	12	4
Keystone 3	Robinson R-44	12	8	2
Custer 4	Robinson R-44	7	4	1
Eagle MRU	Cessna 206	1	1	1
	Total	38	25	8

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 27 location points, geographically located across the ATMP planning area, where noise levels were to be evaluated. In addition, noise levels were evaluated at 11 historic property locations (points 28-38) both within and outside⁷ the ATMP planning area. These locations are listed in Table 5 and shown geographically in Figure 6.

disclosure of any potential impacts. PMAD has therefore been used as a conservative representation of assessment of AAD conditions.

⁷ The routes, altitudes and numbers of air tours outside the ATMP planning area are unknown. This is because directly outside of the ATMP planning area is outside the scope of this ATMP, and operators fly under Visual Flight Rules (VFR) in uncontrolled airspace. For the purposes of disclosing the potential effects on locations outside the ATMP planning area, routes within the Park were extrapolated based on available information. Additionally, ambient data are not available outside the ATMP planning area and thus time audible results were not computed.

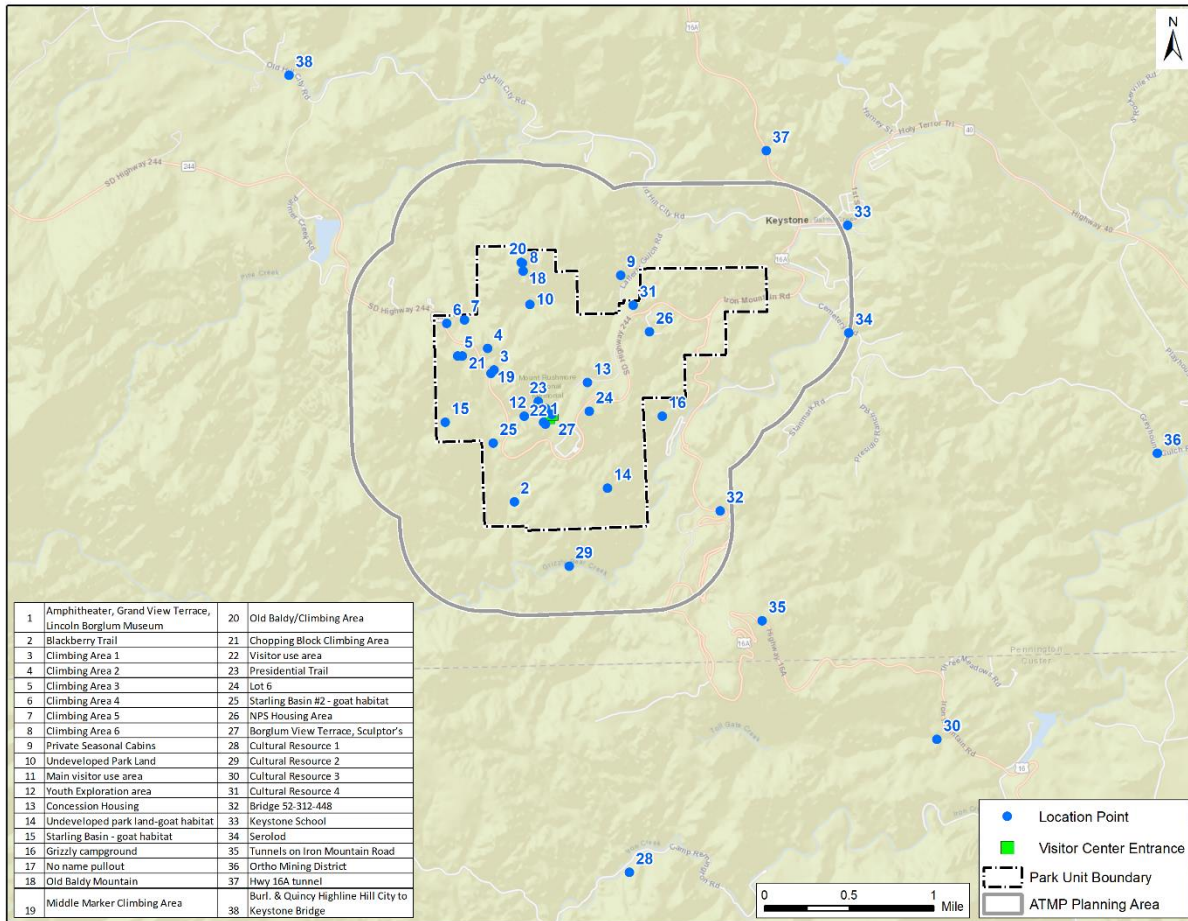


Figure 6. Location Points Modeled

Table 5. Location Points Modeled for Mount Rushmore National Memorial

Location	Longitude (decimal degrees)	Latitude (decimal degrees)	Natural Ambient L ₅₀ (dBA)
1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	43.877	-103.456	30-35
2. Blackberry Trail	43.870	-103.460	30-35
3. Climbing Area 1	43.882	-103.462	30-35
4. Climbing Area 2	43.884	-103.463	30-35
5. Climbing Area 3	43.883	-103.466	30-35
6. Climbing Area 4	43.886	-103.467	30-35
7. Climbing Area 5	43.886	-103.465	30-35
8. Climbing Area 6	43.890	-103.458	30-35
9. Private Seasonal Cabins	43.890	-103.447	30-35
10. Undeveloped Park land	43.887	-103.458	30-35
11. Main visitor use area	43.878	-103.456	30-35
12. Youth Exploration area	43.878	-103.458	30-35
13. Concession Housing	43.880	-103.451	30-35
14. Undeveloped Park land-goat habitat	43.871	-103.449	30-35
15. Starling Basin - goat habitat	43.877	-103.468	30-35
16. Grizzly Campground	43.877	-103.442	30-35
17. No name pullout	43.879	-103.448	30-35
18. Old Baldy Mountain	43.891	-103.458	30-35
19. Middle Marker Climbing Area	43.881	-103.462	30-35
20. Old Baldy/Climbing Area	43.891	-103.458	30-35
21. Chopping Block Climbing Area	43.883	-103.466	30-35
22. Visitor use area	43.877	-103.456	30-35
23. Presidential Trail	43.879	-103.457	30-35
24. Lot 6	43.878	-103.451	30-35
25. Starling Basin #2 - goat habitat	43.875	-103.462	30-35
26. NPS Housing Area	43.885	-103.443	30-35
27. Borglum View Terrace, Sculptor's Studio	43.878	-103.455	30-35
28. Cultural Resource 1*	43.839	-103.447	N/A
29. Cultural Resource 2	43.865	-103.453	30-35
30. Cultural Resource 3*	43.849	-103.410	N/A
31. Cultural Resource 4	43.887	-103.445	30-35
32. Bridge 52-312-448	43.869	-103.435	30-35
33. Keystone School*	43.893	-103.420	N/A
34. Serolod	43.884	-103.420	30-35
35. Tunnels on Iron Mountain Road*	43.860	-103.431	N/A
36. Ortho Mining District*	43.873	-103.384	N/A
37. Highway 16A Tunnel*	43.901	-103.429	N/A
38. Burlington & Quincy Highline Hill City to Keystone Bridge*	43.907	-103.486	N/A

*Location points outside the ATMP planning area.

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 for three metrics: 12-hour equivalent sound level (Figure 7, Figure 10, and Figure 13), time audible natural ambient (Figure 8, Figure 11, and Figure 14) and time above 35 dBA (Figure 9, Figure 12, and Figure 15), followed by tabular results (Table 6, Table 7, and Table 8) for the location points for each of the five acoustic metrics modeled. The noise contour map legends include the percentage of the total ATMP planning area covered by each contour level.

Alternative 1 (No Action Alternative)

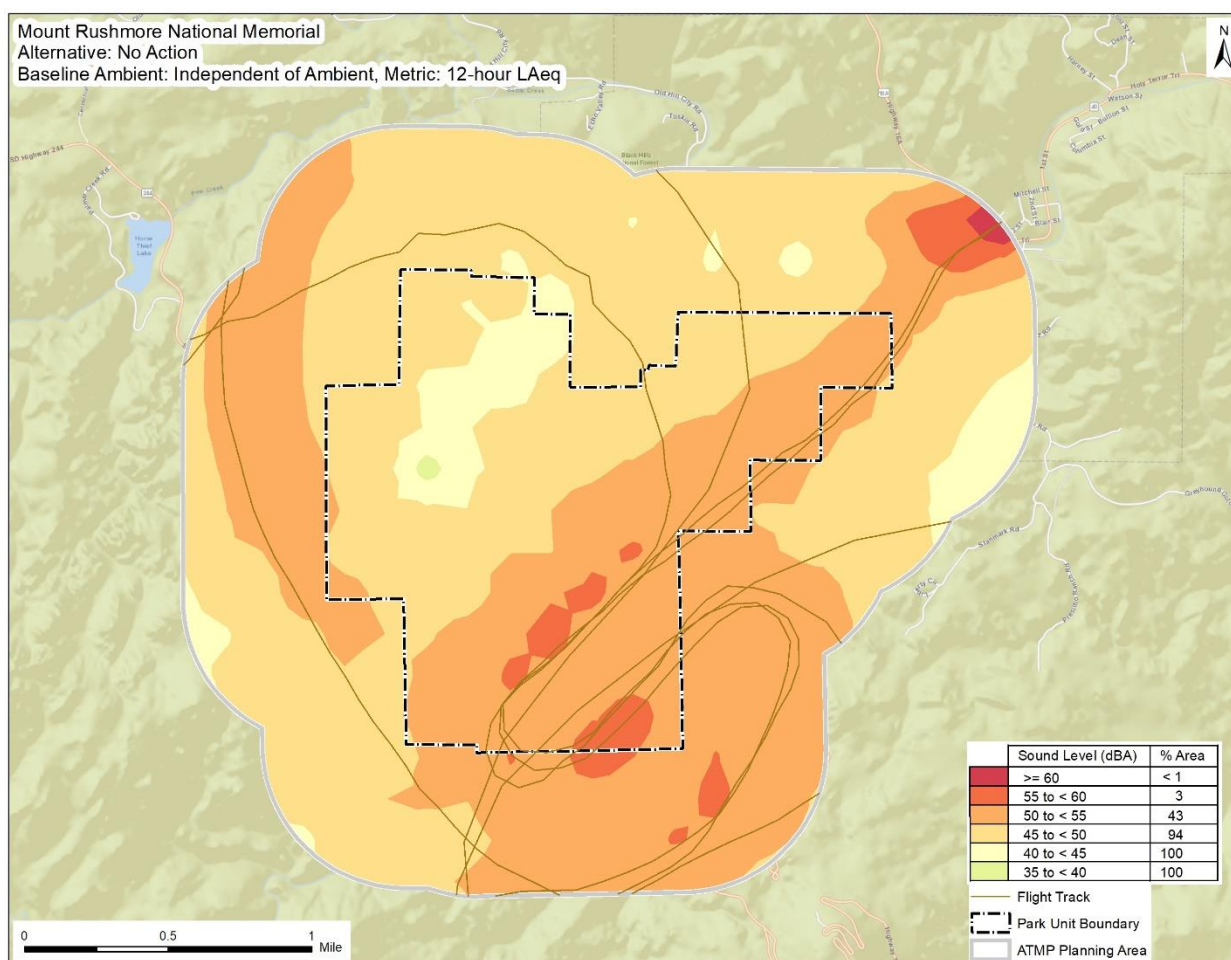


Figure 7. 12-hour Equivalent Sound Level ($L_{Aeq,12h}$) Map for the No Action Alternative

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

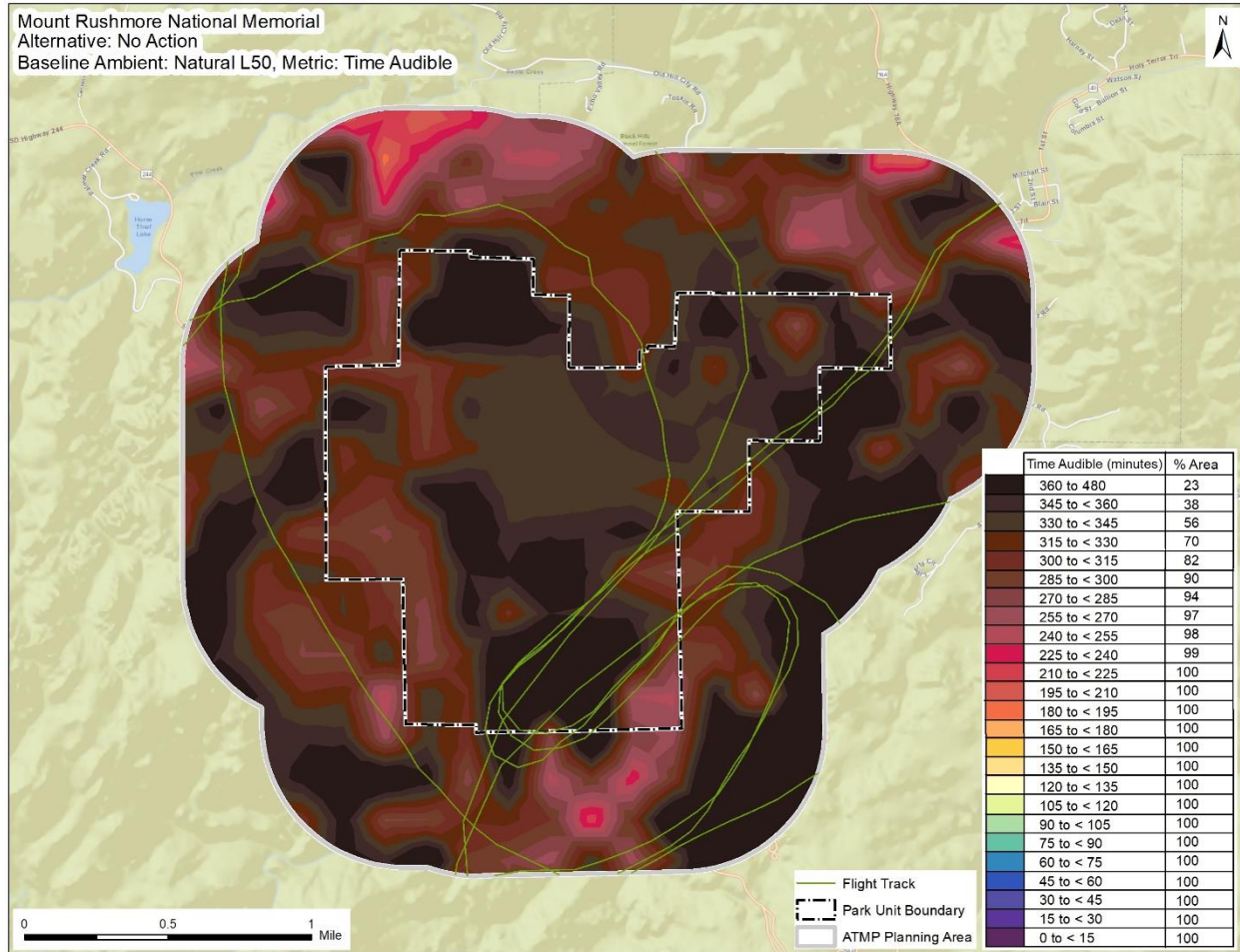


Figure 8. Time Audible (for Natural Ambient) Map for the No Action Alternative

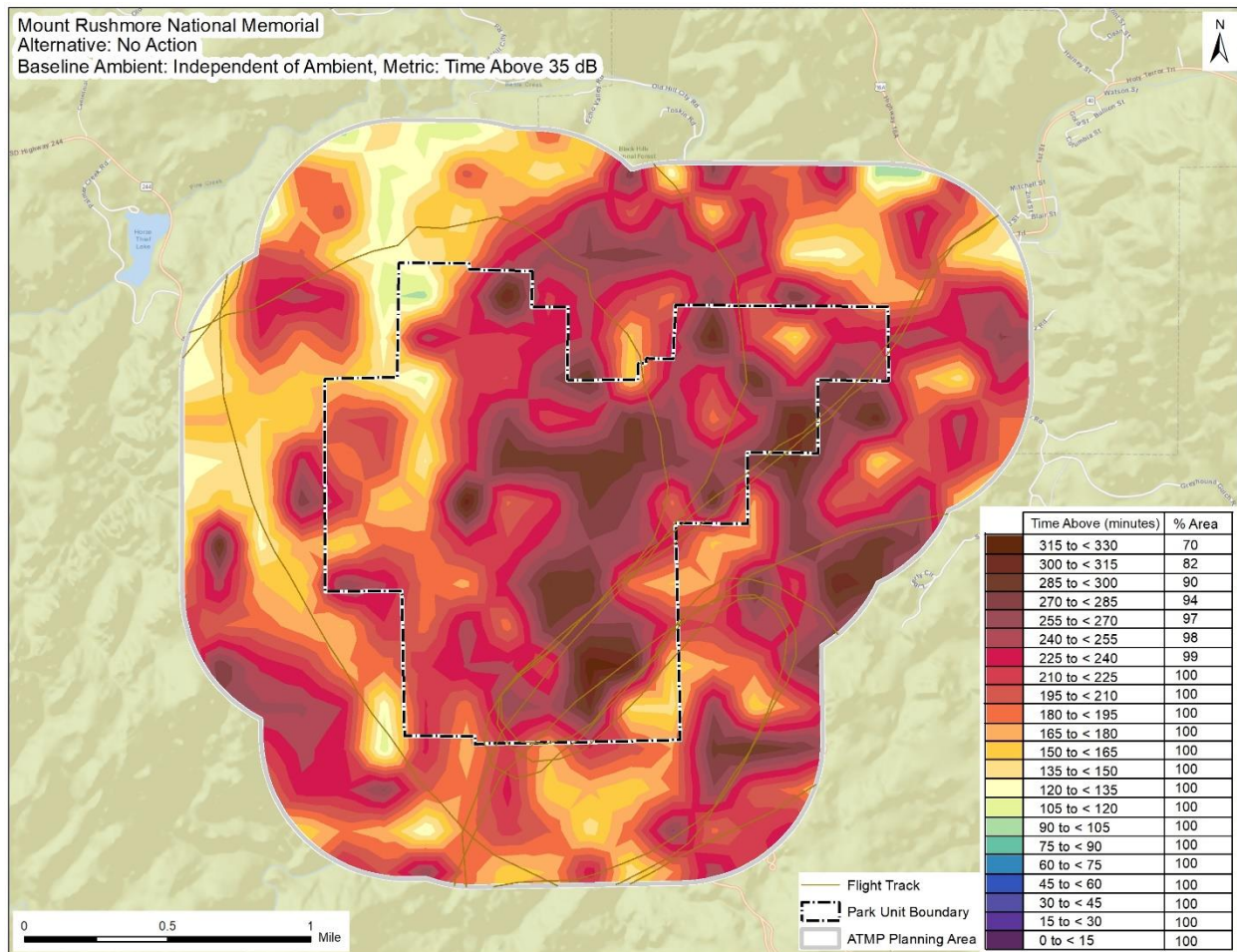


Figure 9. Time Above 35 dBA Map for the No Action Alternative

Table 6. Location Point Results - No Action Alternative

Location	12-Hour Equivalent Sound Level (dBA)*	Time Audible for Natural Ambient (minutes)	Time Above 35 dBA (minutes)	Time Above 52 dBA (minutes)	Maximum Sound Level (dBA)
1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	50.5	363.4	242.7	49.4	69.0
2. Blackberry Trail	52.9	323.2	235.4	66.9	73.3
3. Climbing Area 1	39.6	301.4	80.8	5.8	62.6
4. Climbing Area 2	44.6	308.5	122.5	27.6	62.5
5. Climbing Area 3	44.8	313.6	200.7	30.9	62.2
6. Climbing Area 4	47.9	324.3	165.3	43.3	65.7
7. Climbing Area 5	46.7	307.3	162.1	42.7	63.6
8. Climbing Area 6	44.9	439.8	241.4	36.7	62.1
9. Private Seasonal Cabins	45.8	313.8	221.3	35.9	62.9
10. Undeveloped Park land	44.3	332.9	194.9	34.6	59.7
11. Main visitor use area	50.3	335.2	233.0	67.4	67.8
12. Youth Exploration area	49.3	375.7	208.5	64.0	66.5
13. Concession Housing	51.3	343.2	290.8	74.8	69.2
14. Undeveloped Park land-goat habitat	53.9	341.7	200.5	104.9	71.3
15. Starling Basin - goat habitat	50.0	331.9	191.5	35.0	71.7
16. Grizzly Campground	52.2	351.5	261.1	96.2	67.8
17. No name pullout	54.2	384.2	319.0	90.8	73.7
18. Old Baldy Mountain	44.3	317.9	267.0	27.5	63.5
19. Middle Marker Climbing Area	44.7	334.8	126.0	21.2	63.0
20. Old Baldy/Climbing Area	47.2	431.1	313.8	58.4	63.9
21. Chopping Block Climbing Area	45.3	329.8	165.3	23.1	64.4
22. Visitor use area	51.6	366.6	281.2	75.3	69.7
23. Presidential Trail	49.6	344.6	204.3	71.7	66.4
24. Lot 6	54.2	400.5	333.2	101.1	73.4
25. Starling Basin #2 - goat habitat	48.7	286.2	188.1	46.5	66.3
26. NPS Housing Area	50.5	341.5	282.0	62.8	68.5
27. Borglum View Terrace, Sculptor's Studio	50.5	370.7	270.0	53.1	68.8
28. Cultural Resource 1**	34.9	N/A	119.9	0.7	59.0
29. Cultural Resource 2	51.2	200.1	123.4	48.8	72.1
30. Cultural Resource 3**	29.0	N/A	20.1	0.4	60.2
31. Cultural Resource 4	46.3	365.5	286.9	35.7	64.2
32. Bridge 52-312-448	52.1	357.5	246.9	74.4	69.7
33. Keystone School**	52.3	N/A	152.1	53.9	77.0
34. Serolod	40.9	293.4	121.6	12.7	61.4
35. Tunnels on Iron Mountain Road**	40.7	N/A	122.1	9.2	60.3
36. Ortho Mining District**	23.9	N/A	4.5	0.0	51.5
37. Highway 16A tunnel **	50.0	N/A	96.9	44.4	71.3
38. Burlington & Quincy Highline Hill City to Keystone Bridge**	36.8	N/A	97.9	1.6	52.7

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

**Refer to footnote 8 regarding modeling limitations for location points outside the ATMP planning area.

Alternative 3

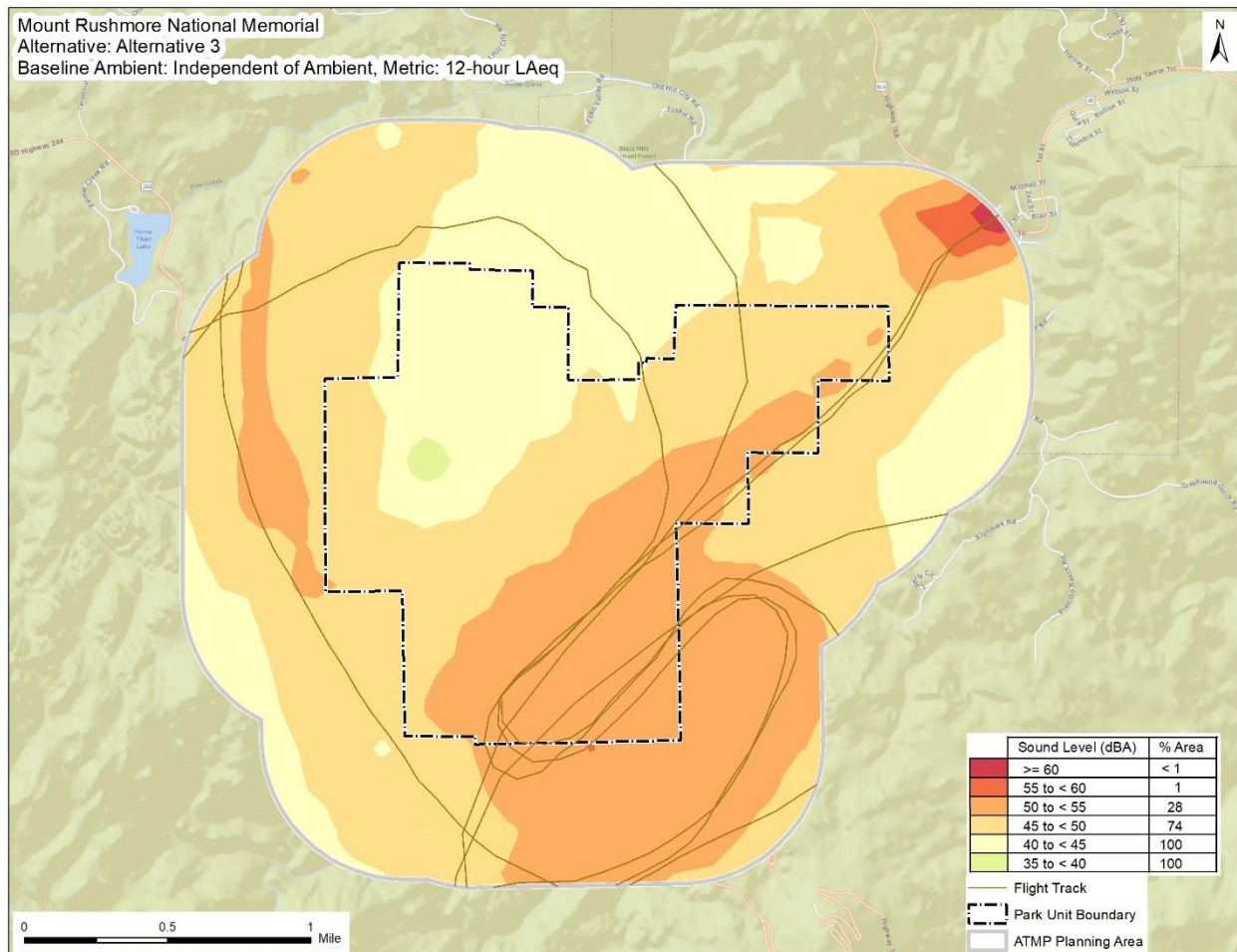


Figure 10. 12-hour Equivalent Sound Level ($L_{Aeq,12h}$) Map for Alternative 3

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

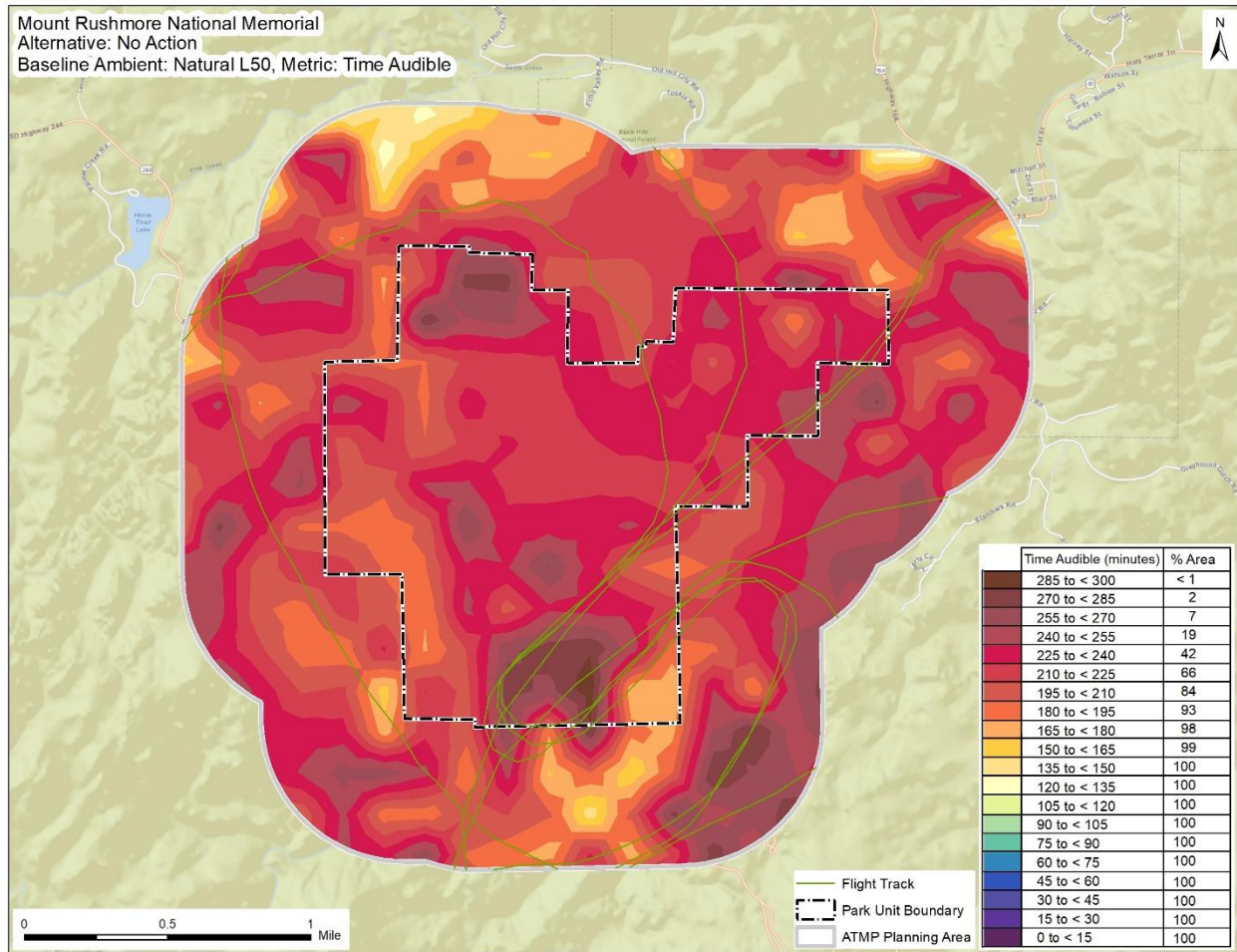


Figure 11. Time Audible (for Natural Ambient) Map for Alternative 3

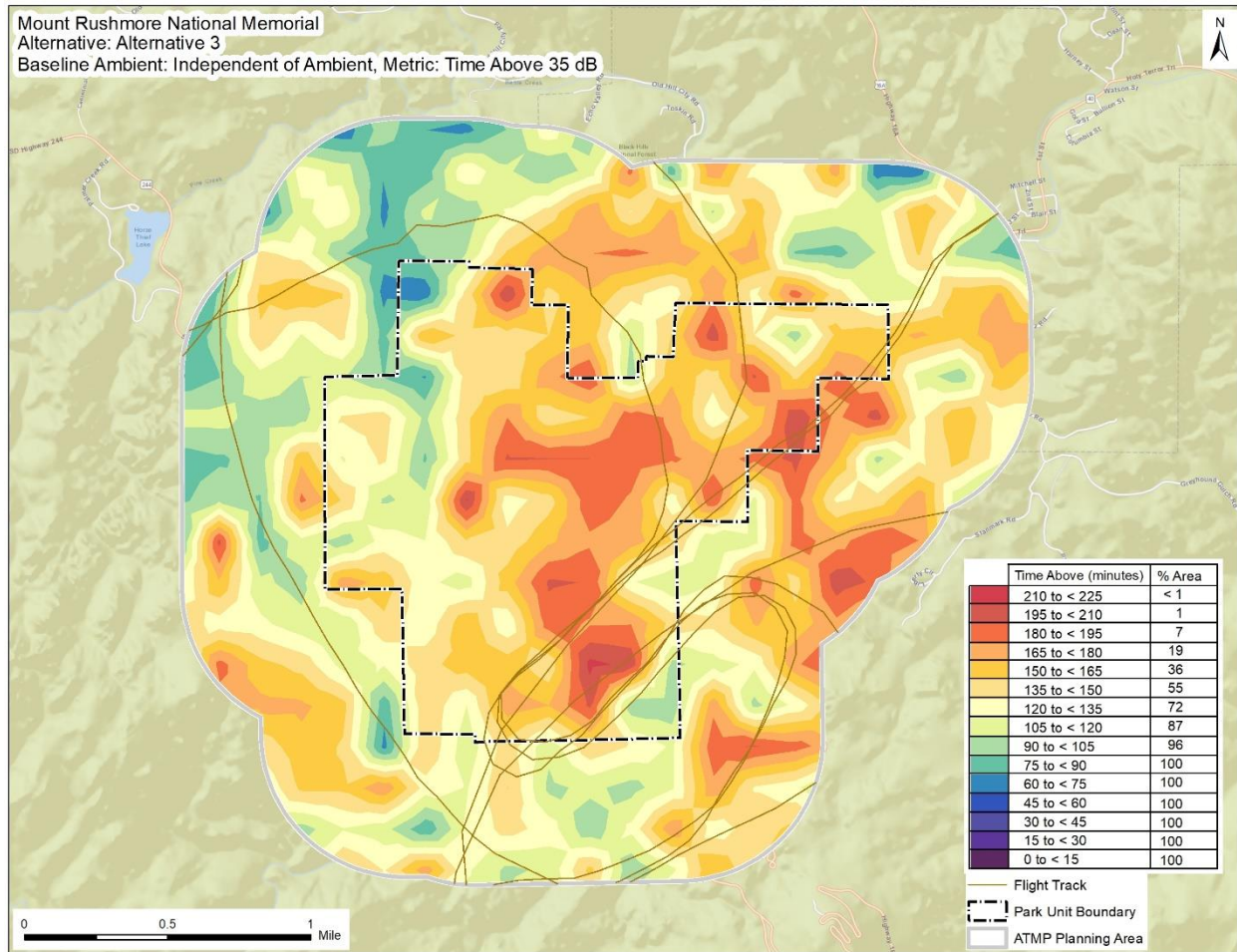


Figure 12. Time Above 35 dBA Map for Alternative 3

Table 7. Location Point Results for Alternative 3

Location	12-Hour Equivalent Sound Level (dBA)*	Time Audible for Natural Ambient (minutes)	Time Above 35 dBA (minutes)	Time Above 52 dBA (minutes)	Maximum Sound Level (dBA)
1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	48.6	239.1	158.7	32.1	69.0
2. Blackberry Trail	51.0	211.5	152.7	43.8	73.3
3. Climbing Area 1	37.8	197.2	52.7	3.9	62.6
4. Climbing Area 2	42.8	202.4	79.8	18.0	62.5
5. Climbing Area 3	43.0	206.3	131.4	20.1	62.2
6. Climbing Area 4	46.1	213.6	107.8	28.2	65.7
7. Climbing Area 5	44.9	202.1	105.9	27.8	63.6
8. Climbing Area 6	43.0	288.8	157.8	23.7	62.1
9. Private Seasonal Cabins	44.0	207.4	145.5	23.5	62.9
10. Undeveloped Park land	42.4	219.2	127.1	22.3	59.7
11. Main visitor use area	48.5	221.2	153.1	44.0	67.8
12. Youth Exploration area	47.5	247.6	136.8	41.8	66.5
13. Concession Housing	49.4	226.6	191.5	48.7	69.2
14. Undeveloped Park land-goat habitat	52.0	225.4	131.7	68.1	71.3
15. Starling Basin - goat habitat	48.2	218.5	125.7	23.1	71.7
16. Grizzly Campground	50.4	231.9	172.0	62.7	67.8
17. No name pullout	52.4	253.1	210.0	59.1	73.7
18. Old Baldy Mountain	42.4	209.8	175.9	17.8	63.5
19. Middle Marker Climbing Area	42.9	219.4	81.9	14.0	63.0
20. Old Baldy/Climbing Area	45.3	283.3	206.2	38.1	63.9
21. Chopping Block Climbing Area	43.5	216.2	107.4	15.2	64.4
22. Visitor use area	49.7	241.0	184.3	49.1	69.7
23. Presidential Trail	47.7	227.1	134.2	46.7	66.4
24. Lot 6	52.3	263.6	219.2	65.8	73.4
25. Starling Basin #2 - goat habitat	46.8	187.4	122.1	30.5	66.3
26. NPS Housing Area	48.7	225.1	185.5	41.0	68.5
27. Borglum View Terrace, Sculptor's Studio	48.6	244.8	177.7	34.6	68.8
28. Cultural Resource 1**	33.3	N/A	77.9	0.7	59.0
29. Cultural Resource 2	49.3	132.4	81.1	32.0	72.1
30. Cultural Resource 3**	28.2	N/A	13.5	0.4	60.2
31. Cultural Resource 4	44.5	240.5	188.0	23.1	64.2
32. Bridge 52-312-448	50.1	235.4	162.2	48.5	69.7
33. Keystone School**	50.5	N/A	100.4	36.1	77.0
34. Serolod	39.2	193.3	80.6	8.6	61.4
35. Tunnels on Iron Mountain Road**	38.8	N/A	80.6	5.9	60.3
36. Ortho Mining District**	22.7	N/A	3.3	0.0	51.5
37. Highway 16A tunnel **	48.3	N/A	64.7	29.6	71.3
38. Burlington & Quincy Highline Hill City to Keystone Bridge**	35.0	N/A	64.1	1.1	52.7

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

**Refer to footnote 8 regarding modeling limitations for location points outside the ATMP planning area.

Alternative 4

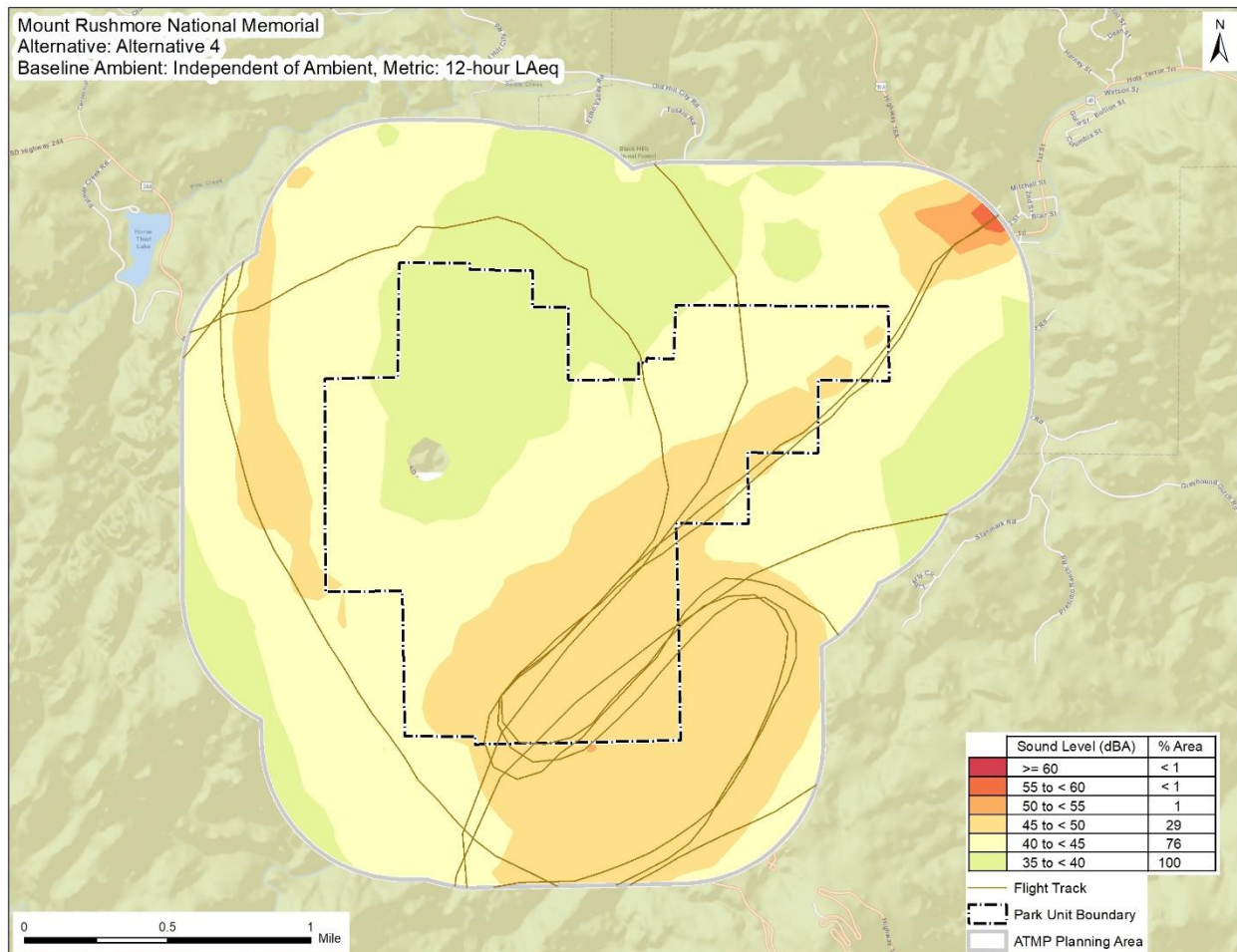


Figure 13. 12-hour Equivalent Sound Level ($L_{Aeq,12h}$) Map for Alternative 4

As there are no nighttime events, then DNL would be 3 dB less than the 12-hour equivalent sound level. If air tours are restricted to operating between 9 AM and 5 PM (i.e., 8 hours), then the 8-hour equivalent sound level would be 1.8 dBA greater than the 12-hour equivalent sound level.

