Exhibit 8 – March 27, 2023, Finding of Effect Letter with Invitation to April 20, 2023, Informational Meeting; Meeting Reminder; and Meeting Summary and Q&A

Effects Assessment

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

March 27, 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 Haleakalā National Park (HICRIS Project 2022PR00396)

Dr. Alan Downer
Deputy State Historic Preservation Officer
Hawai'i State Historic Preservation Division
Hawai'i Department of Land and Natural Resources
Kakuhihewa Building, Room 555
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Kapolei, HI 96707

Dear Dr. Alan Downer:

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 Haleakalā National Park (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 – reduction of air tours (the preferred alternative under the National Environmental Policy Act (NEPA)); the Area of Potential Effects (APE); a description of steps taken to identify historic properties; a description of historic properties in the APE and the characteristics that qualify them for listing in the National Register of Historic Places (National Register); and an explanation of why the criteria of adverse effect do not apply to this undertaking. This letter also describes the Section 106 consultation process and public involvement for this undertaking.

The FAA initiated Section 106 consultation with Hawai'i State Historic Preservation Division (SHPD) by letter dated March 29, 2021. Similar consultation initiation letters were sent to consulting parties in early 2021. In a follow-up letter dated October 1, 2021, we invited all consulting parties (listed in

Attachment A) to an October 28, 2021, informational webinar to provide background on the ATMP development process at the Park. The agencies have held meetings with Native Hawaiian Organizations (NHOs) and members of the Park's Kūpuna (grandparents, ancestors; starting points, sources) consultation group, which consists of elders and individuals with in-depth knowledge of the Park, to discuss the ATMP planning process, the range of alternatives, and Section 106 consultation. Section 106 consultation with the consulting parties including NHOs and the Kūpuna consultation group is further described below in the Summary of Section 106 Consultation with Consulting Parties.

Public involvement for this undertaking was integrated with the NEPA process. The agencies published an ATMP Public Scoping Potential Alternatives Newsletter on February 28, 2022. The Public Scoping comment period spanned from February 28, 2022, to April 1, 2022. The agencies received 4,347 discrete comments, 257 of which were regarding impacts to cultural resources. The agencies received comments about the importance of the Park to Native Hawaiians and that the Park contains culturally significant resources, sites, temples, and burial grounds. Commenters expressed opposition to air tours and noted that the sight and sounds of air tours disrupt cultural sites and traditional practices and infringe on the religious freedoms of those who visit certain areas for pule (prayer) interaction, religious ceremonies, solitude, relaxation, contemplation, silence, and meditation. Commenters also noted the destruction air tours cause to the Hawaiian communities by taking away the connection and ability to speak with the Kūpuna and interfering with Native Hawaiian traditional cultural practices.

Commenters noted that the Park is a traditional cultural property (TCP) that should be treated with respect, and it is the dwelling place of nā akua (the gods), where kahuna (priests) conduct ceremonies. Commenters also noted that Native Hawaiians and the Kūpuna believe the Crater and Pele are sacred, serene, peaceful spaces of cultural and spiritual significance that should not be interrupted or disturbed.

Commenters stated that air tours over sacred land and indigenous communities is exploitative and linked it to the illegal overthrow of the Hawaiian kingdom and erasure of Hawaiian culture and language. Commenters noted that air tour demand would decrease if more people were aware of the overthrow and its impacts. Commenters also stated that tourism, marketing Hawai'i as an exotic tourist destination, and the commodification and overexposure of Hawaiian culture has created cultural distortions leading to degradation of Hawaiian culture that makes it more difficult for Hawaiian activism and sovereignty to gain traction and poses a serious threat to the sovereignty of ancestral domain over the land by its indigenous caretakers. Commenters stated that air tours affect the pristine, sanctuary environment of the Hawaiian Islands Sovereign Lands and noted that Native Hawaiians are constantly being pressured by tourism.

Commenters emphasized the importance of keeping the considerations of the local population, especially the indigenous Hawaiian population, as a top priority in the planning of the ATMP. Commenters questioned if the kahuna and "tribal peoples" were asked their thoughts on the ATMP and requested the agencies work closely with the Native Hawaiian communities and put their concerns above all else, especially with issues that will affect future generations.

Commenters stated that the Haleakalā National Park Foundation Document (updated September 2015) lists nine fundamental resources and values (FRVs) "essential to achieving the purpose of the park," which include natural sounds, viewsheds and dark night skies; wilderness; ongoing connections to living Hawaiian culture; native Hawaiian biological diversity; and kuleana (the responsibility to present and future generations for stewardship and the respect for all things spiritual and physical). Commenters noted that any number of commercial air tours fundamentally impedes or damages each of these FRVs,

including intrusion on Native Hawaiian cultural ceremonies and practices, interference of acoustic-based bird surveys, and unreasonable impacts on interpretive programs and visitor activities throughout the Park, and that any flights anywhere close to the boundary of Haleakalā Crater, in either height or distance, have an amplifying destructive effect on the peace, quiet and serenity of the Crater.

Commenters expressed opposition to maintaining air tours at current levels as it would continue to cause impacts to cultural resources and ceremonial use. Commenters expressed support for reducing or eliminating air tours to provide greater protection from noise impacts to cultural resources, cultural practices, ceremonial sites, and TCPs. Commenters noted that it was important to protect indigenous land, especially since the area within the ATMP holds culturally significant areas that are considered sacred and/or used for cultural practices with reference to: Hall, Lisa Kahaleole, "'Hawaiian at Heart' and other Fictions"; The Contemporary Pacific (2005): 404-413.

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 February 2022 Scoping Newsletter, prepared by the agencies, that was previously provided to you and is available at the following link:
https://parkplanning.nps.gov/document.cfm?parkID=306&projectID=103365&documentID=118738

The undertaking for purposes of Section 106 is developing and implementing an ATMP that applies to all commercial air tours over the Park and within ½ mile outside the boundary of the Park. 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 (ft.) above ground level (AGL) (except solely for the purposes of takeoff or landing, or necessary for safe operation of an aircraft as determined under the rules and regulations of the FAA requiring the pilot-in-command to take action to ensure the safe operation of the aircraft); or

(2) Less than one mile laterally from any geographic feature within the Park (unless more than ½ mile outside the Park boundary).

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

Commercial air tours have been operating over the Park for over 20 years. Prior to NPATMA, the FAA did not regulate air tours over national parks and the NPS did not have authority to regulate commercial air tours. Since 2005, these air tours have been conducted pursuant to interim operating authority (IOA) that the FAA was required to grant under NPATMA. As a non-discretionary act, the granting of IOA did not constitute an undertaking under Section 106 regulations. IOA does not provide any operating conditions (e.g., routes, altitudes, time of day, etc.) for air tours other than an annual limit on the number of air tours per year. Six commercial air tour operators – Aris, Inc. (Air Maui Helicopter Tours); Hawai'i Helicopters, Inc.; Helicopter Consultants of Maui, Inc. (Blue Hawaiian Helicopters); Schuman /

Makani Kai; Sunshine Helicopters, Inc.; and Alika Aviation, Inc. (Alexair, Maverick) – hold IOA to conduct a combined total of 25,827 commercial air tours over the Park each year. The ATMP will replace IOA.

The agencies have documented the existing conditions for commercial air tour operations over the Park. The agencies consider the existing operations for commercial air tours to be an average of 2017-2019 annual air tours flown, which is 4,824 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.

Commercial air tours currently are provided by five different operators[1] and are conducted using AS350BA, AS350B2, EC130 T2, and EC130 B4 helicopters. Under existing conditions, there are no designated flight routes or no-fly zones that operators must adhere to; however, commercial air tours are generally concentrated south of the Haleakalā Crater and along the southern portions of the Park according to automatic dependent surveillance-broadcast (ADS-B) systems[2] data of flight paths. Minimum altitudes for commercial air tours within the ATMP planning area are flown in accordance with the Hawai'i Air Tour Common Procedures Manual, from 500 to 1,500 ft. AGL, weather dependent and contingent on location over the island. In most locations over the Park, the Hawai'i Air Tour Common Procedures Manual requires helicopters to fly at a minimum of 500 ft. AGL.

The proposed undertaking, which was referred to in prior consultation and the February 2022 Scoping Newsletter as Alternative 3 – Reduction of Air Tours, would require operators to fly on a single designated route within the ATMP planning area in accordance with the conditions included in the ATMP. The ATMP will require operators to fly the designated route depicted in **Attachment B**.

A summary of the undertaking is shown in the table below:

SUMMARY OF ATMP ELEMENTS

General Description and Objectives	Designates a single flight path within the ATMP planning area and a reduction in the annual number of commercial air tours over the Park. 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).
Annual/Daily Number of Flights	Authorizes 2,412 flights per year. Daily limit of 16 flights per day across all operators on those days where flights are allowed.
Routes	One air tour route with four segments. The first segment of the route enters the ATMP planning area from the west, south of the State Kahikinui Forest Reserve and extends west-to-east above the Nu'u Area before ending at the edge of the ATMP planning area. The second segment enters the ATMP planning area within a ½ mile of the Denman Parcel and ends south of the Kīpahulu Forest Reserve. The third segment enters near the Ka'apahu Area and ends approximately 0.75 miles from the Kīpahulu Area and Visitor Center. The fourth segment enters the ATMP planning area over the ocean south of

[1] Six operators hold IOA, but one operator (Schuman/Makani Kai) has not reported any air tours since 2013.
[2] ADS-B systems periodically transmits aircraft location data in real-time.

	Puhilele Point and ends over the ocean south of Pepeiaolepo Bay. This route allows operators to fly in one direction—west to east.
Minimum Altitudes	Minimum 2,000 ft. AGL over land; minimum 3,000 ft. AGL over the ocean. Operators may continue to fly to points of interest on the island outside of the ATMP planning area where they already fly or fly routes over or around the ATMP planning area similar to existing flights paths but outside of the ATMP planning area. Flights more than ½-mile outside the Park boundary could continue to occur and are also outside the ATMP planning area and are subject to the altitude requirements and procedures of the Hawai'i Air Tour Common Procedures Manual. Some air tour operators may choose to fly air tours above the ATMP planning area, but this would be impractical in some locations, such as over the crater, due to safety requirements for unpressurized aircraft.
Time of Day	On days where air tours are permitted: 11 AM – 2 PM for non-quiet technology flights. 11 AM – 4 PM for quiet technology flights.
Day of Week	No-fly days on Sunday and Wednesday.
Hovering and/or Circling	Not permitted.
Quiet Technology Incentives	Quiet technology flights may fly 11 AM – 4 PM except on no-fly days. All commercial air tours within the ATMP planning area must exclusively utilize quiet technology aircraft by 2033.
Interpretative Training and Education	Mandatory, when made available by Park staff. Helicopter operators would also be required to complete the FAA Introduction to Fly Neighborly training.
Annual Meeting	Mandatory, when requested by the agencies.
Restrictions for Particular Events	Six no-fly days generated by following the Hawaiian Moon Calendar and Makahiki Season; two no-fly days on Hawai'i State holidays of historical importance with prior notice provided to operators. NPS could establish restrictions for particular events with two months' notice provided to operators.
Monitoring and Enforcement	Operators would provide semi-annual reports, including the flight monitoring data, which is specified in detail in the ATMP Section 4.1. The NPS would conduct ADS-B aircraft monitoring and work with the FAA to respond to instances of non-compliance. The FAA FSDO would investigate all reports of noncompliance. Investigative determination of non-compliance may result in legal enforcement actions.
Adaptive Management	Adaptive management of the route, frequency, and timing would be considered/analyzed. NPS would conduct periodic acoustic monitoring.
Operators, Initial Allocation of Air Tours, and Aircraft Types	The initial allocation of commercial air tours for each operator would reflect the proportion of the annual air tours flown on average by each of the six air tour companies from 2017-2019 and would restrict companies to the same aircraft type flown during that time. After the

	initial allocation, competitive bidding would occur. Any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced.

Area of Potential Effects

The agencies initially delineated the APE to include the Park and a ½-mile buffer around the Park. The agencies held a Section 106 consultation meeting with all consulting parties on November 10, 2022, to inform them of the proposed APE and to seek comments. The agencies took into consideration the input from the consulting parties and subsequently expanded the boundaries of the APE to incorporate comments received by the consulting parties regarding additional areas potentially affected by the undertaking.

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 noise levels that may result in alteration of the characteristics of historic properties qualifying them as eligible for listing in the National Register.

It is reasonably foreseeable that operators would fly the proposed flight path at a minimum of 2,000 ft. AGL or fly close to their existing flight paths above 5,000 ft. AGL or outside the ATMP planning area. The undertaking proposes a flight path through the Park that varies from currently reported routes. The proposed flight path connects to existing flight paths at the easternmost and westernmost bounds of the ATMP planning area (based on ADS-B systems data of flight paths) but shifts to the south at the Kaupō Denman parcel as well as the Kīpahulu and Kaʻāpahu areas. While the flights may not follow a straight line connecting the route outside the ATMP planning area, it is reasonably foreseeable that some flights would follow the proposed flight path and maintain a direct connection to the path outside of the ATMP planning area some of the time.

Therefore, the APE includes the Park and areas outside the Park but within ½ mile of its boundary. The APE also includes areas outside of the ATMP planning area between the Nu'u and Kaʻāpahu areas of the park, bounded to the south by the southern limits of the ½ mile buffer around the Kaupō Denman parcel, and the overland area between the Kaʻāpahu and Kīpahulu areas of the park. The inclusion of areas outside the ATMP planning area addresses the most direct path operators may fly to connect to the proposed flight path, allowing for deviation in the route and the extent of new visual and audible impacts that may result. The APE extends vertically from ground level to encompass areas where the operators may fly above the ATMP planning area (i.e., more than 5,000 ft. AGL). If operators choose to fly above the ATMP planning area, they would likely keep to an altitude close to but just above 5,000 ft. AGL, as higher flight altitudes would provide limited value to a sightseeing operation. As the ground level varies throughout the park, the vertical limits extend to just above 5,000 ft. mean sea level (MSL) at the coastline to no more than 10,000 ft. MSL near the summit.[3]

[3] Supplemental oxygen use is required in unpressurized aircraft flying over 10,000 ft MSL for more than 30 minutes (14 CFR § 135.89, § 135.157); therefore, it is unlikely air tours would fly higher for extended periods of time.

This APE encompasses the reasonably foreseeable areas where operators may fly given the implementation of the ATMP and therefore the areas within which the undertaking may directly or indirectly cause alterations in the character or use of historical properties within the APE if any such properties exist. The proposed APE is depicted in the map included in **Attachment B** below.

The FAA sent a letter dated December 23, 2022, to the SHPD requesting their input on the revised APE. On January 26, 2023, the SHPD offered no objections to the APE, but noted that the State Historic Preservation Officer looked forward to receiving and reviewing the agencies' responses to the consulting parties' comments. The FAA sent a follow-up letter dated February 10, 2023, to all consulting parties that included the revised APE. The FAA requested comments from all consulting parties including NHOs. We received no comments from consulting parties regarding the revised APE.

Summary of Section 106 Consultation with Consulting Parties

In addition to the SHPD, the agencies invited various consulting parties, including NHOs, members of the Park's Kūpuna consultation group, and operators, to participate in the consultation process for the undertaking. The agencies recognize that Native Hawaiians have a long-standing and deeply rooted association with the landscape that encompasses these National Park lands, which include numerous sites of religious and cultural significance.

The FAA contacted Native Hawaiians, including NHOs and members of the Park's Kūpuna consultation group, via letter on April 9, 2021, inviting them to participate in Section 106 consultation and requesting their expertise regarding historic properties, including TCPs that may be located within the APE. The agencies sent consultation invitations to operators on August 6, 2021. Additional consulting parties were invited on October 1, 2021. A complete list of all consulting parties contacted is enclosed in **Attachment A**. The agencies held a listening session for the Park's Kūpuna consultation group on December 9, 2021, and a consulting party meeting with all consulting parties on November 10, 2022. A preliminary APE, historic property identification list, and maps of the proposed alternatives were included in the invitations and meeting materials for the November 2022 consulting party meeting.

During the listening sessions and consultation meetings, the agencies heard from participating Kūpuna that they oppose air tours in the ATMP planning area. The Park's Kūpuna consultation group expressed concerns regarding the impacts of air tours on the sacredness and spirituality of the entire Park and the impacts of noise pollution on traditional practices and on endangered wildlife. Furthermore, the NHOs and Kūpuna noted that the entire Park is part of a continuous landscape that is sacred. The landscape is considered a TCP, which includes natural resources that are also considered to be cultural resources by Native Hawaiians. The participating NHOs and Kūpuna emphasized that plants, animals, the sky, the ocean, and other natural resources are contributing features to cultural resources throughout the APE.

Friends of Haleakalā National Park noted that the Kaupō Gap Trail should be included in the historic property list and requested that the route be located south of the Denman parcel. The Historic Hawai'i Foundation provided comments on the initial APE and historic property list and expressed concerns regarding flights over the Haleakalā Crater higher than 5,000 ft. AGL and in areas where they do not currently fly. The National Trust for Historic Preservation endorsed the comments submitted by the Historic Hawai'i Foundation. Tweetie Lind, a representative from the Lind 'Ohana (family) and the Kūpuna Council, expressed opposition to air tours within two miles of Haleakalā Crater and noted that air tours should be reduced due to noise pollution, air pollution, crossing over sacred sites and private residences, and because crossing over the Park (Lelekea-Kalepa-Kaapahu) loosens rocks on the whole

mountain. The Office of Hawaiian Affairs (OHA) requested a TCP study for the Park and noted that the entire Park contains endangered species, cultural resources, and cultural functions that should all be considered. The OHA also requested that the FAA consider vertical boundaries or buffers for identified historic properties, noted flight safety related concerns, requested flight altitude monitoring, and expressed opposition to air tours in the ATMP planning area.

On February 10, 2023, the FAA sent a Section 106 consultation letter to all consulting parties that provided responses to comments received during and following the November 2022 consulting party meeting, a revised APE map, and a revised historic properties list.

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, outdoor spaces designed for meditation or contemplation, and certain TCPs. 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 retrieved from the Hawai'i Cultural Resource Information System (HICRIS). Section 106 consultation efforts to identify historic properties within the APE also involved outreach to NHOs and the Park's Kūpuna consultation group, the SHPD, operators, and other consulting parties including local governments. Public comments submitted as part of the Public Scoping process also informed identification efforts.

The FAA provided a preliminary list of historic properties in the Park to the SHPD for their review and comment in the scoping cover letter dated March 7, 2022. A preliminary list of historic properties in the entire initial APE was provided to all consulting parties in the meeting materials for the November 10, 2022, consulting party meeting. The agencies expanded the boundaries of the APE to incorporate additional areas potentially affected by the undertaking, and an updated historic properties list was provided in the response to consulting party comments in a letter dated February 10, 2023. The FAA received no comments from consulting parties in response to the February 10, 2023, letter.

These efforts resulted in identification of 32 historic properties within the APE. All historic properties identified within the APE are listed in **Attachment C** and those with available non-restricted location data are shown in the APE map provided in **Attachment B**.

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. Commercial air tours, by their nature, have the potential to impact resources for which feeling and setting are contributing elements. Based on the standard imposed in the regulations implementing Section 106, the agencies 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. *See* 36 CFR §800.5(a)(2)(v). Air tours have been conducted over the Park for well over 20 years and are currently conducted under the IOA that the FAA was required to grant operators by NPATMA. Thus, the undertaking— implementing the ATMP—would not introduce visual or auditory elements from air tours as aircraft already operate in the area. The undertaking does not include land acquisition, construction, or ground disturbance and will not result in physical effects to historic properties. The undertaking would not limit access to or change ceremonial use of Native Hawaiian sacred sites, ethnographic resources, or TCPs.

Assessment of Noise Effects

To assess the potential for the introduction of audible elements, as well as changes in the duration and intensity of aircraft noise, the FAA and NPS 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 authorizes half the annual flights as the average number of flights from 2017-2019 with a daily limit on flights across all operators on those days where flights are allowed. The ATMP designates a single one-way route from west to east over four segments in the southern area of the ATMP planning area. The ATMP authorizes the use of the AS350BA, AS350B2, EC130 T2, and EC130 B4 helicopters. Any new or replacement aircraft must not exceed the noise level produced by the aircraft being replaced. The ATMP requires the operators to fly on a single route at increased altitudes than are flown under existing conditions (minimum 2,000 – 3,000 ft. AGL, depending on location over the Park and ATMP boundary). Increases in minimum altitudes, where they occur, would reduce maximum noise levels at sites directly below the commercial air tour routes. It should be noted that when the altitude of an aircraft is increased, the total area exposed to the noise from that aircraft may also increase depending on the surrounding terrain. Although the area exposed to noise might increase, this would not meaningfully affect the acoustic environment because attenuation of noise from the higher altitude would most likely reduce noise levels depending on terrain and the transient nature of the impacts. Overall, noise levels associated with commercial air tours over the Park would be reduced in both duration and decibel level across most of the APE as a result of the undertaking.

Noise Metrics

To account for the differences in duration and loudness of sounds, different metrics are used. These metrics are used to compare individual noise events as well as many events that take place over an extended period of time. Equivalent sound level (L_{eq}) is being used to account for the cumulative effect of multiple air tour overflights throughout the day; it accounts for increases in both the loudness and duration of noise events. L_{eq} is defined as the level of continuous sound over a given time period that would deliver the same amount of energy as the actual, varying sound exposure. For air tours, it is computed over a 12-hour daytime period ($L_{Aeq,\ 12\ hr}$) to represent a typical operational day and to provide a common time basis for comparison between alternatives.

Closely related, the day-night average sound level (DNL) noise metric is used to reflect a person's cumulative exposure to sound over a 24-hour period. By definition, DNL is arithmetically 3 dBA[4] lower than the $L_{Aeq, 12\ hr}$, as the averaging time period is twice as long and there are no nighttime air tour operations authorized by the ATMP. For purposes of assessing noise impacts from commercial air tours on the acoustic environment of the Park under NEPA, the FAA noise evaluation is based on Yearly[5] Day Night Average Sound Level (L_{dn} or DNL). The DNL analysis indicates that the undertaking would not result in any noise impacts that would be "significant" or "reportable" under FAA's policy for NEPA.[6]

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. The time above 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) per day. In quiet settings, outdoor sound levels exceeding 35 dBA 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 (Table 1) and presents the noise contours (i.e., graphical illustration depicting noise exposure) and point data from the modeling.

Time audible and maximum sound level (L_{Amax}) are also used to gather more data on the duration and intensity of noise. Time audible notes the total time that aircraft noise levels are audible to an attentive listener with normal hearing under natural ambient conditions. Time audible does not indicate how loud the event is, only if it can be heard. Time audible may be more indicative of when quiet is disrupted than the time above metrics and takes into consideration the natural ambient conditions that may mask or make human-sourced sounds more noticeable. L_{Amax} provides the loudest sound level generated by the loudest event, and does not provide any context of frequency, duration, or timing of exposure.

Overview of Noise Effects Throughout ATMP Planning Area

Attachment D presents noise contour data for the $L_{Aeq, 12\ hr}$ (Figure 11) and time above 35 dBA (Figure 13) and point data for time above 52 dBA (Figure 7 and Table 7). Generally, the undertaking would result in a decrease of noise levels for the interior (northern) regions of the Park but may result in an increase in noise levels in coastal regions near the proposed flight path. Many historic properties are clustered in the northern region of the Park where noise would not exceed 35 dBA on days when commercial air tours would occur under the ATMP. Furthermore, the proposed flight path does not fly directly over many of the historic properties in the APE, including the Crater Historic District, Kīpahulu Historic District, Hanā Belt Road, Nu'u Archeological Sites, Ka'āpahu Archeological Sites, Naholoku

[4] 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. See attached noise report, page 5 for further discussion.

[5] Yearly conditions are represented as the Average Annual Day (AAD)

[6] 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.

Archeological Sites, and many significant features of the Haleakalā Summit TCP. The undertaking would reduce noise impacts that could detract from the feeling and setting of these resources as compared to existing conditions.

Portions of the APE along the proposed flight path would experience $L_{Aeq, 12\ hr}$ between 35 dBA and 40 dBA, with small areas rising above 40 dBA but below 45 dBA. Compared to existing conditions, the average $L_{Aeq, 12\ hr}$ would be lower for the interior regions of the park but may be higher in coastal regions as more flights may fly the proposed flight path than currently fly over these areas. No areas in the ATMP planning area would experience DNL greater than 40 dB.

As a whole, the noise footprint for the ATMP, as measured by areas where the $L_{Aeq, 12\ hr}$ exceeds 35 dBA, would impact 6% of the park (see Table 8 in **Attachment D**). Noise related to commercial air tours would be greater than 35 dBA for less than 45 minutes a day within the APE (with most portions of the APE experiencing noise above 35 dBA for less than 15 minutes a day) and greater than 52 dBA for less than 15 minutes a day within the APE.[7] Time above 35 dBA across the entire Park decreases by up to 61 minutes (see point 40, Nu'u 7,500 ft. elevation) compared to existing conditions; only point 24 (Waimoku Falls) would experience a slight increase in time above 35 dBA (by 2 minutes), likely due to the increased flight altitude and surrounding topography. Compared to existing conditions, the noise footprint for the ATMP as measured by time above 35 dBA potentially affects 42% less of the Park.

More flights may occur on the proposed route under the ATMP than existing flights along the coast (modeled at 9 flights per day versus the existing average of 4.5). The ATMP will also require 2,000 ft. AGL as a minimum altitude on the proposed flight path, compared to the existing minimum altitudes of 500 ft. to 1,500 ft. AGL. The net result of creating a single designated route and the increase in minimum altitude due to the undertaking is an increase in noise at coastal locations. Note however, that coastal areas have a natural ambient level higher than the interior portions of the Park; noise from air tours may not be as intrusive compared to naturally quieter locations. Median levels of natural sounds at the coast are between 45 and 50 dBA, 10-20 dB higher than in many interior areas (see Figure 2 in **Attachment D**); the ambient conditions along the coast remain in the 45-50 dB range (i.e., do not increase) when existing air tours are included in the Cumulative Existing Ambient for Existing Conditions (see Figure 4 in **Attachment D)**. High natural ambient conditions may mask human-sourced sounds, while sound intrusions may be more noticeable in the areas of the park with low natural ambient conditions.

Points with Increased Noise

Eight noise points (21, 22, 23, 25, 26, 30, 37, and 41) would experience increases in more than one of the FAA and NPS metrics. As noted above, only point 24 (Waimoku Falls) will see an increase in one metric (time above 35 dBA); however, the increase of 2 minutes is minor, and all other metrics decrease at this point. The agencies determined whether these eight points were near any historic properties that have a quiet setting or natural sounds and setting as a significant characteristic. The agencies then analyzed additional noise metrics to determine changes in noise duration and intensity that would be experienced at those properties under the ATMP compared to existing conditions. Table 11 in **Attachment D** shows the difference between the existing $L_{Aeq, 12\ hr}$ compared to the modeled $L_{Aeq, 12\ hr}$ under the ATMP, Table 12 shows the difference in the time audible for natural ambient, Table 13 shows the difference in time above 35 dBA, Table 14 shows the difference in time above 52 dBA, and Table 15

[7] See note preceding Figure 1 in the Noise Technical Analysis (Attachment D) regarding minor altitude adjustments not reflected in the noise modeling.

shows the difference in the L_{Amax}. The below analysis interprets the modeled noise metrics in these tables and discusses if any changes in noise have the potential to cause adverse effects to historic properties in the APE.

Noise point 26 in the Denman Parcel, which is within the Haleakalā Summit TCP and near the Naholoku Archaeological Sites, Lonoaea Heiau, Lonoʻoʻaiʻa Heiau (Hale O Kane Heiau), and Pictograph and Rock Shelter (Marciel's Pictograph), would experience increases in sound level as measured by $L_{Aeq, 12\ hr}$ and L_{Amax}; the increase of 0.3 dBA in L_{Amax} (from 57.2 to 57.5 dBA L_{Amax}) would be imperceptible to a human observer. However, all of these historic properties have a use where quiet setting and/or natural sounds is important. Noise near these sites would decrease in time above 35 dBA by 46 minutes (from 68.5 to 22.5 minutes) compared to existing conditions but would increase in time above 52 dBA by 2.8 minutes compared to existing conditions (from 1.3 to 4.1 minutes). While time above 52 is an indication of when speech could be disrupted, time audible may be more indicative of when quiet is disrupted and takes into consideration the natural ambient conditions that may mask or make human-sourced sounds more noticeable. Despite the slight sound level intensity increases cited above, the time the air tours may be audible would decrease by approximately 129 minutes compared to existing conditions (from 210.6 to 81.4 minutes).[8] Therefore, while noise intensity would slightly increase at this point compared to existing conditions (resulting in a longer time above 52 dBA and higher L_{Amax}), the overall amount of time that noise caused by air tours is audible would decrease (resulting in a shorter time above 32 dBA and a shorter time audible). Similar slight increases in intensity and decreases in duration are modeled at the points discussed below.

Noise at point 25, which is a coastal location within the Haleakalā TCP and Kaʻāpahu Archeological Sites, near Mound (SHPD ID 50-50-16-08665), Terraces (SHPD ID 50-50-16-01133), Wall (SHPD ID 50-50-16-08663), Wall (SHPD ID 50-50-16-08664), and Walls (SHPD ID 50-50-16-01132), would experience increases in sound level as measured by $L_{Aeq, 12\ hr}$ and L_{Amax}; the increase of 3.5 dBA in L_{Amax} (from 53.2 to 56.7 dBA L_{Amax}) would be imperceptible to a human observer. Of these historic properties, the Haleakalā Summit TCP and Kaʻāpahu Archeological Sites have a ceremonial use where the quiet setting and/or natural sounds is important. Noise at this point would experience a decrease in time above 35 dBA by 21.5 minutes (from 44.4 to 22.9 minutes) compared to existing conditions but would experience an increase in time above 52 dBA by 2.4 minutes compared to existing conditions (from 0.3 to 2.7 minutes) due to the minor increase in sound intensity. Noise point 25 is near the coast where the median natural ambient sound level is between 45 and 50 dBA. The time audible metric considers both the natural ambient sounds as well as the noise generated by the air tours. Despite the slight sound level intensity increases cited above, the overall time air tours may be audible would decrease by approximately 52 minutes compared to existing conditions (from 108.8 to 56.9 minutes).