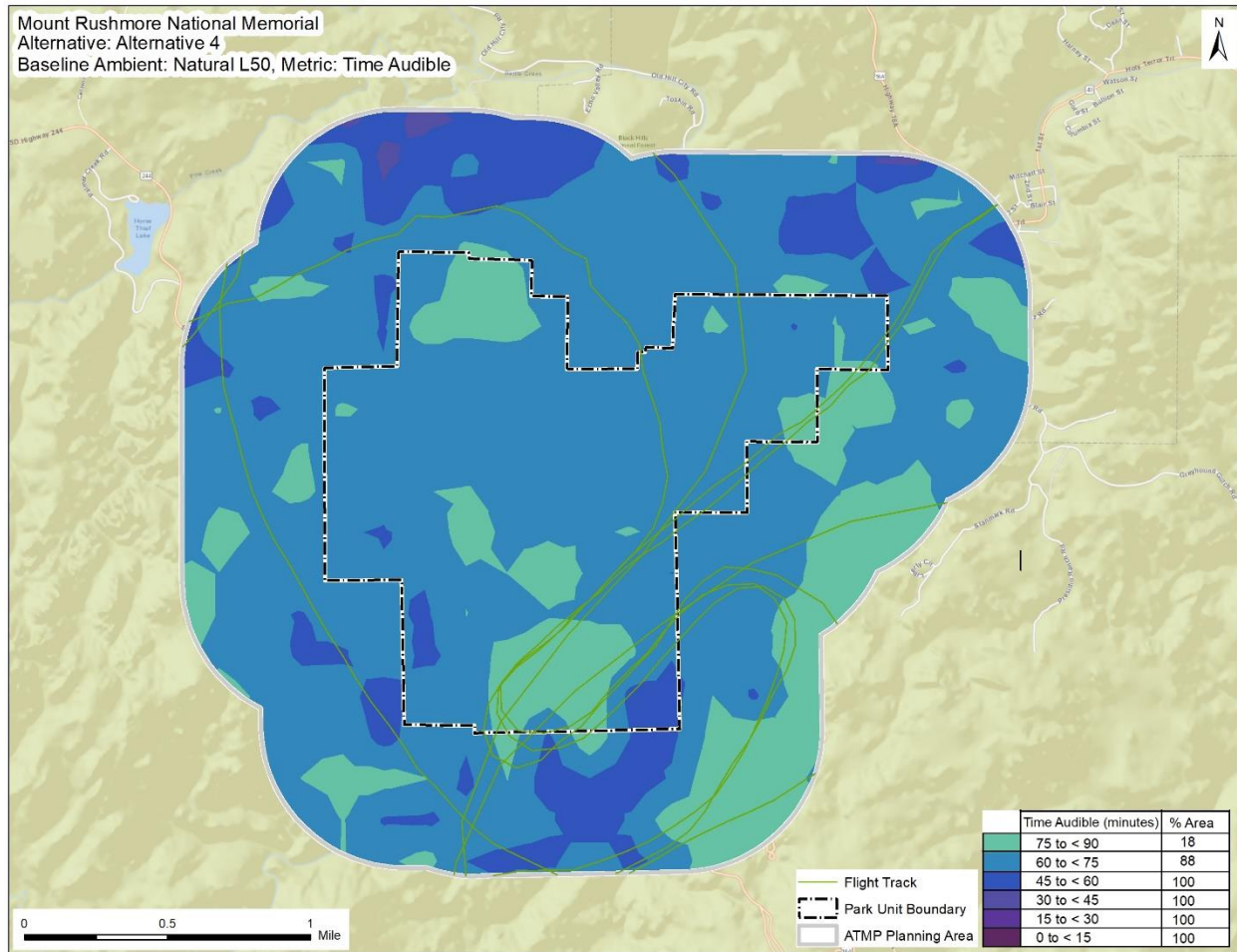


Figure 14. Time Audible (for Natural Ambient) Map for Alternative 4

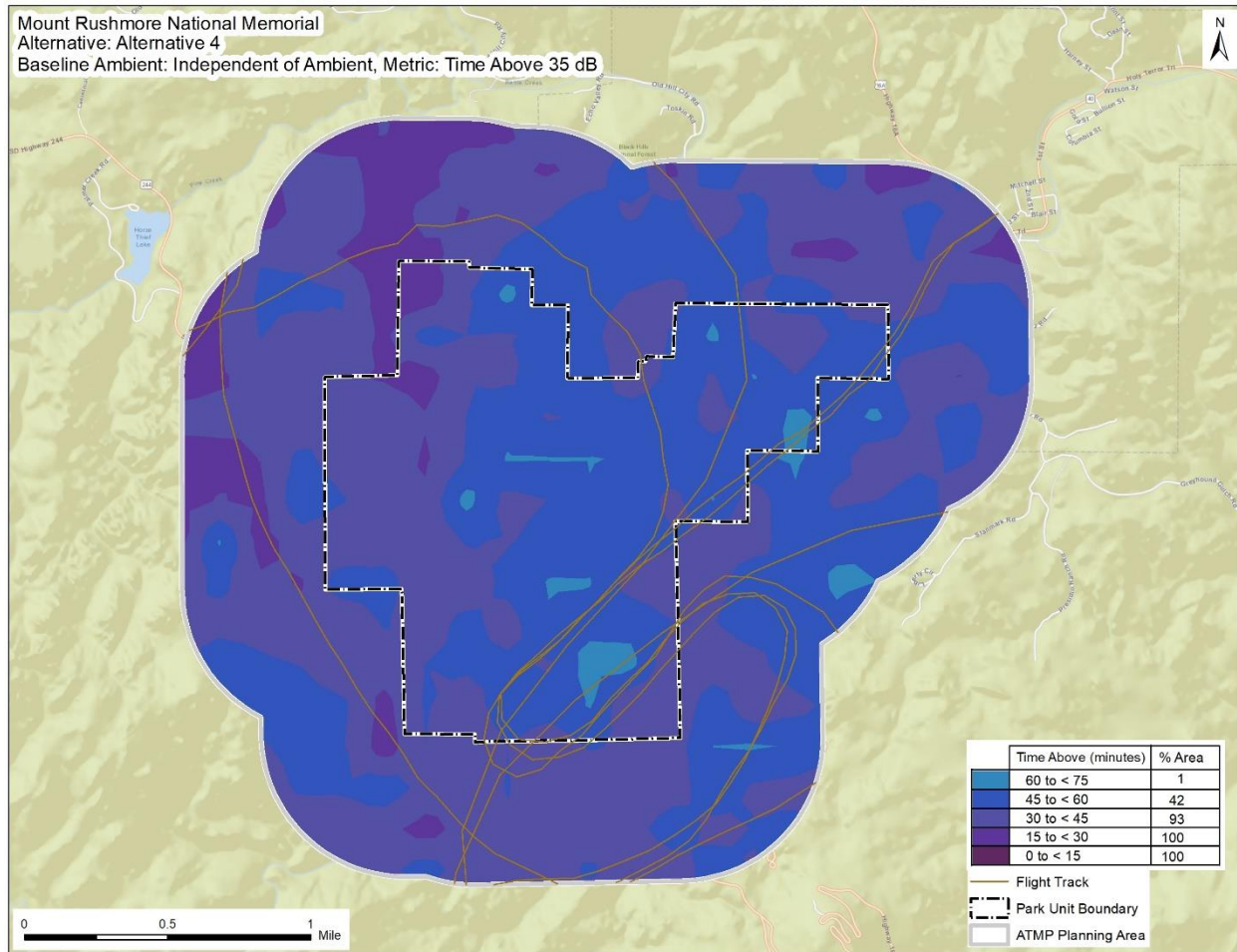


Figure 15. Time Above 35 dBA Map for Alternative 4

Table 8. Location Point Results for Alternative 4

Location	12-Hour Equivalent Sound Level (dBA)*	Time Audible for Natural Ambient (minutes)	Time Above 35 dBA (minutes)	Time Above 52 dBA (minutes)	Maximum Sound Level (dBA)
1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	43.7	74.2	49.5	10.3	69.0
2. Blackberry Trail	46.2	65.9	45.9	14.0	73.3
3. Climbing Area 1	32.9	63.0	16.6	1.3	62.6
4. Climbing Area 2	37.8	63.2	23.9	5.7	62.5
5. Climbing Area 3	38.1	65.1	41.5	6.6	62.2
6. Climbing Area 4	41.1	67.3	34.0	8.6	65.7
7. Climbing Area 5	40.0	63.7	33.5	8.9	63.6
8. Climbing Area 6	38.0	87.8	49.0	7.7	62.1
9. Private Seasonal Cabins	39.4	66.0	45.2	8.1	62.9
10. Undeveloped Park land	37.5	68.3	39.4	7.6	59.7
11. Main visitor use area	43.6	69.8	48.2	14.0	67.8
12. Youth Exploration area	42.6	76.6	42.8	13.5	66.5
13. Concession Housing	44.5	71.3	59.5	15.3	69.2
14. Undeveloped Park land-goat habitat	47.0	70.8	42.1	21.1	71.3
15. Starling Basin - goat habitat	43.4	68.3	39.8	7.9	71.7
16. Grizzly Campground	45.4	72.6	54.4	19.5	67.8
17. No name pullout	47.5	78.5	65.1	18.4	73.7
18. Old Baldy Mountain	37.6	66.6	55.2	6.3	63.5
19. Middle Marker Climbing Area	38.0	68.5	24.4	4.5	63.0
20. Old Baldy/Climbing Area	40.3	86.8	63.7	12.6	63.9
21. Chopping Block Climbing Area	38.6	68.2	33.9	5.1	64.4
22. Visitor use area	44.8	74.8	57.1	15.5	69.7
23. Presidential Trail	42.8	72.0	42.6	15.0	66.4
24. Lot 6	47.4	81.3	67.4	20.6	73.4
25. Starling Basin #2 - goat habitat	42.0	59.6	37.2	10.2	66.3
26. NPS Housing Area	43.9	70.3	57.7	13.0	68.5
27. Borglum View Terrace, Sculptor's Studio	43.7	75.7	55.2	11.1	68.8
28. Cultural Resource 1**	29.9	N/A	25.1	0.7	59.0
29. Cultural Resource 2	44.6	43.7	25.7	10.3	72.1
30. Cultural Resource 3**	26.9	N/A	6.2	0.4	60.2
31. Cultural Resource 4	39.8	74.8	57.6	7.8	64.2
32. Bridge 52-312-448	45.1	73.0	51.4	15.7	69.7
33. Keystone School**	45.3	N/A	31.2	11.3	77.0
34. Serolod	34.7	61.9	25.6	3.0	61.4
35. Tunnels on Iron Mountain Road**	34.5	N/A	27.0	2.3	60.3
36. Ortho Mining District**	20.8	N/A	2.0	0.0	51.5
37. Highway 16A tunnel **	43.2	N/A	20.7	9.1	71.3
38. Burlington & Quincy Highline Hill City to Keystone Bridge**	29.9	N/A	19.6	0.4	52.7

* As there are no nighttime events, DNL would be 3 dB less than the 12-hour equivalent sound level. If air tours are restricted to operating between 9 AM and 5 PM (i.e., 8 hours), then the 8-hour equivalent sound level would be 1.8 dBA greater than the 12-hour equivalent sound level.

**Refer to footnote 8 regarding modeling limitations for location points outside the ATMP planning area.

7. Comparison of Alternatives by Metric

This section provides tables showing the detailed noise results, organized by metric for each of the five acoustic metrics modeled. These tables allow for comparison across the alternatives. As the alternatives consider only a change in number of operations, the differences between alternatives are consistent across the ATMP planning area. High-level observations of the differences between alternatives by metric include:

- 12-hour Equivalent Sound Level (Table 9 and Table 12): Compared to existing conditions, the average sound levels under Alternatives 3 and 4 would be lower.
 - Compared to existing conditions, Alternative 3 would represent a 34% reduction in number of modeled daily operations, equivalent to a decrease of approximately 2 dBA ($L_{Aeq,12h}$). Alternative 4 would represent a 79% reduction in number of modeled daily operations, equivalent to a decrease of approximately 7 dBA ($L_{Aeq,12h}$). As there are no nighttime events, then DNL would be 3 dB less than the 12-hour equivalent sound level.
 - With the exception of a small area (less than 1% of the ATMP planning area) within the immediate vicinity of the heliport, Alternative 3 would eliminate areas with 12-hour average noise levels over 55 dBA, and Alternative 4 would eliminate areas with 12-hour average noise levels over 50 dBA.
- Time Audible Natural Ambient (Table 10 and Table 13): Compared to existing conditions, the time audible natural ambient under Alternatives 3 and 4 would be less.
 - Compared to existing conditions, under Alternative 3 the time audible number of minutes would be potentially 34% less, equivalent to 100-120 minutes at most locations. Under Alternative 4 the time audible number of minutes would be potentially 79% less, equivalent to 160-350 minutes at most locations.
- Time Above 35 (Table 11 and Table 14): Compared to existing conditions, the time above 35 dBA under Alternatives 3 and 4 would be less.
 - The time above 35 dBA under Alternative 3 would range from 28 (point 3) to 114 minutes less (point 24).
 - Under Alternative 4 the time above 35 dBA would range from 64 to 266 minutes less at these same locations.
- Time Above 52 (Table 15): Compared to existing conditions, the time above 52 dBA under Alternatives 3 and 4 would be less.
 - The time above 52 dBA under Alternative 3 would range from 2 (point 3) to 37 minutes less (point 14).
 - Under Alternative 4, the time above 52 dBA would range from 5 to 84 minutes less at these same locations.
- Maximum Sound Level (Table 16): Since this metric represents the loudest sound level, in dBA, generated by the loudest event and is independent of the number of operations, there would be no change in the maximum sound levels between alternatives.

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

12-hour Equivalent Sound Level Contour Results		% Area for No Action	% Area for Alternative 3	% Area for Alternative 4
>=60		<1	<1	<1
55 to <60		3	1	<1
50 to < 55		43	28	1
45 to < 50		94	74	29
40 to < 45		100	100	76
35 to < 40		100	100	100

Table 10. Comparison of Contour Results for Time Audible for Natural Ambient

Time Audible for Natural Ambient Contour Results		% Area for No Action	% Area for Alternative 3	% Area for Alternative 4
360 to < 480		23	0	0
345 to < 360		38	0	0
330 to < 345		56	0	0
315 to < 330		70	0	0
300 to < 315		82	0	0
285 to < 300		90	<1	0
270 to < 285		94	2	0
255 to < 270		97	7	0
240 to < 255		98	19	0
225 to <240		99	42	0
210 to < 225		100	66	0
195 to < 210		100	84	0
180 to < 195		100	93	0
165 to < 180		100	98	0
150 to < 165		100	100	0
135 to < 150		100	100	0
120 to < 135		100	100	0
105 to < 120		100	100	0
90 to < 105		100	100	0
75 to < 90		100	100	18
60 to < 75		100	100	88
45 to < 60		100	100	100
30 to < 45		100	100	100
15 to < 30		100	100	100
0 to < 15		100	100	100

Table 11. Comparison of Contour Results for Time Above 35 dBA

Time Above 35 dBA Contour Results	% Area for No Action	% Area for Alternative 3	% Area for Alternative 4
315 to < 330	70	0	0
300 to < 315	82	0	0
285 to < 300	90	0	0
270 to < 285	94	0	0
255 to < 270	97	0	0
240 to < 255	98	0	0
225 to < 240	99	0	0
210 to < 225	100	<1	0
195 to < 210	100	1	0
180 to < 195	100	7	0
165 to < 180	100	19	0
150 to < 165	100	36	0
135 to < 150	100	55	0
120 to < 135	100	72	0
105 to < 120	100	87	0
90 to < 105	100	96	0
75 to < 90	100	100	0
60 to < 75	100	100	1
45 to < 60	100	100	42
30 to < 45	100	100	93
15 to < 30	100	100	100
0 to < 15	100	100	100

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

Location	No Action	Alternative 3	Alternative 4
1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	50.5	48.6	43.7
2. Blackberry Trail	52.9	51.0	46.2
3. Climbing Area 1	39.6	37.8	32.9
4. Climbing Area 2	44.6	42.8	37.8
5. Climbing Area 3	44.8	43.0	38.1
6. Climbing Area 4	47.9	46.1	41.1
7. Climbing Area 5	46.7	44.9	40.0
8. Climbing Area 6	44.9	43.0	38.0
9. Private Seasonal Cabins	45.8	44.0	39.4
10. Undeveloped Park land	44.3	42.4	37.5
11. Main visitor use area	50.3	48.5	43.6
12. Youth Exploration area	49.3	47.5	42.6
13. Concession Housing	51.3	49.4	44.5
14. Undeveloped Park land-goat habitat	53.9	52.0	47.0
15. Starling Basin - goat habitat	50.0	48.2	43.4
16. Grizzly Campground	52.2	50.4	45.4
17. No name pullout	54.2	52.4	47.5
18. Old Baldy Mountain	44.3	42.4	37.6
19. Middle Marker Climbing Area	44.7	42.9	38.0
20. Old Baldy/Climbing Area	47.2	45.3	40.3
21. Chopping Block Climbing Area	45.3	43.5	38.6
22. Visitor use area	51.6	49.7	44.8
23. Presidential Trail	49.6	47.7	42.8
24. Lot 6	54.2	52.3	47.4
25. Starling Basin #2 - goat habitat	48.7	46.8	42.0
26. NPS Housing Area	50.5	48.7	43.9
27. Borglum View Terrace, Sculptor's Studio	50.5	48.6	43.7
28. Cultural Resource 1**	34.9	33.3	29.9
29. Cultural Resource 2	51.2	49.3	44.6
30. Cultural Resource 3**	29.0	28.2	26.9
31. Cultural Resource 4	46.3	44.5	39.8
32. Bridge 52-312-448	52.1	50.1	45.1
33. Keystone School**	52.3	50.5	45.3
34. Serolod	40.9	39.2	34.7
35. Tunnels on Iron Mountain Road**	40.7	38.8	34.5
36. Ortho Mining District**	23.9	22.7	20.8
37. Highway 16A tunnel **	50.0	48.3	43.2
38. Burlington & Quincy Highline Hill City to Keystone Bridge**	36.8	35.0	29.9

**Refer to footnote 8 regarding modeling limitations for location points outside the ATMP planning area.

Table 13. Comparison of Location Point Results for Time Audible for Natural Ambient

Location	No Action	Alternative 3	Alternative 4
1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	363.4	239.1	74.2
2. Blackberry Trail	323.2	211.5	65.9
3. Climbing Area 1	301.4	197.2	63.0
4. Climbing Area 2	308.5	202.4	63.2
5. Climbing Area 3	313.6	206.3	65.1
6. Climbing Area 4	324.3	213.6	67.3
7. Climbing Area 5	307.3	202.1	63.7
8. Climbing Area 6	439.8	288.8	87.8
9. Private Seasonal Cabins	313.8	207.4	66.0
10. Undeveloped Park land	332.9	219.2	68.3
11. Main visitor use area	335.2	221.2	69.8
12. Youth Exploration area	375.7	247.6	76.6
13. Concession Housing	343.2	226.6	71.3
14. Undeveloped Park land-goat habitat	341.7	225.4	70.8
15. Starling Basin - goat habitat	331.9	218.5	68.3
16. Grizzly Campground	351.5	231.9	72.6
17. No name pullout	384.2	253.1	78.5
18. Old Baldy Mountain	317.9	209.8	66.6
19. Middle Marker Climbing Area	334.8	219.4	68.5
20. Old Baldy/Climbing Area	431.1	283.3	86.8
21. Chopping Block Climbing Area	329.8	216.2	68.2
22. Visitor use area	366.6	241.0	74.8
23. Presidential Trail	344.6	227.1	72.0
24. Lot 6	400.5	263.6	81.3
25. Starling Basin #2 - goat habitat	286.2	187.4	59.6
26. NPS Housing Area	341.5	225.1	70.3
27. Borglum View Terrace, Sculptor's Studio	370.7	244.8	75.7
28. Cultural Resource 1**	N/A	N/A	N/A
29. Cultural Resource 2	200.1	132.4	43.7
30. Cultural Resource 3**	N/A	N/A	N/A
31. Cultural Resource 4	365.5	240.5	74.8
32. Bridge 52-312-448	357.5	235.4	73.0
33. Keystone School**	N/A	N/A	N/A
34. Serolod	293.4	193.3	61.9
35. Tunnels on Iron Mountain Road**	N/A	N/A	N/A
36. Ortho Mining District**	N/A	N/A	N/A
37. Highway 16A tunnel **	N/A	N/A	N/A
38. Burlington & Quincy Highline Hill City to Keystone Bridge**	N/A	N/A	N/A

**Refer to footnote 8 regarding modeling limitations for location points outside the ATMP planning area.

Table 14. Comparison of Location Point Results for Time Above 35 dBA

Location	No Action	Alternative 3	Alternative 4
1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	242.7	158.7	49.5
2. Blackberry Trail	235.4	152.7	45.9
3. Climbing Area 1	80.8	52.7	16.6
4. Climbing Area 2	122.5	79.8	23.9
5. Climbing Area 3	200.7	131.4	41.5
6. Climbing Area 4	165.3	107.8	34.0
7. Climbing Area 5	162.1	105.9	33.5
8. Climbing Area 6	241.4	157.8	49.0
9. Private Seasonal Cabins	221.3	145.5	45.2
10. Undeveloped Park land	194.9	127.1	39.4
11. Main visitor use area	233.0	153.1	48.2
12. Youth Exploration area	208.5	136.8	42.8
13. Concession Housing	290.8	191.5	59.5
14. Undeveloped Park land-goat habitat	200.5	131.7	42.1
15. Starling Basin - goat habitat	191.5	125.7	39.8
16. Grizzly Campground	261.1	172.0	54.4
17. No name pullout	319.0	210.0	65.1
18. Old Baldy Mountain	267.0	175.9	55.2
19. Middle Marker Climbing Area	126.0	81.9	24.4
20. Old Baldy/Climbing Area	313.8	206.2	63.7
21. Chopping Block Climbing Area	165.3	107.4	33.9
22. Visitor use area	281.2	184.3	57.1
23. Presidential Trail	204.3	134.2	42.6
24. Lot 6	333.2	219.2	67.4
25. Starling Basin #2 - goat habitat	188.1	122.1	37.2
26. NPS Housing Area	282.0	185.5	57.7
27. Borglum View Terrace, Sculptor's Studio	270.0	177.7	55.2
28. Cultural Resource 1**	119.9	77.9	25.1
29. Cultural Resource 2	123.4	81.1	25.7
30. Cultural Resource 3**	20.1	13.5	6.2
31. Cultural Resource 4	286.9	188.0	57.6
32. Bridge 52-312-448	246.9	162.2	51.4
33. Keystone School**	152.1	100.4	31.2
34. Serolod	121.6	80.6	25.6
35. Tunnels on Iron Mountain Road**	122.1	80.6	27.0
36. Ortho Mining District**	4.5	3.3	2.0
37. Highway 16A tunnel **	96.9	64.7	20.7
38. Burlington & Quincy Highline Hill City to Keystone Bridge**	97.9	64.1	19.6

**Refer to footnote 8 regarding modeling limitations for location points outside the ATMP planning area.

Table 15. Comparison of Location Point Results for Time Above 52 dBA

Location	No Action	Alternative 3	Alternative 4
1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	49.4	32.1	10.3
2. Blackberry Trail	66.9	43.8	14.0
3. Climbing Area 1	5.8	3.9	1.3
4. Climbing Area 2	27.6	18.0	5.7
5. Climbing Area 3	30.9	20.1	6.6
6. Climbing Area 4	43.3	28.2	8.6
7. Climbing Area 5	42.7	27.8	8.9
8. Climbing Area 6	36.7	23.7	7.7
9. Private Seasonal Cabins	35.9	23.5	8.1
10. Undeveloped Park land	34.6	22.3	7.6
11. Main visitor use area	67.4	44.0	14.0
12. Youth Exploration area	64.0	41.8	13.5
13. Concession Housing	74.8	48.7	15.3
14. Undeveloped Park land-goat habitat	104.9	68.1	21.1
15. Starling Basin - goat habitat	35.0	23.1	7.9
16. Grizzly Campground	96.2	62.7	19.5
17. No name pullout	90.8	59.1	18.4
18. Old Baldy Mountain	27.5	17.8	6.3
19. Middle Marker Climbing Area	21.2	14.0	4.5
20. Old Baldy/Climbing Area	58.4	38.1	12.6
21. Chopping Block Climbing Area	23.1	15.2	5.1
22. Visitor use area	75.3	49.1	15.5
23. Presidential Trail	71.7	46.7	15.0
24. Lot 6	101.1	65.8	20.6
25. Starling Basin #2 - goat habitat	46.5	30.5	10.2
26. NPS Housing Area	62.8	41.0	13.0
27. Borglum View Terrace, Sculptor's Studio	53.1	34.6	11.1
28. Cultural Resource 1**	0.7	0.7	0.7
29. Cultural Resource 2	48.8	32.0	10.3
30. Cultural Resource 3**	0.4	0.4	0.4
31. Cultural Resource 4	35.7	23.1	7.8
32. Bridge 52-312-448	74.4	48.5	15.7
33. Keystone School**	53.9	36.1	11.3
34. Serolod	12.7	8.6	3.0
35. Tunnels on Iron Mountain Road**	9.2	5.9	2.3
36. Ortho Mining District**	0.0	0.0	0.0
37. Highway 16A tunnel **	44.4	29.6	9.1
38. Burlington & Quincy Highline Hill City to Keystone Bridge**	1.6	1.1	0.4

**Refer to footnote 8 regarding modeling limitations for location points outside the ATMP planning area.

Table 16. Comparison of Location Point Results for Maximum Sound Level

Location	No Action	Alternative 3	Alternative 4
1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	69.0	69.0	69.0
2. Blackberry Trail	73.3	73.3	73.3
3. Climbing Area 1	62.6	62.6	62.6
4. Climbing Area 2	62.5	62.5	62.5
5. Climbing Area 3	62.2	62.2	62.2
6. Climbing Area 4	65.7	65.7	65.7
7. Climbing Area 5	63.6	63.6	63.6
8. Climbing Area 6	62.1	62.1	62.1
9. Private Seasonal Cabins	62.9	62.9	62.9
10. Undeveloped Park land	59.7	59.7	59.7
11. Main visitor use area	67.8	67.8	67.8
12. Youth Exploration area	66.5	66.5	66.5
13. Concession Housing	69.2	69.2	69.2
14. Undeveloped Park land-goat habitat	71.3	71.3	71.3
15. Starling Basin - goat habitat	71.7	71.7	71.7
16. Grizzly Campground	67.8	67.8	67.8
17. No name pullout	73.7	73.7	73.7
18. Old Baldy Mountain	63.5	63.5	63.5
19. Middle Marker Climbing Area	63.0	63.0	63.0
20. Old Baldy/Climbing Area	63.9	63.9	63.9
21. Chopping Block Climbing Area	64.4	64.4	64.4
22. Visitor use area	69.7	69.7	69.7
23. Presidential Trail	66.4	66.4	66.4
24. Lot 6	73.4	73.4	73.4
25. Starling Basin #2 - goat habitat	66.3	66.3	66.3
26. NPS Housing Area	68.5	68.5	68.5
27. Borglum View Terrace, Sculptor's Studio	68.8	68.8	68.8
28. Cultural Resource 1**	59.0	59.0	59.0
29. Cultural Resource 2	72.1	72.1	72.1
30. Cultural Resource 3**	60.2	60.2	60.2
31. Cultural Resource 4	64.2	64.2	64.2
32. Bridge 52-312-448	69.7	69.7	69.7
33. Keystone School**	77.0	77.0	77.0
34. Serolod	61.4	61.4	61.4
35. Tunnels on Iron Mountain Road**	60.3	60.3	60.3
36. Ortho Mining District**	51.5	51.5	51.5
37. Highway 16A tunnel **	71.3	71.3	71.3
38. Burlington & Quincy Highline Hill City to Keystone Bridge**	52.7	52.7	52.7

**Refer to footnote 8 regarding modeling limitations for location points outside the ATMP planning area.

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

For alternatives that limit the number of flights per year to a level below existing conditions (3,914 flights per year), it is reasonably foreseeable that air tour operators could seek to make up lost revenue 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. An unknown number of air tours may continue to fly more than ½-mile outside of the Park's boundary, or over the ATMP planning area at or above 5,000 feet (ft.) above ground level (AGL). This type of shift in air tour activity is referred to as "air tour displacement". This could result in impacts to resources to the extent that they are present near the locations where displaced air tours would occur.

Indirect Effects to ATMP Planning Area

Displaced air tours, if any, above the ATMP planning area (at or above 5,000 ft. AGL) could 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, 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. 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.

Air tours could also fly just outside of the ATMP planning area. Noise from air tours in this case would still likely reach the Park, however, the noise would be less intense.

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 unlikely that displaced air tours would generate noise at or above DNL 65 dB. To illustrate this, a conservative, screening-level noise analysis was conducted. The analysis considers the air tour aircraft types currently operating at the Park, and assesses the activity threshold that would generate a noise at or above DNL 65 dB. For the purposes of this illustration only, the analysis assumes a hypothetical, worst-case scenario where all operations occur at a low altitude (500 ft. AGL for helicopters and 1,000 ft. AGL for fixed-wing aircraft) on a common route outside the ATMP planning area. The noise analysis considers aircraft activity in two ways:

- For the aircraft type with the loudest noise level, what is the daily 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 PMAD, what is the daily activity level that would generate a noise level at or above DNL 65 dB?

Analysis for Aircraft with Loudest Noise Level

The aircraft with the loudest noise level⁸ currently operating at the Park is the Robinson R-44. For overflight operations at 500 ft. AGL, the number of operations over a 12-hour period to exceed DNL 65 dB is 1,086 (see Table 17). Other aircraft operating at the Park are the Cessna 206. The number of daily operations to exceed a DNL 65 dB level for this aircraft is 1,306.

Table 17. Overflight Sound Exposure Levels and Number of Daily Flights of Each Aircraft Type that Would Generate a Cumulative Noise Exposure Level at or Above DNL 65 dB

Aircraft	Altitude, AGL (ft.)	Overflight Sound Exposure Level (dB)	# Daily Flights for DNL to Exceed 65 dB
Robinson R-44	500	84.0	1,086
Cessna 206	1,000	83.2	1,306

Analysis for the Aircraft Types and Fleet Mix Distribution within the 2017-2019 Reporting Data

This analysis compares the number of PMAD and peak day operations, since they could occur outside the ATMP planning area as a result of Alternatives 2, 3 and 4, to the number of daily flights it would take to exceed DNL 65 dB. Based on the fleet mix assessed for the PMAD, it would take at least 1,093 daily operations at low altitude to exceed a DNL 65 dB level (see Table 18). This activity level represents an increase in daily operations of 1,055 compared to the current PMAD (38 operations). This indicates that it would be highly unlikely that air tours that are displaced to outside the ATMP planning area under these alternatives would generate noise at or above DNL 65 dB.

Table 18. Number of Daily Flights of Each Aircraft Type that Would Generate a Cumulative Noise Exposure Level at or Above DNL 65 dB for the Aircraft Types and Fleet Mix Distribution within the 2017-2019 PMAD

Aircraft	Altitude, AGL (ft)	Overflight Sound Exposure Level (dB)	# Daily Flights in 2017-2019 PMAD	2017-2019 PMAD Fleet Distribution %	# daily Flights for DNL to Exceed 65 dB
Robinson R-44	500	84.0	37	97.4%	1,064
Cessna 206	1,000	83.2	1	2.6%	29
Total			18	100%	1,093

⁸ The determination of loudest is based on the aircraft with the highest overflight sound exposure level within the noise-power-distance data that form the basis of FAA's AEDT. Sound exposure level describes the cumulative noise exposure from a single overflight. It is represented by the total A-weighted sound energy during the overflight, normalized to a 1-second interval.