Noise point 22, which is a coastal location within the Haleakalā Summit TCP and Puhilele Archaeological Sites and near Wall (SHPD ID 50-50-17-08883), would experience an increase in the $L_{Aeq, 12\ hr}$ of 7.4 dBA (from 32.3 to 39.7 dBA). As this is an average across a 12-hour time period and is not necessarily indicative of noise levels at any specific point in time, additional metrics are also considered to determine the effects of the undertaking on historic properties. Of the historic properties near or encompassing Noise point 22, the Haleakalā Summit TCP and Puhilele Archaeological Sites have a ceremonial use where the quiet setting and/or natural sounds is important. Noise at this point would experience a decrease in time above 35 dBA of 3.8 minutes (from 35.8 to 32 minutes) compared to

[8] Time Audible accounts for the total time in minutes that aircraft noise levels are audible to an attentive listener with normal hearing under natural ambient conditions (see Noise Technical Report in **Attachment D**).

existing conditions but would experience an increase in time above 52 dBA by approximately 6 minutes compared to existing conditions (from 1.8 to 8.2 minutes). This point would experience an increase in the L_{Amax} of 6.3 dBA (from 57.3 dBA to 63.6 dBA L_{Amax}), which would be obvious to an observer; these sound levels are similar to the sound level of a dishwasher in an adjacent room. Noise point 22 is near the coast where the median natural ambient sound level is between 45 and 50 dBA. The time audible considers the natural ambient sounds as well as the noise generated by the air tours. Despite the slight sound level intensity increases cited above, the time the air tours may be audible would decrease by 102 minutes compared to existing conditions (from 187.1 to 85.5 minutes).

While several points within the Kīpahulu Historic District show increases in noise, Noise point 37 is the closest to the proposed flight path and also represents a coastal location in the Haleakalā Summit TCP and is near the Hanā Belt Road. The $L_{Aeq,\ 12\ hr}$ at Noise point 37 would increase 6.4 dBA (from 34 to 40.4 dBA). Of these historic properties, the Haleakalā Summit TCP and Kīpahulu Historic District have a quiet setting and/or natural sounds as a significant characteristic. This location would experience a decrease in time above 35 dBA by 4.9 minutes (from 35.8 to 30.9 minutes) compared to existing conditions but would experience an increase in time above 52 dBA by 7 minutes (from 2.2 to 9.3 minutes) compared to existing conditions. The L_{Amax} at this point would rise by 4.3 dBA (from 60.7 dBA to 65 dBA L_{Amax}); these sound levels are similar to the sound level of a large business office, and the increase would be discernable by an observer. Noise point 37 is near the coast where the median natural ambient sound level is between 45 and 50 dBA. The time audible considers the natural ambient sounds as well as the noise generated by the air tours. Despite the slight sound level intensity increases cited above, the time the air tours may be audible would decrease by around 104 minutes compared to existing conditions (from 183.7 to 79.6 minutes).

Noise Effects Summary

The increases in noise intensity at the points noted above are due to a greater number of air tours anticipated on the proposed route than currently fly over these areas under existing conditions; however, the annual and daily limits, time-of-day restrictions, quiet technology incentives, and no-fly days would minimize the overall effects experienced at historic properties in the APE. While there may be increases in $L_{Aeq,\ 12\ hr}$ at these points, this metric is an average across a 12-hour time period and is not necessarily indicative of noise levels at any specific point in time. Additionally, time above 35 dBA is decreasing at all but one noise point, and any increases in time above 52 dBA are minimal and would be spread across operating hours. Although the L_{Amax} would increase at some points, the increases are minor, and the levels at these points are already perceptible against the natural ambient sounds under existing conditions. Furthermore, the time that air tours are audible at all of these historic properties decreases as a result of the ATMP, indicating that while the noise may at times be louder in these areas, the air tours would be audible for a shorter duration than existing conditions. Therefore, the undertaking would not diminish the integrity of setting and feeling of these properties as related to sound, nor would it substantially hinder or prevent one from experiencing the property within its historic context compared to existing conditions. All other historic properties within the APE that are not noted above would experience either similar noise levels or a decrease in noise levels from existing conditions in all modeled metrics as a result of the undertaking.

Because noise is modeled using conservative assumptions (see **Attachment D**) and implementing the ATMP would result in limiting the number of flights to half of the three-year average of flights flown from 2017-2019 using a single route and the same aircraft to fly at higher altitudes, noise impacts are expected to overall be reduced under the ATMP. The ATMP would not introduce new audible elements

into the APE because air tours are currently occurring in this area; the undertaking limits the number of annual (2,412) and daily (16) flights that could occur within the ATMP planning area, which would reduce the number and frequency of air tour operations within the ATMP planning area and corresponding noise effects to cultural resources within the APE. These annual limits, daily limits, time-of-day restrictions, and no-fly days also reduce the likelihood that an air tour would interrupt Native Hawaiian traditional practices such as ceremonies, fishing, or farming, as well as the sanctity of the Haleakalā Crater as compared to existing conditions. Because the ATMP would result in minimal changes to noise levels on historic properties compared to existing conditions and would decrease the time that air tours are audible at historic properties in the APE, the undertaking would not diminish the integrity of any historic property's significant historic features.

Assessment of Visual Effects

Recognizing that some types of historic properties may be affected by visual effects of commercial air tours, the agencies considered the potential for the introduction of visual elements that could alter the characteristics of a historic property that qualify it for inclusion in the National Register. Aircraft are transitory elements in a scene and visual impacts tend to be relatively short. The short duration and low number of flights make it unlikely a historic property would experience a visual effect from the undertaking.

The ATMP would not introduce new aircraft into the viewshed within the APE, and the level of commercial air tour activity under the ATMP is expected to be reduced. The undertaking would not alter the characteristics of historic properties within the APE because there would be no significant increase in visual effects from existing conditions. The ATMP reduces the number of commercial air tours within the ATMP planning area compared to the three-year average from 2017-2019 and implements limits on the number of flights, times of day, and days of the week and year during which commercial air tours are able to operate. These limits do not currently exist.

The FAA and NPS also considered the experience of Native Hawaiians who may be conducting ceremonies or practices that could involve looking toward the sky. The ATMP includes a provision for the NPS to establish temporary no-fly periods for special events, such as Native Hawaiian ceremonies or other similar events, with a minimum of two months' notice to the operators. This represents an improvement over existing conditions where no such provision exists.

The ATMP limits the annual number of commercial air tours to 2,412 tours on a single one-way route and imposes a daily limit of 16 flights. The average annual number of air tours from 2017-2019 is 4,824 flights; on days with peak air tour activity (defined as a 90th percentile day), as many as 50 commercial air tours occurred. Therefore, visual intrusions to historic properties are expected to decrease compared to flights currently occurring because the number of authorized flights under the ATMP will be less than the average number of flights from 2017-2019.

The ATMP would remove flights in the northern part of the ATMP planning area near the Haleakalā Crater. The areas in the vicinity of the proposed flight path already experience visual intrusions by air tours under existing conditions. Although more flights may occur over the southeastern portion of the APE compared to existing conditions, the ATMP would reduce the overall number of air tours in the planning area, cap daily flights, and establish a proposed flight path that does not cross directly over any historic properties except for the Haleakalā Summit TCP, which encompasses the entire Park.

Furthermore, the increased altitude would minimize visual intrusions to historic properties near the proposed flight path.

Properties in the APE that have viewshed as a significant characteristic include the Haleakalā Summit TCP, Civilian Conservation Corps Haleakalā Crater Trails Historic District Cultural Landscape, Hanā Belt Road, and Lonoaea Heiau. The transitory nature and short duration of aircraft as well as the restrictions under the ATMP – including the designated route, limits to annual and daily flights numbers, time-of-day limits, no-fly days, and increase in minimum altitude – would limit the overall visual effects of air tours on these historic properties. As a result of these provisions in the ATMP, the undertaking would not introduce visual elements that would alter the characteristics of any historic property that qualifies it for inclusion in the National Register.

Assessment of Indirect Effects

As the ATMP would limit the number of flights per year to a level below existing conditions, 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." It is difficult to predict with specificity if, where, and to what extent any air tours would be displaced to areas outside the ATMP planning area, including areas above 5,000 ft. AGL. The preciseness of routes and altitudes for air tours flown on displaced routes are generally subject to the Hawai'i Air Tour Common Procedures Manual and may vary greatly. It is reasonably foreseeable that operators would continue to fly to points of interest on the island outside of the ATMP planning area where they already fly or fly routes over or around the park similar to existing flight paths but outside of the ATMP planning area. Air tour operators are likely to continue to fly some air tours along the perimeter of the ATMP planning area where Haleakalā Crater and other park features may be visible. If operators choose to fly above the vertical limit of the ATMP boundary, they would likely keep to an altitude close to, but just above 5,000 ft. AGL, as higher flights would provide limited value to a sightseeing operation. Flights close to the crater above 5,000 ft. AGL are unlikely due to the ground elevation in that area and safety requirements for unpressurized aircraft flying over 10,000 ft. MSL for more than 30 minutes.[3] For flights above 5,000 ft. AGL, the increase in altitude would likely decrease impacts on ground level resources as compared to existing conditions. The undertaking could result in some noise and visual effects to cultural resources at higher elevation areas of the Park to the north with views towards the ocean or in the southern areas of the APE where flights are more likely to occur as the elevations are lower. The increase in altitude would likely decrease impacts on ground level resources as compared to existing conditions. Any flights above or along the perimeter of the ATMP planning area would likely be reduced from the existing number of flights due to the ATMP restrictions and would therefore result in a reduction of noise and visual effects to the Crater Historic District and Haleakalā Summit TCP.

Finding of No Adverse Effect Criteria

As noted above, air tours over the Park are part of the existing condition, and the required analysis under Section 106 is of the undertaking—the implementation of an ATMP. 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). The above analysis of impact demonstrates the undertaking does not meet those criteria. The undertaking would not have any physical impact on any property or result in any alteration or physical modifications to these resources. 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 new 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.

Noise and visual effects of existing air tour operations are already present in the APE. Although the proposed flight path would shift the bulk of air tour operations to the south and may expose some historic properties to increased noise and visual effects, any increases in noise and visual effects would be limited due to the increased minimum altitude and reduction in the overall number of air tours in the ATMP planning area. Furthermore, air tours are transitory in nature, and any noise and visual impacts to historic properties would be temporary. While some historic properties may experience an increase in noise intensity, the duration of the noise would decrease in all cases. Therefore, the undertaking will not result in any adverse effects to historic properties in the APE.

Proposed Finding and Request for Review and Concurrence

FAA and NPS approval of the undertaking would not alter the characteristics of any historic properties located within the APE in a manner that would diminish its integrity as there would be an overall reduction in audible or visual effects from existing conditions and no introduction of effects. 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 thirty days of receiving this letter.

The agencies are holding a consulting party meeting on April 20, 2023, at 9:30 a.m. to 11:00 a.m. HST over Zoom, to explain how the FAA arrived at the proposed finding of no adverse effect on historic properties. Information on how to access the meeting is included in **Attachment E**.

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,

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

cc: Stephanie Hacker, Archaeologist

Attachments

A. List of Consulting Parties
B. APE Map including Proposed Commercial Air Tour Route
C. List of Historic Properties in the APE and Description of Historic Characteristics

D. Noise Technical Analysis: Haleakalā National Park
E. Connection Information for April 20, 2023, Consulting Party Meeting for Haleakalā National Park

ATTACHMENT A

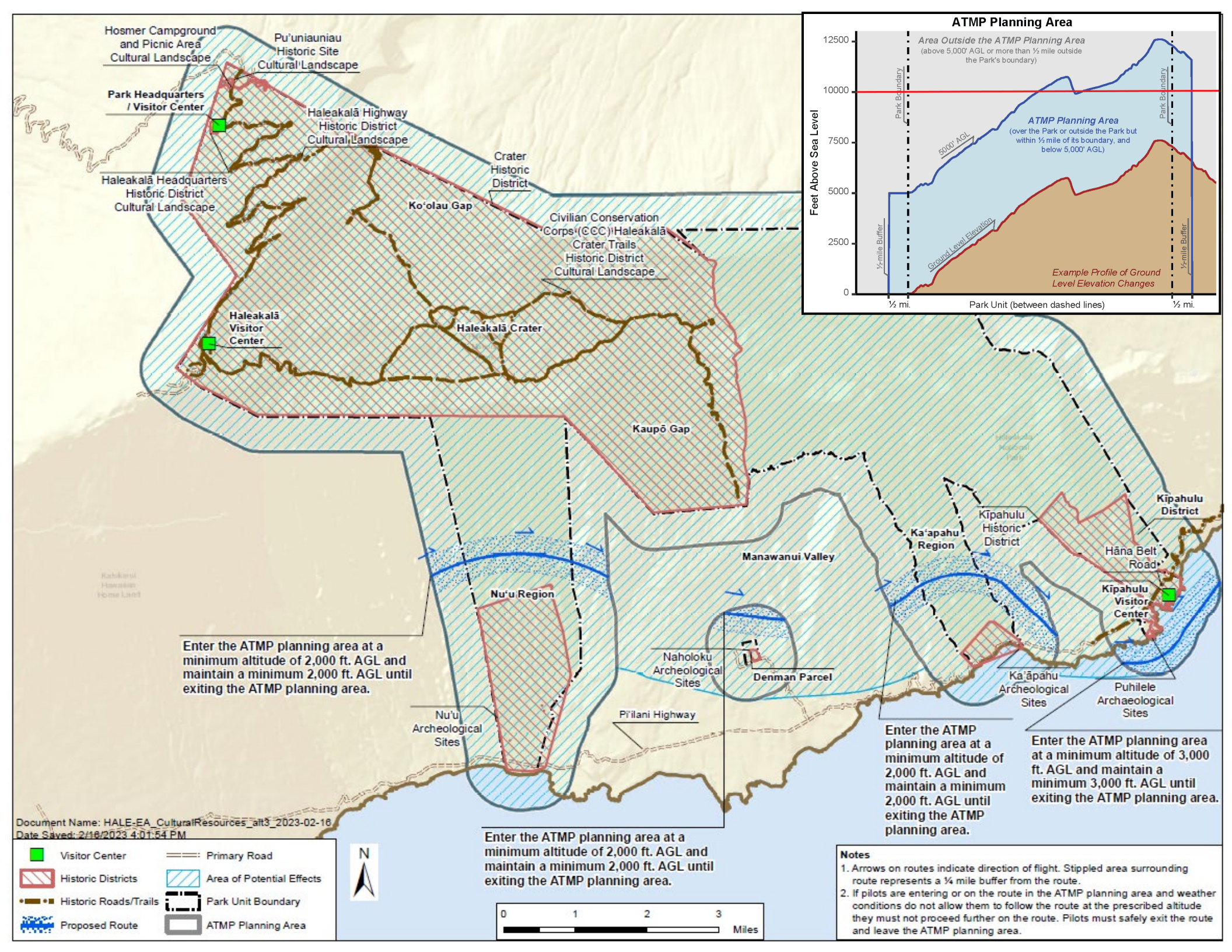
List of Consulting Parties

ʻAha Moku o Kahikinui
ʻAha Moku o Kaupō
ʻAha Moku o Maui Inc.
AlexAir, Inc. (Maverick Helicopters) [Alika Aviation, Inc. (Alexair) in FR]
Angela Tavares (Individual)
Aris, Inc. (Air Maui Helicopter Tours)
Brian Kaniela Naeʻole Naʻauao
Clifford Hashimoto (Individual)
County of Maui Mayor's Office
Daisy Lind (Individual)
Dana Hall (Individual)
Daniel K. Inouye Solar Telescope (DKIST)
Department of Hawaiian Homelands
Department of Land and Natural Resources, Division of Forestry and Wildlife
Department of Land and Natural Resources, Division of Forestry and Wildlife, Maui Branch
Donna Sterling (Individual)
East Maui Irrigation
East Maui Watershed Partnership
Friends of Haleakala National Park
George K. Cypher ʻOhana
Haleakalā Conservancy
Haleakalā Ranch
Hawaiian Islands Land Trust
Hawaiʻi Island Coalition Malama Pono
Historic Hawaiʻi Foundation
Helicopter Consultants of Maui, LLC (Blue Hawaiian Helicopters)
Helicopter Consultants of Maui, LLC (Hawaii Helicopters)
Hōkūlani Holt (Individual)
Kahu Dane Maxwell (Individual)
Kahu Lyons Naone (Individual)
Kaʻonoʻulu Ranch