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APPENDIX G

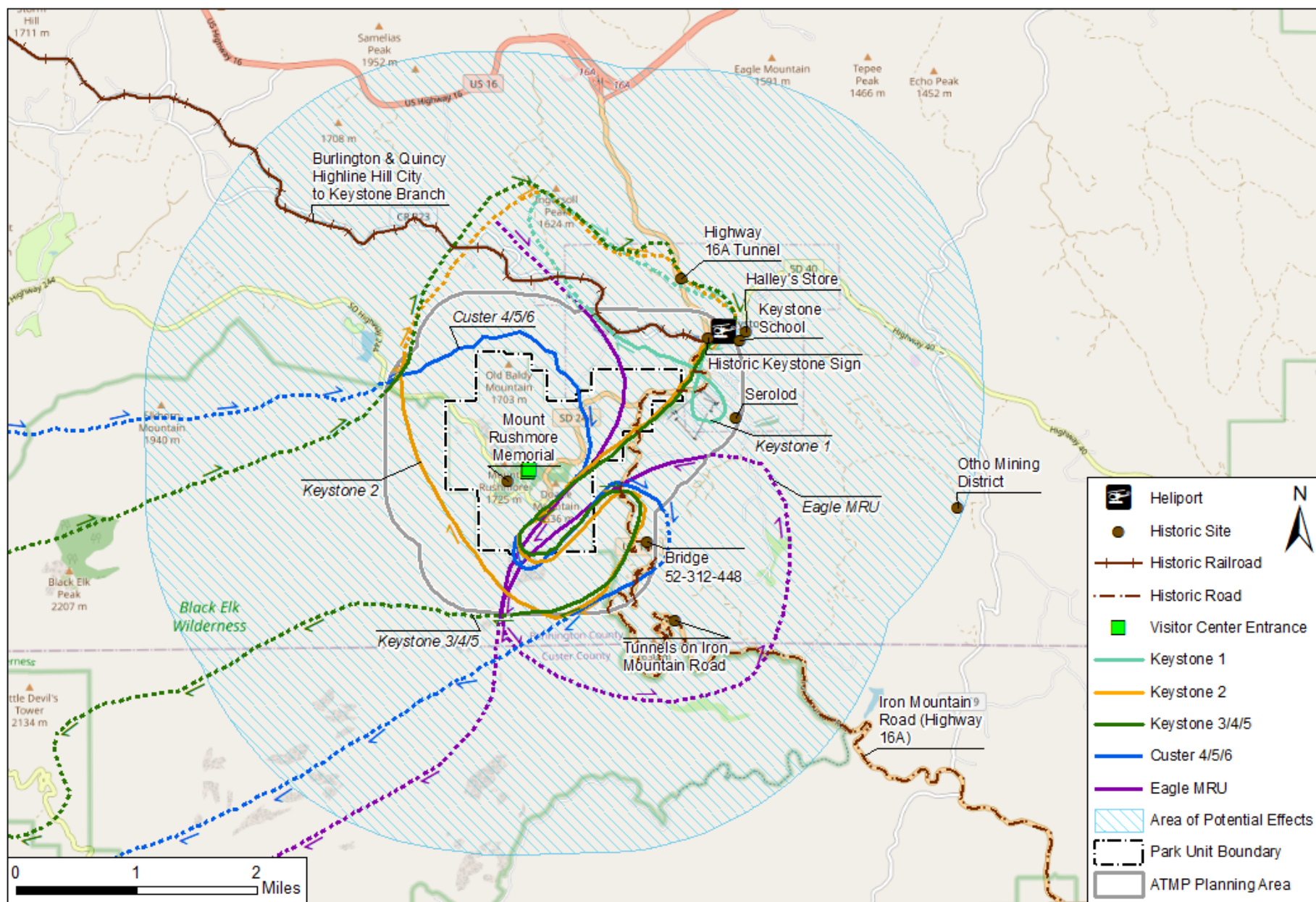
Cultural Resources Consultation and Summary

Appendix G: Cultural Resources Consultation and Summary

Historic Property List

Section 106 Consultation Correspondence

Area of Potential Effects with Historic Properties for ATMP at Mount Rushmore National Memorial



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

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
Black Hills	TCP	Recommended Eligible/undetermined ¹	Black Hills	The Black Hills, including Badlands National Park and Mount Rushmore National Memorial, are part of a continuous landscape that is sacred, which includes plants, animals, the sky, and other natural resources. The landscape is considered a TCP by many tribes.
Mount Rushmore Developed Area	Structures	Listed	Within the Park	See Mount Rushmore Memorial.
Mount Rushmore Memorial	Site	Listed	Within the Park	Mount Rushmore National Memorial, established October 1, 1925, is near the center summit of the Black Hills in SW South Dakota. The sculpture, known as the Shrine of Democracy, is carved into the SW face of Mount Rushmore, a solid granite ridge in the Harney Range. Areas of significance include: 1) illustration of an important theme in our nation's history; 2) association with the lives of four presidents represented; 3) represents the work of a master and possesses artistic value. It is also significant as an example of American cultural values. The presidents typify the ideals, attitudes, values, dreams, and spirit of Americans.
Burlington & Quincy Highline Hill City to Keystone Br.	District	Eligible	Sections are within the Park	The property is significant as a reflection of the growth and operational pattern of the Burlington and Quincy railroad. This spur line demonstrates how the railroad served and influenced the towns of Hill City and Keystone. The Burlington and Quincy High Line Hill City to Keystone Branch is also significant as an excellent example of early railway design, engineering, and architecture.
Bridge 52-312-448	Structure	Eligible	Outside the Park	Bridge integrity has been diminished slightly with removal of one wingwall. The structure also has some condition

¹ For the purposes of Section 106, the FAA is treating identified but unevaluated properties as eligible for the National Register of Historic Places.

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
				problems. Nevertheless, it has been selected as a National Register-eligible representation of the steel stringer bridge type, in large part because of its position on a pigtail section of U.S. Highway 16A.
Hwy 16A tunnel	Structure	Eligible	Outside the Park	See Iron Mountain Road (Highway 16A).
Iron Mountain Road (Highway 16A)	Structure	Eligible	Sections are within the Park	After receiving presidential support for the Mount Rushmore monument in 1929, Peter Norbeck turned his attention to the construction of a scenic road between the Game Lodge and Mount Rushmore. Iron Mountain Road was completed in 1932. The two-lane section between Mount Rushmore and Custer State Park becomes divided into two single lanes twice to minimize the cutting of rock, preserving the forest and mountain scenery. He designed the road over a picturesque route so that the presidential figures could be seen from several different aspects.
Tunnels on Iron Mountain Road	Structure	Eligible	Outside the Park	See Iron Mountain Road (Highway 16A).
Serolod	Structure	Eligible	Outside the Park	An example of single-family resort architecture in South Dakota. The house was constructed by local craftsmen, who also worked on several fine resort buildings in the area. Devastated by a flood in the early 1970's, the community of Keystone has few remaining early houses, and this structure is the best example of post-World War I architecture. The log construction technique employs stripped, unhewn logs joined with a saddle notch. Referred to as a Lincoln Log building, ends of the logs are sawn, the tapering crowns extend beyond the corner, a low-pitched roof extends beyond the wall in a wide eave both as an arts and crafts/Prairie School/Western Stick style feature and to protect the crown ends.
Keystone School	Structure	Eligible	Outside the Park	Significant in the areas of education and architecture. An example of a frame rural school at the turn of the century. .

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
				The school, which dominates the town from its hillside position, is unusually large for schools of its day.
Halley's Store	Structure	Eligible	Outside the Park	The buildings are significant in the areas of commerce and vernacular architecture, the Keystone Trading Company Store is indirectly significant to industry as well. As a well-preserved example of a gable-end, one-story country store, the building was one of the two general merchandising stores serving the town. In addition, the store served as the company store for the mining operations.
Historic Keystone Sign	Object	Eligible	Outside the Park	The Historic Keystone sign likely built c.1968 is eligible for listing in the National Register for its significance within the history of tourism development. The sign was a local effort for roadside wayfinding and economic promotion, demonstrating the trends of postwar tourist development in Black Hills towns, also indicated, and spurred, by the Mission 66 improvements to Mount Rushmore National Memorial and the 1967-1968 construction of the Keystone Wye bridge. The stone veneer and unpainted vertical wood boards used in the design of the sign also demonstrate period trends in tourist construction in the Black Hills to use natural materials of the region.
39CU3069*	Site – Rock Shelter	Eligible	Outside the Park	Historic artifacts related to Native American protestors who occupied the site during two brief periods in 1970 and 1971. This archaeological site may be considered TCP by some because of its association with the events related to Native American occupation of Mount Rushmore Memorial.
39PN3239*	Site	Eligible	Outside the Park	Rock Shelter
39CU3873*	Site	Eligible	Outside the Park	Mine

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
Scott Family Summer Cabin (also known as Lafferty Gulch Summer Home)*	Structure	Eligible	Outside the Park	The Scott Family Summer Cabin is eligible for the National Register for its association with Depression-era recreation in the Black Hills, as well as the Federal Government's policy of encouraging private recreational developments on public lands from the mid-1930s to the early 1940s.
Otho Mining District	District	Eligible	Outside the Park	The Otho Mining District was a small rural mining community. It is eligible for the National Register because it represents a period of time when mining in the Black Hills was drawing people into the area from all over the United States. It was the mining of various rich mineral deposits in the area including gold, silver, tin, feldspar and beryl that attracted both national and international speculators to invest millions of dollars into the economy of the Keystone area communities including Otho. Until 1882, the United States imported all the tin we used. Some of the mines in the Keystone area, including Otho, produced tin; reducing the Nation's dependence on imports. Otho's open and undeveloped space offers an unspoiled glimpse at how and where the prospectors tested an area for minerals and how the later full scale mining developed. The landscape that surrounds it is pocked with prospectors test holes, cuts and trenches, mine tunnels and shafts, and milling foundations. This area provides a rare opportunity to see how these features tie together to generate a cohesive picture of turn of the century mining practices.

*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



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

April 12, 2021

Re: Initiation of consultation under Section 106 of the National Historic Preservation Act for the development of Air Tour Management Plans for Badlands National Park and Mount Rushmore National Memorial

Ted Spencer
State Historic Preservation Officer
Cultural Heritage Center
900 Governors Drive
Pierre, SD 57501

Dear Mr. Spencer:

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 Badlands National Park and Mount Rushmore National Memorial. 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

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/

assessed individually under Section 106 and NEPA. We look forward to meaningful consultation on the air tours and their overall effect on historic properties.

There will be no ground disturbance, construction or demolition associated with this undertaking. Air tours have been operating in Badlands National Park and Mount Rushmore National Memorial 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:

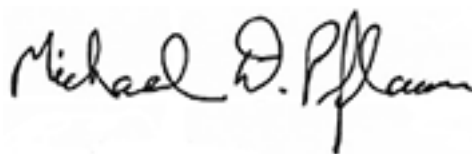
https://www.faa.gov/about/office_org/headquarters_offices/arc/programs/air_tour_management_plan/. During the next phase of consultation, we will seek your input regarding the Area of Potential Effect and the identification of historic properties.

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,



Rebecca MacPherson
Regional Administrator
Great Lakes Region
Federal Aviation Administration



Michael Pflaum
Superintendent
Badlands National Park
National Park Service



Michelle Wheatley
Superintendent
Mount Rushmore National Memorial
National Park Service

Attachment A: List of Tribes

ATTACHMENT A
TRIBAL CONSULTATION LIST

Tribe
Apache Tribe of Oklahoma
Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation
Cheyenne and Arapaho Tribes of Oklahoma
Cheyenne River Sioux Tribe (of the Cheyenne River Reservation, South Dakota)
Crow Creek Sioux Tribe (of the Crow Creek Reservation, South Dakota)
Crow Tribe of Montana
Eastern Shoshone Tribe of the Wind River Reservation, Wyoming
Flandreau Santee Sioux Tribe of South Dakota
Fort Belknap Indian Community of the Fort Belknap Reservation
Kiowa Indian Tribe of Oklahoma
Lower Brule Sioux Tribe of the Lower Brule Reservation
Northern Arapaho Tribe of the Wind River Reservation, WY
Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation
Oglala Lakota Nation
Omaha Tribe of Nebraska
Ponca Tribe of Nebraska
Rosebud Sioux Tribe of the Rosebud Indian Reservation
Santee Sioux Nation, Nebraska
Sisseton-Wahpeton Oyate of the Lake Traverse Reservation
Spirit Lake Tribe
Standing Rock Sioux Tribe of North & South Dakota
Three Affiliated Tribes of the Berthold Reservation, North Dakota (Mandan, Hidatsa and Arikara Nation)
Turtle Mountain Band of Chippewa Indians of North Dakota
Upper Sioux Community, Minnesota
Winnebago Tribe of Nebraska
Yankton Sioux Tribe of South Dakota



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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

October 28, 2022

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

Ted Spencer
State Historic Preservation Officer
Cultural Heritage Center
900 Governors Drive
Pierre, SD 57501

Dear Mr. Spencer:

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) for Mount Rushmore National Memorial (Mount Rushmore or Park). The FAA initiated consultation with your office by letter dated April 12, 2021.

This letter presents a description of the alternatives being considered for the ATMP. The ATMP will become the proposed undertaking in accordance with 36 CFR 800.3(a) and 800.16(y). This letter will also describe the proposed Area of Potential Effects (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

Consistent with the National Parks Air Tour Management Act of 2000 (Act), the proposed ATMP would regulate commercial air tours over the Park or within a half-mile outside the boundary of the Park. Further background information regarding the history of commercial air tours over the Park, the authority under which they are currently conducted, and the area to be regulated under the ATMP is available in the September 2022 Scoping Newsletter, prepared by the FAA and the NPS (together, the agencies), that was previously provided to your office and is available at the following link:

<https://parkplanning.nps.gov/document.cfm?parkID=152&projectID=97377&documentID=123303>

The agencies have documented the existing conditions for commercial air tour operations over the Park. Two commercial air tour operators currently conduct tours over the Park: Dakota Rotors LCC (Dakota Rotors) and Eagle Aviation, Inc. (Eagle Aviation). There is a third operator, Black Hills Helicopters and Charters, that also conducts air tours over the Black Hills region. This operator is not currently authorized to conduct air tours over the Park or outside the Park but within ½ mile of its boundary, but does circle just outside of the Park (approximately ½ mile to 1 mile). The number of air tours conducted by this operator are unknown, as there are no reporting requirements for air tour activity more than ½ mile outside the Park's boundary.

The agencies consider the existing operations for commercial air tours to be an average of 2017-2019 annual air tours flown, which is 3,914 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. Under existing conditions, commercial air tours over the Park are conducted using both fixed wing aircraft: CE-172-N and CE-206-U206F, and helicopters: BHT-206-B, BHT-47-47, BHT-47-G3B1, R-44- II, and R-66-66. The average number of air tours conducted on an annual basis from 2017-2019 for Dakota Rotors is 3,905 air tours and 9 for Eagle Aviation. The helicopter operator (Dakota Rotors) accounts for the vast majority of the tours. The fixed-wing operator (Eagle Aviation) flew 19 tours in 2017, 6 in 2018, and 2 in 2019. Reported minimum altitudes range from 900 ft. AGL to 1,400 ft. AGL¹, depending on operator.

Air tours are offered on five different routes, though under current conditions the operators are not required to fly on any particular route and could change their routes without notice to the agencies. Air tours that fly over the Park to view the sculpture generally keep a minimum standoff distance of approximately 2,600 feet (ft.) from the sculpture and approximately 1,500 ft. from the amphitheater for viewing the sculpture, though there is currently no requirement for them to do so. Existing routes are depicted in **Attachment A**. Air tours are offered seasonally, primarily occurring May through October and typically peaking in July. Monthly reported data does reveal a trend of the concentration of flights in the summer months.

The proposed ATMP would authorize or prohibit commercial air tour operations over the Park in accordance with the conditions included in the selected alternative. The FAA and the NPS are working to select a preferred alternative for the ATMP, which will be the proposed undertaking. The current draft alternatives are shown in the table below and a summary of the elements in each alternative being considered can be found in **Attachment B**.

¹ Altitude expressed in units above ground level 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.

Potential Undertakings

Alternative 2- No Air Tours in the Planning Area ²
Alternative 3 – Daily Cap of 25 Air Tours During the Operating Season with Additional Modifications
Alternative 4 – Daily Cap of 13 Air Tours During the Operating Season with Additional Modifications

The agencies have decided to comply with the Act by developing an ATMP for the Park. Alternative 2 would prohibit any commercial air tours from operating within the ATMP planning area. The other two alternatives being considered for selection for the Park ATMP (Alternatives 3 and 4) are detailed with specificity in **Attachment B** and generally incorporate some or all of the following:

- Annual and daily number of flights.
- Air tours would be conducted along designated routes.
- Aircraft types used for commercial air tours would be designated and any new or replacement aircraft could not exceed the noise level produced by the aircraft being replaced.
- Minimum Altitudes: The range of altitudes examined in the alternatives will be from 900 ft. AGL to 1,400 ft. AGL.
- Time of day restrictions and seasonal restrictions.
- Incentives for quiet technology aircraft.
- A process for the NPS to establish temporary no-fly periods that apply to air tours for special events or planned Park management. Events could 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.
- Operators would be encouraged to take one training course per year conducted by NPS staff that will include the terms and conditions of the ATMP as well as Park, tribal, and historical resource information for operators to use to enhance interpretive narratives for air tour clients and increase understanding of parks by air tour clients.
- At the request of either of the agencies, the Park staff, or the local FAA Flight Standards District Office (FSDO), all operators would meet once per year to discuss the implementation of the ATMP. This proposed annual meeting could be conducted in conjunction with the required annual training.

Proposed Area of Potential Effects

The APE as defined at 36 CFR 800.16(d) is the geographic area or 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,

² Under the Act and its implementing regulations, an ATMP regulates commercial air tours over a national park or outside the park but within 1/2 mile of its boundary during which the aircraft flies below 5,000 ft. AGL. This is referred to as the ATMP planning area.

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.³

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 that may take place under the selectable draft alternatives, including those over the Park or those that are reasonably foreseeable to take place adjacent to the ATMP area. 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 (National Register).

The FAA proposes an APE comprising the Park plus 2 ½ miles outside the boundary of the Park, as depicted in **Attachment A** below. The APE may be refined depending on the preferred alternative.

Preliminary Historic Property Identification

The FAA, in cooperation with 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, 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). As such, the historic property identification effort has focused on properties for which setting and feeling are characteristics contributing to the property's National Register 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.

The agencies have invited 26 tribes to participate in the consultation process for Badlands National Park, Mount Rushmore, or both parks. The agencies recognize that these tribes have a long-standing and deeply rooted association with the landscape that encompasses these National Park System lands, which include numerous sites of religious and cultural significance. The agencies have held various meetings to begin discussing ATMP planning, the range of alternatives, and Section 106 consultation. Tribal meetings were held on March 30, 2021, July 23, 2021, September 9, 2021, October 19, 2021, January 28, 2022 and May 12, 2022 for both Badlands National Park and Mount Rushmore. At these meetings, the FAA heard from the Fort Peck Assiniboine and Sioux Tribes, Santee Sioux Nation, Upper Sioux Community, Rosebud Sioux Tribe, Cheyenne River Sioux Tribe, and others that the Black Hills, including Mount Rushmore, are part of a continuous landscape that is sacred. The landscape is considered a TCP by many tribes.

The FAA, with assistance from NPS Park staff, the NPS Midwest Archeological Center, the US Forest Service Black Hills National Forest, the South Dakota State Historic Preservation Office's CR GRID database, and the South Dakota Archaeological Research Center, has identified 16 historic properties within the APE for which feeling and setting are characteristics that make the properties eligible for listing on the National Register. Historic properties with unrestricted locations are shown in the

³ The term historic property is defined in 54 U.S.C. 300308 and 36 CFR 800.16(l)(1).

proposed APE map provided in **Attachment A**. All historic properties mentioned above are listed in **Attachment C**.

Preliminary Effects Assessment

The FAA anticipates the proposed undertaking would have no physical effects to historic properties. However, the FAA recognizes that for certain types of historic properties, including those where the property's setting contributes to its historic significance or where the introduction of visual, atmospheric, or audible elements could diminish the integrity of a property's significant historic features, air tour operations could result in non-physical effects. The FAA seeks the expertise of consulting parties to identify properties that could be thus impacted.

Review Request

The FAA requests that you provide any comments you may have regarding the proposed APE and initial identification of historic properties. In particular, we would appreciate your views regarding the characteristics of historic properties, and any information you might have that would help us to identify additional properties for which setting or feeling is a significant characteristic. Should you wish to receive additional information regarding this undertaking, 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.

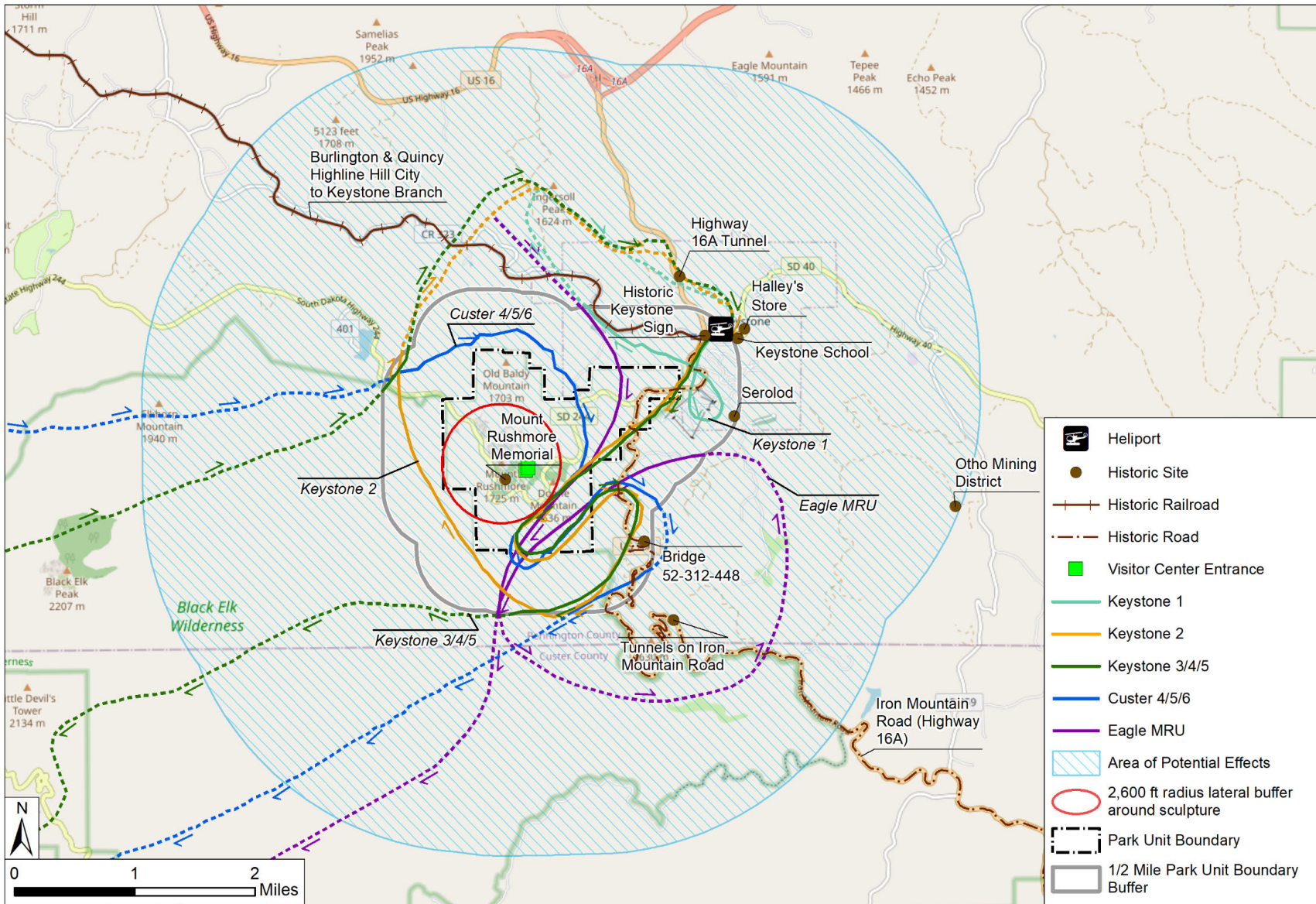
Judith Walker
Federal Preservation Officer
Senior Environmental Policy Analyst
Environmental Policy Division (AEE-400)
Federal Aviation Administration

Attachments

- A. APE Map Including Existing Commercial Air Tour Routes
- B. Summary of Alternative Elements
- 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 with Historic Properties for ATMP at Mount Rushmore National Memorial



ATTACHMENT B

SUMMARY OF ALTERNATIVE ELEMENTS

	Action Alternative 2 (No Air Tours in the Planning Area⁴)	Alternative 3 (Daily Cap of 25 Air Tours During the Operating Season with Additional Modifications)	Alternative 4 (Daily Cap of 13 Air Tours During the Operating Season with Additional Modifications)
General Description and Objectives	Prohibits air tours within the ATMP planning area to maximize Park resource protection. Air tours could still continue to fly outside the ATMP planning area (i.e., above 5,000 feet AGL or more than ½-mile outside of the Park's boundary).	Provides five flight paths within the ATMP planning area and a daily cap of 25 tours per day.	Provides five flight paths within the ATMP planning area and a daily cap of 13 tours per day.
Annual/Daily Number of Flights	None in ATMP planning area.	3,657 flights per year, may not exceed 25 flights per day.	1,833 flights per year, may not exceed 13 flights per day.
Routes	None in ATMP planning area.	Five different routes with varying distances and altitudes for each operator	Five different routes with varying distances and altitudes for each operator
Minimum Altitudes	Flights over the Park that are above 5,000 feet AGL could occur as they are outside the ATMP planning area. Flights more than ½-mile outside the Park boundary are similarly outside the ATMP planning area.	Minimum 6,000 ft. MSL (900 ft. AGL) – 6,500 ft. MSL (1,400 ft. AGL)	Minimum 6,000 ft. MSL (900 ft. AGL) – 6,500 ft. MSL (1,400 ft. AGL)
Time of Day	N/A	One hour after sunrise to one hour before sunset for non-QT flights.	One hour after sunrise to one hour before sunset for non-QT flights.
Day of Week	N/A	No restrictions.	No restrictions.

⁴ Under the Act and its implementing regulations, an ATMP regulates commercial air tours over a national park or outside the park but within 1/2 mile of its boundary during which the aircraft flies below 5,000 ft. AGL. This is referred to as the ATMP planning area.

	Action Alternative 2 (No Air Tours in the Planning Area⁵)	Alternative 3 (Daily Cap of 25 Air Tours During the Operating Season with Additional Modifications)	Alternative 4 (Daily Cap of 13 Air Tours During the Operating Season with Additional Modifications)
Seasonal	N/A	Tours may occur May 1 through September 30, for 152 days total.	Tours may occur May 1 through September 30, for 152 days total.
Quiet Technology (QT) Incentives	N/A	QT flights may fly from sunrise to sunset.	QT flights may fly from sunrise to sunset.
Annual Meeting, Operator Training and Education	N/A	Mandatory if requested and/or made available by the FAA or the NPS.	Mandatory if requested and/or made available by the FAA or the NPS.
Restrictions for Particular Events	N/A	NPS can establish temporary no-fly periods and must provide one month notice to operators of the no-fly periods. Plus, 5 days of no air tours for the tribes to select.	NPS can establish temporary no-fly periods and must provide one month notice to operators of the no-fly periods. Plus, 5 days of no air tours for the tribes to select.
Adaptive Management	N/A	To be considered/analyzed.	To be considered/analyzed.
Initial Allocation, Aircraft Type, Competitive Bidding, and New Entrants	N/A	Dakota Rotors: 3,648 flights annually and 24 flights daily; BHT-206-B, BHT-47-47, BHT-47-G3B1, R-44-II, R-66-66 Eagle Aviation: nine flights annually and one flight daily; Cessna 172, Cessna 206 Then it would move to competitive bidding.	Dakota Rotors: 1,824 flights annually and 12 flights daily; BHT-206-B, BHT-47-47, BHT-47-G3B1, R-44-II, R-66-66 Eagle Aviation: nine flights annually and one flight daily; Cessna 172, Cessna 206 Then it would move to competitive bidding.
Monitoring and Enforcement	Monitoring would occur to ensure operators are complying with the terms and conditions of the ATMP.	Semi-annual reporting and use of flight tracking technology required to ensure operators are complying with the terms and conditions of the ATMP.	Semi-annual reporting and use of flight tracking technology required to ensure operators are complying with the terms and conditions of the ATMP.

⁵ Under the Act and its implementing regulations, an ATMP regulates commercial air tours over a national park or outside the park but within 1/2 mile of its boundary during which the aircraft flies below 5,000 ft. AGL. This is referred to as the ATMP planning area.

Interim operating authority⁶	Goes away and operations must be consistent with the ATMP.	Goes away and operations must be consistent with the ATMP.	Goes away and operations must be consistent with the ATMP.
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⁶ See p. 6 of the September 2022 newsletter for a description of interim operating authority.

ATTACHMENT C
LIST OF HISTORIC PROPERTIES IN THE APE AND DESCRIPTION OF HISTORIC CHARACTERISTICS

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
Mount Rushmore Developed Area	Structures	Listed	Within the Park	See Mount Rushmore Memorial.
Mount Rushmore Memorial	Site	Listed	Within the Park	Mount Rushmore National Memorial, established October 1, 1925, is near the center summit of the Black Hills in SW South Dakota. The sculpture, known as the Shrine of Democracy, is carved into the SW face of Mount Rushmore, a solid granite ridge in the Harney Range. Areas of significance include: 1) illustration of an important theme in our nation's history; 2) association with the lives of four presidents represented; 3) represents the work of a master and possesses artistic value. It is also significant as an example of American cultural values. The presidents typify the ideals, attitudes, values, dreams, and spirit of Americans.
Burlington & Quincy Highline Hill City to Keystone Br.	District	Eligible	Sections are within the Park	The property is eligible under Criterion A as a reflection of the growth and operational pattern of the Burlington and Quincy railroad. This spur line demonstrates how the railroad served and influenced the towns of Hill City and Keystone. The Burlington and Quincy High Line Hill City to Keystone Branch is also eligible under Criterion C as an excellent example of early railway design, engineering, and architecture.
Bridge 52-312-448	Bridge	Eligible	Outside the Park	Bridge integrity has been diminished slightly with removal of one wingwall. The structure also has some condition problems. Nevertheless, it has been selected as a National Register-eligible representation of the steel stringer bridge type, in large part because of its position on a pigtail section of U.S. Highway 16A.
Hwy 16A tunnel	Structure	Eligible	Outside the Park	See Iron Mountain Road (Highway 16A).
Iron Mountain Road (Highway 16A)	Linear Property	Eligible	Sections are within the Park	Iron Mountain Road was completed in 1932. The two-lane section between Mt. Rushmore and Custer State Park becomes divided into two single lanes twice to minimize the cutting of rock, preserving the forest and mountain scenery. The road is over a picturesque route so that the presidential figures could be seen from several different aspects. After receiving presidential support for the Mt.

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
				Rushmore memorial in 1929, Peter Norbeck turned his attention to the construction of a scenic road between the Game Lodge and Mt. Rushmore. He designed the road over a picturesque route so that the presidential figures could be seen from several different aspects.
Tunnels on Iron Mountain Road	Structure	Eligible	Outside the Park	See Iron Mountain Road (Highway 16A).
Serolod	Structure	Eligible	Outside the Park	An example of single-family resort architecture in South Dakota. This structure is an example of post-World War I architecture. The log construction technique employs stripped, unhewn logs joined with a saddle notch. referred to as Lincoln Log building, ends of the logs are sawn, the tapering crowns extend beyond the corner, low pitched roof extends beyond the wall in a wide eave both as an arts and crafts/Prairie School/Western Stick style feature and to protect the crown ends.
Keystone School	Structure	Eligible	Outside the Park	Significant in the areas of education and architecture. An example of a frame rural school at the turn of the century.
Halley's Store	Structure	Eligible	Outside the Park	The buildings are significant in the areas of commerce and vernacular architecture, the Keystone Trading Company Store is indirectly significant to industry as well.
Historic Keystone Sign	Object	Eligible	Outside the Park	The Historic Keystone sign likely built c.1968 is eligible for listing in the National Register for its significance within the history of tourism development. The sign was a local effort for roadside wayfinding and economic promotion, demonstrating the trends of postwar tourist development in Black Hills towns, also indicated, and spurred, by the Mission 66 improvements to Mount Rushmore National Memorial and the 1967-1968 construction of the Keystone Wye bridge. The stone veneer and unpainted vertical wood boards used in the design of the sign also demonstrate period trends in tourist construction in the Black Hills to use natural materials of the region.
39CU3069*	Site – Rock Shelter	Eligible	Outside the Park	Historic artifacts related to Native American protestors who occupied the site during two brief periods in 1970 and 1971. Eligible under Criteria D but may be considered TCP by some.
39PN3239*	Site	Eligible	Outside the Park	Rock Shelter

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
39CU3873*	Site	Eligible	Outside the Park	Mine
Scott Family Summer Cabin (also known as Lafferty Gulch Summer Home)*	Structure	Eligible	Outside the Park	The Scott Family Summer Cabin is eligible for the National Register under Criterion A for its association with Depression-era recreation in the Black Hills, as well as the Federal Government's policy of encouraging private recreational developments on public lands from the mid-1930s to the early 1940s.
Otho Mining District	District	Eligible	Outside the Park	The Otho Property is eligible for the National Register under Criterion A, because the Otho House represents a period of time when mining in the Black Hills was drawing people into the area from all over the United States. It was the mining of various rich mineral deposits in the area including gold, silver, tin, feldspar and beryl that attracted both national and international speculators to invest millions of dollars into the economy of the Keystone area communities including Otho. Until 1882, the United States imported all the tin we used. Some of the mines in the Keystone area, including Otho, produced tin; reducing the Nation's dependence on imports.

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



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 14, 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 Mount Rushmore National Memorial

Ted Spencer
State Historic Preservation Officer
Cultural Heritage Center
900 Governors Drive
Pierre, SD 57501

Dear Ted Spencer:

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 Mount Rushmore National Memorial (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 - no 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 affected 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 April 12, 2021. In a follow-up letter dated October 28, 2022, we described the proposed undertaking in more detail, including the range of alternatives under consideration, proposed a preliminary APE, and provided our initial list of historic properties identified within the APE. Similar letters were sent to all consulting parties listed in **Attachment A**.

The agencies have held six tribal consultation meetings under Section 106 to discuss the ATMP planning process, the range of alternatives, and Section 106 consultation. During these tribal consultation meetings, several tribal representatives stated that the entire Black Hills region, including the Black Hills and Badlands, is sacred land that many tribes view as a single landscape and Traditional Cultural Property (TCP).¹ Section 106 consultation with tribes is further described below.

Public involvement for this undertaking was integrated with the NEPA process. The agencies published an ATMP Public Scoping Potential Alternatives Newsletter on September 6, 2022. The Public Scoping comment period spanned from September 6, 2022, through October 6, 2022. The agencies received 263 comments, of which five were about potential adverse effects on cultural resources and five were about tribal concerns. One commenter requested that the agencies consider the effects of noise on cultural and historic resources during the preparation of the environmental assessment for the plan. A commenter also stated that the natural setting of the Park represents a place of great spiritual and cultural significance to the Native American Tribes who have connections to the land. Some commenters supported Alternative 2 - no air tours in the planning area, because it provides the greatest protection of the Park's cultural resources, and it is most consistent with some of the Park's most important management objectives including preservation of traditional and cultural resources.

During the Public Scoping comment period, a commenter also stated that the land is sacred to the Oglala Sioux and other indigenous persons, and that helicopter tours are disrespectful to the indigenous persons and sacred lands. The commenter suggested that eliminating helicopters would partially acknowledge that the land is sacred by reducing the noise pollution.

Description of the Undertaking

Consistent with the National Park Air Tours Management Act (NPATMA), the proposed ATMP would regulate commercial air tours within the ATMP planning area. Further background information regarding the history of commercial air tours over the Park, the authority under which they are currently conducted, and the area to be regulated under the ATMP is available in the September 2022 Scoping Newsletter, prepared by the agencies, that was previously provided to your office and is available at the following link:

<https://parkplanning.nps.gov/document.cfm?parkID=152&projectID=97377&documentID=123303>

The undertaking for purposes of Section 106 is implementing an ATMP that applies to all commercial air tours over the Park and within ½ mile outside the Park's boundary. 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).

¹ For the purposes of Section 106, the FAA is treating identified but unevaluated properties as eligible for listing in the National Register.

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. Two commercial air tour operators currently conduct tours over the Park: Eagle Aviation, Inc. (Eagle Aviation) and Dakota Rotors LCC (Rushmore Helicopters, Inc. and Black Hills Aerial Adventures, Inc.). The agencies consider the existing operations for commercial air tours to be an average of 2017-2019 annual air tours flown, which is 3,914 air tours. 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 both fixed wing aircraft: CE-172-N and CE-206-U206F, and helicopters: BHT-206B, BHT-47-G3B1, R-44-II, R-66-66. The helicopter operator accounts for the vast majority of the tours. The fixed-wing operator flew 19 tours in 2017, six tours in 2018, and two tours in 2019. Air tours that fly over the park to view the sculpture keep a minimum standoff distance of approximately 2,600 ft. from the sculpture and approximately 1,500 ft. from the amphitheater for viewing the sculpture. Reported minimum altitudes range from 6,000 ft. mean sea level (MSL) (900 ft. AGL) to 6,500 ft. MSL, depending on operator.²

Dakota Rotors flies three routes that originate from a privately owned and operated helipad on the boundary of the ATMP planning area near Keystone, SD, and a fourth route that originates near Custer, SD. All four routes meet approximately 2,600 ft. to the southeast of the sculpture for a direct view, then begin a tight S-turn before exiting the ATMP planning area. Eagle Aviation flies one route from north to south, across the eastern side of the Park. This fixed-wing route, similarly, flies at approximately 2,600 ft. to the southeast of the sculpture for a direct view but flies 500 ft. higher than the helicopters. Rather than an S-turn, the fixed-wing aircraft performs a large loop, exiting the ATMP planning area, re-entering the ATMP planning area, and then exiting again. Under existing conditions, the operators are not required to use these routes and could change the routes without notice to the agencies. Existing routes are depicted in **Attachment B**. The commercial air tours are offered seasonally, occurring May through September, and typically peak in July.

The proposed undertaking, which was referred to in prior consultation and the September 2022 Scoping Newsletter as Alternative 2 – No Air Tours in the Planning Area, 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.

² 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.

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 Authority³	Goes away and operations must be consistent with the ATMP.

Area of Potential Effects (APE)

The APE for the undertaking was proposed in the Section 106 consultation letter dated October 28, 2022, sent to all consulting parties. In a letter dated November 30, 2022, your office informed the FAA that you had no concerns with the proposed APE. At the conclusion of the 30-day comment period the agencies received no additional comments regarding the APE. The APE has therefore not changed. 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.

³ See p. 6 of the September 2022 newsletter for a description of interim operating authority.

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 2.5 miles outside the boundary of the Park, as depicted in **Attachment B** below.

Summary of Section 106 Consultation with Tribes

On April 15, 2021, the agencies invited 26 federally recognized tribes to participate in the consultation process for either Badlands National Park, Mount Rushmore National Memorial, or both Parks. The agencies recognize that these tribes have a long-standing and deeply rooted association with the landscape that includes these National Park lands, which have numerous sites of religious and cultural significance. Tribal consultation meetings were held on March 30, 2021, June 14, 2021, October 19, 2021, January 28, 2022, May 12, 2022, and November 17, 2022, regarding the ATMP for Mount Rushmore National Memorial. Meeting attendees for some or all of these meetings included representatives from Assiniboine and Sioux Tribes of Fort Peck, Cheyenne River Sioux Tribe, Flandreau Santee Sioux Tribe, Fort Belknap Indian Community, Northern Arapaho Tribe, Northern Cheyenne Tribe, Oglala Lakota Nation, Omaha Tribe of Nebraska, Rosebud Sioux Tribe, Santee Sioux Nation, Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, Spirit Lake Tribe, Standing Rock Sioux Tribe, Three Affiliated Tribes, Upper Sioux Community and Winnebago Tribe of Nebraska.

The April 15, 2021, invitation letter included a request for the tribes' expertise in identifying historic properties, including TCPs that may be located within the APE. The list of tribes is included in the list of consulting parties enclosed as **Attachment A**. On October 28, 2021, the FAA sent a Section 106 consultation letter to all consulting parties describing the proposed undertaking, including a description of the alternatives being considered for the ATMP, proposed an APE, and provided the results of a preliminary identification of historic properties.

During tribal consultation meetings the agencies heard from the participating tribes that they support no air tours in the planning area. The Rosebud Sioux Tribe expressed that the sound from commercial air tours would have an effect on animals; the wind of helicopter blades would alter the seed distribution of the plant relatives; and that commercial air tours in general affect soundscapes when the Rosebud Sioux Tribe conducts ceremonies, and they should be able to conduct traditional practices without that kind of disruption.

The agencies also heard from several tribes that the Black Hills, including Badlands National Park and Mount Rushmore National Memorial, are part of a continuous landscape that is sacred. The landscape is considered a TCP by many tribes, which includes natural resources that are also considered to be cultural resources by the tribes. The tribes emphasized that plants, animals, the sky, and other natural resources are contributing features to cultural resources within the area and throughout the Black Hills which includes Badlands National Park and Mount Rushmore National Memorial.

During a tribal consultation meeting that occurred before the agencies defined the APE, the Cheyenne River Sioux Tribe also discussed how this project could have the potential to contribute to preservation as a whole by considering an expanded buffer zone around the Parks' boundaries. The Cheyenne River Sioux Tribe noted that they would like the agencies to expand the buffer zone beyond the ATMP planning area, otherwise that they were interested in no air tours in the planning area. The Cheyenne River Sioux Tribe also expressed concerns about land, air, and water protection for all life forms. A tribal representative expressed concerns because the Park is within lands that involve the Cheyenne River Sioux Tribe's creation stories.

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 and data received by or retrieved from the NPS Midwest Archeological Center, the Black Hills National Forest (U.S. Forest Service), the South Dakota State Historic Preservation Office's Cultural Resource Geographic Research Information Display (CR GRID) database, and the South Dakota Archaeological Research Center. Section 106 consultation efforts to identify historic properties within the APE also involved outreach to affiliated tribes, the South Dakota State Historic Preservation Office, operators, and other consulting parties including local governments. Public comments submitted as part of the Public Scoping process also informed identification efforts.

A preliminary list of historic properties was provided to all consulting parties for their review and comment in a letter dated October 28, 2022. The agencies received no written comments about the preliminary list of historic properties or identifying additional historic properties within the APE.

As discussed above, a number of tribal consultation meetings were held regarding the ATMPs for both Badlands National Park and Mount Rushmore National Memorial in which the agencies heard from the Fort Peck Assiniboiné and Sioux Tribes, Upper Sioux Community, Santee Sioux Nation, Rosebud Sioux Tribe, Cheyenne River Sioux Tribe, and others that the Black Hills, including Badlands National Park and Mount Rushmore National Memorial, are part of a continuous landscape that is sacred and considered a TCP by many tribes.

The efforts described resulted in the identification of 17 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**. Approximately 120 additional below-ground archaeological sites were identified 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.

As the undertaking would remove flights from the ATMP planning area and potentially displace some of those flights to outside of the ATMP planning area, it is reasonably foreseeable that current air tour operators would increase flights in areas not regulated by the ATMP, referred to as "air tour displacement." Because the undertaking would eliminate air tours within the ATMP planning area, the agencies also considered the potential for indirect impacts to cultural resources within the APE that could occur from air tours displaced outside the ATMP planning area as a result of the undertaking. Based on current air tour activity, the number of flights displaced outside the ATMP planning area could be similar to the number of flights currently operating within the ATMP planning area. The preciseness of routes and altitudes for tours flown on alternative routes are generally subject to Visual Flight Rules (VFR), which is based on the principle of "see and avoid," and therefore may vary.

It is difficult to predict with specificity if, where, and to what extent any displaced air tours would result in impacts in different and/or new areas because of the undertaking. Due to the undertaking, it is reasonably foreseeable that operators would continue to fly over points of interest outside of the ATMP planning area elsewhere in the region, such as Crazy Horse Memorial, Iron Mountain Road, Horsethief Lake, Black Elk Peak, and Sylvan Lake, or would conduct tours just outside of the perimeter of the ATMP planning area since the sculpture would still be visible from this area. Therefore, the undertaking may result in some indirect impacts to cultural resources within the APE that could occur from the noise and visual effects associated with these displaced flights.

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 ATMP planning area.

The ATMP prohibits commercial air tours within the ATMP planning area; therefore, overall noise impacts within the ATMP planning area that are associated with commercial air tours are expected to be reduced in both character and decibel level. The elimination of air tours within the ATMP planning area will reduce maximum noise levels at sites directly below commercial air tour routes under existing conditions. Historic properties that would experience a reduction in noise effects include portions of the Black Hills TCP, Mount Rushmore Developed Area, Mount Rushmore National Memorial, and portions of Highway 16A (Iron Mountain Road) – properties for which setting and feeling are significant characteristics that make them eligible for listing in the National Register.

For purposes of assessing noise impacts from commercial air tours on the acoustic environment of the Parks under NEPA, the FAA noise evaluation is based on Yearly⁴ Day Night Average Sound Level (L_{dn} or DNL); the cumulative noise energy exposure from aircraft over 24 hours. The DNL analysis indicates that

⁴ Yearly conditions are represented as the Average Annual Day (AAD)

the undertaking would not result in any noise impacts that would be “significant” or “reportable” under the FAA’s policy for NEPA.⁵

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 modeled to be greater than 35 dBA for approximately 330 minutes (5.5 hours) a day within the ATMP planning area. Historic properties that will experience the elimination of noise related to commercial air tours within the ATMP planning area are listed above. Under existing conditions, historic properties outside the ATMP planning area for which setting and feeling are significant characteristics that make them eligible for listing in the National Register are currently experiencing noise related to commercial air tours modeled to be greater than 35 dBA for approximately 152 minutes (2.5 hours) a day. For example, the Keystone School is currently experiencing sound above 35 dBA for approximately 152 minutes, the Tunnels on Iron Mountain Road are in areas where the sound is above 35 dBA for up to 122 minutes, and the Hwy 16A tunnel is in an area where the sound is above 35 dBA for up to 97 minutes on days when commercial air tours would occur. 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 impacts are expected to be reduced within the ATMP planning area, and therefore would not diminish the integrity of any historic property’s significant historic features.

Displaced air tours, if any, above the ATMP planning area (at or 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 geographical area and would be audible for a longer period, but at lower intensity. Additionally, other locations within the APE not currently experiencing air tour noise may experience some noise when compared to current conditions. However, in both cases, the intensity of noise within the APE would likely be low given the aircraft altitude of 5,000 ft. AGL or higher. Any noise that might result could also be more easily masked by opportunistic sounds such as wind and various anthropogenic noise sources. Flights close to the sculpture and around the Black Hills above 5,000 ft. AGL are unlikely due to the elevation and safety requirements for unpressurized aircraft.

Locations outside the ATMP planning area but within the APE not currently experiencing noise due to air tours within the ATMP planning area may experience noise from displaced air tours. For example, portions of Highway 16A that are outside the ATMP planning area but within the APE may experience an increase in noise from displaced air tours. However, any noise that might result could also be easily

⁵ 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.

masked by various existing anthropogenic noise sources, especially coming from vehicles using the highway or aircraft using the nearby helipad. Cultural resources such as Halley's Store, the Ortho Mining District, the Historic Keystone Sign, and the Burlington & Quincy Highline Hill City to Keystone Br. would not be adversely affected by noise coming from displaced air tours because quiet or natural settings are not significant characteristics that make them eligible for listing in the National Register.

The undertaking could result in some indirect noise and visual effects to cultural resources within the APE for flights along the perimeter but outside the ATMP planning area. For flights above 5,000 ft. AGL, the increase in altitude would likely decrease impacts on ground level resources as compared to existing conditions. Numbers of flights displaced above or along the perimeter of the ATMP planning area due to the ATMP restrictions are expected to be similar to or less than the existing number of flights that currently fly within the ATMP planning area and therefore may result in an increase of flights outside the ATMP planning area. However, this is not anticipated to result in adverse effects to historic properties as those that may have an increase in noise are already experiencing noise coming from vehicles using the highway or aircraft using the nearby helipad or quiet or natural settings are not significant characteristics that make them eligible for listing in the National Register.

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. Visual effects to historic properties within the ATMP planning area are expected to decrease compared to impacts currently occurring because no flights are authorized in the ATMP planning area and any visual impacts would be further removed from the properties to areas outside the ATMP planning area. Sites that would experience a reduction in visual effects include portions of the Black Hills TCP, Mount Rushmore Developed Area, Mount Rushmore Memorial, and portions of Highway 16A (Iron Mountain Road) – properties for which setting and feeling are significant characteristics that make them eligible for the National Register.

Displaced air tours, if any, above the ATMP planning area (at or above 5,000 ft. AGL) would not result in an increase of visual effects as compared to current conditions as air tour flights currently occur in these areas at lower altitudes. However, other locations within the APE not currently seeing air tours within the ATMP planning area may experience some visual effects of commercial air tours when compared to current conditions due to displaced air tours. However, the effects of these displaced air tours would likely be minimal given the aircraft altitude.

Locations outside the ATMP planning area but within the APE not currently experiencing visual effects due to air tours within the ATMP planning area may experience an increase in visual elements from displaced air tours along the perimeter of the ATMP planning area when compared to current

conditions. For example, portions of Highway 16A that are outside the ATMP planning area, but within the APE may experience an increase in visual elements from displaced air tours. However, as noted above, aircraft are transitory elements in a scene and visual impacts tend to be relatively short. Cultural resources, such as Halley's Store, the Ortho Mining District, the Historic Keystone Sign, and the Burlington & Quincy Highline Hill City to Keystone Br., would not be adversely affected by visual elements coming from displaced air tours because setting and feeling are not significant characteristics that make them eligible for listing in the National Register.

The undertaking could result in some indirect visual effects to cultural resources within the APE for flights just outside of the ATMP planning area. Numbers of flights displaced above or along the perimeter of the ATMP planning area due to the ATMP restrictions are expected to be similar to or less than the existing number of air tour flights within the ATMP planning area and therefore may result in an increase of flights outside the ATMP planning area. However, this is not anticipated to result in adverse effects to historic properties as those that may have an increase in visual effects are already experiencing visual effects from aircraft using the nearby helipad or setting and feeling are not significant characteristics that make them eligible for listing in the National Register.

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 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 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

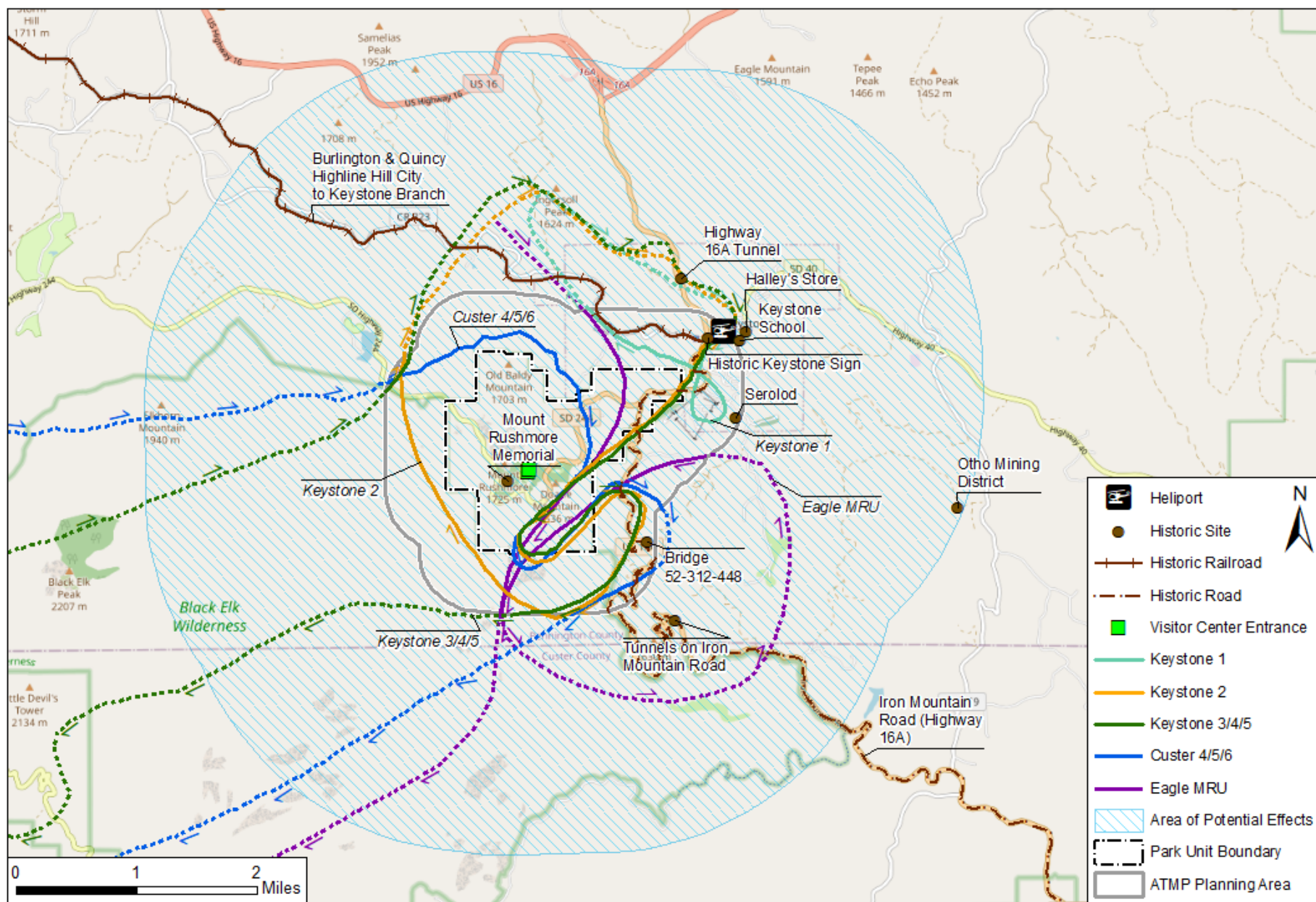
ATTACHMENT A
List of Consulting Parties

Apache Tribe of Oklahoma
Assiniboine and Sioux Tribes of Fort Peck
Dakota Rotors LLC (Black Hills Aerial Adventures, Inc. & Rushmore Helicopters, Inc.)
Cheyenne and Arapaho Tribes of Oklahoma
Cheyenne River Sioux Tribe
Crow Creek Sioux Tribe (of the Crow Creek Reservation, South Dakota)
Crow Tribe of Montana
Dakota Rotors LLC (Rushmore Helicopters, Inc.)
Eagle Aviation, Inc.
Eastern Shoshone Tribe of the Wind River Reservation, Wyoming
Flandreau Santee Sioux Tribe of South Dakota
Fort Belknap Indian Community of the Fort Belknap Reservation
Kiowa Indian Tribe of Oklahoma
Lower Brule Sioux Tribe of the Lower Brule Reservation
National Trust for Historic Preservation
Northern Arapaho Tribe of the Wind River Reservation, WY
Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation
Oglala Lakota Nation
Omaha Tribe of Nebraska
Pennington County
Ponca Tribe of Nebraska
Rosebud Sioux Tribe of the Rosebud Indian Reservation
Santee Sioux Nation, Nebraska
Sisseton-Wahpeton Oyate of the Lake Traverse Reservation
Spirit Lake Tribe
Standing Rock Sioux Tribe of North & South Dakota
Three Affiliated Tribes of the Berthold Reservation, North Dakota (Mandan, Hidatsa and Arikara Nation)
Town of Keystone, SD
Turtle Mountain Band of Chippewa Indians of North Dakota
Upper Sioux Community, Minnesota
U.S. Forest Service Black Hills National Forest
Winnebago Tribe of Nebraska
Yankton Sioux Tribe of South Dakota

ATTACHMENT B

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

Area of Potential Effects with Historic Properties for ATMP at Mount Rushmore National Memorial



ATTACHMENT C

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

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
Black Hills	TCP	Recommended Eligible/undetermined ⁶	Black Hills	The Black Hills, including Badlands National Park and Mount Rushmore National Memorial, are part of a continuous landscape that is sacred, which includes plants, animals, the sky, and other natural resources. The landscape is considered a TCP by many tribes.
Mount Rushmore Developed Area	Structures	Listed	Within the Park	See Mount Rushmore Memorial.
Mount Rushmore Memorial	Site	Listed	Within the Park	Mount Rushmore National Memorial, established October 1, 1925, is near the center summit of the Black Hills in SW South Dakota. The sculpture, known as the Shrine of Democracy, is carved into the SW face of Mount Rushmore, a solid granite ridge in the Harney Range. Areas of significance include: 1) illustration of an important theme in our nation's history; 2) association with the lives of four presidents represented; 3) represents the work of a master and possesses artistic value. It is also significant as an example of American cultural values. The presidents typify the ideals, attitudes, values, dreams, and spirit of Americans.
Burlington & Quincy Highline Hill City to Keystone Br.	District	Eligible	Sections are within the Park	The property is significant as a reflection of the growth and operational pattern of the Burlington and Quincy railroad. This spur line demonstrates how the railroad served and influenced the towns of Hill City and Keystone. The Burlington and Quincy High Line Hill City to Keystone Branch is also significant as an excellent example of early railway design, engineering, and architecture.

⁶ For the purposes of Section 106, the FAA is treating identified but unevaluated properties as eligible for the National Register of Historic Places.

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
Bridge 52-312-448	Structure	Eligible	Outside the Park	Bridge integrity has been diminished slightly with removal of one wingwall. The structure also has some condition problems. Nevertheless, it has been selected as a National Register-eligible representation of the steel stringer bridge type, in large part because of its position on a pigtail section of U.S. Highway 16A.
Hwy 16A tunnel	Structure	Eligible	Outside the Park	See Iron Mountain Road (Highway 16A).
Iron Mountain Road (Highway 16A)	Structure	Eligible	Sections are within the Park	After receiving presidential support for the Mount Rushmore monument in 1929, Peter Norbeck turned his attention to the construction of a scenic road between the Game Lodge and Mount Rushmore. Iron Mountain Road was completed in 1932. The two-lane section between Mount Rushmore and Custer State Park becomes divided into two single lanes twice to minimize the cutting of rock, preserving the forest and mountain scenery. He designed the road over a picturesque route so that the presidential figures could be seen from several different aspects.
Tunnels on Iron Mountain Road	Structure	Eligible	Outside the Park	See Iron Mountain Road (Highway 16A).
Serolod	Structure	Eligible	Outside the Park	An example of single-family resort architecture in South Dakota. The house was constructed by local craftsmen, who also worked on several fine resort buildings in the area. Devastated by a flood in the early 1970's, the community of Keystone has few remaining early houses, and this structure is the best example of post-World War I architecture. The log construction technique employs stripped, unhewn logs joined with a saddle notch. Referred to as a Lincoln Log building, ends of the logs are sawn, the tapering crowns extend beyond the corner, a low-pitched roof extends beyond the wall in a wide eave both as an arts and crafts/Prairie School/Western Stick style feature and to protect the crown ends.

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
Keystone School	Structure	Eligible	Outside the Park	Significant in the areas of education and architecture. An example of a frame rural school at the turn of the century. . The school, which dominates the town from its hillside position, is unusually large for schools of its day.
Halley's Store	Structure	Eligible	Outside the Park	The buildings are significant in the areas of commerce and vernacular architecture, the Keystone Trading Company Store is indirectly significant to industry as well. As a well-preserved example of a gable-end, one-story country store, the building was one of the two general merchandising stores serving the town. In addition, the store served as the company store for the mining operations.
Historic Keystone Sign	Object	Eligible	Outside the Park	The Historic Keystone sign likely built c.1968 is eligible for listing in the National Register for its significance within the history of tourism development. The sign was a local effort for roadside wayfinding and economic promotion, demonstrating the trends of postwar tourist development in Black Hills towns, also indicated, and spurred, by the Mission 66 improvements to Mount Rushmore National Memorial and the 1967-1968 construction of the Keystone Wye bridge. The stone veneer and unpainted vertical wood boards used in the design of the sign also demonstrate period trends in tourist construction in the Black Hills to use natural materials of the region.
39CU3069*	Site – Rock Shelter	Eligible	Outside the Park	Historic artifacts related to Native American protestors who occupied the site during two brief periods in 1970 and 1971. This archaeological site may be considered TCP by some because of its association with the events related to Native American occupation of Mount Rushmore Memorial.
39PN3239*	Site	Eligible	Outside the Park	Rock Shelter
39CU3873*	Site	Eligible	Outside the Park	Mine

Property Name	Property Type	Eligibility Status	Location	Significant Characteristics
Scott Family Summer Cabin (also known as Lafferty Gulch Summer Home)*	Structure	Eligible	Outside the Park	The Scott Family Summer Cabin is eligible for the National Register for its association with Depression-era recreation in the Black Hills, as well as the Federal Government's policy of encouraging private recreational developments on public lands from the mid-1930s to the early 1940s.
Otho Mining District	District	Eligible	Outside the Park	The Otho Mining District was a small rural mining community. It is eligible for the National Register because it represents a period of time when mining in the Black Hills was drawing people into the area from all over the United States. It was the mining of various rich mineral deposits in the area including gold, silver, tin, feldspar and beryl that attracted both national and international speculators to invest millions of dollars into the economy of the Keystone area communities including Otho. Until 1882, the United States imported all the tin we used. Some of the mines in the Keystone area, including Otho, produced tin; reducing the Nation's dependence on imports. Otho's open and undeveloped space offers an unspoiled glimpse at how and where the prospectors tested an area for minerals and how the later full scale mining developed. The landscape that surrounds it is pocked with prospectors test holes, cuts and trenches, mine tunnels and shafts, and milling foundations. This area provides a rare opportunity to see how these features tie together to generate a cohesive picture of turn of the century mining practices.

*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)	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. Note: Both $L_{Aeq, 12\text{hr}}$ and DNL characterize: - 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) If there are no nighttime events, then $L_{Aeq, 12\text{hr}}$ is arithmetically three dBA higher than DNL. 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.
Time Above 35 dBA ⁷	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 35 dBA) 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).

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	The amount of time (in minutes) that aircraft sound levels are above a given threshold (i.e., 52 dBA) 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).

Aircraft, Routes and Number of Operations Modeled

Route	Aircraft	Existing Conditions
Keystone 2	Robinson R-44	18
Keystone 3	Robinson R-44	12
Custer 4	Robinson R-44	7
Eagle MRU	Cessna 206	1
	Total	38

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 27 location points, geographically located across the planning area, where noise levels were to be evaluated. In addition, noise levels were evaluated at 11 historic property locations (points 28-38) both within and outside⁸ the ATMP planning area. These locations are geographically shown in Figure 1 and listed in Figure 2.

⁸ The routes, altitudes and numbers of air tours outside the ATMP boundary are unknown. This is because directly outside of the ATMP boundary is uncontrolled airspace outside the scope of this ATMP, and operators fly under Visual Flight Rules (VFR) in uncontrolled airspace. For the purposes of disclosing the potential effects on locations outside the ATMP boundary, routes outside the park were extrapolated based on available information. Additionally, ambient data are not available outside the ATMP planning area and thus time audible results were not computed.

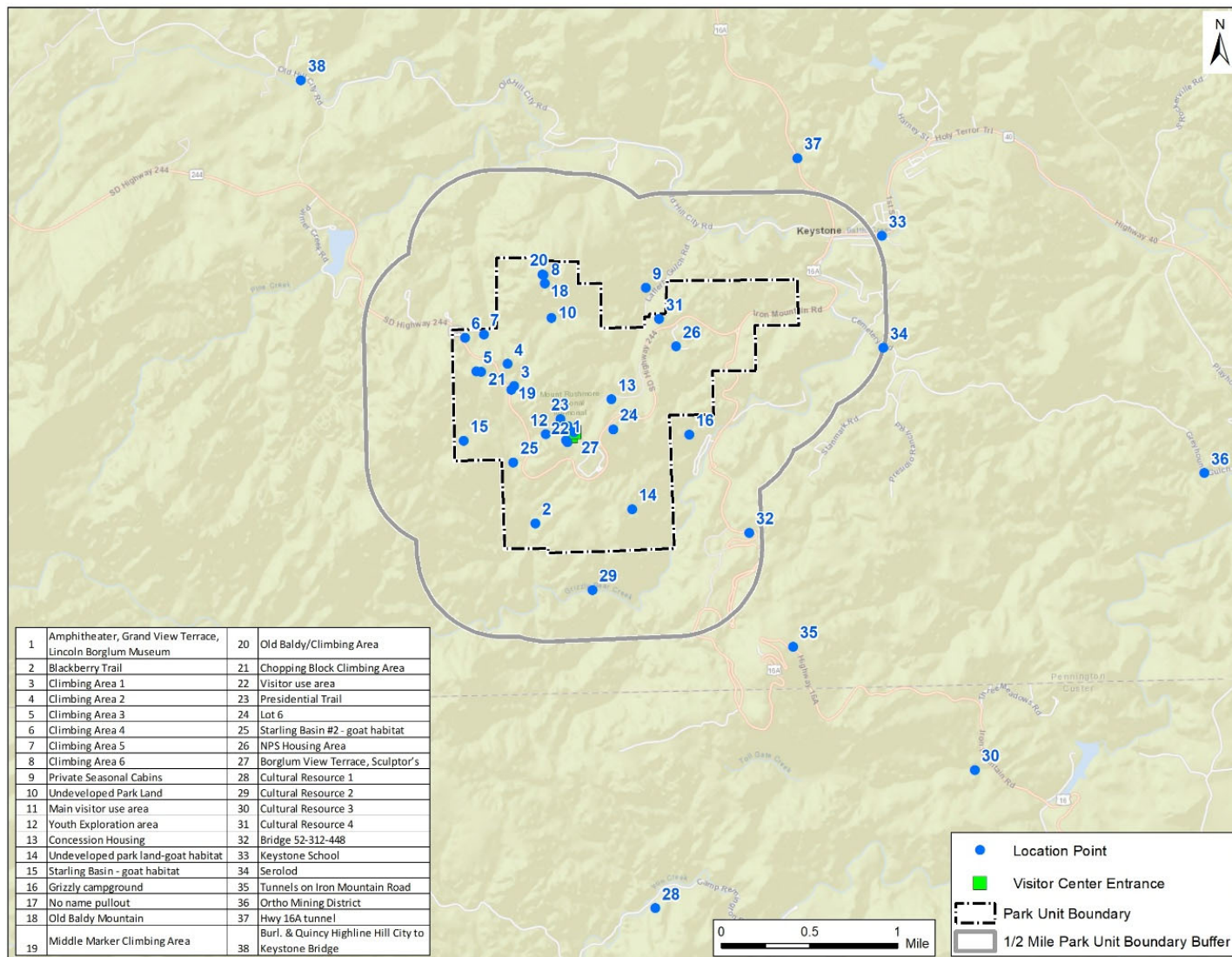


Figure 1. Location Points Modeled

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. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	50.5	242.7	49.4
2. Blackberry Trail	52.9	235.4	66.9
3. Climbing Area 1	39.6	80.8	5.8
4. Climbing Area 2	44.6	122.5	27.6
5. Climbing Area 3	44.8	200.7	30.9
6. Climbing Area 4	47.9	165.3	43.3
7. Climbing Area 5	46.7	162.1	42.7
8. Climbing Area 6	44.9	241.4	36.7
9. Private Seasonal Cabins	45.8	221.3	35.9
10. Undeveloped lark land	44.3	194.9	34.6
11. Main visitor use area	50.3	233.0	67.4
12. Youth Exploration area	49.3	208.5	64.0
13. Concession Housing	51.3	290.8	74.8
14. Undeveloped park land-goat habitat	53.9	200.5	104.9
15. Starling Basin - goat habitat	50.0	191.5	35.0
16. Grizzly campground	52.2	261.1	96.2
17. No name pullout	54.2	319.0	90.8
18. Old Baldy Mountain	44.3	267.0	27.5
19. Middle Marker Climbing Area	44.7	126.0	21.2
20. Old Baldy/Climbing Area	47.2	313.8	58.4
21. Chopping Block Climbing Area	45.3	165.3	23.1
22. Visitor use area	51.6	281.2	75.3
23. Presidential Trail	49.6	204.3	71.7
24. Lot 6	54.2	333.2	101.1
25. Starling Basin #2 - goat habitat	48.7	188.1	46.5
26. NPS Housing Area	50.5	282.0	62.8
27. Borglum View Terrace, Sculptor's Studio	50.5	270.0	53.1
28. Cultural Resource 1**	34.9	119.9	0.7

Location	12 Hour Equivalent Sound Level (dBA)*	Time Above 35 dBA (minutes)	Time Above 52 dBA (minutes)
29. Cultural Resource 2	51.2	123.4	48.8
30. Cultural Resource 3**	29.0	20.1	0.4
31. Cultural Resource 4	46.3	286.9	35.7
32. Bridge 52-312-448	52.1	246.9	74.4
33. Keystone School**	52.3	152.1	53.9
34. Serolod	40.9	121.6	12.7
35. Tunnels on Iron Mountain Road**	40.7	122.1	9.2
36. Ortho Mining District**	23.9	4.5	0.0
37. Hwy 16A tunnel **	50.0	96.9	44.4
38. Burl. & Quincy Highline Hill City to Keystone Bridge**	36.8	97.9	1.6

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

**Refer to footnote 8 regarding modeling limitations for location points outside the ATMP planning area

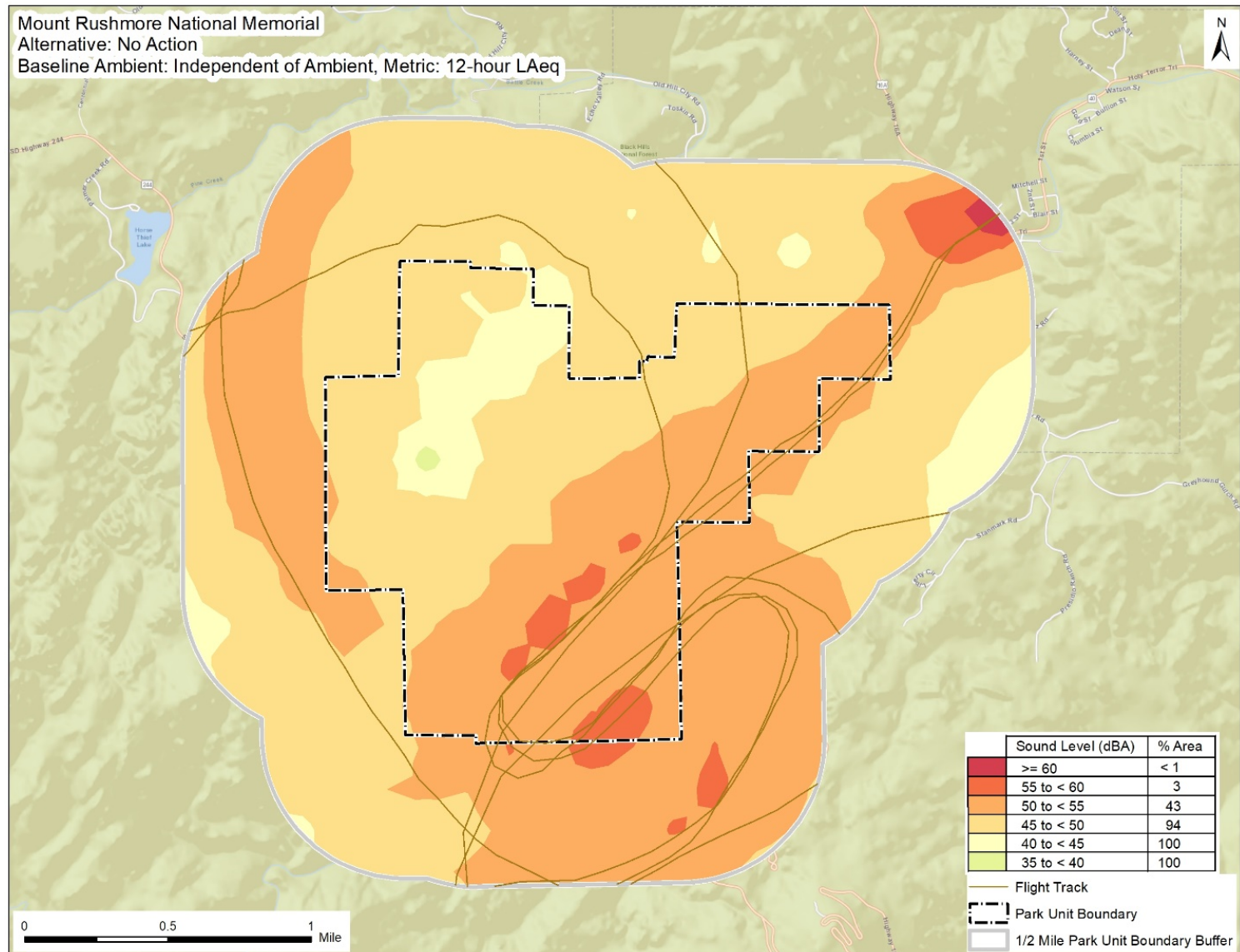


Figure 3. 12-hour equivalent sound level ($L_{Aeq,12h}$) map for existing conditions
As there are no nighttime events, DNL will be 3 dB less than the 12-hour equivalent sound level.

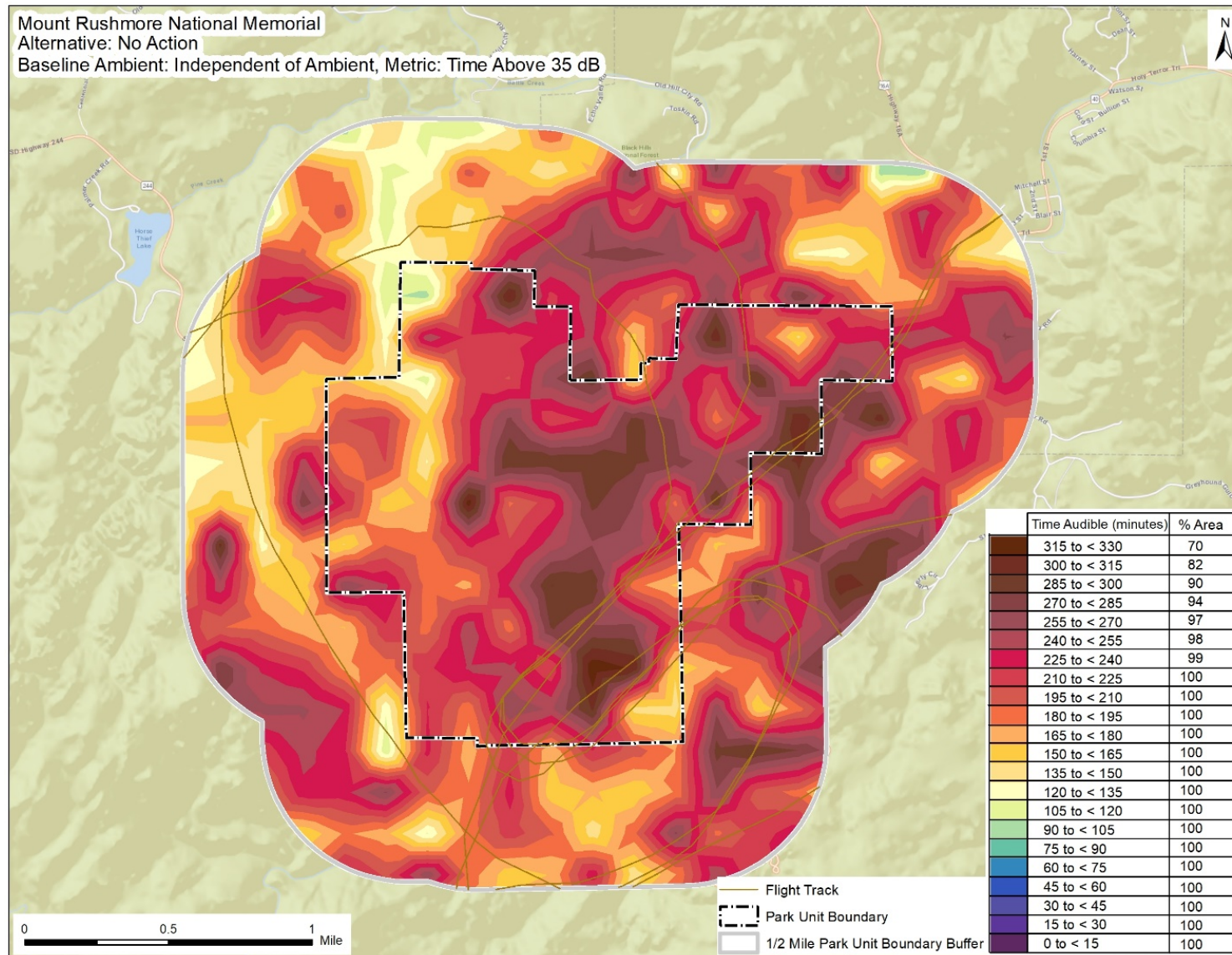


Figure 4. Time Above 35 dBA map for existing conditions

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

April 23, 2023

Re: Section 7 Endangered Species Act No Effect Determination for Mount Rushmore National Memorial 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 Mount Rushmore National Memorial (the Park). The agencies are preparing documentation for the 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 (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 ATMP planning area, which includes the Park and the area within a ½-mile outside the Park's boundary depicted in Figure 1. 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 and not subject to NPATMA, 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.