Kaupō Community Association
Kaupō Ranch
Kīʻope Raymond (Individual)
Kīpahulu ʻOhana
Kumu Aʻo
Leeward Haleakalā Watershed Restoration Partnership
Maʻano Smith (Individual)
Mahi Pono LLC
Maui County Parks Department
Na Koa Ikaika Ka Lāhui Hawaiʻi
National Trust for Historic Preservation
The Nature Conservancy
Nekaifes ʻOhana
Nuʻu Mauka Ranch
Office of Hawaiian Affairs
Public Employees for Environmental Responsibility
The Royal Order of Kamehameha I - Moku O Kahekili - Helu Eha
Schuman Aviation Company, Ltd. (Makani Kai Helicopters, Magnum Helicopters)
Sunshine Helicopters, Inc.
Terry Poaipuni (Individual)
Thompson Ranch
Tweetie Lind (Individual)
ʻUlupalakua Ranch
U.S. Fish and Wildlife Service
Waiehu Kou Phase 3 Association
Wananalua Congregational Church

ATTACHMENT B

Area of Potential Effects Map
Including
Proposed Commercial Air Tour Route


Hosmer Campground and Picnic Area Cultural Landscape
Pu'uniauniau Historic Site Cultural Landscape
Park Headquarters / Visitor Center
Haleakalā Highway Historic District Cultural Landscape
Haleakalā Headquarters Historic District Cultural Landscape
Crater Historic District
Ko'olau Gap
Civilian Conservation Corps (CCC) Haleakalā Crater Trails Historic District Cultural Landscape
Haleakalā Visitor Center
Haleakalā Crater
Kaupō Gap
Manawanui Valley
Nu'u Region
Naholoku Archeological Sites
Denman Parcel
Nu'u Archeological Sites
Pi'ilani Highway
Ka'apahu Region
Kīpahulu Historic District
Kīpahulu District
Hāna Belt Road
Kīpahulu Visitor Center
Ka'āpahu Archeological Sites
Puhilele Archaeological Sites
Enter the ATMP planning area at a minimum altitude of 2,000 ft. AGL and maintain a minimum 2,000 ft. AGL until exiting the ATMP planning area.
Enter the ATMP planning area at a minimum altitude of 2,000 ft. AGL and maintain a minimum 2,000 ft. AGL until exiting the ATMP planning area.
Enter the ATMP planning area at a minimum altitude of 2,000 ft. AGL and maintain a minimum 2,000 ft. AGL until exiting the ATMP planning area.
Enter the ATMP planning area at a minimum altitude of 3,000 ft. AGL and maintain a minimum 3,000 ft. AGL until exiting the ATMP planning area.
ATMP Planning Area
Area Outside the ATMP Planning Area
(above 5,000' AGL or more than ½ mile outside the Park's boundary)
ATMP Planning Area
(over the Park or outside the Park but within ½ mile of its boundary, and below 5,000' AGL)
Example Profile of Ground Level Elevation Changes
Feet Above Sea Level
12500
10000
7500
5000
2500
0
Park Boundary
Park Boundary
5000' AGL
Ground Level Elevation
½-mile Buffer
½-mile Buffer
½ mi.
Park Unit (between dashed lines)
½ mi.
Document Name: HALE-EA_CulturalResources_alt3_2023-02-16
Date Saved: 2/16/2023 4:01:54 PM
Visitor Center
Historic Districts
Historic Roads/Trails
Proposed Route
Primary Road
Area of Potential Effects
Park Unit Boundary
ATMP Planning Area
N
0
1
2
3
Miles
Notes
1. Arrows on routes indicate direction of flight. Stippled area surrounding route represents a ¼ mile buffer from the route.
2. If pilots are entering or on the route in the ATMP planning area and weather conditions do not allow them to follow the route at the prescribed altitude they must not proceed further on the route. Pilots must safely exit the route and leave the ATMP planning area.

ATTACHMENT C

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

Property Name	Property Type	Eligibility Status	Significant Characteristics
Civilian Conservation Corps (CCC) Haleakalā Crater Trails Historic District Cultural Landscape	Cultural Landscape	Eligible	The Civilian Conservation Corps (CCC) Haleakalā Crater Trails Historic District Cultural Landscape was designed by NPS landscape architects and constructed by CCC enrollees between 1930 and 1941. It is significant for its association with early park planning and the CCC and for its embodiment of NPS Rustic Style architecture. Significant characteristics of the district include its rustic design, historic trail system, the human manipulated topography to accommodate the trails, the viewshed from the trails of the crater and the ocean, and its continued use as a tourist circulation system.
Crater Historic District	District	Listed	Crater Historic District consists of 56 pre-contact archeological sites, including temples and burials. It is accessed for traditional uses by Native Hawaiians. Extant prehistoric stone structures, remains of workshop sites, other archeological remains, quiet setting and/or natural sounds, and the surrounding landscape are all significant characteristics of the district.
C-Shaped Wall (SHPD ID 50-50-16-03979)	Site, Structure	Eligible	This site is located east of Pāhihi Gulch and consists of a C-shape wall that is two inches in diameter. Significant characteristics of the site include the wall's C-shaped design and stone materials.
Enclosures (SHPD ID 50-50-16-03980)	Site, Structure	Eligible	This site consists of the remains of a large enclosing wall and an attached rectangular enclosure. Significant characteristics of the site include its configuration and stone materials.
Haleakalā Headquarters Historic District Cultural Landscape	Cultural Landscape	Eligible	The Haleakalā Headquarters Historic District Cultural Landscape is significant for its association with early park planning and as an example of Mission 66-era development. It is also significant for its NPS Rustic Style design. The rustic design, building configuration, and surrounding landscape are all significant characteristics of the district.
Haleakalā Highway Historic District Cultural Landscape	Cultural Landscape	Eligible	The Haleakalā Highway Historic District Cultural Landscape includes a portion of the highway within the Park, which was designed by the Bureau of Public Roads (BPR) with input from the Park and NPS landscape architects, as well as several developments along the route. It is significant for its association with NPS master planning from the 1930s and Mission 66 eras and for its minimally intrusive design. In order to be minimally intrusive, the district's road, buildings, and structures were designed to

Property Name	Property Type	Eligibility Status	Significant Characteristics
			decrease the visual and physical impact on the landscape; this design and the surrounding landscape are significant characteristics of the district.
Haleakalā Summit Traditional Cultural Property	TCP	Eligible	The Summit of Haleakalā, including Kaupō Gap and Kīpahulu Valley, is significant as a Traditional Cultural Property (TCP) for its association with native Hawaiian culture, traditions, and sacred uses. The exceptional stillness and serenity of the Summit of Haleakalā are significant characteristics of the TCP that allow Native Hawaiians to continue conducting traditional ceremonies, which require a quiet setting.
Hāna Belt Road	District	Listed	Hāna Belt Road includes a road and bridges to Hāna that were built between 1900 and 1947. It is significant as an engineering achievement and for its association with the development of the area that opened East Maui to further settlement, agricultural enterprises, and tourism. The road's winding and narrow alignment; surrounding scenery and viewshed featuring waterfalls, small villages, valleys, and sea cliffs; and stylistically consistent, one-lane bridges with sharp approaches are all significant characteristics of the district.
Hāwelewele Complex (Kailiili Heiau)	Site, Structure	Unevaluated[9]	The Hāwelewele Complex, also called the Kailiili Heiau, is located a quarter of a mile from the shore on top of a small hill in the center of a valley. The large heiau measures approximately 50 by 124 ft. with walls that are 6 ft. thick and around 4-5 ft. high. Potential significant characteristics of the site include its materials and configuration.
Hosmer Campground and Picnic Area Cultural Landscape	Cultural Landscape	Eligible	The Hosmer Campground and Picnic Area Cultural Landscape is located just below the 7,000-foot elevation in the summit area of the Park and is the only drive-in campground in the area. It is significant as an example of a Mission 66-era development and for its experimental forestry plots that were planted by Ralph S. Hosmer in the early-twentieth century. Significant characteristics of the cultural landscape include the campground layout and design and surrounding landscape.
Kaʻāpahu Archeological Sites	Sites	Eligible	Kaʻāpahu Archeological Sites consist of archeological sites recorded within Kālepa, ʻAlelele, Lelekēa, and Kukuiʻula Valleys, including traditional Native Hawaiian dryland agriculture terraces and clearings, larger irrigated pondfield complexes for the production of kalo (taro, *Colocasia esculenta*), and habitation and ceremonial sites. 19th century enclosures representing mixed residences and agriculture (including animal husbandry) are also present. Significant characteristics of the sites include the extant remains of structures and complexes, their materials and configurations, extant

[9] 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	Significant Characteristics
			material culture remains, the surrounding landscape, and a quiet setting and/or natural sounds.
Keakalauae Heiau	Site, Structure	Unevaluated	The Keakalauae Heiau is one of the largest of the Kaupō heiaus and is credited to Kekaulike from c.1730. Its greatest dimensions are approximately 168 by 330 ft. The interior of the platform has been utilized for a pig pen with walls built around it. Potential significant characteristics of the site include the heiau's configuration, materials, and natural sounds.
Kīpahulu Historic District	District	Eligible	The Kīpahulu Historic District is comprised of fragmentary structural remains of Hawaiian use of the Kīpahulu land in the pre-contact period through 1900 that indicate a substantial resident population engaged in horticulture and fishing in an isolated wet-valley Polynesian community. The archeological study of the remains may reveal the vicinity may have played a significant role in the colonization of the Hawaiian Islands by early Polynesian voyagers and settlers. The few Hawaiian families who continued to live along ʻOheʻo Gulch and stream after 1900 perpetuated traditional irrigated and dry-land horticulture and fishing activities. The people of Kīpahulu perhaps experienced a minor lifestyle change when organized Christianity invaded east Maui ca. 1850, and certainly did so after 1900 when Kīpahulu plantation imported laborers from overseas and began to clear and plow the steeply sloping lower flanks of Haleakala volcano on both sides of ʻOheʻo Gulch to grow sugar cane. The historical themes of Hawaiian land use, Hawaiian placenames, engineering for sugar cultivation on marginal lands, and overland transportation are represented by structures or their remnants. Significant characteristics of the district include extant material culture and structural remains, physical evidence of historic and prehistoric land use, association with the ocean, a quiet setting and/or natural sounds, and the landscape.
Lonoaea Heiau	Site, Structure	Unevaluated	The Lonoaea Heiau is a walled heiau located on top of a hill overlooking Waiuha to the west. Potential significant characteristics include the heiau's materials, viewshed, and natural sounds.
Lonoʻoʻaiʻa Heiau (Hale O Kane Heiau)	Site, Structure	Unevaluated	The Lonoʻoʻaiʻa Heiau, also called the Hale O Kane Heiau, is an open platform that is 10 to 12 ft. above the ground. Potential significant characteristics include the heiau's materials and natural sounds.
Mound (SHPD ID 50-50-16-08665)	Site, Structure	Eligible	This site consists of a partially-faced mound that was constructed of stacked stones and may have served as a historic cattle ramp. Significant characteristics of the site include its stacked configuration and stone materials.

Property Name	Property Type	Eligibility Status	Significant Characteristics
Naholoku Archeological Sites	Sites	Eligible	The complex of 18 archeological sites at 1,000 ft elevation in dryland Naholoku Ahupuaʻa dates as early as the 15th to 17th centuries and is significant for its potential to yield information, with at least three sites eligible for architecture/design. These latter sites represent structures that embody the characteristics of pre-Contact and late pre-Contact/early historical residential compounds and smaller agricultural heiau. Significant characteristics include the extant remains of buildings and structures; their materials, configurations, and design; extant material culture remains; physical evidence of historic and prehistoric land use, a quiet setting and/or natural sounds, and the landscape.
Nakuʻula Complex	Site, Structure	Unevaluated	The Nakuʻula Complex consists of three rectangular terraced platforms that may be heiau sites. Potential significant characteristics include the site's physical materials and a quiet setting and/or natural sounds.
Nuʻu Archeological Sites	Sites	Eligible	Nuʻu Archeological Sites consist of archeological sites, composed of pocket terraces, terraces, enclosures, cleared areas, modified outcrops, and mounds that represent an extensive traditional dryland agricultural complex for primarily sweet potato production, temporary shelters associated with agricultural activity, multiple permanent residential complexes, most of which date to the 19th century, specialized features/use areas for ceremony and lithic production. Significant characteristics of the sites include the extant remains of structures and residential complexes, their materials and configurations, mounds, extant material culture remains including evidence of ceremony and lithic production, physical evidence of historic and prehistoric land use, a quiet setting and/or natural sounds, and the landscape.
Nuʻu Petroglyph Complex	Site	Unevaluated	The Nuʻu Petroglyph Complex is a site covering 117 meters that is located on the beach at Nuʻu Bay. It consists of 157 petroglyphs: 92 human forms, 3 animal forms, 3 names, and 59 undetermined images. Potential significant characteristics of the site include the petroglyph designs and configurations.
Nuʻu Pictograph Complex	Site	Unevaluated	The Nuʻu Petroglyph and Pictograph Complex is a site covering 117 meters that is located on the beach at Nuʻu Bay. It consists of 40 pictographs: 16 human forms, 3 animal forms, and 21 undetermined images. Potential significant characteristics of the site include the pictograph designs and the materials used to create them.
Nuʻu-Waiu Complex, Hana	Site, Structure	Unevaluated	The Nuʻu-Waiu Complex consists of several archeological sites composed of enclosures, partial enclosures, terraces and platforms, pits, pavements, house lots, walls, ko`a, trails, cairn, petroglyphs, a fishpond, rockshelters, and graves. Potential

Property Name	Property Type	Eligibility Status	Significant Characteristics
			significant characteristics of the complex includes the extant remains of structures, their materials and configurations, other extant material culture remains, prehistoric and historic trail alignments, and physical evidence of prehistoric and historic land use.
Pictograph and Rock Shelter (Marciel‘s Pictograph)	Site, Structure	Unevaluated	This site consists of a human figure painted with alaea (red salt) on a boulder that is located next to a rock shelter that once contained a burial. Potential significant characteristics of the site include the pictograph form and design, the use of alaea to create it, the rock shelter’s materials, natural sounds, and any other extant cultural remains.
Puhilele Archaeological Sites	Sites	Eligible	Puhilele Archaeological Sites consist of archeological sites, composed of terraces, platforms, alignments, and mounds used for agricultural, residential, ceremonial as well as temporary shelter for fishing. Significant characteristics of the site includes the extant remains of structures, their materials and configurations, other extant material culture remains, association with the ocean, a quiet setting and/or natural sounds, and physical evidence of prehistoric and historic land use.
Pu‘umaka‘a Heiau	Site, Structure	Unevaluated	The Pu‘umaka‘a Heiau is an open platform type of heiau that consists of a series of rough terraced pavements. Potential significant characteristics include the heiau’s materials and natural sounds.
Pu‘unianiau Historic Site Cultural Landscape	Cultural Landscape	Eligible	The Pu‘unianiau Historic Site Cultural Landscape is significant as a base camp used by the U.S. Army for the administration of the Red Hill Aircraft Warning Service Station at the summit of Haleakalā between 1941 and 1946. It consists of five historic buildings and structures and a south access road. The spatial organization of the site, which reflects the traditional conventions for military cantonments, and the 1940s military one-story buildings and structures are significant characteristics of the cultural landscape.
Terraces (SHPD ID 50-50-16-01133)	Site, Structure	Unevaluated	These terraces are located on the west side of the Kalepa Stream. They consist of the remains of two rectangular enclosures, each with two end walls and one connecting wall about 50 ft. in length. Potential significant characteristics of the site include its configuration and materials.
Wall (SHPD ID 50-50-16-08663)	Site, Structure	Eligible	This site consists of a low wall near Kukui‘ula Gulch that was built along the side of a steep stream channel. The wall is constructed of stacked and piled stones that terminates in an “L” on its inland end. Significant characteristics of the site include its configuration, stone materials, and location next to the stream.