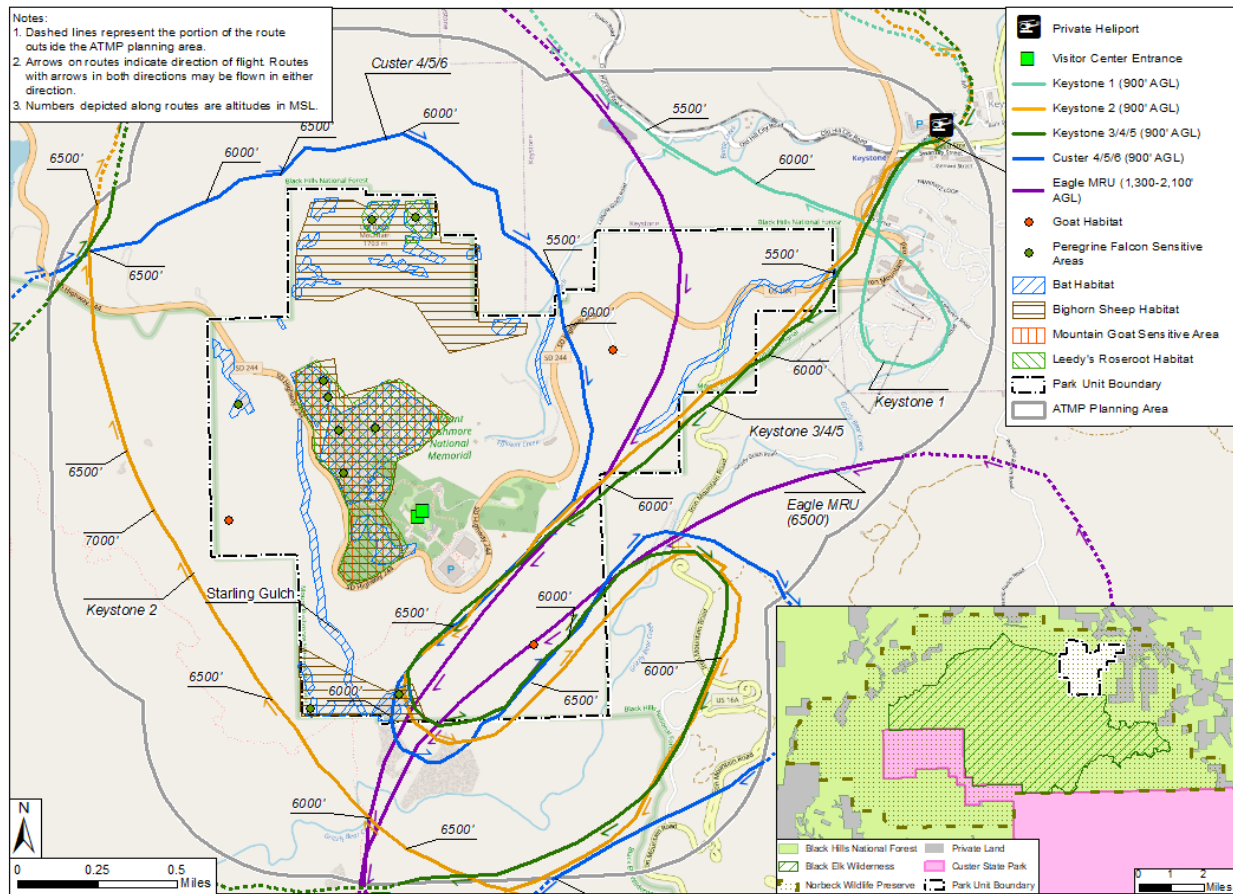


Figure 1. Species Habitat and Commercial Air Tour Routes Under Existing Conditions at Mount Rushmore National Memorial

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 reinstate consultation pursuant to 50 CFR 402.16. The relevant operating parameters of the draft 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 within ½-mile of its boundary). Except when necessary for takeoff or landing from the privately owned heliport on the boundary of the action area, in an emergency or to avoid unsafe conditions, or unless otherwise authorized for a specified purpose, commercial air tour operators would not be allowed to enter the action area.

Air tours could be conducted only outside the action area. Air tours outside of the action area are not subject to NPATMA and are therefore not regulated under the draft ATMP. An unknown number of air tours may continue to fly more than ½-mile outside of the Park's boundary 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 commercial air tour operators are complying with the terms and conditions of the ATMP by not conducting tours under 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 Evaluated for Effects

The U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) tool and the NPS species list were 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 habitat that may occur within the action area (see Table 1).

The agencies analyzed potential impacts to 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 at or above 5,000 ft. AGL. However, air tours outside of the action area are outside the jurisdiction of the ATMP and not subject to NPATMA.

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

Mammals Scientific Name	Mammals Common Name	Mammals Status (Federal)	Mammals Critical Habitat (Y/N)	Mammals Occurrence in the Park
<i>Myotis septentrionalis</i>	Northern Long-eared Bat	Endangered	N	Present
<i>Perimyotis subflavus</i>	Tricolored Bat	Proposed – Endangered	N	Present
Birds Scientific Name	Birds Common Name	Birds Status (Federal)	Birds Critical Habitat (Y/N)	Birds Occurrence in the Park
<i>Calidris canutus rufa</i>	Red Knot	Threatened	N	Not 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	Candidate	N	Unknown

Table 1 includes the Section 7 determination for each species listed under the ESA. The proposed action does not involve ground disturbance or other activities with the potential to modify aquatic or terrestrial habitat. Therefore, the agencies determined the proposed action will have *No Effect* on mammals, birds, and insects.

Northern Long-eared Bat

The northern long-eared bat (*Myotis septentrionalis*) is listed as endangered¹ under the ESA (87 FR 73488) and is one of several bat species documented within the Park. Northern long-eared bats are nocturnal and emerge at dusk to forage for insects in the understories of trees. Northern long-eared bats hibernate in caves in the winter months. Delayed fertilization occurs in spring, and the breeding season occurs from later summer to fall. They spend the remainder of the year in forested habitat.

NPS conducted bat monitoring at the Park from mid-October to February of 2021-2022 in order to track winter bat activity and identify areas of importance to wintering bats. Survey methods included mist-netting, emergence counts, radio telemetry, and acoustic monitoring; the area of greatest winter bat activity occurs in the western region of the Park, at a clearing between two tall granite cliffs by Highway 244 near pine snags (Maddox, 2022).

The most significant threat to this species is white nose syndrome, followed by collisions with wind turbines, climate change, and habitat loss. White nose syndrome disrupts hibernation and has caused populations of northern long-eared bats to decline 97-100% across 79% of their range, while mortality from wind turbines poses a risk to northern long-eared bats across almost half of their range (USFWS, 2022a).

Stressors to this species, compounded with their low reproduction rate of one pup per year, are expected to cause a 95% decline of northern long-eared bat abundance throughout their range by 2030. As such, the USFWS uplisted this species from threatened to endangered in 2023. Although there have been no detections of white nose syndrome at the Park, the disease has been detected in bats at nearby Wind Cave National Park and Jewel Cave National Monument.

Effect Determination

Anthropogenic noise has been found to reduce foraging success of bats (Siemers and Schaub, 2011; Luo et al., 2015). When exposed to played-back traffic and gas compressor station noise at 58-76 dBA and low-level amplified noise at 35 dBA, pallid bats (*Antrozous pallidus*) experienced increases in the amount of time it took to locate prey-generated sounds (Bunkley and Barber, 2015). The greater mouse-eared bat (*Myotis myotis*) showed decreased foraging efficiency when exposed to broadband computer-generated noise at a sound pressure level of 80 dB (which corresponds to sounds occurring 10 – 15 meters (33 - 49 ft.) away); bats will avoid foraging areas with these conditions in favor of quieter foraging areas (Schaub et al., 2008). Northern long-eared bats have been documented utilizing artificial bat houses near airports for roosting (Whitacker et al., 2004), while other endangered bats such as the Indiana bat (*Myotis sodalis*) focused foraging activity near forested areas in response to increases in developed land around airports (Divoll and O’Keefe, 2018).

¹ The effective date of a final rule amending 50 CFR Part 17 to reclassify the northern long-eared bat as endangered was delayed until March 31, 2023.

Under the proposed action, commercial air tours would not be conducted within the action area, which would eliminate this source of noise from the action area. Therefore, there would be a direct beneficial effect on the northern long-eared bat in the Park since the intensity and presence of noise from commercial air tours would be less than under existing conditions. The agencies believe that the proposed action is sufficiently protective of this species and therefore have determined that the proposed action would have **No Effect** on the northern long-eared bat.

Tricolored Bat

The tricolored bat is an insectivore that is distinguished by its tricolored fur that appears darker at the base and top of its body and lighter in the middle. The tricolored bat is one of several bat species that were recently detected at the Park and is proposed to be listed as endangered under the ESA (87 FR 56381). They are nocturnal mammals that forage at treetop level or over waterways and forest edges at dusk with slow, erratic flight patterns. Similar to other bat species, the tricolored bat winters in caves or mines and roosts in forested habitats during other parts of the year. Tricolored bats mate during the fall and winter seasons, hibernate throughout the winter, and migrate to their summer habitat where females form maternity colonies to birth their young (USFWS, 2022b). Once juveniles can fly, the bats disperse and return to their winter habitats to swarm, mate, and hibernate. Tricolored bats demonstrate site fidelity to their winter and summer roost habitats (USFWS, 2022b).

Threats to tricolored bats include white nose syndrome, collisions with wind turbines, habitat loss and disturbance, and climate change. Colonies of tricolored bats are vulnerable to extirpations from white noise syndrome and other stressors due to their low reproduction rate of two pups per year and high philopatry (tendency to return to or remain near a particular site or area). White nose syndrome is the most prominent threat to this species, and it is estimated that abundance of tricolored bats will decrease by 81% across their range over the next ten years (USFWS, 2022b). Low abundances also increase the loss of genetic diversity which will further lessen the ability of the tricolored bat to adapt to changes in their environment.

NPS conducted bat monitoring at the Park from mid-October to February in order to track winter bat activity and identify areas of importance to wintering bats. Survey methods included most-netting, emergence counts, radio telemetry, and acoustic monitoring. Tricolored bats were not detected during winter bat monitoring, but the area of greatest winter bat activity occurs in the western region of the Park, at a clearing between two tall granite cliffs by Highway 244 near pine snags (Maddox, 2022).

Effect Determination

As discussed above, anthropogenic noise can impact foraging success and patterns of bats (Siemers and Schaub, 2011; Luo et al., 2015), while other species of bats have been documented roosting and foraging near airports (Whitaker et al., 2004; Divoll and O'Keefe, 2018). However, under the proposed action, commercial air tours would not be conducted within the action area which would eliminate this source of noise from the action area. Therefore, there would be a direct beneficial effect on the tricolored bat since the intensity and presence of noise from commercial air tours would be less than existing conditions. The agencies believe that the proposed action is sufficiently protective of the species and therefore have determined that the proposed action would have **No Effect** on the tricolored bat.

Red Knot

The red knot (*Calidris canutus rufa*) is listed as threatened under the ESA and is a robin-like shorebird in the sandpiper family. They fly thousands of miles to and from the Arctic tundra where they nest in large flocks. As such, stopover sites such as South Dakota, where red knots occupy inland saline lakes and freshwater marshes, are vital for successful migratory patterns. Red knots migrate at dawn and dusk. Females lay eggs from June to July and depart the northern breeding grounds around mid-July shortly after chicks hatch, where adults and juveniles migrate separately to southern wintering habitats.

Their diet consists of invertebrates, marine worms, and crustaceans, in addition to horseshoe crab eggs along the eastern seaboard of the U.S. that support 50-80% of migrating red knots every year (USFWS, 2022c). Overharvesting of horseshoe crabs limited the food supply for migrating red knots, causing their survival rates to decrease and populations to decline from 67,546 individuals in 1985 to 14,800 individuals in 2008 (Niles et al., 2009). Restrictions on horseshoe crab harvests have not resulted in recovered or increasing population sizes for horseshoe crabs and subsequently red knots, so both of these species continue to decline in number (Niles et al., 2009). Additional threats to red knots include sea level rise and coastal development that jeopardize coastal stopover habitat where red knots forage and rest during migration.

Effect Determination

In a study considering the noise sensitivity of this species, areas with more aircraft noise had lower abundances of red knots compared to areas with fewer overflights, and restlessness among birds who resided in these noisier areas was greater on days that had a greater number of aircraft overflights (Koolhaas, 1993).

The red knot has not been documented in the Park, and no suitable habitat for the species occurs within the Park. Under the proposed action, commercial air tours would not be conducted within the action area, which would eliminate this source of noise from the action area. Therefore, since the species is not present or likely to become present, and commercial air tours would not occur within the action area, the agencies have determined that the proposed action would have **No Effect** on the red knot.

Monarch

The monarch butterfly (*Danaus plexippus*) is known for its orange, black, and white wings that serve as a warning of its toxicity to predators. Monarchs feed on nectar and are important pollinators. Populations of monarch within North America are divided into east and west populations based on their proximity to the Rocky Mountains; monarch butterflies in South Dakota are part of the eastern population. Monarchs breed year-round and lay their eggs on milkweed plants, where adult butterflies emerge after eight to 19 days (USFWS, 2020). Three to five generations are produced each breeding season, and the lifespan of monarch butterflies ranges from several weeks to nine months.

This population of North American monarchs have unique features that differentiate them from other populations. Notably, they migrate long distances every fall and travel south to central Mexico. Overwintering adults enter reproductive diapause (suspended reproduction) and are also equipped with directional flight orientation to the south, which allow the eastern population of monarchs to be

adapted for their long migratory patterns. The phenotypes of eastern monarchs differ from other populations as well; eastern monarchs have larger bodies, elongated wings, are redder in color, and have lower rates of parasitic infection (USFWS, 2020).

Butterfly distribution within the action area depends on the presence of host plants. Monarch abundances have been declining across North America, and the primary threats to the abundance and health of these populations are habitat degradation, use of herbicides and insecticides, urban development, and climate change. The eastern population of monarchs in North America have experienced lower abundances and declining population rates over the past several years (USFWS, 2020). This species is a candidate for listing under the ESA, but is precluded from listing by higher priority actions of USFWS (85 FR 81813).

Effect Determination

In consideration of the noise sensitivity of this species, monarch butterfly larvae exposed to short-term traffic noise showed increased heart rates, while larvae exposed to 7 to 12 days of continuous traffic noise showed no increased heart rates, suggesting that larvae could become desensitized or habituated to chronic exposure to anthropogenic noise (Davis et al., 2018).

Although the monarch has not been documented in the Park, the Park falls within its known range. It is possible that the species occurs but has not yet been identified in the Park. Under the proposed action, commercial air tours would not be conducted within the action area, which would eliminate this source of noise from the action area. The agencies believe that the proposed action is sufficiently protective of this species. Therefore, the agencies have determined that the proposed action would have **No Effect** on the monarch butterfly.

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 listed 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 project would have **No Effect** on northern long-eared bat (*Myotis septentrionalis*), tricolored bat (*Perimyotis subflavus*), red knot (*Calidris canutus rufa*), and monarch butterfly (*Danaus plexippus*).

Species Protected Under the MBTA

The agencies also analyzed potential impacts to non-ESA listed species that are protected under the MBTA, including bald eagles (*Haliaeetus leucocephalus*) and peregrine falcons (*Falco peregrinus*) (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 outside of the action area, as the areas beyond the action area would not be regulated by the draft ATMP. 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 at or above 5,000 ft. AGL. However, air tours outside of the action area are outside the jurisdiction of the ATMP and not subject to NPATMA.

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>Falco peregrinus</i>	Peregrine Falcon	Present
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Present

Peregrine Falcon

The peregrine falcon is a carnivorous bird of 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, where their nests, called scrapes, are just small depressions in gravel. Nesting occurs in the spring and their clutch size is two to three eggs.

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. Despite population recovery, the peregrine falcon is still listed as threatened at the state level in South Dakota (South Dakota Department of Game, Fish, and Parks, 2022). Threats to peregrine falcons include poisoning from DDT-based pesticides and illegal shooting.

This species is an uncommon migrant of South Dakota but has been observed in the Black Hills during the summer season. Surveys in 2017 documented two peregrine falcon nest locations in the northern and central Black Hills (South Dakota Department of Game, Fish, and Parks 2022). In 2020, the NPS observed a pair of nesting peregrines in the park (though the four chicks did not survive), and in 2022, a pair was observed flying over the sculpture. Peregrine falcons have also been observed in portions of the action area outside the Park, but no nests have been documented in these locations.

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 are birds of prey with large wingspans. They are considered carnivores, with a diet that consists primarily of rodents. Bald eagles inhabit seacoasts, forest valleys, mountain regions, lakes, and rivers, and are occasionally present within the Park and greater action area. Bald eagles mate for life and aggressively defend nests during the breeding season. Nests are typically constructed in trees near water sources or along cliffs. The clutch size is 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 delisting of the bald eagle from the ESA in those regions 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, 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, the 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.

Noise from air tours may impact wildlife in a number of ways: altered vocal behavior, breeding relocation, changes in vigilance and foraging behavior, and impacts on individual fitness and the structure of ecological communities (Shannon et al., 2015, Kunc and Schmidt, 2019). Under the proposed action, commercial air tours will not be conducted in the action area and therefore are not expected to impact bald eagles or inhibit foraging, feeding, breeding, or nesting.

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Dakota Ecological Services Field Office
420 South Garfield Avenue, Suite 400
Pierre, SD 57501-5408
Phone: (605) 224-8693 Fax: (605) 224-1416



In Reply Refer To:

April 17, 2023

Project Code: 2023-0069720

Project Name: Mount Rushmore National Memorial - 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:

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 Endangered Species Act (Act) 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 Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. 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 Act 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 Act 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 (42 U.S.C. 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:

<https://www.fws.gov/media/endangered-species-consultation-handbook>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (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 U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/law/bald-and-golden-eagle-protection-act>, <https://www.fws.gov/media/endangered-species-act-1>, and/or <https://www.fws.gov/law/migratory-bird-treaty-act-1918>.

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>.

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 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/law/migratory-birds>

Please be aware that bald and golden eagles are protected under the Migratory Bird Treaty Act (16 U.S.C. §§ 703-712, as amended), as well as the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Projects affecting these species may benefit from the development of an Eagle Conservation Plan (ECP), see guidance at this website (<https://www.fws.gov/node/266177>). An ECP can assist developers in achieving compliance with regulatory requirements, help avoid "take" of eagles at project sites, and provide biological support for eagle permit applications. Additionally, we recommend wind energy

developments adhere to our Land-based Wind Energy Guidelines for minimizing impacts to migratory birds and bats.

We have recently updated our guidelines for minimizing impacts to migratory birds at projects that have communication towers (including meteorological, cellular, digital television, radio, and emergency broadcast towers). These guidelines can be found at:

<https://www.fws.gov/story/incidental-take-beneficial-practices-communication-towers>
<http://www.towerkill.com>

According to National Wetlands Inventory maps, (available online at <https://www.fws.gov/library/collections/national-wetland-inventory>) wetlands exist adjacent to the proposed construction corridor. If a project may impact wetlands or other important fish and wildlife habitats, the U.S. Fish and Wildlife Service (Service), in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347) and other environmental laws and rules, recommends complete avoidance of these areas, if possible. If this is not possible, attempts should be made to minimize adverse impacts. Finally if adverse impacts are unavoidable, measures should be undertaken to replace the impacted areas. Alternatives should be examined and the least damaging practical alternative selected. If wetland impacts are unavoidable, a mitigation plan addressing the number and types of wetland acres to be impacted, and the methods of replacement should be prepared and submitted to the resource agencies for review.

Please check with your local wetland management district to determine whether Service interest lands exist at the proposed project site, the exact locations of these properties, and any additional restrictions that may apply regarding these sites. The Offices are listed below. If you are not sure which office to contact, we can help you make that decision.

U.S. Fish and Wildlife Service, Huron Wetland Management District, Federal Building, Room 309, 200 4th Street SW, Huron, SD 57350; telephone (605) 352-5894. Counties in the Huron WMD: Beadle, Buffalo, Hand, Hughes, Hyde, Jerauld, Sanborn, Sully.

U.S. Fish and Wildlife Service, Lake Andes Wetland Management District, P O Box 18, Pickstown, South Dakota, 57367; telephone (605) 487-7603. Counties in the Lake Andes WMD: Aurora, Brule, Charles Mix, Davison, Douglas.

U.S. Fish and Wildlife Service, Madison Wetland Management District, P.O. Box 48, Madison, South Dakota, 57042, telephone (605) 256-2974. Counties in the Madison WMD: Bon Homme, Brookings, Clay, Deuel, Hamlin, Hanson, Hutchinson, Kingsbury, Lake, Lincoln, McCook, Miner, Minnehaha, Moody, Turner, Union, Yankton.

U.S. Fish and Wildlife Service, Sand Lake Wetland Management District, 39650 Sand Lake Drive, Columbia, South Dakota, 57433; telephone (605) 885-6320. Counties in the Sand Lake WMD: Brown, Campbell, Edmunds, Faulk, McPherson, Potter, Spink, Walworth.

U.S. Fish and Wildlife Service, Waubay Wetland Management District, 44401 134A Street, Waubay, South Dakota, 57273; telephone (605) 947-4521. Counties in the Waubay WMD: Clark, Codington, Day,

Grant, Marshall, Roberts.

You are welcome to visit our website (<https://www.fws.gov/office/southdakota-ecological-services>) or to contact our office/staff at the address or phone number above for more information.

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
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Migratory Birds
 - Wetlands
-

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:

South Dakota Ecological Services Field Office

420 South Garfield Avenue, Suite 400

Pierre, SD 57501-5408

(605) 224-8693

PROJECT SUMMARY

Project Code: 2023-0069720

Project Name: Mount Rushmore National Memorial - 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/@43.8800545,-103.45161762327722,14z>



Counties: Pennington County, South Dakota

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 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.

-
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
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

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 NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
California Gull <i>Larus californicus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31

NAME	BREEDING SEASON
Franklin's Gull <i>Leucophaeus pipixcan</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Lewis's Woodpecker <i>Melanerpes lewis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-eared Owl <i>asio otus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Prairie Falcon <i>Falco mexicanus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4736	Breeds Mar 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Western Grebe <i>aechmophorus occidentalis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see

below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (I)

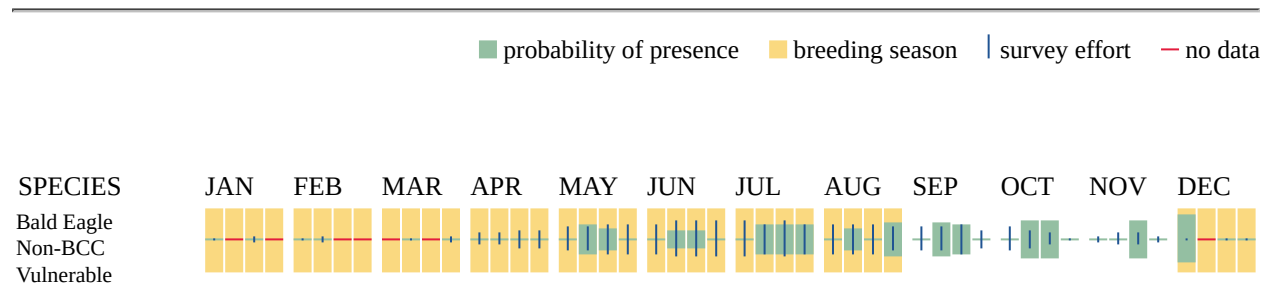
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very

helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- [PEM1C](#)
- [PEM1Cb](#)

RIVERINE

- [R4SBC](#)
- [R3UBF](#)

FRESHWATER POND

- [PABGb](#)
-

IPAC USER CONTACT INFORMATION

Agency: Department of Transportation
Name: Briana Litchholt
Address: 55 Broadway
City: Cambridge
State: MA
Zip: 02142
Email: brilitchholt@gmail.com
Phone: 8579983936

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Aviation Administration
Name: Shawna Barry
Email: shawna.m.barry@faa.gov
Phone: 2022671844

APPENDIX I

Section 4(f) Analysis

Section 4(f) Analysis

Section 4(f) Parks and Recreational Areas

Table 1 lists the Section 4(f) parks, recreational areas, and wildlife and waterfowl refuges identified in the Section 4(f) study area. All data sources were accessed the week of December 12, 2022.

Table 1. Section 4(f) parks, recreational resources, and wildlife/waterfowl refuges in the study area.

Property Name	Official(s) with Jurisdiction	Property Type	Description	Approximate Size (acres)
Mount Rushmore National Memorial	National Park Service	National Memorial	National memorial carved into Mount Rushmore in the Black Hills, depicting four United States Presidents.	1,278 acres
Black Hills National Forest	U.S. Forest Service	National Forest	Established in 1897, the Forest contains the highest mountain in South Dakota, Black Elk Peak, and encompasses Mount Rushmore National Memorial and Jewel Cave National Monument.	1.07 million acres (18,500 acres in Section 4(f) study area)
Norbeck Wildlife Preserve National Game Refuge	U.S. Forest Service	National Game Refuge	The Refuge is located within the Black Hills, protecting game animals, birds, and breeding habitat.	46,100 acres (15,700 acres in Section 4(f) study area)

Noise Effects Analysis on Section 4(f) Resources

Noise modeling for 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 decibels, A-weighted (dBA). Location point results present the metric results at specific points of interest. The National Park Service (NPS) provided a list of 38 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 Alternatives 3 and 4, 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.

Section 4(f) Study Area with Properties for ATMP at Mount Rushmore National Memorial

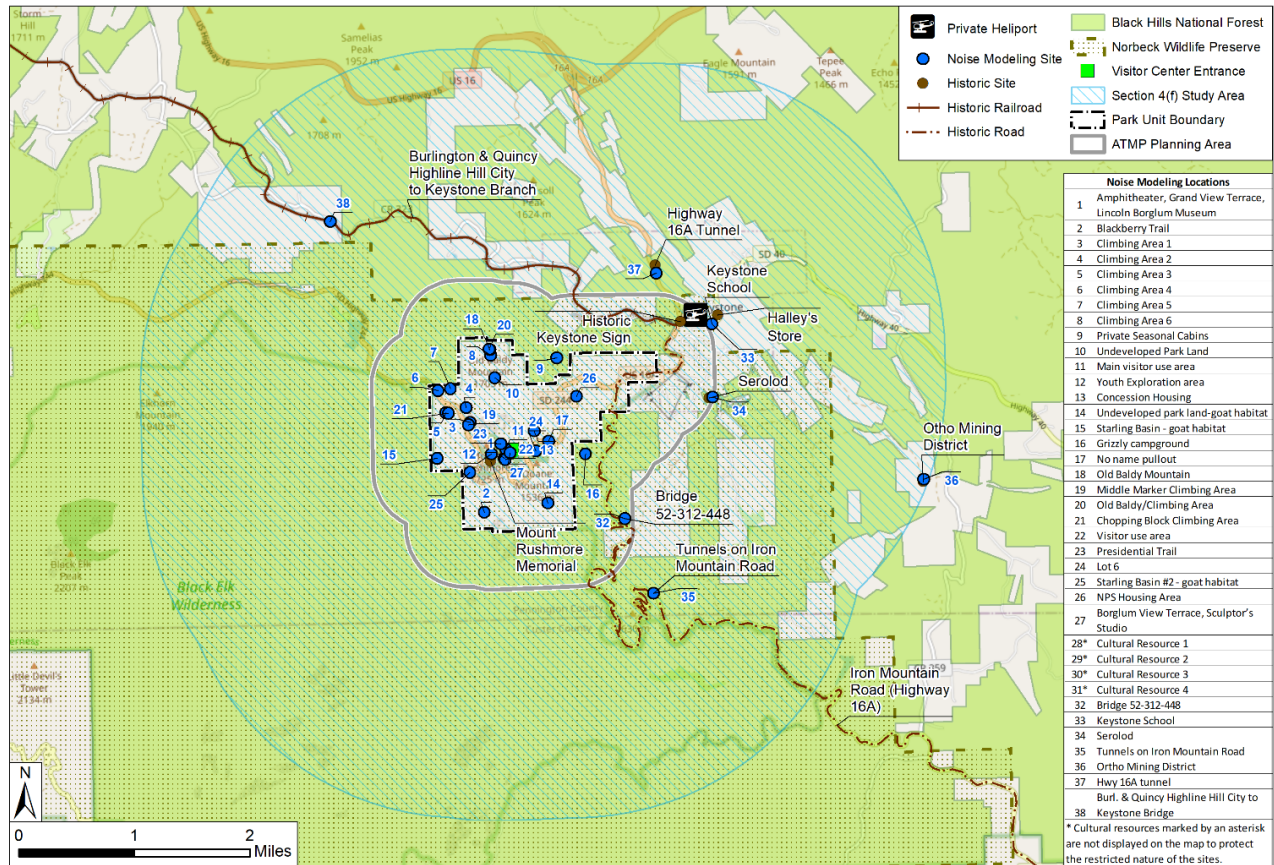


Figure 1. Section 4(f) resources and location points in the Section 4(f) study area.

Table 2 shows the low and high modelled time above 52 dBA values under Alternative 3 and Alternative 4 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 Section 4(f) study area on days when air tours occur is 68.1 minutes under Alternative 3 and 21.1 minutes under Alternative 4.

Table 2. Low and high modelled values for time above 52 dBA under the preferred alternative for Section 4(f) resources.

Section 4(f) Resource	Time Above 52 dBA – Low (Minutes) Under Alternative 3	Time Above 52 dBA – High (Minutes) Under Alternative 3	Time Above 52 dBA – Low (Minutes) Under Alternative 4	Time Above 52 dBA – High (Minutes) Under Alternative 4
Black Hills National Forest	0	68.1	0	21.1
Bridge 52-312-448	5.9	68.1	2.3	21.1
Burlington & Quincy Highline	1.1	65.8	0.4	20.6

Section 4(f) Resource	Time Above 52 dBA – Low (Minutes) Under Alternative 3	Time Above 52 dBA – High (Minutes) Under Alternative 3	Time Above 52 dBA – Low (Minutes) Under Alternative 4	Time Above 52 dBA – High (Minutes) Under Alternative 4
Hill City to Keystone Branch				
Halley's Store	8.6	41	3	13
Highway 16A Tunnel	8.6	41	3	13
Historic Keystone Sign	8.6	62.7	3	19.5
Iron Mountain Road (Highway 16A)	0.4	68.1	0.4	21.1
Keystone School	8.6	41	3	13
Mount Rushmore National Memorial	3.9	68.1	1.3	21.1
Norbeck Wildlife Preserve National Game Refuge	0	68.1	0	21.1
Otho Mining District	0	0	0	0
Serolod	8.6	62.7	3	19.5
Tunnels on Iron Mountain Road	0.4	68.1	0.4	21.1

Table 3. Section 4(f) resources and corresponding location point data for air tours under the preferred alternative.

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Black Hills National Forest	1	1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	0.39	32.1	10.3
Black Hills National Forest	2	2. Blackberry Trail	0.14	43.8	14
Black Hills National Forest	3	3. Climbing Area 1	0.33	3.9	1.3
Black Hills National Forest	4	4. Climbing Area 2	0.21	18	5.7
Black Hills National Forest	5	5. Climbing Area 3	0.12	20.1	6.6
Black Hills National Forest	6	6. Climbing Area 4	0.05	28.2	8.6
Black Hills National Forest	7	7. Climbing Area 5	0.03	27.8	8.9
Black Hills National Forest	8	8. Climbing Area 6	0.11	23.7	7.7
Black Hills National Forest	9	9. Private Seasonal Cabins	0.0	23.5	8.1
Black Hills National Forest	10	10. Undeveloped Park Land	0.25	22.3	7.6
Black Hills National Forest	11	11. Main Visitor Use Area	0.43	44	14
Black Hills National Forest	12	12. Youth Exploration Area	0.3	41.8	13.5
Black Hills National Forest	13	13. Concession Housing	0.35	48.7	15.3
Black Hills National Forest	14	14. Undeveloped Park Land-goat Habitat	0.23	68.1	21.1
Black Hills National Forest	15	15. Starling Basin - Goat Habitat	0.04	23.1	7.9
Black Hills National Forest	16	16. Grizzly Campground	0.0	62.7	19.5
Black Hills National Forest	17	17. No name pullout	0.21	59.1	18.4
Black Hills National Forest	18	18. Old Baldy Mountain	0.06	17.8	6.3

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Black Hills National Forest	19	19. Middle Marker Climbing Area	0.31	14	4.5
Black Hills National Forest	20	20. Old Baldy/Climbing Area	0.06	38.1	12.6
Black Hills National Forest	21	21. Chopping Block Climbing Area	0.15	15.2	5.1
Black Hills National Forest	22	22. Visitor Use Area	0.4	49.1	15.5
Black Hills National Forest	23	23. Presidential Trail	0.41	46.7	15
Black Hills National Forest	24	24. Lot 6	0.33	65.8	20.6
Black Hills National Forest	25	25. Starling Basin #2 - Goat Habitat	0.07	30.5	10.2
Black Hills National Forest	26	26. NPS Housing Area	0.17	41	13
Black Hills National Forest	27	27. Borglum View Terrace, Sculptor's Studio	0.45	34.6	11.1
Black Hills National Forest	28	28. Cultural Resource 1**	<1.5 mi	0.7	0.7
Black Hills National Forest	29	29. Cultural Resource 2	<1.5 mi	32	10.3
Black Hills National Forest	30	30. Cultural Resource 3**	<1.5 mi	0.4	0.4
Black Hills National Forest	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Black Hills National Forest	32	32. Bridge 52-312-448	0.0	48.5	15.7
Black Hills National Forest	33	33. Keystone School**	0.23	36.1	11.3
Black Hills National Forest	34	34. Serolod	0.0	8.6	3
Black Hills National Forest	35	35. Tunnels on Iron Mountain Road**	0.0	5.9	2.3
Black Hills National Forest	36	36. Ortho Mining District**	0.11	0	0
Black Hills National Forest	37	37. Highway 16A Tunnel**	0.0	29.6	9.1
Black Hills National Forest	38	38. Burlington & Quincy Highline Hill	0.1	1.1	0.4

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
		City to Keystone Bridge**			
Bridge 52-312-448	1	1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	1.17	32.1	10.3
Bridge 52-312-448	2	2. Blackberry Trail	1.22	43.8	14
Bridge 52-312-448	11	11. Main Visitor Use Area	1.19	44	14
Bridge 52-312-448	12	12. Youth Exploration Area	1.28	41.8	13.5
Bridge 52-312-448	13	13. Concession Housing	1.09	48.7	15.3
Bridge 52-312-448	14	14. Undeveloped Park Land-goat Habitat	0.68	68.1	21.1
Bridge 52-312-448	16	16. Grizzly Campground	0.65	62.7	19.5
Bridge 52-312-448	17	17. No name pullout	0.94	59.1	18.4
Bridge 52-312-448	22	22. Visitor Use Area	1.15	49.1	15.5
Bridge 52-312-448	23	23. Presidential Trail	1.25	46.7	15
Bridge 52-312-448	24	24. Lot 6	0.97	65.8	20.6
Bridge 52-312-448	25	25. Starling Basin #2 - Goat Habitat	1.4	30.5	10.2
Bridge 52-312-448	26	26. NPS Housing Area	1.14	41	13
Bridge 52-312-448	27	27. Borglum View Terrace, Sculptor's Studio	1.15	34.6	11.1
Bridge 52-312-448	29	29. Cultural Resource 2	<1.5 mi	32	10.3
Bridge 52-312-448	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Bridge 52-312-448	32	32. Bridge 52-312- 448	0.0	48.5	15.7
Bridge 52-312-448	34	34. Serolod	1.3	8.6	3
Bridge 52-312-448	35	35. Tunnels on Iron Mountain Road**	0.69	5.9	2.3
Burlington & Quincy Highline Hill City to Keystone Branch	1	1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	1.45	32.1	10.3

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Burlington & Quincy Highline Hill City to Keystone Branch	3	3. Climbing Area 1	1.34	3.9	1.3
Burlington & Quincy Highline Hill City to Keystone Branch	4	4. Climbing Area 2	1.23	18	5.7
Burlington & Quincy Highline Hill City to Keystone Branch	5	5. Climbing Area 3	1.31	20.1	6.6
Burlington & Quincy Highline Hill City to Keystone Branch	6	6. Climbing Area 4	1.15	28.2	8.6
Burlington & Quincy Highline Hill City to Keystone Branch	7	7. Climbing Area 5	1.1	27.8	8.9
Burlington & Quincy Highline Hill City to Keystone Branch	8	8. Climbing Area 6	0.74	23.7	7.7
Burlington & Quincy Highline Hill City to Keystone Branch	9	9. Private Seasonal Cabins	0.48	23.5	8.1
Burlington & Quincy Highline Hill City to Keystone Branch	10	10. Undeveloped Park Land	0.94	22.3	7.6
Burlington & Quincy Highline Hill City to Keystone Branch	11	11. Main Visitor Use Area	1.37	44	14
Burlington & Quincy Highline Hill City to Keystone Branch	12	12. Youth Exploration Area	1.48	41.8	13.5
Burlington & Quincy Highline	13	13. Concession Housing	1.12	48.7	15.3

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Hill City to Keystone Branch					
Burlington & Quincy Highline Hill City to Keystone Branch	16	16. Grizzly Campground	1.18	62.7	19.5
Burlington & Quincy Highline Hill City to Keystone Branch	17	17. No name pullout	1.15	59.1	18.4
Burlington & Quincy Highline Hill City to Keystone Branch	18	18. Old Baldy Mountain	0.7	17.8	6.3
Burlington & Quincy Highline Hill City to Keystone Branch	19	19. Middle Marker Climbing Area	1.37	14	4.5
Burlington & Quincy Highline Hill City to Keystone Branch	20	20. Old Baldy/Climbing Area	0.69	38.1	12.6
Burlington & Quincy Highline Hill City to Keystone Branch	21	21. Chopping Block Climbing Area	1.3	15.2	5.1
Burlington & Quincy Highline Hill City to Keystone Branch	22	22. Visitor Use Area	1.45	49.1	15.5
Burlington & Quincy Highline Hill City to Keystone Branch	23	23. Presidential Trail	1.36	46.7	15
Burlington & Quincy Highline Hill City to Keystone Branch	24	24. Lot 6	1.26	65.8	20.6
Burlington & Quincy Highline Hill City to Keystone Branch	26	26. NPS Housing Area	0.7	41	13

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Burlington & Quincy Highline Hill City to Keystone Branch	27	27. Borglum View Terrace, Sculptor's Studio	1.38	34.6	11.1
Burlington & Quincy Highline Hill City to Keystone Branch	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Burlington & Quincy Highline Hill City to Keystone Branch	33	33. Keystone School**	0.3	36.1	11.3
Burlington & Quincy Highline Hill City to Keystone Branch	34	34. Serolod	0.69	8.6	3
Burlington & Quincy Highline Hill City to Keystone Branch	37	37. Highway 16A Tunnel **	0.39	29.6	9.1
Burlington & Quincy Highline Hill City to Keystone Branch	38	38. Burlington & Quincy Highline Hill City to Keystone Bridge**	0.0	1.1	0.4
Halley's Store	9	9. Private Seasonal Cabins	1.44	23.5	8.1
Halley's Store	26	26. NPS Housing Area	1.41	41	13
Halley's Store	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Halley's Store	33	33. Keystone School**	0.09	36.1	11.3
Halley's Store	34	34. Serolod	0.71	8.6	3
Halley's Store	37	37. Highway 16A Tunnel**	0.65	29.6	9.1
Highway 16A Tunnel	9	9. Private Seasonal Cabins	1.17	23.5	8.1
Highway 16A Tunnel	26	26. NPS Housing Area	1.32	41	13
Highway 16A Tunnel	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Highway 16A Tunnel	33	33. Keystone School**	0.71	36.1	11.3

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Highway 16A Tunnel	34	34. Serolod	1.25	8.6	3
Highway 16A Tunnel	37	37. Highway 16A Tunnel**	0.07	29.6	9.1
Historic Keystone Sign	9	9. Private Seasonal Cabins	1.12	23.5	8.1
Historic Keystone Sign	16	16. Grizzly Campground	1.41	62.7	19.5
Historic Keystone Sign	26	26. NPS Housing Area	1.11	41	13
Historic Keystone Sign	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Historic Keystone Sign	33	33. Keystone School**	0.27	36.1	11.3
Historic Keystone Sign	34	34. Serolod	0.71	8.6	3
Historic Keystone Sign	37	37. Highway 16A Tunnel **	0.47	29.6	9.1
Iron Mountain Road (Highway 16A)	1	1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	0.82	32.1	10.3
Iron Mountain Road (Highway 16A)	2	2. Blackberry Trail	1.04	43.8	14
Iron Mountain Road (Highway 16A)	3	3. Climbing Area 1	1.18	3.9	1.3
Iron Mountain Road (Highway 16A)	4	4. Climbing Area 2	1.23	18	5.7
Iron Mountain Road (Highway 16A)	5	5. Climbing Area 3	1.4	20.1	6.6
Iron Mountain Road (Highway 16A)	6	6. Climbing Area 4	1.49	28.2	8.6
Iron Mountain Road (Highway 16A)	7	7. Climbing Area 5	1.39	27.8	8.9

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Iron Mountain Road (Highway 16A)	8	8. Climbing Area 6	1.11	23.7	7.7
Iron Mountain Road (Highway 16A)	9	9. Private Seasonal Cabins	0.56	23.5	8.1
Iron Mountain Road (Highway 16A)	10	10. Undeveloped Park Land	1.02	22.3	7.6
Iron Mountain Road (Highway 16A)	11	11. Main Visitor Use Area	0.82	44	14
Iron Mountain Road (Highway 16A)	12	12. Youth Exploration Area	0.94	41.8	13.5
Iron Mountain Road (Highway 16A)	13	13. Concession Housing	0.63	48.7	15.3
Iron Mountain Road (Highway 16A)	14	14. Undeveloped Park Land-goat Habitat	0.5	68.1	21.1
Iron Mountain Road (Highway 16A)	15	15. Starling Basin - Goat Habitat	1.4	23.1	7.9
Iron Mountain Road (Highway 16A)	16	16. Grizzly Campground	0.15	62.7	19.5
Iron Mountain Road (Highway 16A)	17	17. No name pullout	0.48	59.1	18.4
Iron Mountain Road (Highway 16A)	18	18. Old Baldy Mountain	1.13	17.8	6.3
Iron Mountain Road (Highway 16A)	19	19. Middle Marker Climbing Area	1.19	14	4.5
Iron Mountain Road (Highway 16A)	20	20. Old Baldy/Climbing Area	1.14	38.1	12.6
Iron Mountain Road (Highway 16A)	21	21. Chopping Block Climbing Area	1.38	15.2	5.1

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Iron Mountain Road (Highway 16A)	22	22. Visitor Use Area	0.81	49.1	15.5
Iron Mountain Road (Highway 16A)	23	23. Presidential Trail	0.87	46.7	15
Iron Mountain Road (Highway 16A)	24	24. Lot 6	0.57	65.8	20.6
Iron Mountain Road (Highway 16A)	25	25. Starling Basin #2 - Goat Habitat	1.12	30.5	10.2
Iron Mountain Road (Highway 16A)	26	26. NPS Housing Area	0.3	41	13
Iron Mountain Road (Highway 16A)	27	27. Borglum View Terrace, Sculptor's Studio	0.78	34.6	11.1
Iron Mountain Road (Highway 16A)	28	28. Cultural Resource 1**	<1.5 mi	0.7	0.7
Iron Mountain Road (Highway 16A)	29	29. Cultural Resource 2	<1.5 mi	32	10.3
Iron Mountain Road (Highway 16A)	30	30. Cultural Resource 3**	<1.5 mi	0.4	0.4
Iron Mountain Road (Highway 16A)	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Iron Mountain Road (Highway 16A)	32	32. Bridge 52-312-448	0.0	48.5	15.7
Iron Mountain Road (Highway 16A)	33	33. Keystone School**	0.37	36.1	11.3
Iron Mountain Road (Highway 16A)	34	34. Serolod	0.39	8.6	3
Iron Mountain Road (Highway 16A)	35	35. Tunnels on Iron Mountain Road**	0.01	5.9	2.3

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Iron Mountain Road (Highway 16A)	37	37. Highway 16A Tunnel**	0.58	29.6	9.1
Keystone School	9	9. Private Seasonal Cabins	1.37	23.5	8.1
Keystone School	26	26. NPS Housing Area	1.33	41	13
Keystone School	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Keystone School	33	33. Keystone School**	0.0	36.1	11.3
Keystone School	34	34. Serolod	0.64	8.6	3
Keystone School	37	37. Highway 16A Tunnel**	0.65	29.6	9.1
Mount Rushmore National Memorial	1	1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	0.12	32.1	10.3
Mount Rushmore National Memorial	2	2. Blackberry Trail	0.45	43.8	14
Mount Rushmore National Memorial	3	3. Climbing Area 1	0.38	3.9	1.3
Mount Rushmore National Memorial	4	4. Climbing Area 2	0.51	18	5.7
Mount Rushmore National Memorial	5	5. Climbing Area 3	0.57	20.1	6.6
Mount Rushmore National Memorial	6	6. Climbing Area 4	0.76	28.2	8.6
Mount Rushmore National Memorial	7	7. Climbing Area 5	0.72	27.8	8.9
Mount Rushmore National Memorial	8	8. Climbing Area 6	0.92	23.7	7.7
Mount Rushmore National Memorial	9	9. Private Seasonal Cabins	1.06	23.5	8.1

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Mount Rushmore National Memorial	10	10. Undeveloped Park Land	0.72	22.3	7.6
Mount Rushmore National Memorial	11	11. Main Visitor Use Area	0.17	44	14
Mount Rushmore National Memorial	12	12. Youth Exploration Area	0.06	41.8	13.5
Mount Rushmore National Memorial	13	13. Concession Housing	0.46	48.7	15.3
Mount Rushmore National Memorial	14	14. Undeveloped Park Land-goat Habitat	0.62	68.1	21.1
Mount Rushmore National Memorial	15	15. Starling Basin - Goat Habitat	0.46	23.1	7.9
Mount Rushmore National Memorial	16	16. Grizzly Campground	0.82	62.7	19.5
Mount Rushmore National Memorial	17	17. No name pullout	0.53	59.1	18.4
Mount Rushmore National Memorial	18	18. Old Baldy Mountain	0.97	17.8	6.3
Mount Rushmore National Memorial	19	19. Middle Marker Climbing Area	0.37	14	4.5
Mount Rushmore National Memorial	20	20. Old Baldy/Climbing Area	0.97	38.1	12.6
Mount Rushmore National Memorial	21	21. Chopping Block Climbing Area	0.55	15.2	5.1
Mount Rushmore National Memorial	22	22. Visitor Use Area	0.13	49.1	15.5
Mount Rushmore National Memorial	23	23. Presidential Trail	0.17	46.7	15

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Mount Rushmore National Memorial	24	24. Lot 6	0.4	65.8	20.6
Mount Rushmore National Memorial	25	25. Starling Basin #2 - Goat Habitat	0.2	30.5	10.2
Mount Rushmore National Memorial	26	26. NPS Housing Area	0.93	41	13
Mount Rushmore National Memorial	27	27. Borglum View Terrace, Sculptor's Studio	0.18	34.6	11.1
Mount Rushmore National Memorial	29	29. Cultural Resource 2	<1.5 mi	32	10.3
Mount Rushmore National Memorial	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Mount Rushmore National Memorial	32	32. Bridge 52-312-448	1.26	48.5	15.7
Norbeck Wildlife Preserve National Game Refuge	1	1. Amphitheater, Grand View Terrace, Lincoln Borglum Museum	0.0	32.1	10.3
Norbeck Wildlife Preserve National Game Refuge	2	2. Blackberry Trail	0.0	43.8	14
Norbeck Wildlife Preserve National Game Refuge	3	3. Climbing Area 1	0.0	3.9	1.3
Norbeck Wildlife Preserve National Game Refuge	4	4. Climbing Area 2	0.0	18	5.7
Norbeck Wildlife Preserve National Game Refuge	5	5. Climbing Area 3	0.0	20.1	6.6
Norbeck Wildlife Preserve National Game Refuge	6	6. Climbing Area 4	0.0	28.2	8.6

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Norbeck Wildlife Preserve National Game Refuge	7	7. Climbing Area 5	0.0	27.8	8.9
Norbeck Wildlife Preserve National Game Refuge	8	8. Climbing Area 6	0.0	23.7	7.7
Norbeck Wildlife Preserve National Game Refuge	9	9. Private Seasonal Cabins	0.0	23.5	8.1
Norbeck Wildlife Preserve National Game Refuge	10	10. Undeveloped Park Land	0.0	22.3	7.6
Norbeck Wildlife Preserve National Game Refuge	11	11. Main Visitor Use Area	0.0	44	14
Norbeck Wildlife Preserve National Game Refuge	12	12. Youth Exploration Area	0.0	41.8	13.5
Norbeck Wildlife Preserve National Game Refuge	13	13. Concession Housing	0.0	48.7	15.3
Norbeck Wildlife Preserve National Game Refuge	14	14. Undeveloped Park Land-goat Habitat	0.0	68.1	21.1
Norbeck Wildlife Preserve National Game Refuge	15	15. Starling Basin - Goat Habitat	0.0	23.1	7.9
Norbeck Wildlife Preserve National Game Refuge	16	16. Grizzly Campground	0.0	62.7	19.5
Norbeck Wildlife Preserve National Game Refuge	17	17. No name pullout	0.0	59.1	18.4
Norbeck Wildlife Preserve National Game Refuge	18	18. Old Baldy Mountain	0.0	17.8	6.3
Norbeck Wildlife Preserve National Game Refuge	19	19. Middle Marker Climbing Area	0.0	14	4.5
Norbeck Wildlife Preserve National Game Refuge	20	20. Old Baldy/Climbing Area	0.0	38.1	12.6

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Norbeck Wildlife Preserve National Game Refuge	21	21. Chopping Block Climbing Area	0.0	15.2	5.1
Norbeck Wildlife Preserve National Game Refuge	22	22. Visitor Use Area	0.0	49.1	15.5
Norbeck Wildlife Preserve National Game Refuge	23	23. Presidential Trail	0.0	46.7	15
Norbeck Wildlife Preserve National Game Refuge	24	24. Lot 6	0.0	65.8	20.6
Norbeck Wildlife Preserve National Game Refuge	25	25. Starling Basin #2 - Goat Habitat	0.0	30.5	10.2
Norbeck Wildlife Preserve National Game Refuge	26	26. NPS Housing Area	0.0	41	13
Norbeck Wildlife Preserve National Game Refuge	27	27. Borglum View Terrace, Sculptor's Studio	0.0	34.6	11.1
Norbeck Wildlife Preserve National Game Refuge	28	28. Cultural Resource 1**	<1.5 mi	0.7	0.7
Norbeck Wildlife Preserve National Game Refuge	29	29. Cultural Resource 2	<1.5 mi	32	10.3
Norbeck Wildlife Preserve National Game Refuge	30	30. Cultural Resource 3**	<1.5 mi	0.4	0.4
Norbeck Wildlife Preserve National Game Refuge	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Norbeck Wildlife Preserve National Game Refuge	32	32. Bridge 52-312-448	0.0	48.5	15.7
Norbeck Wildlife Preserve National Game Refuge	33	33. Keystone School**	0.0	36.1	11.3
Norbeck Wildlife Preserve National Game Refuge	34	34. Serolod	0.0	8.6	3

Section 4(f) Resource	Location Point ID	Location Point Name	Distance to Location Point (Miles)	Time Above 52 dBA Under Alternative 3 (Minutes)	Time Above 52 dBA Under Alternative 4 (Minutes)
Norbeck Wildlife Preserve National Game Refuge	35	35. Tunnels on Iron Mountain Road**	0.0	5.9	2.3
Norbeck Wildlife Preserve National Game Refuge	36	36. Ortho Mining District**	0.79	0	0
Norbeck Wildlife Preserve National Game Refuge	37	37. Highway 16A Tunnel**	0.2	29.6	9.1
Norbeck Wildlife Preserve National Game Refuge	38	38. Burlington & Quincy Highline Hill City to Keystone Bridge**	0.18	1.1	0.4
Otho Mining District	36	36. Ortho Mining District**	0.02	0	0
Serolod	9	9. Private Seasonal Cabins	1.37	23.5	8.1
Serolod	16	16. Grizzly Campground	1.18	62.7	19.5
Serolod	17	17. No name pullout	1.44	59.1	18.4
Serolod	26	26. NPS Housing Area	1.15	41	13
Serolod	31	31. Cultural Resource 4	<1.5 mi	23.1	7.8
Serolod	32	32. Bridge 52-312-448	1.28	48.5	15.7
Serolod	33	33. Keystone School**	0.64	36.1	11.3
Serolod	34	34. Serolod	0.03	8.6	3
Serolod	37	37. Highway 16A Tunnel**	1.18	29.6	9.1
Tunnels on Iron Mountain Road	14	14. Undeveloped Park Land-goat Habitat	1.2	68.1	21.1
Tunnels on Iron Mountain Road	16	16. Grizzly Campground	1.34	62.7	19.5
Tunnels on Iron Mountain Road	29	29. Cultural Resource 2	<1.5 mi	32	10.3
Tunnels on Iron Mountain Road	30	30. Cultural Resource 3**	<1.5 mi	0.4	0.4
Tunnels on Iron Mountain Road	32	32. Bridge 52-312-448	0.69	48.5	15.7

** Location points are outside of the air tour management plan (ATMP) planning area.

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

Entity Name	Address
National Park Service	13000 Highway 233 Building 31 Suite 1 Keystone, SD 57751
U.S. Forest Service	1019 N. 5th Street Custer, SD 57730

APPENDIX J

Public Scoping Newsletter and Comment Summary Report



Public Scoping Comment Report

Mount Rushmore National Memorial Air Tour Management Plan

December 2022



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APPENDIX A

A	Scoping Newsletter
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INTRODUCTION AND BACKGROUND

The National Park Service (NPS) and Federal Aviation Administration (FAA) are preparing an Air Tour Management Plan (ATMP), which would regulate commercial air tours conducted over Mount Rushmore National Memorial (memorial) pursuant to the National Parks Air Tour Management Act of 2000. The act requires that the Federal Aviation Administration, in cooperation with the National Park Service (collectively, the agencies), establish an ATMP or voluntary agreement for each national park system unit for which one or more applications to conduct commercial air tours has been submitted, unless that unit is exempt from this requirement because 50 or fewer commercial air tour operations are conducted over the memorial on an annual basis, 49 *United States Code* (USC) § 40128(a)(5). The objective of the ATMP development process is to develop acceptable and effective measures to mitigate or prevent the significant adverse impacts, if any, of commercial air tours on natural and cultural resources, wilderness character, visitor experience, and tribal lands.

An environmental assessment (EA) is being completed in compliance with the National Environmental Policy Act (NEPA) to analyze a range of alternatives and evaluate potential issues and impacts. This plan will also be conducted in accordance with section 106 of the National Historic Preservation Act (NHPA) and other applicable laws, regulations, and policies. This report summarizes comments, feedback, and input received from the public during scoping for this ATMP environmental assessment.

Scoping was conducted by an interdisciplinary team of NPS and FAA planners, scientists, cultural resource specialists, and managers. Scoping is a process that federal agencies pursue in the early stages of preparing environmental analyses and is intended to encourage public participation and solicit public input on the scope and significance of a proposed action (see the *Code of Federal Regulations* [CFR], Title 40, Part 1501.7). Comments received during scoping help the agencies identify issues and concerns and allows the agencies to refine or dismiss alternatives and potentially consider new alternatives. Public input received during scoping is also used to inform the environmental analysis in the environmental assessment.

The agencies notified the public of the scoping period through a news release, notices on the memorial's website and social media, and e-mails. Comments were accepted from September 6 through October 6, 2022. The agencies posted a newsletter describing the potential alternatives to the NPS Planning, Environment, and Public Comment (PEPC) website at the start of the scoping period and attached the newsletter to the notification e-mails. The newsletter on potential alternatives provided a project introduction, the purpose and need for the project, resources for consideration in the environmental assessment, elements common to all the alternatives, and an overview of four potential alternatives, including routes, altitudes, time-of-day restrictions, restrictions for particular events, maximum numbers of flights, or other provisions. The potential draft alternatives also include a justification for the provisions and conditions designed to protect park resources and visitor experience.

METHODS

Comment analysis is a process used to compile and combine similar public comments into a format to be used by decision makers and the planning team. Comment analysis assists the team in organizing, clarifying, and addressing technical information pursuant to NEPA regulations. It also aids in identifying the alternatives, topics, and issues to be evaluated and considered throughout the planning process.

The comment analysis process includes five steps:

1. Develop a coding structure.
2. Use a comment database for comment management.
3. Read and code public comments.
4. Interpret and analyze the comments to identify issues and themes.
5. Prepare a comment summary.

The agencies developed a coding structure to organize comments into logical groups by topics and issues. The coding structure was derived from an analysis of the range of topics discussed during internal agency scoping, past planning documents, and the comments themselves.

The agencies used the NPS PEPC database to manage the comments. The database stores the full text of all correspondence, facilitates coding of comments by topic and issue, and includes several other tools and report functions.

A **correspondence** is the entire document received from a commenter. It can be in the form of a letter, e-mail, fax, written comment form, note card, open house transcript, or petition. Correspondences were entered directly into PEPC by the commenter. A **comment** is a portion of the text within a correspondence that addresses a single subject. It could include information such as an expression of support or opposition to the use of a potential management tool, additional data regarding an existing condition, or an opinion debating the adequacy of the analysis.

The agencies read all correspondences and assigned a code to all substantive comments within the correspondence. **Substantive comments** are comments that do one or more of the following:

- Question, with reasonable basis, the accuracy of information in the environmental assessment.
- Question, with reasonable basis, the adequacy of environmental analysis.
- Present reasonable alternatives other than those presented in the environmental assessment.
- Cause changes or revisions in the proposal.

In other words, they raise, debate, or question a point of fact or policy. Comments in favor of or against the proposed action or alternatives, or comments that only agree or disagree with NPS policy, are not considered substantive.

The agencies wrote one or more **concern statements** (written summaries) for each code that summarized the comments received and included representative quotes directly from the comments.

Although the analysis process attempts to capture the full range of public concerns, this content analysis report should be used with caution. Comments from people who chose to respond do not necessarily represent the sentiments of the entire public. Furthermore, this was not a vote counting process, and the emphasis was on the content of the comment rather than the number of times a comment was received. This report is intended to be a summary of the comments received rather than a statistical analysis.

COMMENT SUMMARY

The agencies received 263 correspondences, of which 3 were duplicates and 108 were form letters. The agencies coded 311 comments by topic. Some comments received more than one code. Table 1 lists the number and proportion of comments by topic. Comments on routes and altitudes (153) were the most common comment topics, followed by annual number of air tours (130), process comments (other) (114). Impact topics most frequently commented on include equity (120), other (116), socioeconomics (115), and soundscapes (72).

Table 1. Number of Comments by Topic

Topic	Number of Comments	Percentage of Comments
Impacts		
Adverse Impacts: Soundscapes	72	23.2%
Adverse Impacts: Visitor Use and Experience	51	16.4%
Adverse Impacts: Socioeconomics	115	37.0%
Adverse Impacts: Wildlife / Biological	17	5.5%
Adverse Impacts: Wilderness Character	13	4.2%
Adverse Impacts: Cultural Resources	5	1.6%
Adverse Impacts: Visual	3	1.0%
Adverse Impacts: Equity	120	38.6%
Adverse Impacts: Climate Change / Greenhouse Gases / Air Quality	2	0.6%
Tribal Concerns	5	1.6%
Adverse Impacts: Other	116	37.3%
Alternatives		
Alternatives: Oppose Alternative 1 – No Action	1	0.3%
Alternatives: Support Alternative 1 – No Action	4	1.3%
Alternatives: Oppose Alternative 2 – No Air Tours in Planning Area	5	1.6%
Alternatives: Support Alternative 2 – No Air Tours in Planning Area	2	0.6%
Alternatives: Oppose Alternative 3 – Mitigation Measures	0	0.0%
Alternatives: Support Alternative 3 – Mitigation Measures	1	0.3%
Alternatives: Oppose Alternative 4 – Reduction of Air Tours In Planning Area	0	0.0%
Alternatives: Support Alternative 4 – Reduction of Air Tours In Planning Area	8	2.6%
ATMP Elements		
ATMP Elements: Aircraft Type	52	16.7%
ATMP Elements: Annual Number of Air Tours	130	41.8%
ATMP Elements: Day / Time	8	2.6%
ATMP Elements: Other	3	1.0%
ATMP Elements: Routes and Altitudes	153	49.2%
Process		
Process Comments: Alternatives Considered	7	2.3%
Process Comments: Other	114	36.7%
Process Comments: Impact Analysis	0	0.0%

Topic	Number of Comments	Percentage of Comments
Process Comments: NEPA	2	0.6%
Miscellaneous		
Benefits of Air Tours	6	1.9%
Wrong Park: Substantive Comment	0	0%
Duplicate Correspondence	3	1.0%
Non-Substantive		
Non-Substantive Comment: Oppose Air Tours Continuing	10	3.2%
Non-Substantive Comment: Oppose Air Tours Introduction	0	0.0%
Non-Substantive Comment: Other	24	32.2%

CONCERN STATEMENTS

Concern statements, summarizing comments received by topic, are presented below.

IMPACTS

Adverse Impacts: Soundscapes

- Commenters suggest that air tours have adverse impacts on the soundscape of the memorial because they are loud, distracting, prevent conversation, startling, scary, affect wildlife, are unnatural, and interfere with the visitor experience.
- Commenters suggest that air tours, which operate several hundred feet in the air, are quieter than motorcycles, which are common in the park.

Adverse Impacts: Visitor Use and Experience / Recreation

- Commenters suggest that this environmental assessment should be focused on evaluating potential impacts of commercial air tours on natural and cultural resources and visitor experience consistent with the NPS conservation mandate. Chapter 1 of the environmental assessment should include a section summarizing applicable laws, including the Organic Act.
- Commenters suggest that the number of visitors potentially impacted by air tours should also be considered in the environmental assessment. Commenters urge the National Park Service to make it a high priority to protect the monument from visual intrusions and noise impacts. The plan should include measures to minimize visibility and noise in viewing areas.
- Commenters suggest that air tours can be dangerous where verbal communication is necessary for rock climbing and where they can spook horses on trails.
- Commenters suggest that air tours have adverse impacts on visitor use and experience in the planning area because they are disturbing, distracting, and detract from the natural setting and peace and quiet. Air tours can interfere with park interpretive programs and interrupt weddings.

Adverse Impacts: Socioeconomics

- Commenters noted that air tours provide an economic benefit to the surrounding communities, and eliminating or reducing air tours would have adverse socioeconomic impacts from loss of business and corresponding jobs, which would harm the local and state economies. Aerial tourism provides significant workforce development opportunities that support other jobs including firefighting and emergency medical services. Eliminating local pilot jobs could exacerbate current pilot shortages and have impacts beyond the memorial.

Adverse Impacts: Wildlife / Biological / Endangered Species Impacts

- Commenters provided information on helicopter impacts on mountain goats, which are present in the memorial.

- The South Dakota Mountain Goat Management Plan, 2018–2027 highlights the increasing demand for use of public lands for recreational activities while also highlighting the sensitivity of these animals to human disturbances.
 - The Black Hills has limited escape terrain and it is critical that those areas remain secure from human disturbance as to not increase the probability of predation risk.
 - A study conducted in 1995 found helicopter flights caused the disintegration of social groups and the distance between mountain goat groups and the helicopter was the most important factor affecting their behavior. Studies concluded that mountain goats had a very high probability of being moderately and strongly disturbed when approached within 547 yards (500 meters) of a helicopter.
 - Mountain goats give birth from mid-May to early June. It is very important that these core areas are protected during this vulnerable time; therefore, commenters suggest adjusting the current proposed seasonal restrictions of alternatives 3 and 4 to include the mountain goat parturition window (May 15–June 15) and not allow flights to occur.
 - Commenters support the idea of seasonal restrictions as identified in alternatives 3 and 4. However, commenters request additional restrictions in the form of “quiet” days or additional tour hour limitations for aircraft without quiet technology to minimize impacts on mountain goats.
 - Commenters note that air tour routes in the memorial include flying over a granite rock outcrop that mountain goats are known to occupy.
- Commenters ask the National Park Service to actively consider several sources of information, most of which includes effects on wildlife, during the preparation of the environmental assessment. Commenters provided links to the sources.
 - Commenters support alternative 2 because it provides the greatest protection of the memorial’s natural resources, including threatened and endangered species and other wildlife sensitive to noise.
 - Commenters suggest that air tours have adverse impacts on wildlife, including altering behavior. Commenters suggest that air tours have resulted in fewer big game animals near the memorial.
 - Commenters suggest that the environmental assessment must contain a thorough analysis of air tours’ noise effects on sensitive wildlife.

Adverse Impacts: Wilderness Character Impacts

- Commenters suggest that air tours have adverse impacts on wilderness character in the Black Elk Wilderness, including wildlife, mountain goats, natural sounds, solitude, and cultural connections.

Adverse Impacts: Cultural Resource Impacts

- Commenters request that the National Park Service consider *Effects of Noise on Cultural-Historic Resources* during the preparation of the environmental assessment.

- Commenters suggest that the natural setting of the memorial represents a place of great spiritual and cultural significance to the American Indian tribes who have connections to the land.
- Commenters support alternative 2 – no air tours in the planning area, because it provides the greatest protection of the park’s cultural resources, and it is most consistent with some of the memorial’s most important management objectives including preservation of traditional and cultural resources.

Adverse Impacts: Visual Impacts

- Commenters noted that the visitor experience at the memorial is closely associated with the natural setting of the sculpture. As a result, the National Park Service should make it a high priority to protect the natural setting at established viewing areas from visual and noise intrusions caused by low-flying air tour aircraft.
- Commenters find air tours to be visually distracting and suggest that the National Park Service should make it a high priority to protect the visitor experience from visual intrusions caused by air tours flying above or near the established viewing areas. Protective measures should include constraints that eliminate visible overflights that could be easily seen by visitors from the viewing areas.

Adverse Impacts: Equity

- Commenters note that helicopters provide access to view the memorial to visitors who are not physically able to walk to viewing locations. Prohibiting or decreasing air tours would prevent access for these visitors.

Adverse Impacts: Climate Change / Greenhouse Gases / Air Quality

- Commenters suggest that the environmental assessment should contain a thorough analysis of air tours’ greenhouse gas emissions and climate impacts on park resources.

Adverse Impacts: Other

- Commenters note that currently there are no restrictions or mitigation efforts for other vehicles operating inside the boundaries of the memorial. Commenters cite that during the summer months, heavy motorcycle traffic at the memorial produces more impact than air tours, which was documented in a study completed by the Town of Keystone.
- Commenters suggest that there is risk of an inflight collision due to operators not using automatic dependent surveillance–broadcast, which is a surveillance technology that broadcasts aircraft position.
- Commenters suggest that proposed elements in the ATMP, including routes, numbers of flights, and other restrictions, would result in an increase in safety risks due to air tours operating in a smaller area.
- Commenter suggests that aerial tourism reduces impacts to parks, recreation areas, and memorials by offering an alternative method of visitation. Commenter suggests that air tours

impact the memorial less than other means and leave no trace, while reducing congestion and demands on memorial infrastructure.

Tribal Concerns

- Commenters suggested that the land is sacred to the Oglala Sioux and other indigenous persons, and that helicopter tours are disrespectful to the indigenous persons and sacred lands. Commenters suggested that eliminating helicopters would partially acknowledge that the land is sacred by reducing the noise pollution. Concessions must be made to respect the ceremonies of indigenous persons in the area. Restrictions should be enacted on specific days to avoid interference.

ALTERNATIVES

Alternatives: Support Alternative 1 – No Action

- Commenters offered support for alternative 1 – no action for the following reasons:
 - Air tours create less noise than motorcycles and trucks.
 - Air tours further the mission of the National Park Service to teach about the monument.
 - Air tours allow a greater viewing experience for a large variety of people including those who are elderly or have a disability.
 - Air tours benefit the economy of the area.
 - The Interim Operating Authority (IOA) could be modified.

Alternatives: Oppose Alternative 1 – No Action

No comments.

Alternatives: Support Alternative 2 – No Air Tours in Planning Area

- Commenters offer support for alternative 2 – no air tours in the planning area for the following reasons:
 - Alternative 2 provides the greatest protection for the memorial's natural and cultural resources.
 - Alternative 2 is the most consistent with the memorial's management objectives.
 - Alternative 2 best preserves wilderness character.
 - Alternative 2 would end helicopter noise.
 - Air tours benefit few people at the expense of many people.
 - No air tours would benefit the most visitors.

- Air tours provide limited benefit to gateway communities.

Alternatives: Oppose Alternative 2 – No Air Tours in Planning Area

- Commenters oppose alternative 2 – no air tours in planning area for the following reasons:
 - Alternative 2 is overly restrictive.
 - Alternative 2 would push the same number of flights further out from the sculpture.
 - Alternative 2 would have adverse socioeconomic impacts on surrounding communities.

Alternatives: Support Alternative 3 – Mitigation Measures

- Commenters offer support for alternative 3 – mitigation measures but suggest two proposed revisions: (1) Establish an annual schedule to reduce conflicts and allow air tour operators to plan; and (2) Give the operators an annual quota without a daily quota.
- Alternatives 3 and 4 do not include an operational flight window for the Keystone heliport. This subjects every takeoff and landing to a non-compliance issue.

Alternatives: Oppose Alternative 3 – Mitigation Measures

No comments.

Alternatives: Support Alternative 4 – Reduction of Air Tours in Planning Area

- Commenters offer support for alternative 4 – reduction of air tours in planning area for the following reasons:
 - The best way to reduce cumulative air tour impacts is to reduce the total number of flights allowed.
 - Reducing air traffic would improve visitor experience.
 - Alternative 4 would reduce impacts on wilderness character and equestrian safety.
- Some commenters mention that they prefer alternative 2 – no air tours, but identify alternative 4 as their second choice. Commenters also note concern that alternatives 3 and 4 are too similar.

Alternatives: Oppose Alternative 4 – Reduction of Air Tours in Planning Area

No comments.

AIR TOUR MANAGEMENT PLAN ELEMENTS

Air Tour Management Plan Elements: Annual Number of Air Tours

- Commenters support the reduced number of annual air tours in alternative 3 because the most effective way to reduce cumulative air tour impacts is to reduce the total number of flights allowed.
- Commenters are concerned that alternative 4 is essentially the same as alternative 3, except for the reduction in flights. Commenters recommend that the National Park Service consider different levels of intensity among alternatives, allowing for a more meaningful analysis.
- Commenters suggest that the number of flights proposed do not account for market fluctuations. Commenters suggest that the National Park Service should attempt to account for this dynamic.

Air Tour Management Plan Elements: Routes and Altitudes

- Commenters suggest that there are too many flights over specific locations including campgrounds and the Black Elk Wilderness.
- Commenters propose that air tour routes be located farther from the sculpture to reduce noise for climbers and hikers. Suggestions include $\frac{3}{4}$ of a mile and 3,900 feet. Commenters also suggest that the hard surface of the sculpture may reflect sound. Commenters request that the National Park Service explain the rationale for the 2,600-foot setback.
- Commenters suggest that the 900-foot minimum above ground level (AGL) in the plan is insufficient, arbitrary, causes adverse impacts, and is dangerous. Commenters suggest alternate minimums for the plan including 984 feet, 3,000 feet, 6,000 feet, and 2,000 feet (specifically over wilderness).

Air Tour Management Plan Elements: Aircraft Type

- Commenters suggest that helicopters are perceived as louder and more annoying than airplanes at the same altitude and provide links to sources of information.
- Commenters note that incentives in alternatives 3 and 4 are insufficient for operators to embrace quiet aviation technology. The increased number of flights that operators would be allowed to fly would not compensate for aircraft that cost millions of dollars. Commenters suggest that the environmental assessment should include an economic analysis of the incentives.
- Quiet technology that alternatives 3 and 4 should embrace include NOTAR (no tail rotor) helicopters, electrically powered aviation, and other modifications.

Air Tour Management Plan Elements: Day/Time

- Commenters support a cap of 13 air tours per day in alternative 4 because they believe the most direct and effective way to reduce cumulative air tour impacts is to reduce the total number of flights allowed.
- Commenters suggest that alternative 4 is too similar to alternative 3 with only the number of flights allowed differing.
- Commenters made suggestions for limitations related to day or time in the ATMP. These included allowing fewer flights during peak hours of the day on week days, limiting air tours

to one per hour, and restricting air tours to fly only from three hours after sunrise until three hours before sunset.

- Commenters suggest that alternatives 3 and 4, which would allow air tours to fly from one hour after sunrise until one hour before sunset for non-quiet technology flights; and from sunrise to sunset for quiet technology flights, would make it difficult for visitors to experience the sculpture when air tours are not occurring. Commenters believe that visitors should have a reasonable opportunity to see the sculpture without hearing air tours for at least a few hours every day.
- Commenters suggest that the number of flights allowed and implementation noise reduction measures are the most important considerations for the ATMP. Commenters suggest that the current daily air tours cap is having adverse impacts, and a 50% reduction is still a large number of air tours. Commenter notes that no air tours would be most desirable but not realistic.

Air Tour Management Plan Elements: Other

- Commenters suggested that the phrasing, “mandatory if requested and/or made available by the NPS” is unclear. Commenters recommend that the National Park Service require and provide annual air tour operator and pilot training.
- Commenters suggest that the National Park Service take market fluctuations into account in the proposed restrictions in the ATMP.

PROCESS

Process Comments: Alternatives Considered

- Commenters suggest that the no-action alternative would be better framed as the existing number of flights rather than the maximum theoretical number allowed under IOAs.
- Commenters propose that additional alternatives be considered for the ATMP, which address frequency of flights, routes, and altitude. Commenters suggest inclusion of alternatives that address the impact helicopters have on the resident mountain goat population and specify a minimum altitude of 984 feet.
- Commenters suggest that the alternatives presented in the newsletter are largely boilerplate and were designed to pre-shape public comment by offering alternatives with no justification or data as required by the National Parks Air Tour Management Act of 2000 (NPATMA). Commenters suggest the process was designed to produce an NPS desired outcome rather than one designed for aviation safety, public interest, and economics.
- Commenters suggest that the differentiation between alternatives 3 and 4 is not as great as it could/should be to provide a meaningful comparison of attributes and impacts.
- Commenters suggest that the National Park Service considered but dismissed several alternatives prematurely and inappropriately prior to analyzing impacts in the environmental assessment.
- Commenter notes that the scoping document states that the National Park Service has determined that the current level of air tours cannot be mitigated to avoid or prevent

unacceptable impacts, and thus, no alternatives featuring current levels can meet the purpose and need for the plan. Commenter questions how this was determined prior to analyzing impacts in the environmental assessment. Commenter suggests that this was a premature determination.