Property Name	Property Type	Eligibility Status	Significant Characteristics
Wall (SHPD ID 50-50-16-08664)	Site, Structure	Eligible	This site consists of a bi-facial wall near Kukuiʻula Gulch that was likely constructed for drainage during the historic period. Significant characteristics of the site include its configuration and materials.
Wall (SHPD ID 50-50-16-03978)	Site, Structure	Eligible	This site consists of a single stacked boulder wall approximately 5.5 meters in length and 60 centimeters high. It is oriented north-to-south and likely served as a windbreak for a structure located in its lee. Significant characteristics of the site include its configuration, stone materials, and north-to-south orientation.
Wall (SHPD ID 50-50-17-08883)	Site, Structure	Unevaluated	This site consists of a dry-stacked, core-filled rock wall that was likely constructed to mark the boundaries of a neighboring grant parcel to the west sometime after the sale of the parcel in 1854. Potential significant characteristics of the site include its configuration, stone materials, and location.
Walls (SHPD ID 50-50-16-01132)	Site, Structure	Unevaluated	This site consists of the remains of walls, one parallel to the shore and another parallel to the Kalepa Stream, which may be the remains of a house site. Potential significant characteristics of the site include its configuration, stone materials, and location next to the stream.

ATTACHMENT D

Noise Technical Analysis: Haleakalā National Park

Noise Technical Analysis: Haleakalā National Park

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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 Haleakalā National Park (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 resource 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; Wilderness; including indirect and cumulative effects.

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 dBA would be perceived as twice as loud as 10 dBA, 30 dBA would be perceived as 4 times louder than 10 dBA, 40 dBA would be perceived as 8 times louder than 10 dBA, 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 Haleakalā National Park, are often lower than those of the 'common' outdoor areas shown, in the range of 20-30 dBA.

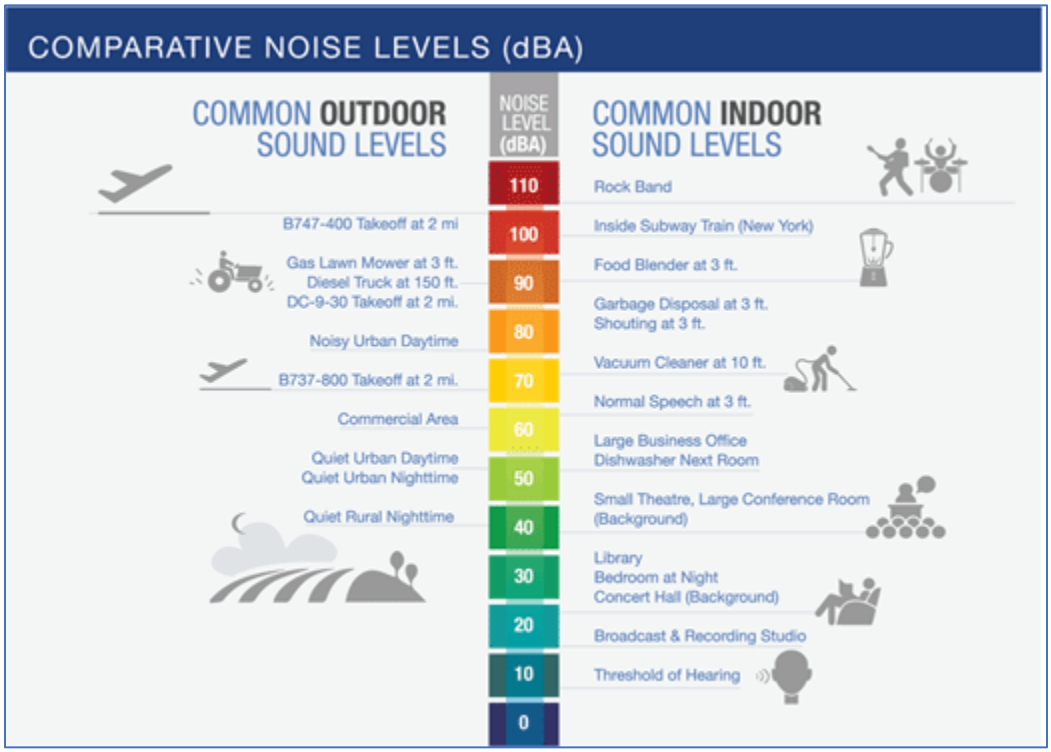

Figure 1. Comparative Sound Levels[2]

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

2. Modeled Noise Metrics

There are numerous ways to measure the potential impacts of noise from commercial air tours on the acoustic environment of a park, including intensity, duration, and spatial footprint of the noise. The affected environment and impact analysis discloses 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, $L_{Aeq, 12\ hr}$	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 $L_{Aeq, 12hr}$ 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 $L_{Aeq, 12hr}$ and 24-hours for DNL) If there are no nighttime events, then $L_{Aeq, 12hr}$ 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 (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 this level 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, 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 frequency, duration, or timing of exposure.

3. Affected Environment

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

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

- Sounds produced by birds, such as the nēnē (Hawaiian goose), to define territories or aid in attracting mates
- Sounds produced by bats to locate prey or navigate
- Sounds received by mice to detect and avoid predators or other danger
- Sounds produced by physical processes, such as wind in the trees, wind in the bamboo forest, claps of thunder, or falling water

One of the natural resources of the park is the natural soundscape, also referred to as the Natural Ambient or "natural quiet." The Natural Ambient includes all of the naturally occurring sounds of the park, as well as the quiet associated with still nights and certain seasons. An important part of the mission of the NPS is to preserve or restore the natural soundscapes associated with units of the national park system (NPS Management Policies, 4.9 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. Human-generated noise within the park is typically concentrated in areas of high visitor use such as at overlook areas along the road to the summit and Waimoku Falls in the Kīpahulu area.

To characterize the natural and existing ambient, detailed sound level measurements were conducted at 10 locations across the park in 2003, resulting in the identification of five 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. Median daytime natural ambient sound levels (L_{50}) ranged from 21 dBA in backcountry areas to 45 dBA along the shoreline; median daytime existing ambient sound levels for these areas exhibits similar variability, ranging from 23 dBA in the backcountry to 46 dBA in the front country 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 sound level measurements were conducted in 2008 and 2013, providing further information and characterization of the natural and existing ambient conditions. In 2008, data were collected at three locations (Lynch, 2012) to understand the level of air tour operations at the time and to provide a snapshot of the acoustical conditions at the park. The sites were located in the same general area as a selection of sites from the 2003 study to allow for potential comparisons. Similar trends were observed, where Haleakalā Crater sites were quieter during the day than Kīpahulu sites. Overall, the median natural and existing ambient levels measured at crater sites in 2003 were slightly higher (3 dBA) than the 2008 study, likely due to differences in vegetation types at these locations as well as proximity to sound sources, variation in weather conditions (particularly wind patterns), and differences in methods used to compute natural ambient. Authors of the 2008 study state that these two studies present a likely range of ambient levels for the sampling areas in the park.

The 2013 measurements (Job, 2018) were performed to establish a baseline inventory of the newly-acquired Nu‘u unit. Results indicated that the natural ambient sound levels (L_{nat})[3] during the monitoring period were 21.1 dBA during the daytime. Existing ambient sound levels (L_{50}) were slightly higher, 23.5 dBA. Compared to ten other sites in the park, it is the fourth quietest. These results were used to assign ambient data for computer modeling to this area.

[3] It should be noted that different techniques have been used to calculate natural ambient, resulting in two different descriptor notations. Natural ambient L_{50} refers to the natural ambient computation process described in Lee 2016, while L_{nat} refers to the natural ambient process described in Lynch 2012 and Job 2018. Although different, the processes are highly correlated and yield similar results; differences are generally less than 1 dB (Rapoza, 2008).

Table 3. Acoustic Conditions

Acoustic Sampling Area	Daytime Natural Ambient, L_{50} (dBA)	Daytime Existing Ambient, L_{50} (dBA)	Description
Zone 1 (West Rim Crater)	24-28	27-28	Natural sounds in this zone include wind through the low brush and birds. Human sounds include occasional hikers and vehicles as well as air tour aircraft.
Zone 2 (Haleakalā Crater)	21-23	24-25	Sounds in this zone include strong winds, hikers, and bird vocalizations. Air tour aircraft can be heard within this zone.
Zone 3 (Kaupo Gap)	23	23	The dominant sounds are strong winds with occasional hikers, as well as distant aircraft.
Zone 4 (Kīpahulu Coastal)	45	44-46	Natural sounds in this zone include bamboo, birds, insects, and waterfalls. Human caused sounds include hikers and air tour helicopters.
Zone 5 (Upper Kīpahulu Valley)	31	35	Natural sounds in this zone include wind and rain on the tree fern canopy and insects, with localized occurrences of bird vocalizations. Ground based visitors are not allowed in this area. Sounds from distant aircraft are audible.
Zone 6 (Nu'u Coastal)			Audible sound sources at this site include wind, birds, and helicopters. This zone was not a part of the park when the 2003 study was being conducted, so data from other zones (Zone 4) was applied to this zone for AEDT modeling based on NPS guidance.

Ambient Map Data

From the detailed data collected in 2003, an ambient "map" of the natural soundscape[4] 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 used in the computer modeling.

[4] 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.

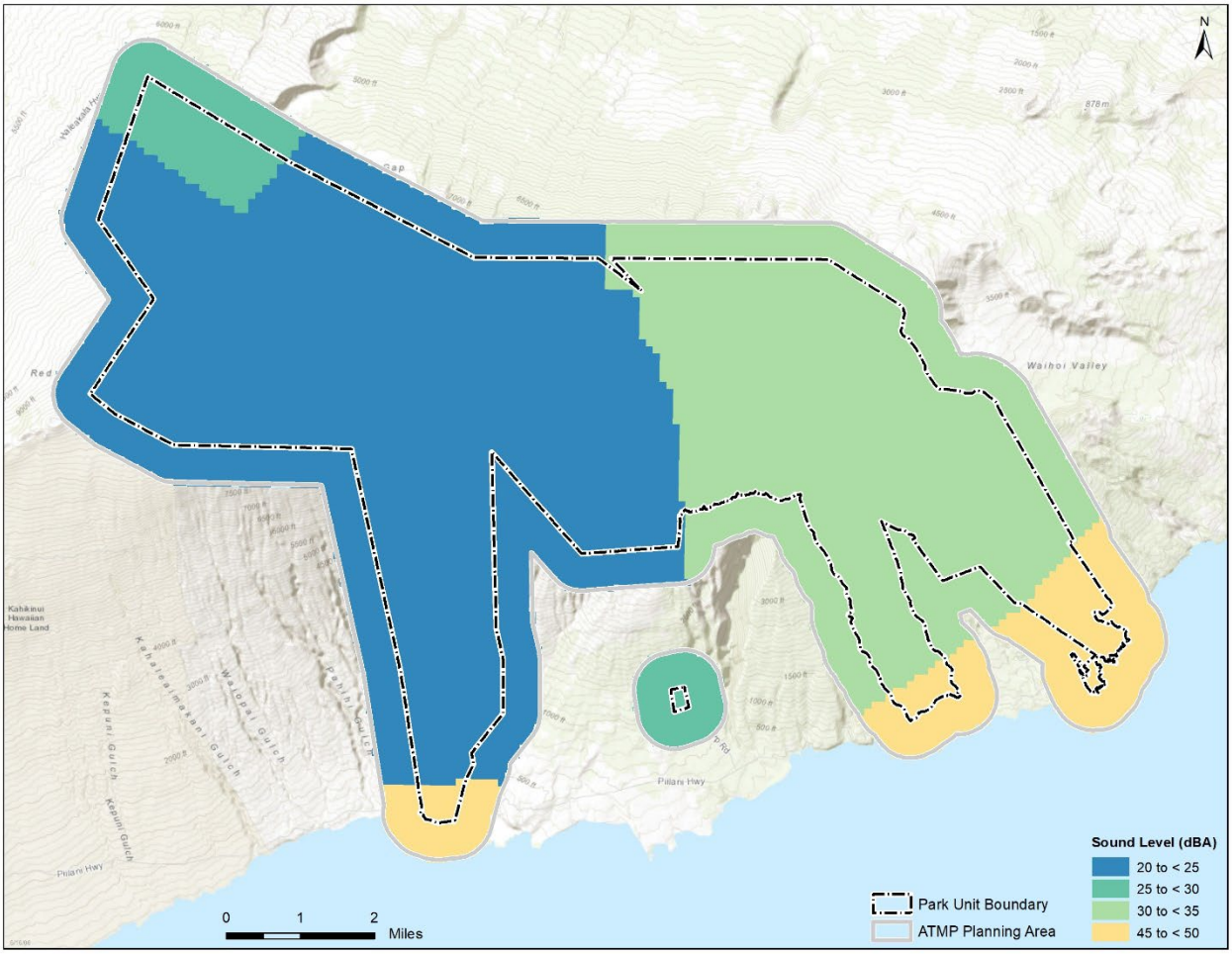

Figure 2. Ambient map – Natural Ambient L_{50}

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 8), 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; hikers, visitor centers, commercial jets, general aviation aircraft, military aircraft, and administrative aircraft operations. The result of this process is the Cumulative Existing Ambient (Figure 4).