Process Comments: Other

- Commenters suggest that the agencies need to consider input from stakeholders, operators, and the National Parks Overflight Advisory Group (NPOAG), and they feel that NPOAG has not been appropriately involved in previous planning.
- Commenters are concerned that the ATMP may be amended at any time upon notification of either agency to the other, which creates uncertainty about the longevity of the ATMP. Commenters suggest that this features would allow for political and industry pressure and to expand the numbers of flights allowed or to weaken measures intended to minimize the adverse impacts of air tour noise.

Process Comments: National Environmental Policy Act

- Commenters suggest that the environmental assessment should identify the preferred alternative and environmentally preferable alternative because it would add much needed transparency to the planning process.
- Commenters claim that the National Park Service completed other ATMPs without NEPA compliance and public review and questions why this occurred.
- Commenters suggest that the agency should identify the preparers in the environmental assessment to clarify roles of the agencies.

MISCELLANEOUS

Benefits of Air Tours

- Commenters suggest the benefits of air tours include:
 - Economic benefits to local communities (see socioeconomics);
 - Access to view the memorial for visitors who are not physically able to walk due to health issues, disabilities, or age;
 - Lack of impacts on the ground; and
 - Once-in-a-lifetime-opportunity type of visitor experience.

Wrong Park: Substantive Comment

No comments.

NON-SUBSTANTIVE

Non-Substantive Comment: Oppose Air Tours Continuing

- Commenters offered a variety of non-substantive comments opposing air tours continuing. These included many statements in opposition without reasons or suggestions. Some statements included where the commenter lives or their occupation or interests.

Non-Substantive Comment: Oppose Air Tours Introduction

No comments.

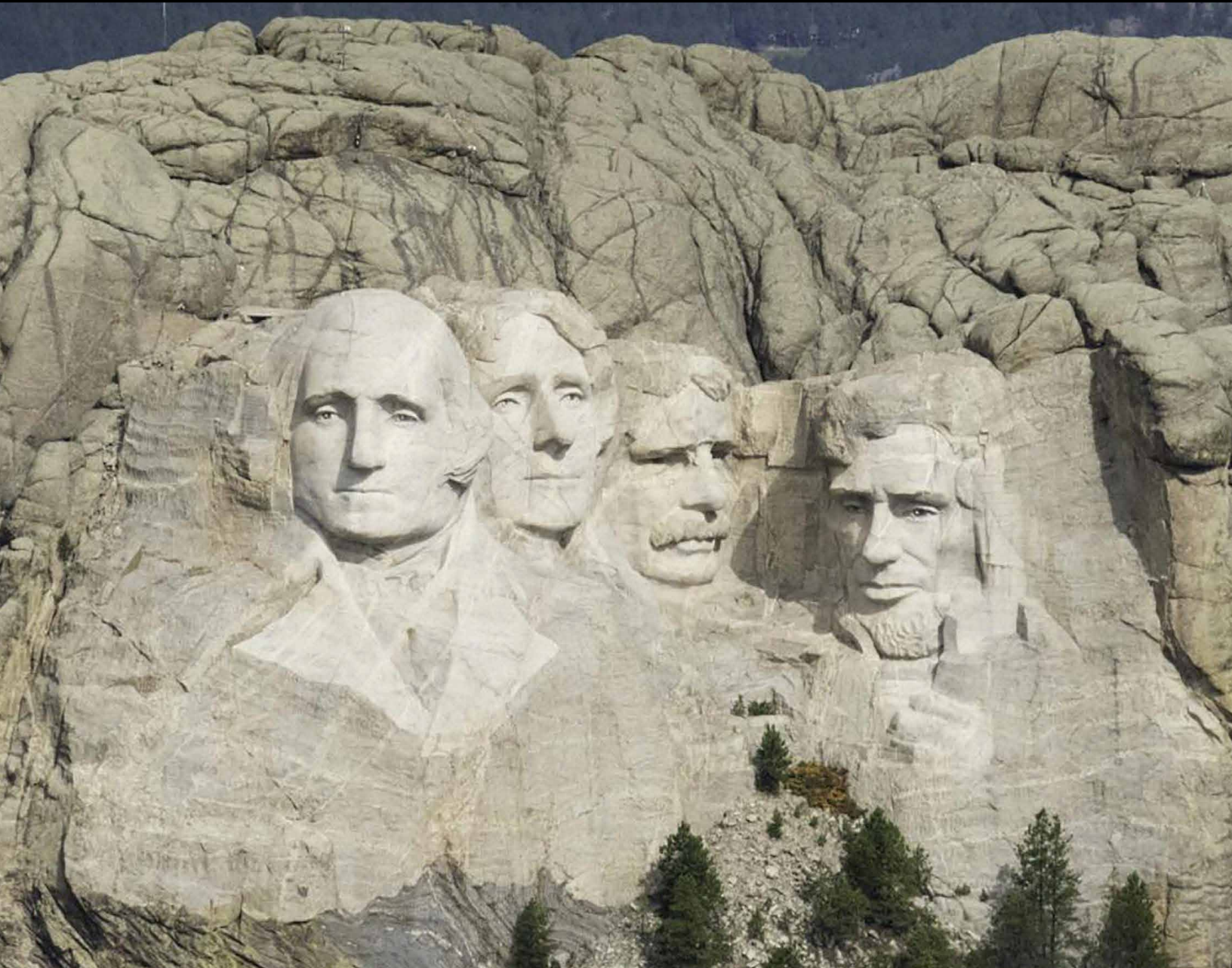
Wrong Park: Non-Substantive Comment

No comments.

Non-Substantive Comment: Other

- Commenters supplied a variety of thoughts on the role of government, the experience of viewing the monument, and conservation of resources. Commenters also noted observations on topics outside the scope of the plan including contracting, land administered by other agencies, livestock, ATVs, and terrorism.

APPENDIX A
Scoping Newsletter



Mount Rushmore National Memorial

September 2022
Newsletter

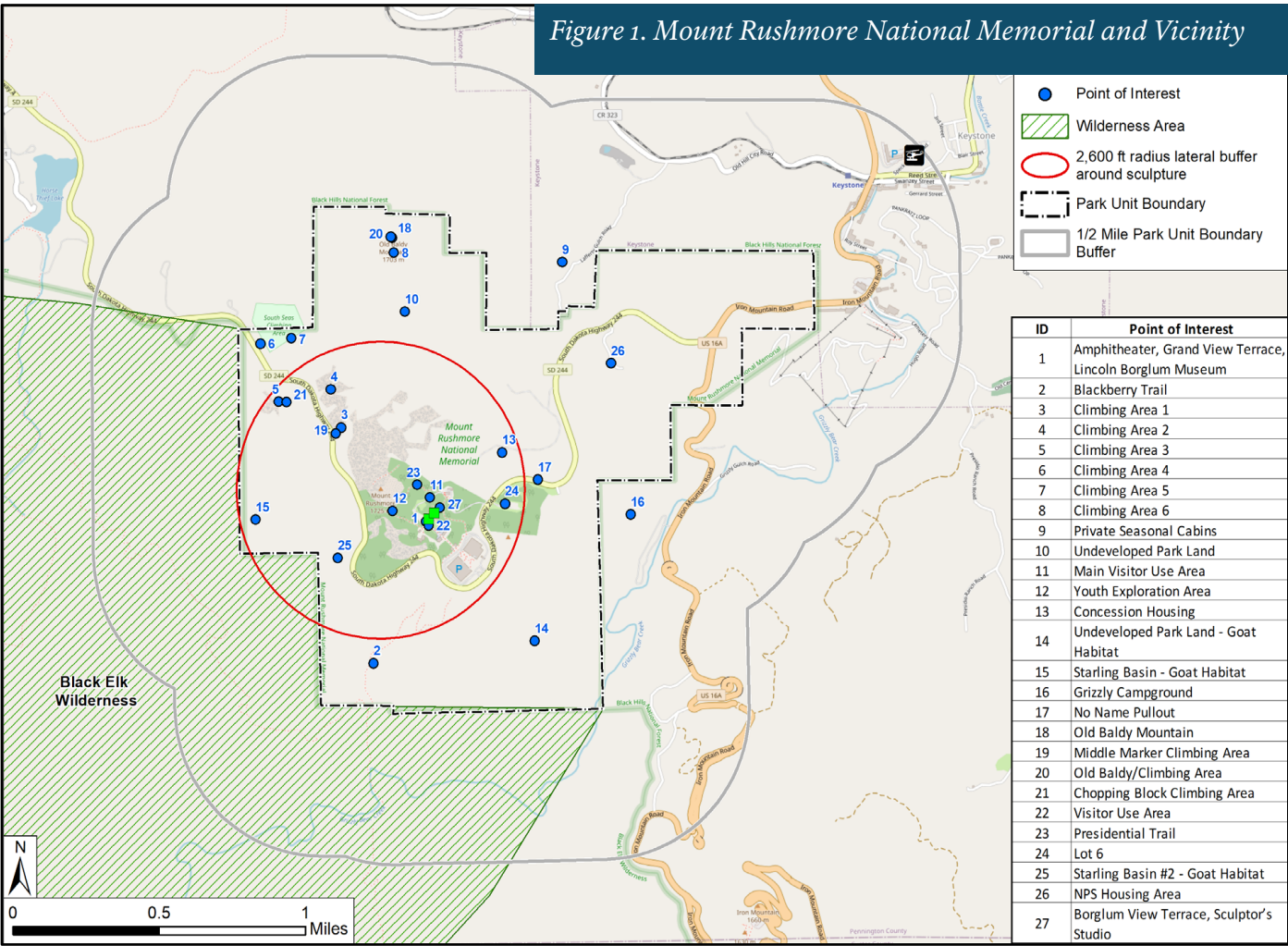
Air Tour Management Plan
Potential Alternatives for Public Comment

The Federal Aviation Administration (FAA) and the National Park Service (NPS) are working together to present potential alternatives for an air tour management plan for Mount Rushmore National Memorial (Park). Public and stakeholder feedback during this phase is critical. This document will explain:

- Commercial air tour operations
- Requirements for a plan for the Park
- Potential alternatives being considered for the plan
- How the public and stakeholders can provide feedback

Mount Rushmore National Memorial

The 1,278-acre Mount Rushmore National Memorial is located in the central Black Hills in southwestern South Dakota (see Figure 1). Most of the landscape is composed of massive granite outcrops intermingled with ponderosa pine forest. Mount Rushmore is seen as an icon of the United States of America and a special place for many people and cultures. Most people visit the Park to see the carved mountain sculpture of four U.S. presidents. The Black Hills are also an important historical, spiritual, and cultural site to many tribal



nations. The Park provides a setting where visitors can learn about history and culture and explore the natural setting.

Project Introduction

This document presents potential alternatives for the Mount Rushmore National Memorial Air Tour Management Plan (ATMP) Environmental Assessment (EA) for public and stakeholder input. As applied to the Park, the term commercial air tour operation is defined as any flight conducted for compensation or hire in a powered aircraft, where a purpose of the flight is sightseeing over the Park or outside the Park but within 1/2 mile of its boundary, during which the aircraft flies below 5,000 feet (ft.) above ground level (AGL). Altitude expressed in mean sea level (MSL) refers to the altitude of an aircraft above sea level, regardless of the terrain below it, whereas altitude expressed in AGL is a measurement of the distance between the ground surface and the aircraft.

Air tours have been occurring over the Park since before the year 2000.

The National Parks Air Tour Management Act (the Act) of 2000 requires the FAA, in cooperation with the NPS, to develop an ATMP or voluntary agreement for parks where operators have applied to conduct commercial air tours.

The objective of the ATMP, under the Act, is to develop acceptable and effective measures to mitigate or prevent the significant adverse impacts of commercial air tour operations on the natural and cultural resources, tribal sacred sites and ceremonial areas, wilderness character, and visitor experience.

As part of the public scoping process pursuant to the National Environmental Policy Act (NEPA),

the FAA and the NPS invite public input on potential alternatives. Public and stakeholder input will be used to further refine or dismiss alternatives and potentially to consider new alternatives. Public input will also be used to inform the environmental analysis. Alternatives that are carried forward and analyzed in the EA are expected to be available for public review and comment early next year.

Purpose and Need for the Project

Under NEPA, alternatives must meet the Purpose (i.e., objective) and Need for the project.

Purpose

To comply with the *National Parks Air Tour Management Act of 2000 (the Act)* and other applicable laws, consistent with the *Plan and Schedule for Completion of Air Tour Management Plans at Twenty-Three Parks* approved by the U.S. Court of Appeals for the District of Columbia Circuit on November 20, 2020, in Case No. 19-1044, *In Re Public Employees for Environmental Responsibility and Hawai'i Coalition Malama Pono*.

Need

The Act requires an ATMP or voluntary agreement for the Park. Air tours have the potential to impact natural and cultural resources, wilderness character, and visitor experience. The Act requires that the FAA and the NPS develop acceptable and effective measures to mitigate or prevent significant adverse impacts, if any, of commercial air tour operations on natural and cultural resources, wilderness character, visitor experience, and tribal lands. Cultural and ethnographic resources

that may be protected under an ATMP include traditional cultural properties, tribal sacred sites and ceremonial areas. In order to address impacts from commercial air tours the agencies have decided to prepare an ATMP for the Park.

Resources for Consideration in the EA

The agencies propose to analyze the potential impacts of each alternative on the following resources:

- Air quality
- Biological resources
- Climate (climate change and greenhouse gas emissions)
- Cultural resources (historic buildings, historic districts, archeological resources)
- Ethnographic resources (sacred sites, traditional cultural properties, cultural landscape, traditional uses)
- Department of Transportation Act, Section 4(f) properties
- Noise and compatible land use (acoustic environment and Park soundscape)
- Visitor experience
- Socioeconomics, Children's Environmental Health and Safety Risk, and Environmental Justice
- Visual effects (visual resources and visual character)
- Wilderness



A Resident of Mount Rushmore National Memorial

Elements Common to All Alternatives for the Mount Rushmore National Memorial ATMP

All alternatives being considered for selection for the Mount Rushmore National Memorial ATMP will incorporate the following:

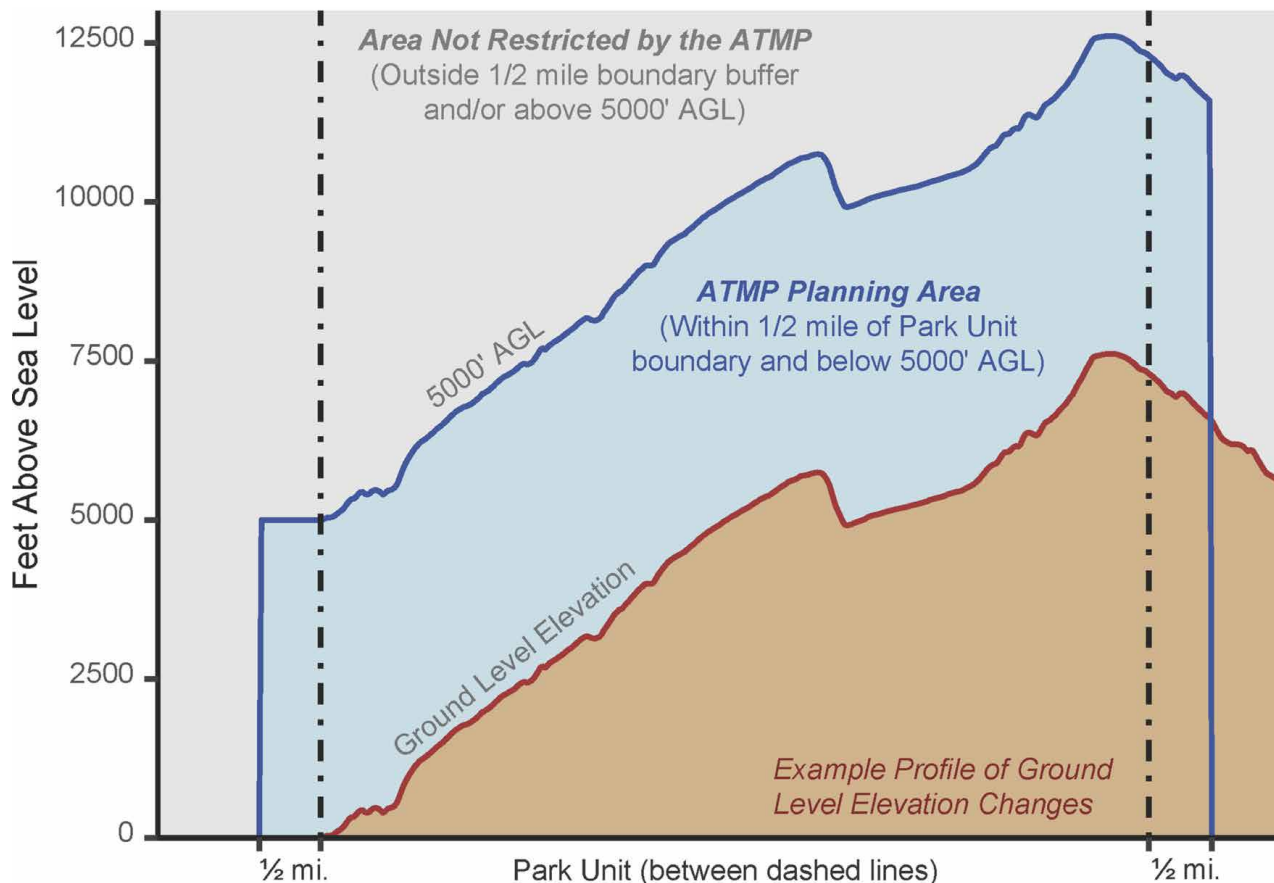
ATMP Planning Area

Under the Act and its implementing regulations, an ATMP regulates commercial air tours over a national park or outside that park but within 1/2 mile of its boundary during which the aircraft flies below 5,000 ft. AGL. This is referred to as the ATMP planning area.



Air tours outside of the ATMP planning area are not subject to the Act and are therefore not regulated under the ATMP. Thus, there would be no limitations on the annual number of air tours or routes that could occur outside the ATMP planning area under any alternative. Refer to the figure below for a geographic depiction of the ATMP planning area. In addition, although they may occur within the ATMP planning area, general aviation flights, overflights by commercial airlines, and military flights would not be regulated by the ATMP because they are not commercial air tours subject to regulation under the Act.

Geographic Areas Covered by the ATMP



Interim Operating Authority

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 after an ATMP is established for that park.



Flight routes within the ATMP planning area are represented by a line. The flight lines will be used for noise modeling purposes in the impact analysis.

FAA Airspace Authority

The FAA has authority for all airspace matters, including any enforcement actions for violations under the ATMP, which the agency would process in accordance with existing FAA procedures and regulations.



Monitoring and Enforcement

All air tour operators are required to report the number of commercial air tour operations they have conducted within the ATMP planning area to the FAA and the NPS.



The operators must provide the date and time each tour occurred, the make/model of aircraft used, and the route on which the tour was conducted.

Minimum Altitudes

The range of altitudes examined in the alternatives will be from 900 ft. AGL for helicopters to 1,400 ft. AGL for fixed-wing aircraft.



Flight Routes

The maps included in the potential alternatives show flight routes where air tours could occur within the ATMP planning area.



Fee Collection

The NPS is authorized by the Omnibus Budget Reconciliation Act of 1993 (54 U.S.C. § 100904) to collect commercial tour use fees for all aircraft conducting tours in the airspace over certain parks. The Park does not currently collect fees from air tour operators and does not propose to begin fee collection from air tour operators at this time.



Potential Alternatives

The agencies have considered a range of reasonable alternatives that are technically and economically feasible, meet the purpose and need for the project, and the goals of the agencies. The alternatives are discussed in detail below and summarized in Table 6.

Alternatives Considered and Dismissed

The agencies considered but dismissed alternatives that would allow air tour operations at or above existing numbers.

Existing air tour reporting figures are displayed in Table 1 below. These alternatives were dismissed from further consideration because the NPS determined they would result in unacceptable impacts to the Park's natural and cultural resources, and visitor enjoyment under the NPS 2006 Management Policies 1.4.7.1, and do not meet the purpose and need for the plan.

The Park's purpose is "to commemorate the founding, expansion, preservation, and unification of the United States by preserving, protecting, and interpreting the mountain sculpture in its historic, cultural and natural setting while providing for the education, enjoyment, and inspiration of the public" (see Foundation Document). The NPS determined that the noise from the current level of air tours is inconsistent with the Park's purpose and values. Frequent and loud noise interruptions from air tours impact sacred sites and ceremonial uses associated with Tribal Nations, impact public enjoyment and interpretive programming, and degrade the Park's cultural and natural setting.

The NPS is required to avoid impacts to sacred sites to the extent possible (NPS 2006 Management Policies 5.3.5.3.2). Tribes and individual tribal members have consistently

noted that persistent air tours over the Park unreasonably interfere with their connections to the sacred landscape of the Black Hills.

Existing air tour operations also repeatedly interrupt and unreasonably interfere with interpretive programs and visitor activities at many sites, including the Park amphitheater, Presidential Trail, Youth Exploration Area, and Mount Baldy.

The current level of air tours diminishes visitor opportunities to learn about and be inspired by the Park's resources and values, and unreasonably interferes with the atmosphere of peace and tranquility in the Park as well as natural soundscapes in adjacent wilderness managed by the Black Hills National Forest.

Therefore, authorizing commercial air tours at or above the existing level of operations would not meet the objective of an ATMP under the Act. The NPS has determined that the current level of air tours cannot be mitigated to avoid or prevent unacceptable impacts and therefore any alternative that would maintain the current number of air tours over the Park does not meet the purpose and need for the plan. For all of these reasons, the agencies have considered but dismissed alternatives that would continue air tours at or above existing levels.



The Memorial's Geologic Features and Flora

Alternative 1 — No Action/No ATMP

Objective

A no action alternative is required by the Council on Environmental Quality and NEPA regulations.

The no action alternative provides a basis for comparison but is not a selectable alternative because it does not meet the purpose and need for the ATMP and is not in compliance with the Act. The agencies have decided to comply with the Act by developing an ATMP for the Park.

Description

The no action alternative is what happens if the agencies do not adopt an ATMP. The no action alternative would allow a continuation of air tours under IOA without implementation of an ATMP or voluntary agreement. Air tour numbers from 2017 to 2019 are listed on the following page.

Under the no action alternative operators could fly up to their IOA, 5,608 air tours per year. IOA includes only an annual cap on the number of commercial air tours that may be conducted by an operator but does not represent the actual number of air tours conducted and does not designate the route(s), time-of-day, altitude(s), or other conditions for such tours.

Number of Flights Each Year

Alternative 1 represents a continuation of air tours that are currently flown and allowed under existing law, including each company's IOA as granted by the FAA (70 Fed. Reg. 36,456 (June 23, 2005)) and applicable regulations that govern aviation safety (14 CFR Part 136).

Two commercial air tour operators currently hold IOA to fly up to a combined total of 5,608 annual commercial air tours over the Park and within ½ mile of the Park (see Table 1).

Since reporting began in 2013, the total number of commercial air tours reported over the Park each year has ranged from 3,648 (reported in 2014) to 4,363 (reported in 2015). The operators may not exceed their respective IOA limitation in any given year. Under the no action alternative, air tours numbers would be expected to vary from year to year, likely consistent with reported numbers over the past three to five years.

The average annual number of commercial air tours conducted over the Park from 2017-2019 for all operators is 3,914. These years were selected because they reflected relatively current air tour conditions, represented reliable operator reporting of air tours, accounted for variations across multiple years, and excluded 2020 which was atypical due to the COVID-19 pandemic. The agencies also decided against using 2021 data due to continued abnormalities associated with the COVID-19 pandemic and the unavailability of reporting data for 2021 during most of the planning effort.

Alternative 1 — No Action/No ATMP

Routes and Altitudes

There are no designated flight routes or no-fly zones under the no action alternative. The map below (Figure 2) depicts general route information provided by current commercial air tour operators, but operators could change routes without notice. Actual commercial air tour operations are dispersed around the generalized routes provided by operators depicted on the map. Reported minimum altitudes range from 6,000 ft. mean sea level (MSL) (900 ft. AGL) to 6,500 ft. MSL, depending on operator.

Operators, Aircraft Types, Interim Operating Authority

The two commercial operators that hold IOA for the Park reported flying commercial air tours over the Park between 2013 and 2019. Dakota Rotors LLC (Black Hills Aerial Adventures, Inc.,

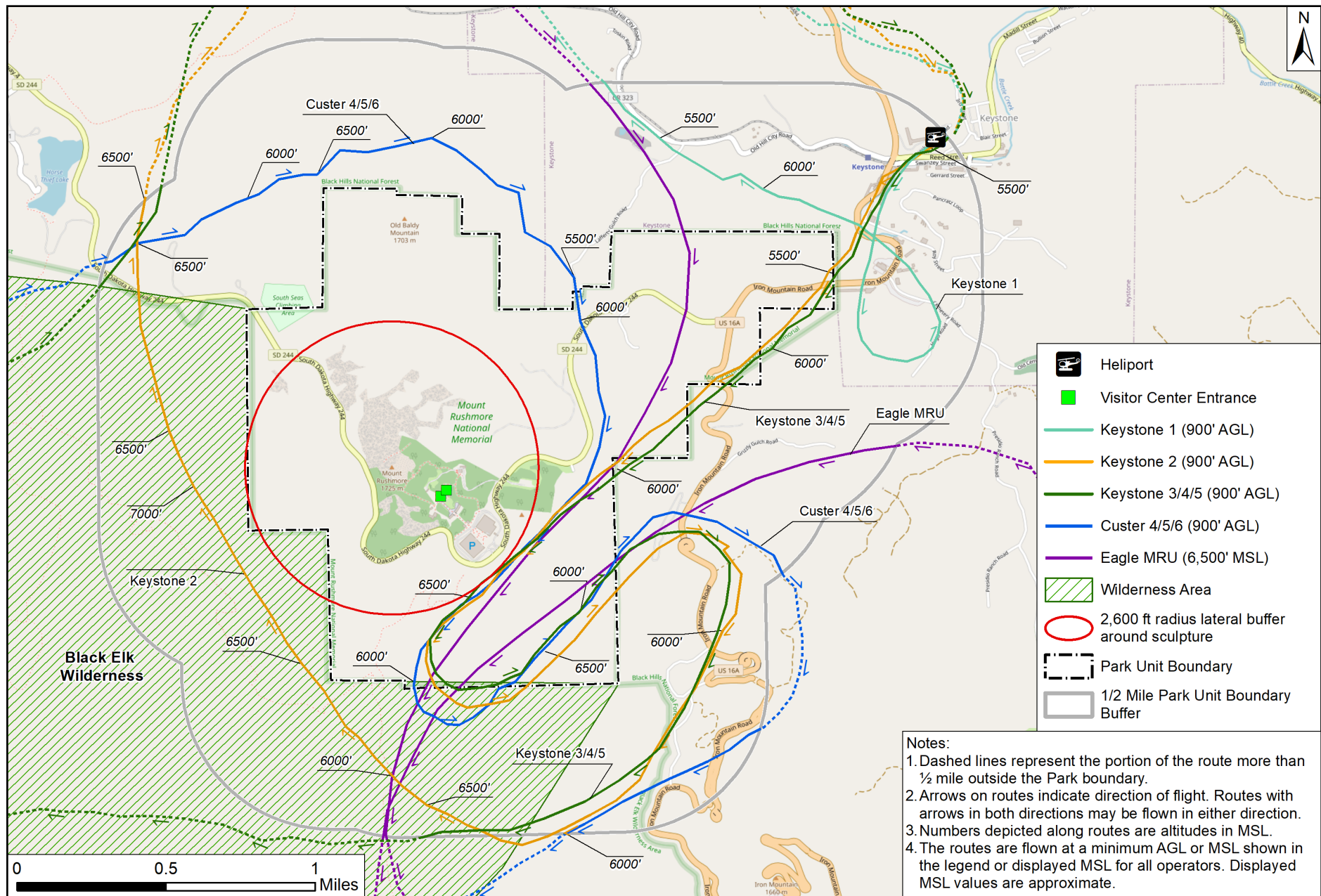
and Rushmore Helicopters) flies helicopters, and Eagle Aviation, Inc. flies fixed-wing aircraft. Dakota Rotors flies four routes that originate from two helipads outside the northeast corner of the Park and near Custer, SD. All four routes condense approximately 2,600 ft. to the southeast of the sculpture for a direct view, then begin a tight S-turn before exiting the planning area.

Eagle Aviation flies one route from north to south, across the eastern side of the Park. This fixed-wing route, similarly, flies at approximately 2,600 ft. to the southeast of the sculpture for a direct view, but flies 500 ft. higher than the helicopters. Rather than an S-turn, the fixed-wing aircraft performs a large loop, exiting the planning area, re-entering the planning area, and then exiting again. Table 1 below summarizes each operator’s aircraft type, IOA for the Park, and average number of reported air tours over the Park from 2017-2019:

Table 1. Existing air tour operators and reported air tours.

Operator	Aircraft Type	2017 Reported Tours	2018 Reported Tours	2019 Reported Tours	3-year Reported Average No. of Air Tours (2017-2019)	Interim Operating Authority (IOA)
Dakota Rotors LLC (Black Hills Aerial Adventures, Inc., and Rushmore Helicopters)	BHT-206B, BHT-47-G3B1, R-44-II, R-66- 66 (helicopters)	3,730	3,782	4,202	3,905	5,563
Eagle Aviation, Inc.	Cessna 172, Cessna 206 (fixed-wing)	19	6	2	9	45
		3,749	3,788	4,204	3,914	5,608

Figure 2. Alternative 1 — No Action/No ATMP



Alternative 2 — No Air Tours in the Planning Area

Objective

Alternative 2 — No Air Tours in the Planning Area would provide the greatest protection of the Park's natural and cultural resources and visitor experience management objectives.

The Park holds and protects numerous resources and values including: sites of spiritual and cultural significance to numerous Tribal Nations and their traditional cultural practices; the sculpture as a physical and cultural resource; threatened and endangered species and other wildlife sensitive to noise; visitor opportunities for enjoyment and solitude; ground-based visitor experiences; scenic qualities, and natural sounds.

This alternative supports the following Park management objectives:

- The Park's acoustic environment supports an outstanding visitor experience and opportunities to hear and enjoy natural sounds.
- Park staff are able to conduct, and visitors are able to experience, interpretive programming with minimal interference due to noise.
- Natural sounds are protected to conserve healthy and robust wildlife populations; biological and ecological processes prevail.
- Traditional and cultural resources are preserved to facilitate ongoing connection with and use of these resources by associated Tribal Nations and traditionally associated communities.

The ATMP also seeks to:

- Ensure the acoustic resources of the Black Elk Wilderness Area inside the planning area are maintained to preserve wilderness character: opportunities for solitude or primitive and unconfined recreation, including remoteness from sights and sounds; untrammelled or wildness; naturalness; undeveloped; and other features or values.

Description

Alternative 2 would prohibit air tours within the ATMP planning area, except for the purpose of takeoff and landing at helipads located outside the Park but within ½-mile of the boundary. The Park itself would be designated as an area to remain free of commercial air tours under 5,000 ft. AGL. Air tours outside of the ATMP planning area (i.e., above 5,000 ft. AGL or more than ½-mile outside the Park boundary) are not subject to the Act and are therefore not regulated under the ATMP. Thus, there would be no limitations on the number of air tours that could occur outside the ATMP planning area.

Routes and Altitudes

The figure for this alternative (Figure 3) depicts a prohibition on all air tours within the ATMP planning area. Air tours could be conducted only outside the ATMP planning area. The routes and altitudes of those air tours would not be set by the ATMP. The actual flight path of air tours

Alternative 2 — No Air Tours in the Planning Area

outside the ATMP planning area would vary due to operator preference and weather conditions at the time of the air tour. Based on current air tour activity, numbers of flights outside the planning area would be expected to be similar to existing conditions. This alternative could result in some current air tour operators shifting routes to other areas outside the Park that may also be significant to the Tribes or other stakeholders.¹

Amendment

The ATMP may be amended at any time if the NPS, by notification to the FAA, determines that the ATMP is not adequately protecting Park resources and/or visitor enjoyment; or if the FAA, by notification to the NPS, determines that the ATMP is adversely affecting aviation safety and/or the national aviation system; or, if the agencies determine that appropriate changes to the ATMP are necessary to address new information or changed circumstances.

¹ During consultation, a number of Tribes stated that they consider the Badlands and Black Hills a traditional cultural landscape; a large scale area containing many linked features that have religious and cultural significance.

Monitoring and Enforcement

Aircraft monitoring and enforcement would occur to ensure that commercial air tour operators are complying with the terms and conditions of the ATMP. The NPS and the FAA are both responsible for the monitoring and oversight of the ATMP. If the NPS identifies instances of non-compliance, the NPS will report such findings to the FAA's local FSDO. The FSDO will investigate all substantiated reports of noncompliance. The public may also report allegations of non-compliance with the ATMP to the FSDO, which may result in an FAA investigation.

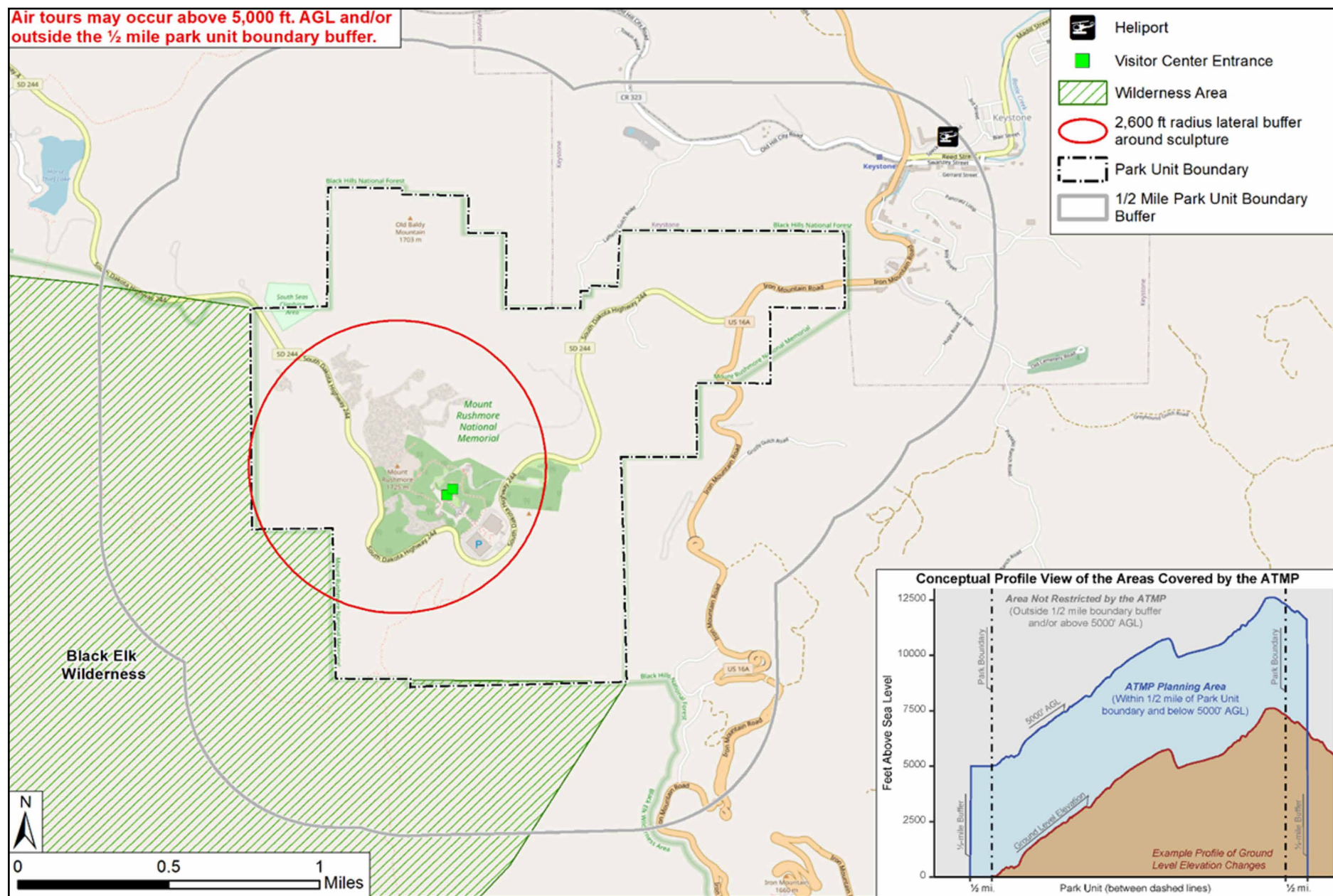
IOA

The establishment of the ATMP will result in the termination of all IOA for the Park. Air tour operators' operation specifications (OpSpecs) will be updated accordingly. OpSpecs are a set of rules that an operator must follow.



An Air Tour by Helicopter

Figure 3. Alternative 2 — No Air Tours in the Planning Area



Alternative 3 — Daily Cap of 25 Air Tours with Additional Modifications

Objective

The NPS developed Alternative 3 to provide opportunities for air tours to occur over the Park, with mitigations to avoid or minimize impacts to natural and cultural resources and visitor experience.

Similar to Alternative 2 – No Air Tours in the Planning Area, the Park’s management objectives would also apply. The FAA reviewed the alternative to ensure it would not adversely affect aviation safety.

Description

Commercial air tour operations within the ATMP planning area would be subject to a daily cap of 25 flights per day and annual cap of 3,657 flights per year. Five routes would be included in this alternative, with minimum altitudes ranging from 6,000 ft. MSL (900 ft. AGL) to 6,500 ft. MSL (1,400 ft. AGL), depending on the selected route (see Figure 4).

Caps on Numbers of Flights Allowed Annually and Daily

The total number of air tours would be limited to 3,657 flights annually. The daily number of air tours would be limited to 25 flights per day. Each operator would be subject to annual and daily flight limits (see Table 2).