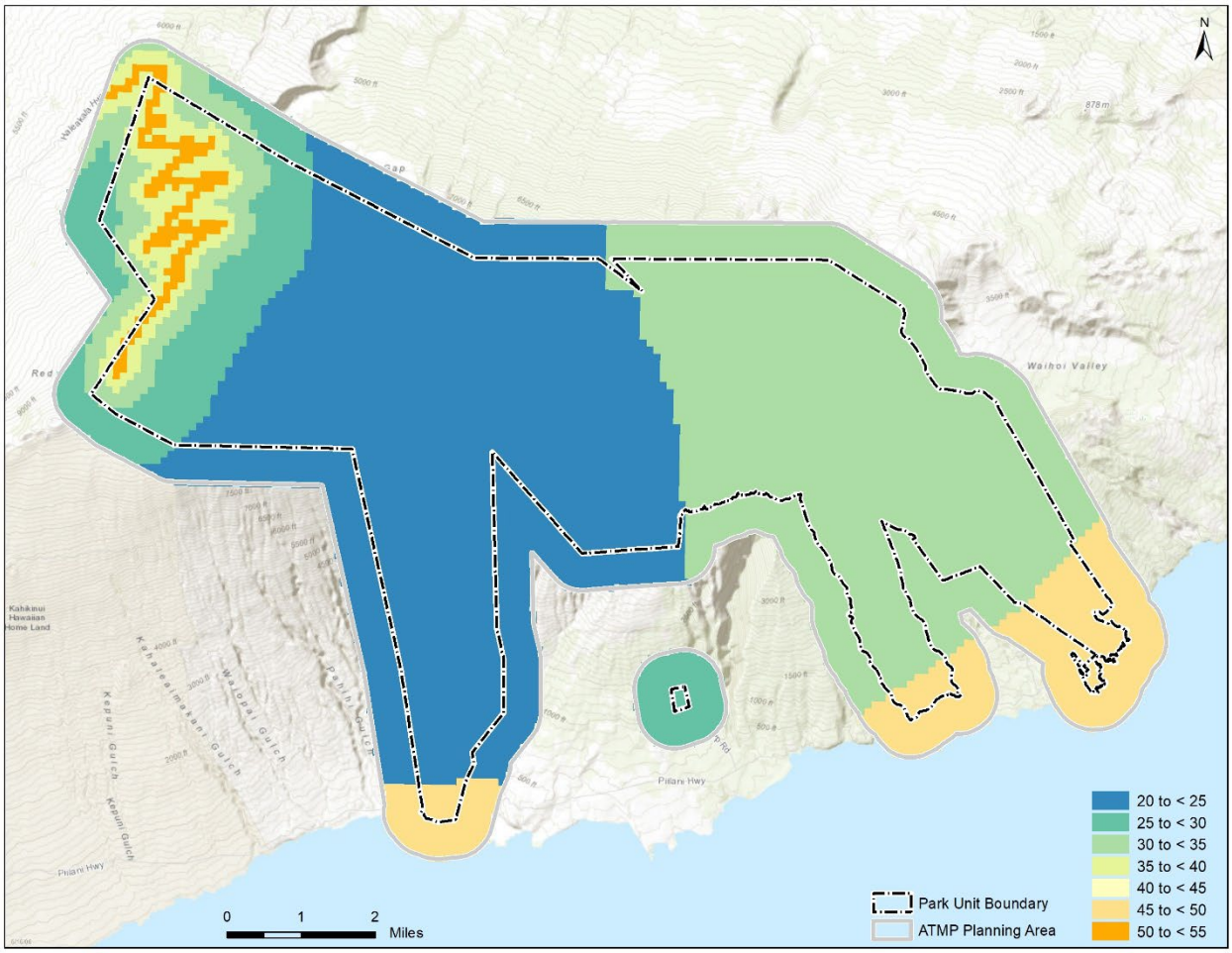

Figure 3. Ambient map – Existing Ambient without Air Tours L_{50} [5]

[5] 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® (TNM). Details of modeled roadway sound sources can be found in Lee et al., 2016.

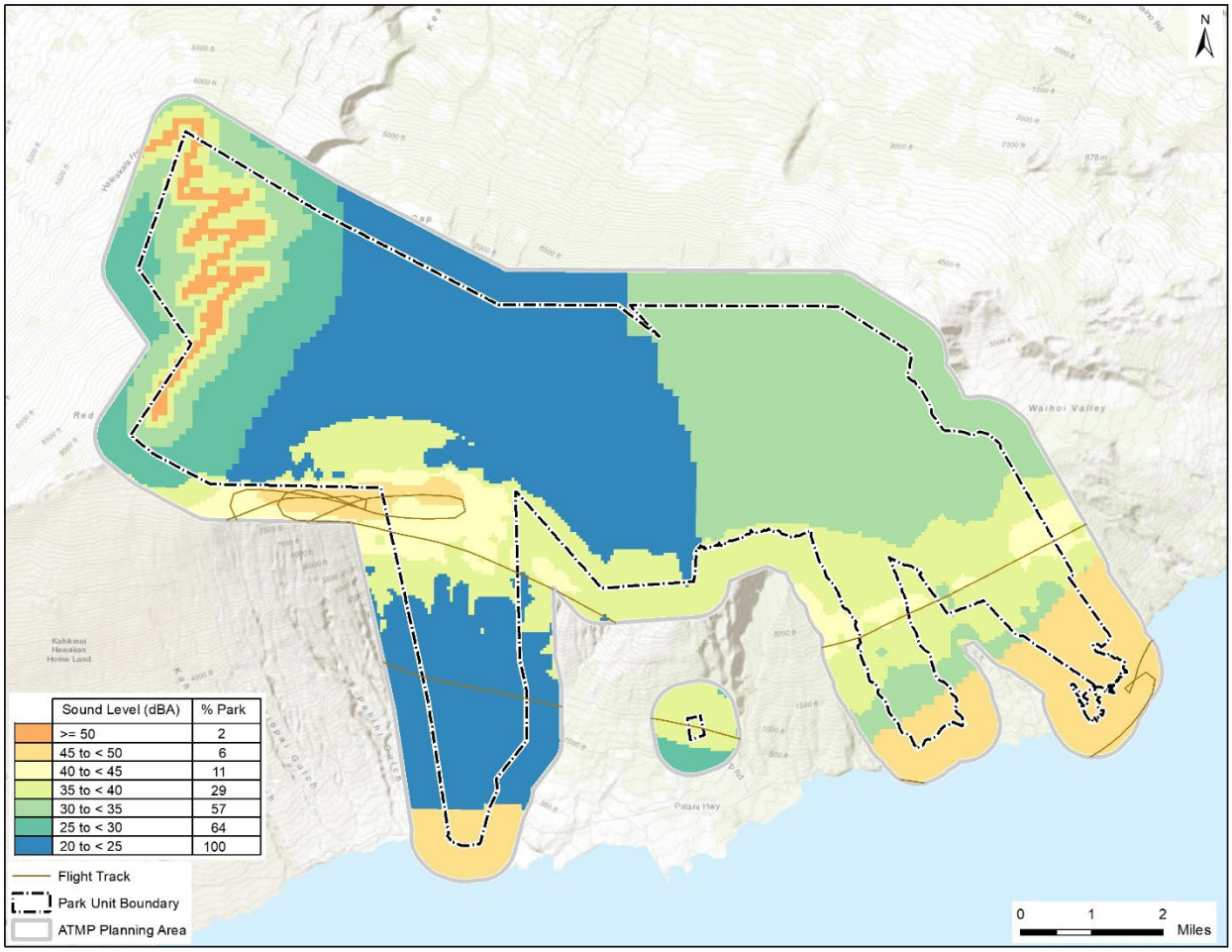

Figure 4. Cumulative Existing Ambient for Existing Conditions

4. Noise Model Method

The FAA's AEDT, Ver. 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 CFR sec. A150.103(a)). Requirements for aircraft noise modeling are defined in FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, and in Federal Aviation Regulations (FAR) 14 CFR Part 150, Airport Noise Compatibility Planning.

The noise model requires detailed information regarding the aircraft source, operational, and flight route information, as well as other information[6] to compute various noise metrics that can be used to assess the potential impacts of noise from commercial air tours on the acoustic environment of a park.

Aircraft Data

The tour aircraft types identified for modeling the alternatives are the Aerospatiale SA-350D and Eurocopter EC-130 aircraft. The flight routes used for modeling the No Action Alternative are shown in Figure 5; the flight routes used for Alternative 3 are shown in Figure 6.

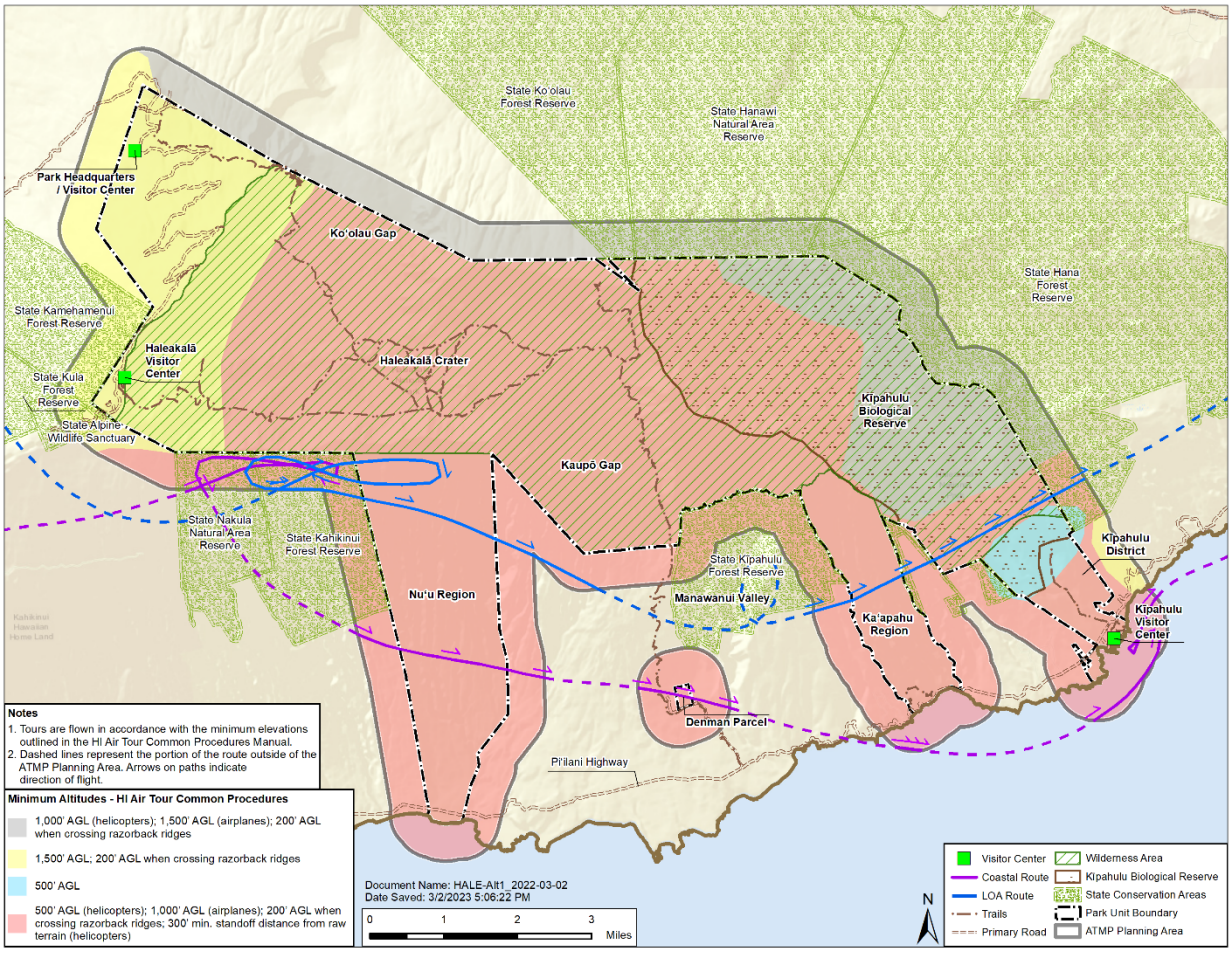

Figure 5. Air Tour Routes for modeling the No Action Alternative

[6] 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 U.S. Geological Survey (USGS) along with algorithms documented in SAE Aerospace Information Report (AIR) 6501. Atmospheric absorption is based on the 2012-2021 average temperature of 76 degrees Fahrenheit and 71% relative humidity and computed according to SAE-ARP-5534.

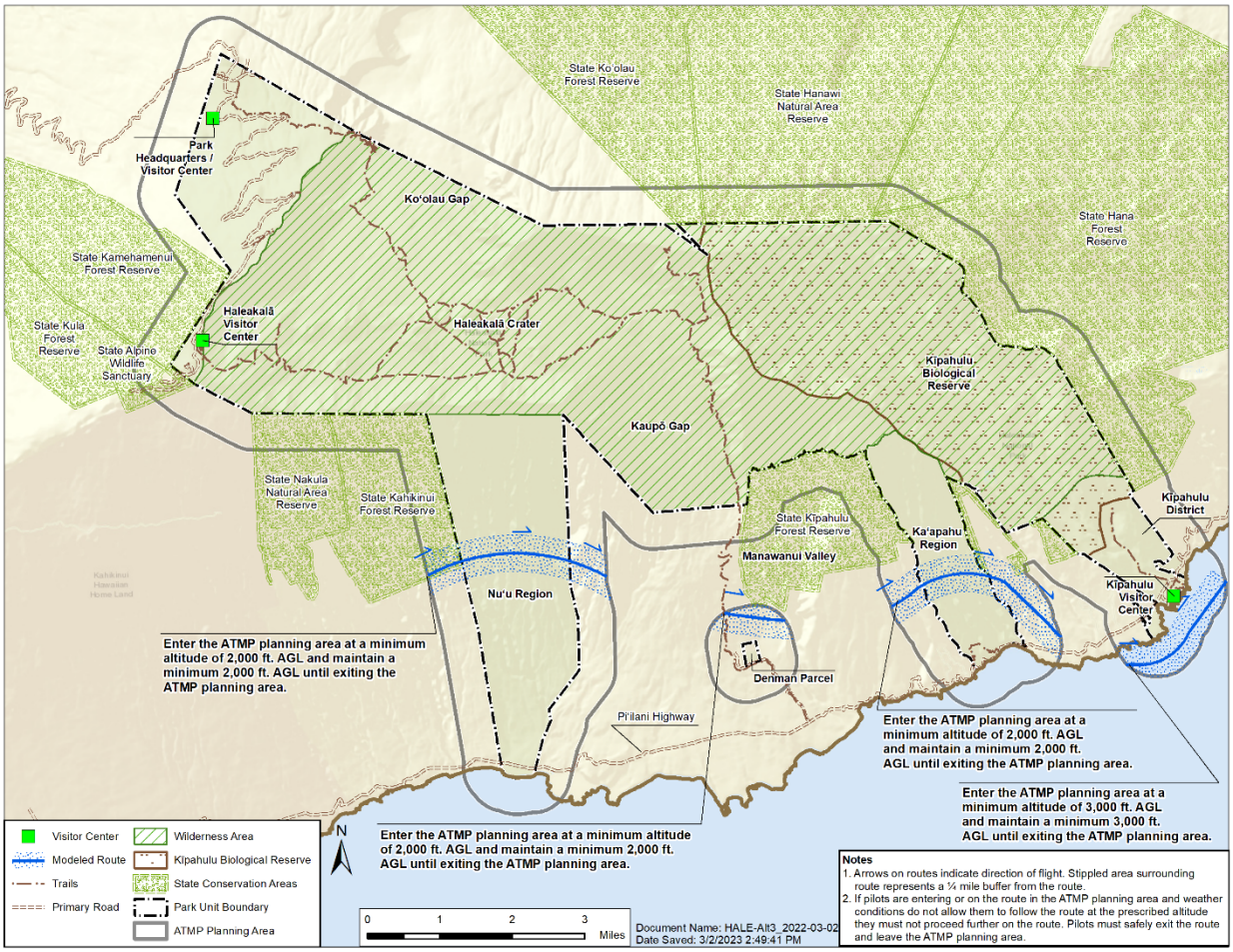

Figure 6. Air Tour Routes for Alternative 3

A unique noise modeling profile was developed for each 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 day[7] (PMAD) of commercial air tour activity. For the three-year average of commercial air tour activity from 2017-2019, the PMAD was identified in terms of number of operations, and then further assessed for the type of aircraft and route flown to determine if it is a reasonable representation of the commercial air tour activity over the ATMP planning area. For the ATMP planning area, the PMAD was identified as summarized in Table 4. The process of averaging and apportioning a peak month of flights to daily

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

flights can result in a fractional number. Altitudes were modeled according to the minimum altitudes identified in the 2008 FAA Hawai'i Air Tour Common Procedures Manual (HI Manual).[8]

The analysis for Alternative 3 is based on the number of aircraft operations for each aircraft and route combination identified under this alternative and is summarized in Table 5.

Table 4. Aircraft and Number of Operations Modeled for the No Action Alternative (2017-2019 PMAD)

Aircraft	Route	Number of Flights
Aerospatiale SA-350D	LOA	4.5
Eurocopter EC-130	LOA	9
Aerospatiale SA-350D	Coastal	1.5
Eurocopter EC-130	Coastal	3
Total		18

Table 5. Aircraft and Number of Operations Modeled for Alternative 3

Aircraft	Route	Number of Flights
Aerospatiale SA-350D	Proposed Route	3
Eurocopter EC-130	Proposed Route	6
Total		9

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 44 location points, geographically located across the entire park, where noise levels were to be evaluated. These locations are listed in Table 6 and indicated as blue dots in Figure 7.