Routes and Altitudes

Alternative 3 includes four routes for the helicopter operator and one route for the fixed-wing operator, all with varying altitudes and flight patterns across the ATMP planning area (see Table 3). No air tours could occur below 5,000 ft. AGL within the ATMP planning area except those conducted on the authorized routes.

Time of Day, Day of Week, and Seasonal Restrictions

Commercial air tours would be permitted to operate one hour after sunrise until one hour before sunset, as defined by the National Oceanic and Atmospheric Administration (NOAA), except for the quiet technology incentive below. Sunrise and sunset data are available from the NOAA Solar Calculator. Air tours would be permitted to occur between May 1 through September 30, for 152 total days each year. Air tours could occur any day of the week.

Additionally, to reduce the potential for disruptions to tribal ceremonies there would be designated days when no air tours would be permitted within the ATMP planning area. These days would be selected collaboratively through consultation with associated Tribal Nations. Advance notice from tribes would be required and a limit would be established for the number of days per year tribes could request.

Restrictions for Particular Events

In addition to the seasonal restrictions and no air tour days described above, the NPS can establish temporary no-fly periods in one-hour increments that apply to air tours for special events or planned Park management. Absent exigent circumstances or emergency operations, the NPS will provide a minimum of 30 days notice to the operators in writing in advance of the no-fly period. Events may include naturalization ceremonies, wildlife surveys, tribal ceremonies, or other similar events.

Monitoring and Enforcement

All air tour operators are required to report to the FAA and the NPS, on a semi-annual basis, the number of commercial air tour operations they have conducted within the ATMP planning area. In addition to these reports, operators will also include flight monitoring data and such other information as the FAA and the NPS may request.

Aircraft monitoring and enforcement would occur to ensure that commercial air tour operators are complying with the terms and conditions of the ATMP. The NPS and the FAA are both responsible for the monitoring and oversight of the ATMP. If the NPS identifies instances of non-compliance, the NPS will report such findings to the FAA's local FSDO. The FSDO will investigate all substantiated reports of noncompliance. The public may also report allegations of non-compliance with the ATMP to the FSDO, which may result in an FAA investigation.

Quiet Technology Incentives

The Act requires that the ATMP include incentives for the adoption of quiet technology by commercial air tour operators. The ATMP for this alternative would incentivize the use of quiet technology aircraft by commercial air tour operators. Operators that have converted to quiet technology aircraft, may request to be allowed to conduct air tours beginning at sunrise or ending at sunset on all days that flights are authorized.

Because aviation technology continues to evolve and advance and FAA updates its noise certification standards periodically, the aircraft eligible for this incentive will be analyzed on a case-by-case basis at the time of the operator's request to be considered for this incentive. The NPS will periodically monitor Park conditions and coordinate with FAA to assess the effectiveness of this incentive. If implementation of this incentive results in unanticipated effects on Park resources or visitor experience, further agency action may be required to ensure the protection of Park resources and visitor experience.

Operator Training and Education

When made available by Park staff, operators/pilots would be required to take at least one training course per year conducted by NPS staff. The training would include Park information that operators can use to further their own understanding of Park priorities and management objectives as well as enhance the interpretive narrative and increase understanding of the Park by air tour clients.

Adaptive Management

Adaptive management allows for minor modifications to the ATMP without a formal ATMP amendment if the impacts of such changes are within the impacts already analyzed by the agencies under the National Environmental Policy Act, the National Historic Preservation Act, and the Endangered Species Act. Adjustments to the number of commercial air tours allocated to individual operators as a result of the competitive bidding process and minor changes to routes, altitudes, or other operating parameters are examples of adaptive management measures that may not require a formal ATMP Amendment. Such modifications may be made if: 1) the NPS determines that they are necessary to avoid adverse impacts to Park resources, values, or visitor experiences; 2) the FAA determines the need for such changes due to safety concerns; or 3) the agencies determine that appropriate, minor changes to this ATMP are necessary to address new information or changed circumstances.

Annual Meeting

At the request of either of the agencies, the Park staff, the local FAA FSDO, and all operators would be required to meet once per year to discuss the implementation of the ATMP and any amendments or other changes to the ATMP. This annual meeting could be conducted in conjunction with any required annual training.

The annual meeting will facilitate effective implementation of the ATMP because it would be used to review and discuss implementation of the ATMP between Park staff, local FAA FSDO, and all operators. It will thus serve to ensure that air tour operators remain informed regarding the terms and conditions of the ATMP, including any adaptive management measures or amendments, and are made aware of new or reoccurring concerns regarding Park resources.

Competitive Bidding

The Act states whenever an ATMP limits the number of commercial air tour operations during a specified time frame, a competitive bidding process must occur pursuant to the criteria set forth in 49 U.S.C. § 40128(a)(2)(B) and other criteria developed by the agencies. Since the number of flights would be limited for this alternatives, competitive bidding would be conducted, if appropriate.

In the time period between the finalization of an ATMP and the completion of a competitive bidding process, commercial air tour operators would be allocated a certain number of commercial air tours over the Park, referred to as the initial allocation.

Competitive bidding may also be appropriate to address: a new entrant application; a request by an existing operator for additional operating authority; consideration by the agencies of Park-specific resources, impacts, or safety concerns; or for other reasons. The Act directs the agencies to consider various factors during the competitive bidding process including known resource issues, reporting, and compliance concerns.

Operators, Initial Allocation of Air Tours, Aircraft Types, and Interim Operating Authority

Upon finalization of the ATMP, the number of flights authorized to occur each year would be proportionally allocated to each of the two operators that have reported operations over the Park in the period from 2017-2019 (Table 2). Each operator's aircraft types would reflect those reported in the period from 2017-2019. The initial allocation would be used until a competitive bidding process could occur, if necessary. The establishment of the ATMP will result in the termination of all IOA for the Park.

Alternative 3 — Daily Cap of 25 Air Tours with Additional Modifications

New Entrant

For the purposes of the ATMP, a “new entrant” is a commercial air tour operator that has not been granted any operations under the ATMP or that no longer holds operations under the ATMP at the time of the application. New entrants must apply for and be granted operating authority before conducting commercial air tours over the lands and waters covered by the ATMP.

The FAA and the NPS will publish additional information for interested parties about the form and required content of a new entrant application. The FAA and the NPS will jointly consider new entrant applications and determine whether to approve such applications. Review of applications submitted prior to the effective date of the ATMP will commence within six months of the effective date. Applications submitted after that time will be considered no less frequently than every three years from the effective date of the ATMP.

If any new entrant is granted operating authority under the ATMP, the FAA will issue OpSpecs (and, if necessary, will revise OpSpecs of operators whose allocation of operating authority changes due to accommodation of a new entrant) within 90 days of the publication of an amended ATMP or of the effective date of ATMP changes implemented through the adaptive management process.

Amendment

The ATMP may be amended at any time: if the NPS, by notification to the FAA and the operator(s), determines that the ATMP is not adequately protecting Park resources and/or visitor enjoyment; if the FAA, by notification to the NPS and the operator(s), determines that the ATMP is adversely affecting aviation safety and/or the national aviation system; or, if the agencies determine that appropriate changes to the ATMP are necessary to address new information or changed circumstances that cannot be addressed through adaptive management.

The FAA and the NPS will jointly consider requests to amend the ATMP from interested parties. Requests must be made in writing and submitted to both the FAA and the NPS. Requests must also include justification that includes information regarding how the requested amendment: is consistent with the objectives of the ATMP with respect to protecting Park resources, tribal lands, or visitor use and enjoyment; and would not adversely affect aviation safety or the national aviation system. The FAA and the NPS will publish additional information for interested parties about the form and manner for submitting a request.

Increases to the total number of air tours authorized per year under the ATMP resulting from accommodation of a new entrant application or a request by an existing operator will require an amendment to this ATMP and additional environmental review.

Notice of all amendments to the ATMP will be published in the Federal Register for notice and comment.

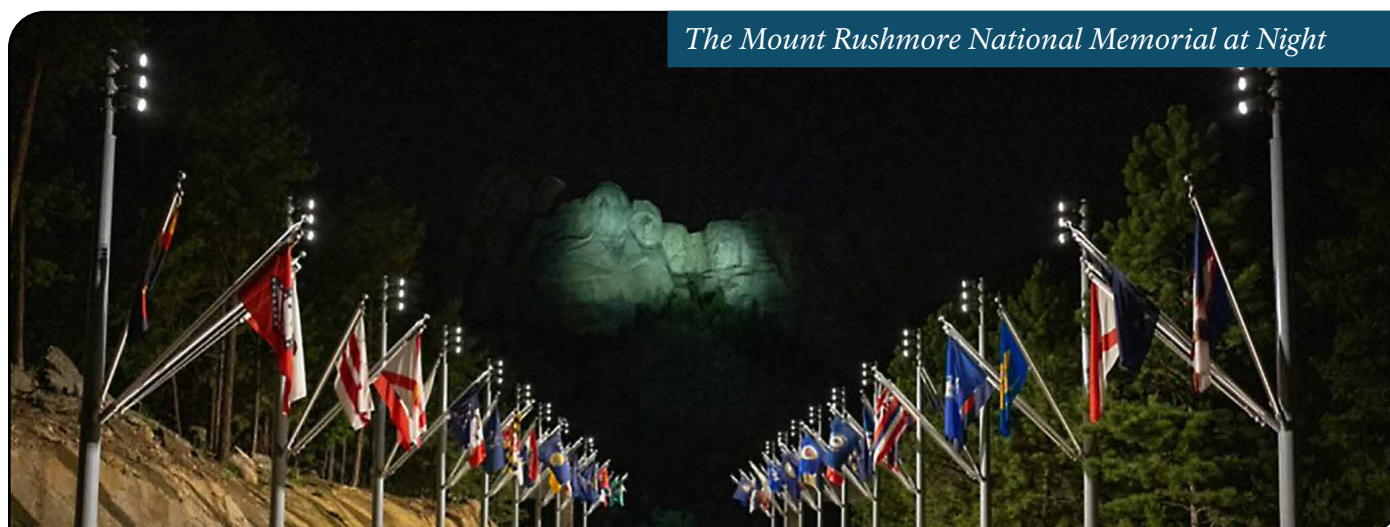
Alternative 3 — Daily Cap of 25 Air Tours with Additional Modifications

Table 2. Alternative 3 operators and annual cap, daily cap, and number of routes

Operator	Aircraft Type	3-year Reported Average No. of Air Tours (2017-2019)	Alternative 3 Annual Allocations	Daily Cap	Number of Routes
Dakota Rotors LLC (Black Hills Aerial Adventures, Inc., and Rushmore Helicopters)	BHT-206B, BHT-47-G3B1, R-44-II, R-66- 66 (helicopter)	3,905	3,648	24	4
Eagle Aviation, Inc.	Cessna 172, Cessna 206 (fixed-wing)	9	9	1	1
		3,914	3,657	25	5

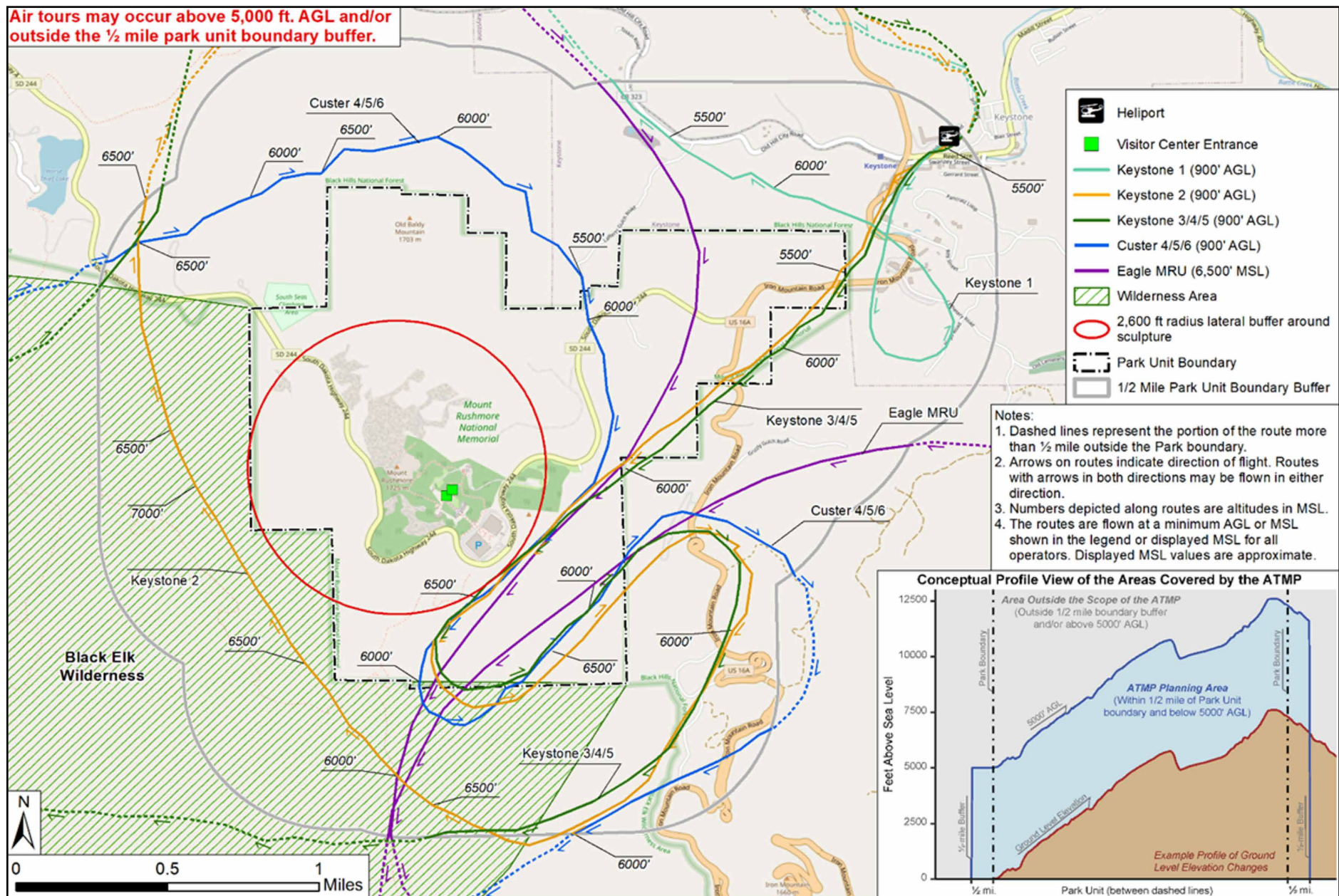
Table 3. Alternative 3 operator routes, altitude, and aircraft type conditions

Route Name	Altitude	Aircraft Type	Operator
Dakota Rotors - Keystone 1	N/A	Helicopter	Dakota Rotors
Dakota Rotors - Keystone 2	900 ft. AGL (6,000 ft. MSL)	Helicopter	Dakota Rotors
Dakota Rotors - Keystone 3/4/5	900 ft. AGL (6,000 ft. MSL)	Helicopter	Dakota Rotors
Dakota Rotors - Custer 4/5/6	900 ft. AGL (6,000 ft. MSL)	Helicopter	Dakota Rotors
Eagle Aviation Route	1,400 ft. AGL (6,500 ft. MSL)	Fixed-wing	Eagle Aviation



The Mount Rushmore National Memorial at Night

Figure 4. Alternative 3 — Daily Cap of 25 Air Tours with Additional Modifications



Alternative 4 - Daily Cap of 13 Air Tours with Additional Modifications

Objective

The NPS developed Alternative 4 to provide opportunities for air tours to occur over the Park, with mitigations to avoid or minimize impacts to natural and cultural resources and visitor experience (see Figure 5).

Similar to Alternative 3 – Daily Cap of 25 Air Tours with Additional Modifications, the Park’s management objectives would also apply. The FAA reviewed the alternative to ensure it does not adversely affect aviation safety.

Description

Commercial air tour operations within the ATMP planning area would be subject to a daily cap of 13 air tours per day and an annual cap of 1,833 flights per year across all operators. Five routes would be included in this alternative, with minimum altitudes ranging from 900 ft. AGL (6,000 ft. MSL) to 1,400 AGL (6,500 MSL), depending on the selected route.

Caps on Numbers of Flights Allowed Annually and Daily

The total number of air tours would be limited to 1,833 flights annually. The daily number of air tours would be limited to 13 tours per day. Each operator would be subject to annual and daily flight limits (see Table 4).

Conditions that are the Same as Alternative 3:

- Routes and Altitudes (see Table 5)
- Time of Day, Day of Week, and Seasonal Restrictions
- Quiet Technology (QT) Incentives
- Restrictions for Particular Events
- Adaptive Management
- Operator Training and Education
- Annual Meeting
- Competitive Bidding
- Operators, Initial Allocation of Air Tours, Aircraft Types, and Interim Operating Authority
- New Entrant
- Monitoring and Enforcement
- Amendment

Alternative 4 — Daily Cap of 13 Air Tours with Additional Modifications

Table 4. Alternative 4 operators and annual cap, daily cap, and number of routes

Operator	Aircraft Type	3-year Reported Average No. of Air Tours (2017-2019)	Alternative 4 Annual Allocations	Daily Cap	Number of Routes
Dakota Rotors LLC (Black Hills Aerial Adventures, Inc., and Rushmore Helicopters)	BHT-206B, BHT-47-G3B1, R-44-II, R-66-66 (helicopter)	3,905	1,824	12	4
Eagle Aviation, Inc.	Cessna 172, Cessna 206 (fixed-wing)	9	9	1	1
		4,914	1,833	13	5

Table 5. Alternative 4 operator routes, altitude, and aircraft type conditions

Route Name	Altitude	Aircraft Type	Operator
Dakota Rotors - Keystone 1	N/A	Helicopter	Dakota Rotors
Dakota Rotors - Keystone 2	900 ft. AGL (6,000 ft. MSL)	Helicopter	Dakota Rotors
Dakota Rotors - Keystone 3/4/5	900 ft. AGL (6,000 ft. MSL)	Helicopter	Dakota Rotors
Dakota Rotors - Custer 4/5/6	900 ft. AGL (6,000 ft. MSL)	Helicopter	Dakota Rotors
Eagle Aviation Route	1,400 ft. AGL (6,500 ft. MSL)	Fixed-wing	Eagle Aviation

Figure 5. Alternative 4 - Daily Cap of 13 Air Tours with Additional Modifications

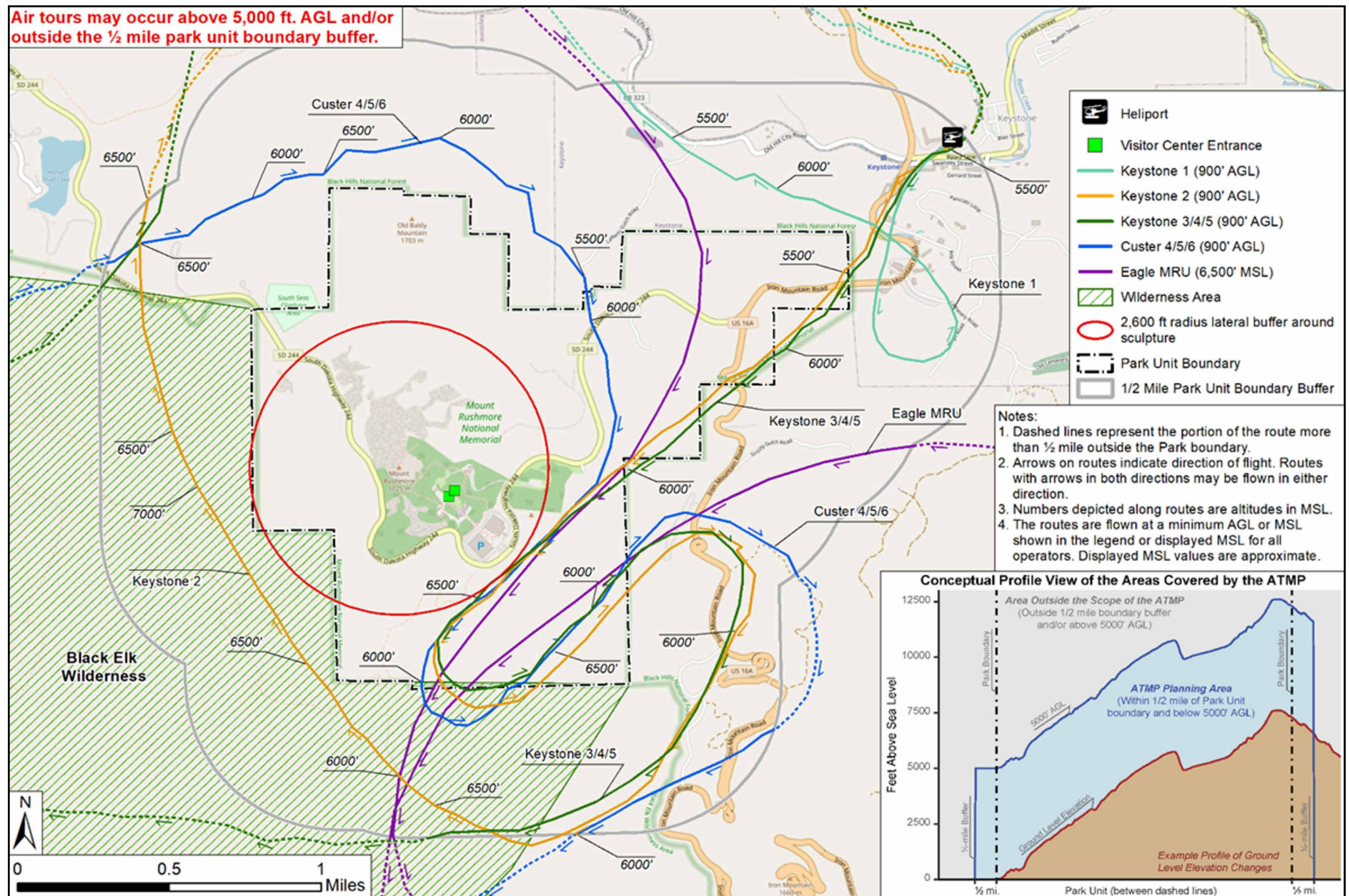


Table 6. Summary of Alternative Elements

Alternative Attributes	Alternative 1 — No Action/ No ATMP	Alternative 2— No Air Tours in the Planning Area	Alternative 3 — Daily Cap of 25 Air Tours with Additional Modifications	Alternative 4 — Daily Cap of 13 Air Tours with Additional Modifications
General Description and Objectives	Allows a continuation of air tours under IOA without implementation of an ATMP or voluntary agreement. Does not comply with the Act.	Prohibits air tours within the ATMP planning area to maximize resource protection and visitor experience. Air tours could still continue to fly outside the ATMP planning area (i.e., above 5,000 ft. AGL or more than ½-mile outside of the Park's boundary).	Restricts air tour operations within the ATMP planning area. Primarily, the conditions in this alternative include annual and daily caps, designated routes, required minimal altitudes, and no-fly periods for tribal ceremonies or special events.	Restricts and reduces air tour operations within the ATMP planning area. Primarily, the conditions in this alternative include annual and daily caps, designated routes, required minimal altitudes, and no-fly periods for tribal ceremonies or special events.
Annual/Daily Number of Flights	Leaves IOA in place, allowing the potential for up to 5,608 commercial air tours each year. Actual number of tours has historically ranged from 3,648 to 4,363 flights per year, or an average of 3,914 flights (based on 2017-2019 reporting).	None in ATMP planning area.	The annual number of flights would be limited to 3,657 total flights per year across both operators. The daily number of flights may not exceed 25 tours per day across all operators. There would be annual and daily limitations for each operator.	The annual number of flights would be limited to 1,833 total flights per year across both operators. The daily number of flights may not exceed 13 tours per day across all operators. There would be annual and daily limitations for each operator.
Routes	No mandatory routes or no-fly zones. See map for depiction of reported routes and actual operations, though operators may change routes or altitude without notice.	None in ATMP planning area.	Four routes for the helicopter operator and one route for the fixed-wing operator all with varying distances and altitudes.	Same as Alternative 3.
Minimum Altitudes	No mandatory minimum altitudes. See map for depiction of reported operations, though operators may change altitude without notice.	No minimum altitude would be set. However, flights over the Park that are above 5,000 ft. AGL could occur as they are outside the ATMP planning area. Flights more than ½-mile outside the Park boundary are similarly outside the ATMP planning area and could occur.	Minimum altitudes ranging from 900 ft. AGL to 1,400 ft. AGL, depending on the selected route.	Same as Alternative 3.

Continuation of Table 6. Summary of Alternative Elements

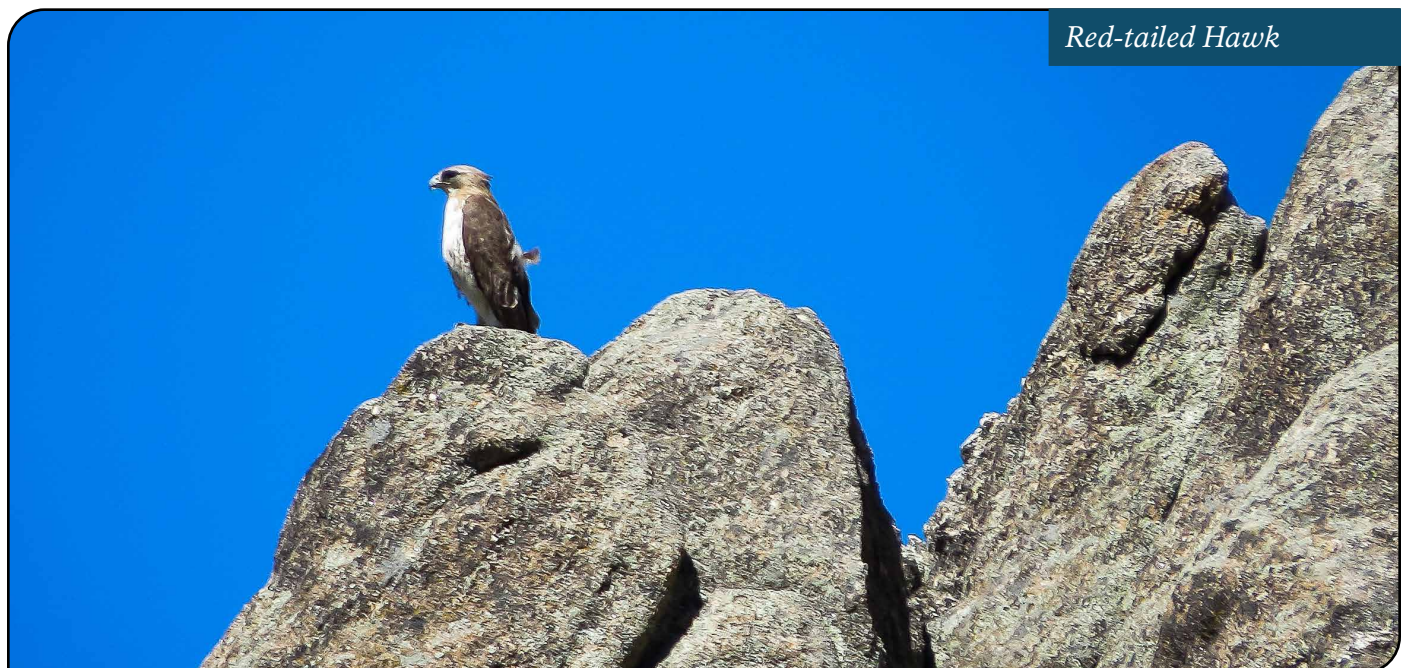
Alternative Attributes	Alternative 1 — No Action	Alternative 2— No Air Tours in the Planning Area	Alternative 3 — Daily Cap of 25 Air Tours with Additional Modifications	Alternative 4 — Daily Cap of 13 Air Tours with Additional Modifications
Time of Day	No Restrictions.	N/A	One hour after sunrise until one hour before sunset for non-QT flights. Sunrise to sunset for QT flights.	Same as Alternative 3.
Seasonal Restrictions	No Restrictions.	N/A	Air tours would be permitted to occur from May 1 through September 30, for 152 total days each year.	Same as Alternative 3.
Day of Week	No Restrictions.	N/A	Air tours may fly any day of the week from May 1 to September 30.	Same as Alternative 3.
Quiet Technology (QT) Incentives	None.	N/A	Air tours operators are incentivized to adopt QT by being extended the opportunity to fly sunrise through sunset for QT flights.	Same as Alternative 3.
Operator Training and Education	None.	N/A	Mandatory if requested and/or made available by the NPS.	Same as Alternative 3.
Annual Meeting	None.	N/A	Mandatory if requested and/or made available by the FAA or the NPS.	Same as Alternative 3.
Restrictions for Particular Events	None.	N/A	In addition to seasonal restrictions, the NPS can establish temporary no-fly periods and must provide 30 days notice to operators of the no-fly periods. Events may include tribal ceremonies or other similar events.	Same as Alternative 3.

Continuation of Table 6. Summary of Alternative Elements

Alternative Attributes	Alternative 1 — No Action	Alternative 2— No Air Tours in the Planning Area	Alternative 3 — Daily Cap of 25 Air Tours with Additional Modifications	Alternative 4 — Daily Cap of 13 Air Tours with Additional Modifications
Adaptive Management	None.	N/A	Adaptive management actions may be taken as long as their impacts are within the impacts already analyzed by the agencies.	Same as Alternative 3.
Operators, Initial Allocation of Air Tours, Aircraft Types, and Interim Operating Authority	Two operators hold for IOA of 4,117 air tours each year.	The establishment of the ATMP will result in the termination of all IOA for the Park.	Dakota Rotors: 3,648 flights annually; BHT-206B, BHT-47-G3B1, R-44-II, R-66- 66 Eagle Aviation: nine flights annually; Cessna 172, Cessna 206 Competitive bidding could occur and change air tour allocations. The establishment of the ATMP will result in the termination of all IOA for the Park.	Dakota Rotors: 1,824 flights annually; BHT-206B, BHT-47-G3B1, R-44-II, R-66- 66 Eagle Aviation: nine flights annually; Cessna 172, Cessna 206 Competitive bidding could occur and change air tour allocations. The establishment of the ATMP will result in the termination of all IOA for the Park.
Amendments	None.	The ATMP may be amended at any time if the NPS, by notification to the FAA, determines that the ATMP is not adequately protecting Park resources and/or visitor enjoyment; or if the FAA, by notification to the NPS, determines that the ATMP is adversely affecting aviation safety and/or the national aviation system; or, if the agencies determine that appropriate changes to the ATMP are necessary to address new information or changed circumstances.	The ATMP may be amended at any time: if the NPS, by notification to the FAA and the operator(s), determines that the ATMP is not adequately protecting Park resources and/or visitor enjoyment; if the FAA, by notification to the NPS and the operator(s), determines that the ATMP is adversely affecting aviation safety and/or the national aviation system; or, if the agencies determine that appropriate changes to the ATMP are necessary to address new information or changed circumstances that cannot be addressed through adaptive management.	Same as Alternative 3.

Glossary

The Act	National Parks Air Tour Management Act of 2000
AGL	Above Ground Level
ATMP	Air Tour Management Plan
EA	Environmental Assessment
FAA	Federal Aviation Administration
FSDO	Flight Standards District Office
IOA	Interim Operating Authority
MSL	Mean Sea Level
NEPA	National Environmental Policy Act
NPS	National Park Service
OpSpecs	Operational Specifications
Park	Mount Rushmore National Memorial
PEPC	Planning, Environment & Public Comment System
QT	Quiet Technology



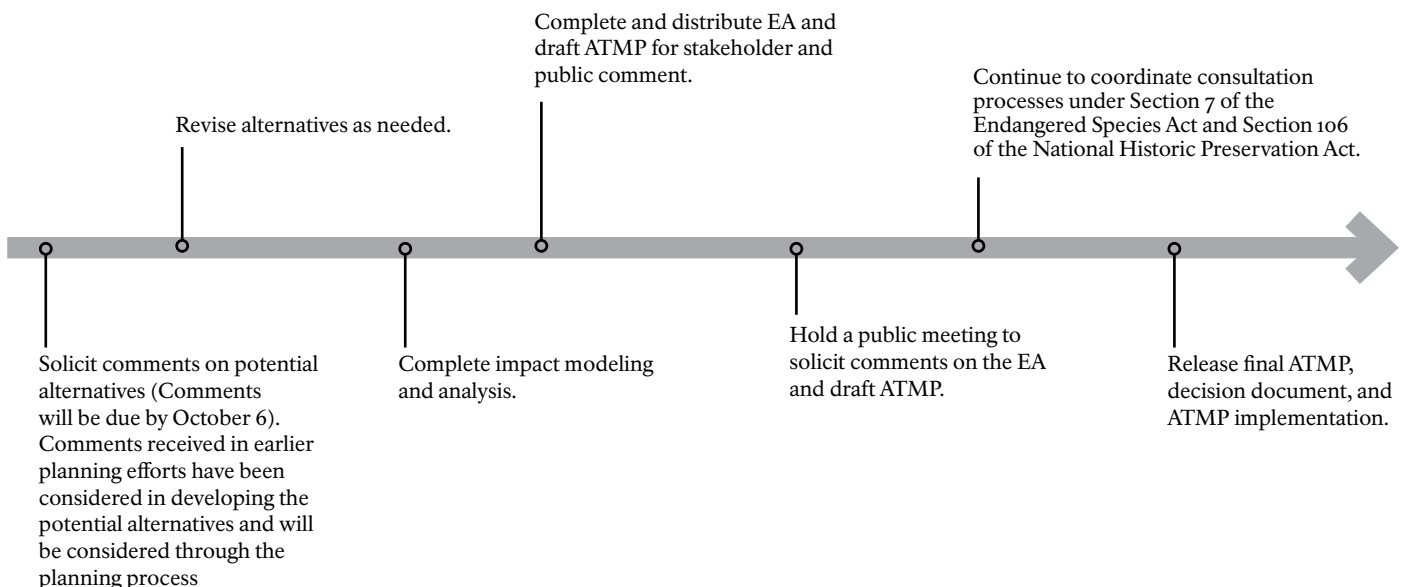
Next Steps

This public scoping period represents the first opportunity to be involved in the current planning process. During this scoping period, the project planning team would like to receive comments on the potential alternatives. After this public scoping process has concluded, the agencies will prepare an EA to comply with NEPA and a draft ATMP. Important steps in the planning process are in the graphic below.

The FAA and the NPS are also identifying resources that are listed in or eligible for listing in the National Register of Historic Places that could be affected by air tours operating under the proposed ATMP. This includes any historic districts, sites, buildings, structures, objects or landscapes, including traditional cultural properties. If members of the public have any information on historic properties that they believe would be helpful in this effort, including properties outside of the Park, we welcome that assistance.

The FAA and the NPS are also seeking to identify additional individuals or organizations that may be interested in participating in Section 106 of the National Historic Preservation Act consultations for the ATMP as consulting parties.

Should you have information you wish to provide regarding historic properties or are interested in participating in the Section 106 review process as a consulting party, please contact Sheri G. Lares at 701.323.7388 or sheri.lares@faa.gov and copy the ATMP Team at ATMPTeam@dot.gov. Please note that this contact information is only for correspondence related to the Section 106 process and comments not related to the Section 106 process will not be accepted or relayed via email. Instructions for general public comment on the potential alternatives described in this newsletter are provided below.



Instructions for Public Comment

Please comment on any alternative and/or alternative element described above. The agencies are seeking substantive comments that describe why something will or will not work, provide new ideas or factual information to correct or adjust assumptions made, or present reasonable alternatives other than those described. Comments that merely support or oppose the proposals are not considered substantive. Commenters may wish to consider the following questions:

- What elements of the alternatives do you think are most important? Why?
- What other information should the planning team consider when analyzing the alternatives?
- Are there other elements or ideas that should be considered and analyzed that are not already presented? What is missing, and why should it be considered?
- Are there other resources or impact topics that should be considered in the analysis?
- What other comments and suggestions do you have?

Comment submission using the Planning, Environment & Public Comment (PEPC) system is preferred, although written comments sent via postal mail will also be accepted. If you do not have access to a computer, use the attached comment form, following directions on the form. Comments will not be accepted via email.

Comments may be submitted using the PEPC system (<https://parkplanning.nps.gov/MountRushmoreATMP>) by October 6, 2022 at 11:59 PM MT.

Written comments may be sent via postal mail to the following address:

Volpe National Transportation Systems Center
Kaitlyn Rimol, V-326
Attn: Mount Rushmore National Memorial ATMP
55 Broadway
Cambridge, MA 02142

Send Us Your Comments!

PLEASE SUBMIT YOUR COMMENTS BY OCTOBER 6, 2022 AT 11:59 PM MT.

Please submit comments electronically by visiting: <https://parkplanning.nps.gov/MountRushmoreATMP>
Once on the website, select “Open for Comment” to provide your thoughts on these preliminary alternatives. If you do not have access to a computer, you can send us your comments on this comment form.

Do you wish to remain on the mailing list for the Air Tour Management Plan ? ☐ YES ☐ NO

Please print your name and address in the space provided. If the mailing label we used is incorrect, please indicate any corrections in the space below. To keep our mailing list accurate, please check the boxes below that apply.

- ☐ Change my address.
- ☐ Add my name to the mailing list.
- ☐ Remove my name from the mailing list.
- ☐ Send me information by e-mail.

Name: _____

Organization, if any: _____

Mailing Address: _____

City/State/Zip: _____

Email: _____

Below, please write any comments or feedback related to information provided in this newsletter. Please include additional sheets of paper as necessary. When complete, please fold this form in half, showing the preprinted address on the outside, tape it closed (no staples please), add postage, and drop in the mail.

Comments will not be accepted by fax, e-mail, or any other way than those specified above. Bulk comments in any format (hard copy or electronic) submitted on behalf of others will not be accepted. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Name: _____

Address: _____

**ADD
POSTAGE
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