[8] FAA DOCUMENT NUMBER: AWP13-136A

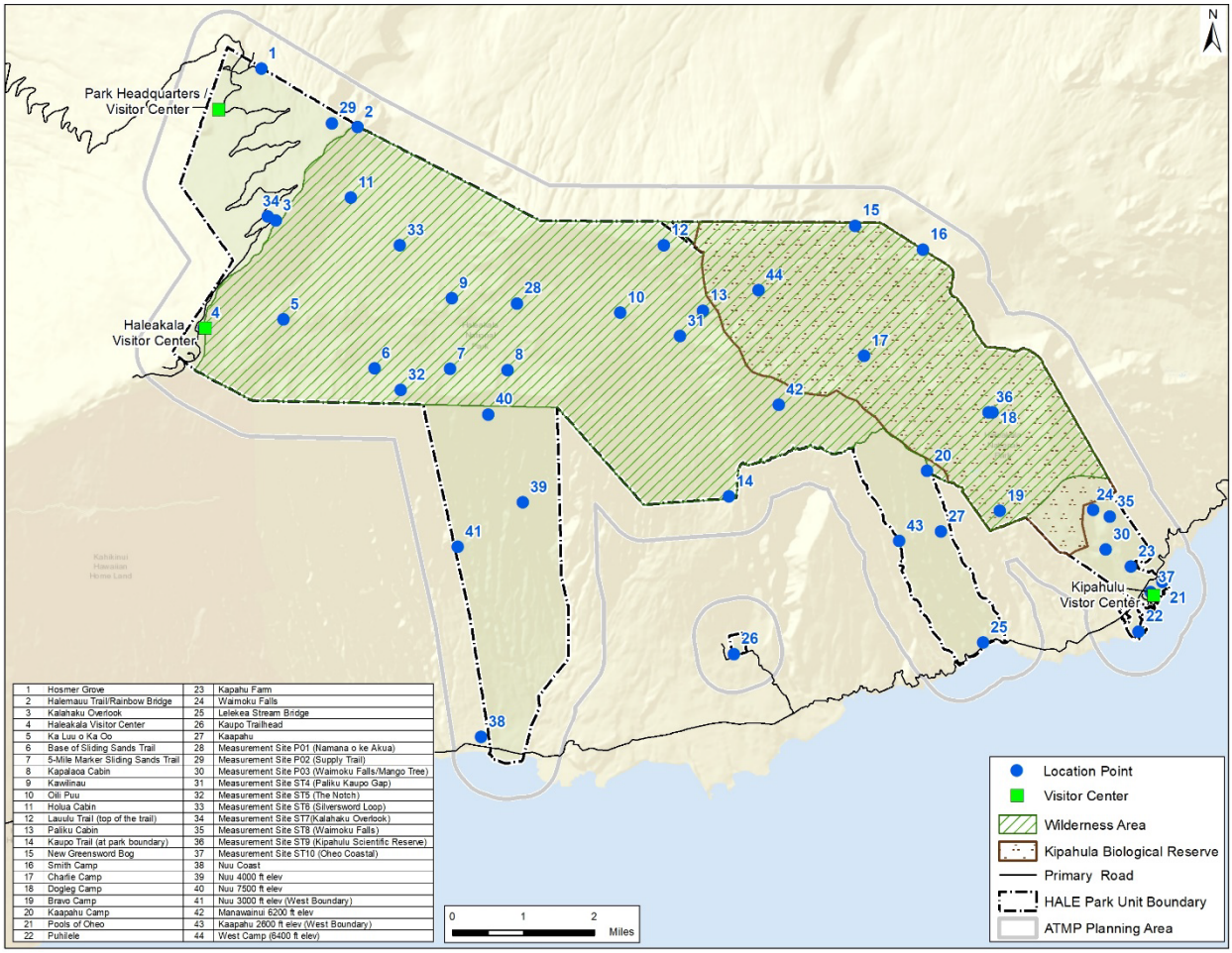

Figure 7. Location Points modeled for Haleakalā National Park

Table 6. Location points modeled for Haleakalā National Park

Location	Longitude (decimal degrees)	Latitude (decimal degrees)	Natural Ambient L_{50} (dBA)
1. Hosmer Grove	20.768	-156.238	25-30
2. Halemauʻu Trail/Rainbow Bridge	20.756	-156.217	20-25
3. Kalahaku Overlook	20.737	-156.234	20-25
4. Haleakalā Visitor Center	20.715	-156.250	20-25
5. Ka Luʻu o ka ʻOʻo	20.717	-156.233	20-25
6. Base of Sliding Sands Trail	20.707	-156.213	20-25
7. 5-Mile Marker Sliding Sands Trail	20.707	-156.197	20-25
8. Kapalaoa Cabin	20.706	-156.184	20-25
9. Kawilinau	20.721	-156.196	20-25
10. Oili Puʻu	20.718	-156.160	20-25
11. Holua Cabin	20.742	-156.218	20-25
12. Lauʻulu Trail (top of the trail)	20.732	-156.150	30-35
13. Paliku Cabin	20.757	-156.223	20-25
14. Kaupō Trail (at park boundary)	20.681	-156.136	20-25
15. New Greensword Bog	20.736	-156.109	30-35
16. Smith Camp	20.731	-156.094	30-35
17. Charlie Camp	20.709	-156.107	30-35
18. Dogleg Camp	20.698	-156.079	30-35
19. Bravo Camp	20.678	-156.077	30-35
20. Kaʻapahu Camp	20.686	-156.093	30-35
21. Pools of ʻOheʻo	20.663	-156.042	45-50
22. Puhilele	20.653	-156.047	45-50
23. Kapahu Farm	20.666	-156.049	45-50
24. Waimoku Falls	20.678	-156.057	30-35
25. Lelekea Stream Bridge	20.651	-156.081	45-50
26. Kaupo Trailhead	20.649	-156.135	25-30
27. Kaʻapahu	20.673	-156.090	30-35
28. Measurement Site P01 (Namana o ke Akua)	20.719	-156.181	20-25
29. Measurement Site P02 (Supply Trail)	20.757	-156.223	25-30
30. Measurement Site P03 (Waimoku Falls/Mango Tree)	20.662	-156.060	45-50
31. Measurement Site ST4 (Palikū Kaupō Gap)	20.713	-156.147	20-25
32. Measurement Site ST5 (The Notch)	20.702	-156.207	20-25
33. Measurement Site ST6 (Silversword Loop)	20.734	-156.218	20-25
34. Measurement Site ST7(Kalahaku Overlook)	20.738	-156.236	20-25
35. Measurement Site ST8 (Waimoku Falls)	20.677	-156.054	45-50
36. Measurement Site ST9 (Kīpahulu Scientific Reserve)	20.698	-156.080	30-35
37. Measurement Site ST10 (ʻOheʻo Coastal)	20.660	-156.040	45-50
38. Nuʻu Coast	20.632	-156.190	45-50
39. Nuʻu 4000 ft elev	20.679	-156.181	20-25
40. Nuʻu 7500 ft elev	20.697	-156.188	20-25
41. Nuʻu 3000 ft elev (West Boundary)	20.670	-156.195	20-25
42. Manawainui 6200 ft elev	20.699	-156.125	45-50
43. Kaʻapahu 2600 ft elev (West Boundary)	20.672	-156.099	20-25
44. West Camp (6400 ft elev)	20.723	-156.130	20-25

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 8 and Figure 11), time audible natural ambient (Figure 9 and Figure 12) and time above 35 dBA (Figure 10 and Figure 13), followed by tabular results (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 ATMP planning area covered by each contour level.

Alternative 1 (No Action Alternative)

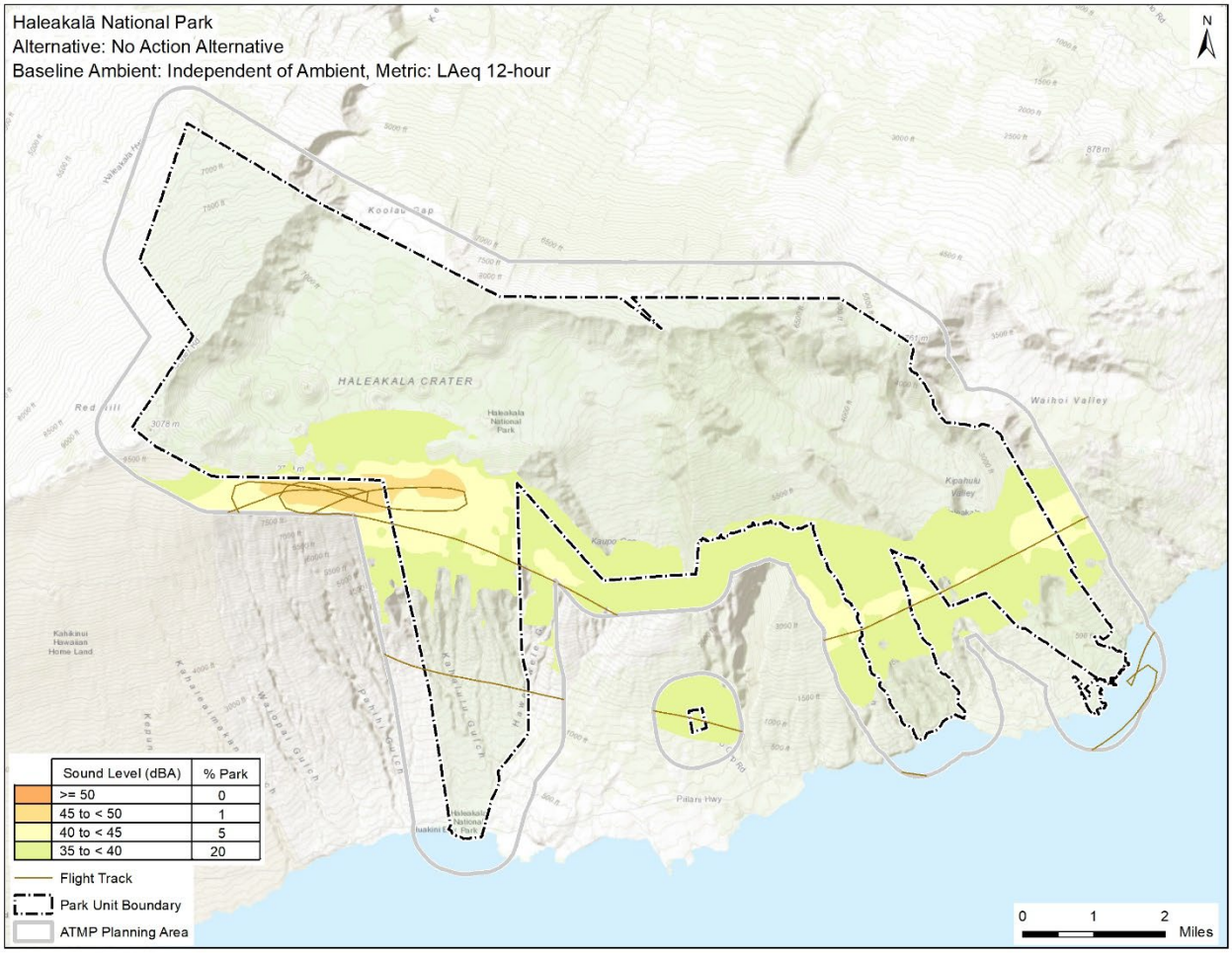

Figure 8. 12-hour equivalent sound level ($L_{Aeq,12h}$) map for the No Action Alternative

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

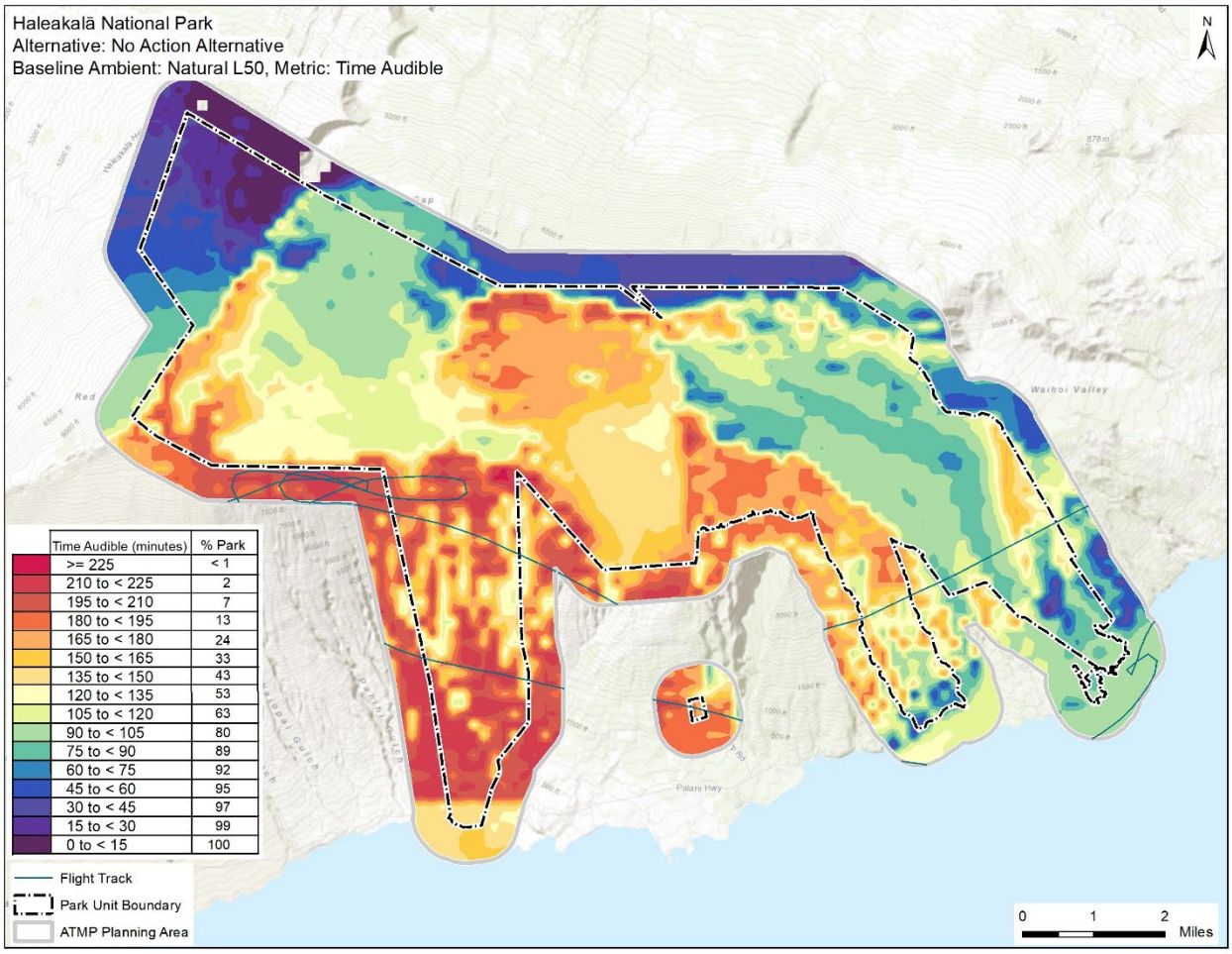

Figure 9. Time audible (for natural ambient) map for the No Action Alternative

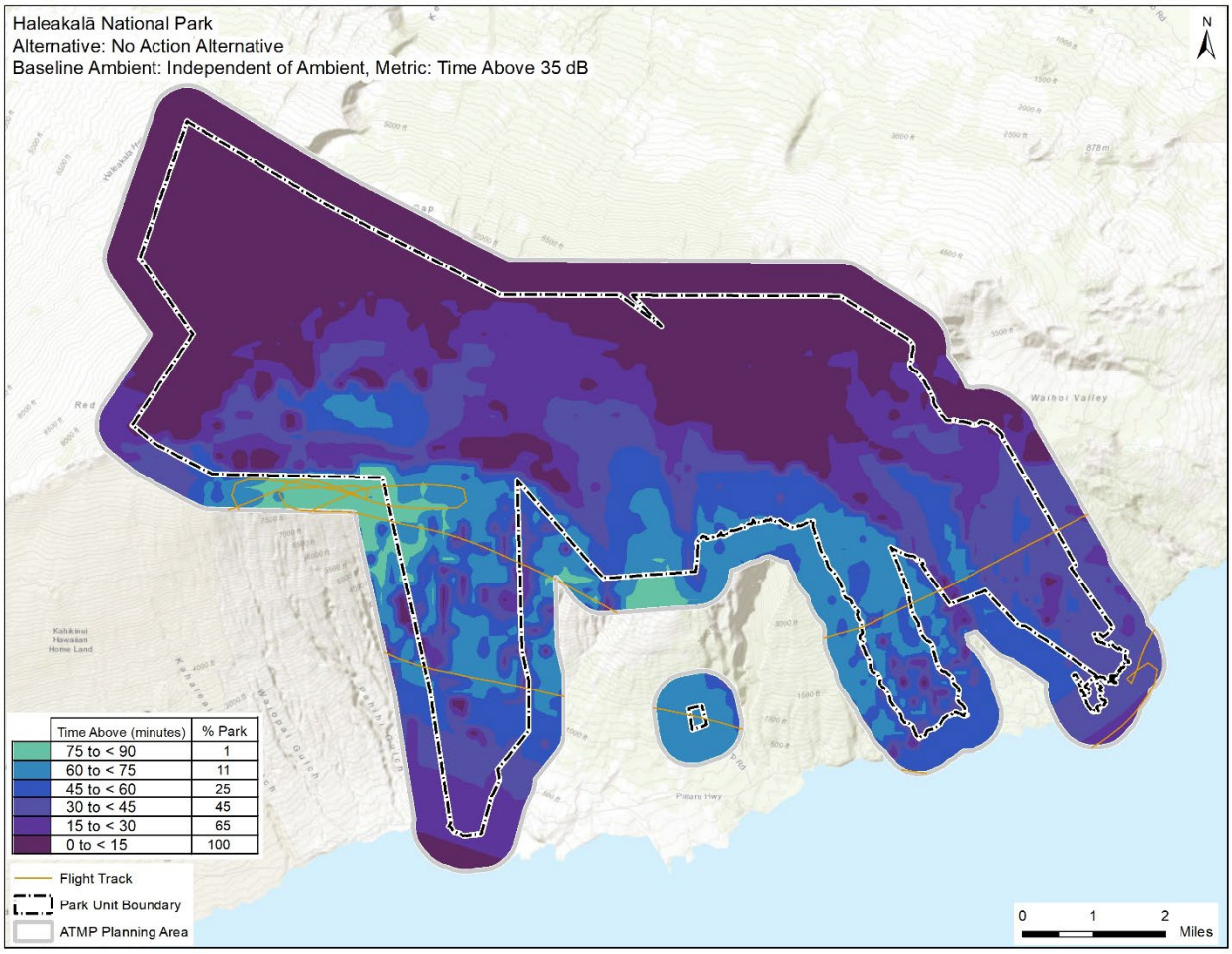

Figure 10. Time Above 35 dBA map for the No Action Alternative

Table 7. 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. Hosmer Grove	9.5	81.6	0.0	0.0	29.3
2. Halemauʻu Trail/Rainbow Bridge	20.1	146.1	3.7	0.0	38.2
3. Kalahaku Overlook	16.3	173.9	1.1	0.0	36.7
4. Haleakalā Visitor Center	21.1	219.0	2.8	0.0	42.9
5. Ka Luʻu o ka ʻOʻo	12.6	148.4	0.0	0.0	33.2
6. Base of Sliding Sands Trail	37.0	155.0	30.4	4.7	59.3
7. 5-Mile Marker Sliding Sands Trail	39.2	151.5	50.1	10.5	60.5
8. Kapalaoa Cabin	30.9	156.4	6.6	1.7	60.4
9. Kawilinau	28.6	145.3	22.5	0.0	49.9
10. Oili Puʻu	26.1	157.9	17.5	0.0	46.2
11. Holua Cabin	22.6	126.6	9.0	0.0	41.6
12. Lauʻulu Trail (top of the trail)	16.5	168.9	0.2	0.0	35.7
13. Paliku Cabin	9.7	106.2	0.0	0.0	30.5
14. Kaupō Trail (at park boundary)	34.6	212.1	51.9	1.5	54.1
15. New Greensword Bog	14.2	99.0	0.0	0.0	32.0
16. Smith Camp	13.1	97.4	0.0	0.0	35.0
17. Charlie Camp	24.6	120.5	12.9	0.0	43.9
18. Dogleg Camp	33.1	117.3	35.5	0.9	53.1
19. Bravo Camp	39.9	125.4	61.4	8.0	63.1
20. Kaʻapahu Camp	36.9	188.1	66.7	2.9	57.0
21. Pools of ʻOheʻo	33.6	173.7	39.2	2.0	59.8
22. Puhilele	32.3	187.1	35.8	1.8	57.3
23. Kapahu Farm	32.7	155.7	44.1	1.0	55.9
24. Waimoku Falls	26.5	92.6	7.4	0.2	53.9
25. Lelekea Stream Bridge	31.4	108.8	44.4	0.3	53.2
26. Kaupo Trailhead	35.4	210.6	68.5	1.3	57.2
27. Kaʻapahu	40.3	175.8	70.5	8.2	64.0
28. Measurement Site P01 (Namana o ke Akua)	28.5	182.9	18.7	0.0	50.5
29. Measurement Site P02 (Supply Trail)	9.7	106.2	0.0	0.0	30.5
30. Measurement Site P03 (Waimoku Falls/Mango Tree)	32.2	180.7	50.6	0.0	51.4
31. Measurement Site ST4 (Palikū Kaupō Gap)	27.8	168.4	31.0	0.0	43.9
32. Measurement Site ST5 (The Notch)	37.9	155.9	35.2	4.9	64.6
33. Measurement Site ST6 (Silversword Loop)	25.1	131.5	16.3	0.0	44.0
34. Measurement Site ST7(Kalahaku Overlook)	16.2	125.6	1.3	0.0	36.9
35. Measurement Site ST8 (Waimoku Falls)	35.2	171.4	46.1	1.1	53.6

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)
36. Measurement Site ST9 (Kīpahulu Scientific Reserve)	31.6	110.9	24.7	0.5	52.7
37. Measurement Site ST10 (ʻOheʻo Coastal)	34.0	183.7	35.8	2.2	60.7
38. Nuʻu Coast	26.7	225.3	20.0	0.0	44.2
39. Nuʻu 4000 ft elev	38.6	229.8	73.9	6.1	58.3
40. Nuʻu 7500 ft elev	45.6	225.8	71.8	23.6	68.7
41. Nuʻu 3000 ft elev (West Boundary)	34.2	185.9	59.9	0.9	55.9
42. Manawainui 6200 ft elev	31.9	219.3	50.1	0.0	49.5
43. Kaʻapahu 2600 ft elev (West Boundary)	40.3	191.3	59.1	8.9	62.8
44. West Camp (6400 ft elev)	22.6	142.3	8.3	0.0	40.4

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

Alternative 3

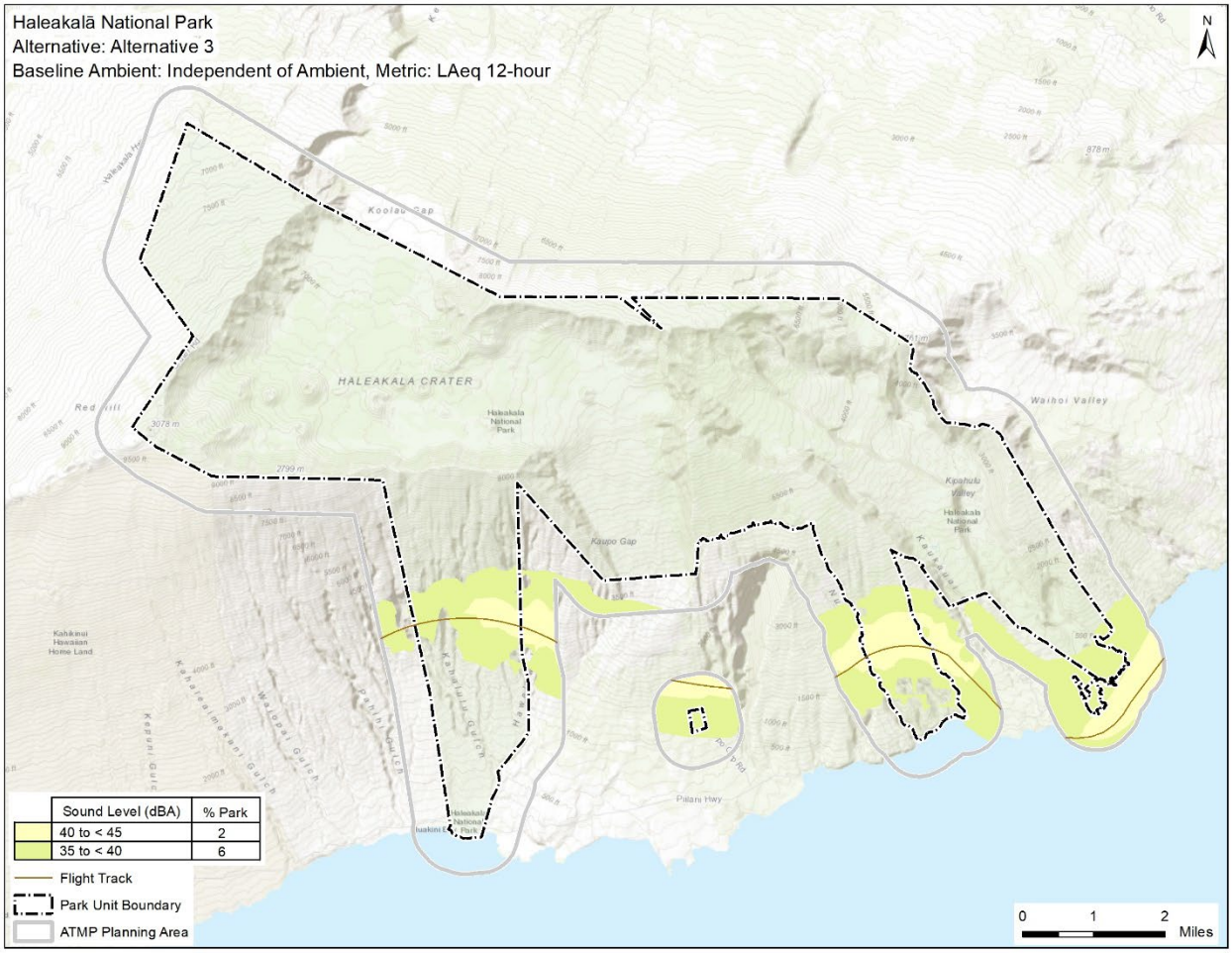

Figure 11. 12-hour equivalent sound level ($L_{Aeq,12h}$) map for Alternative 3

As there are no nighttime events, then DNL would be 3 dB less than the 12-hour equivalent sound level. If air tours are restricted to operating between 10 AM and 3 PM (i.e., 5 hours), then the 5-hour equivalent sound level would be 3.8 dBA greater than the 12-hour equivalent sound level.

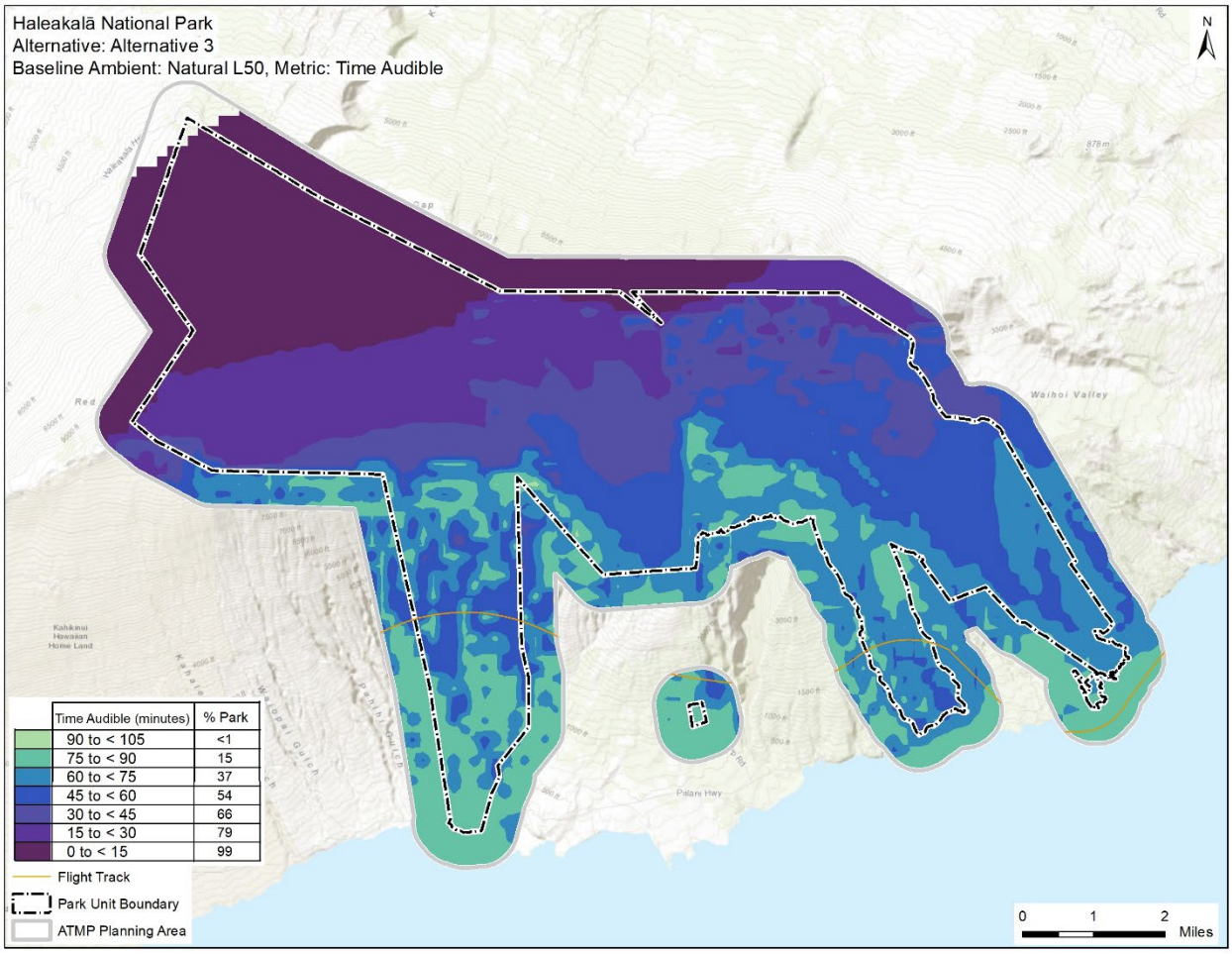

Figure 12. Time Audible (for natural ambient) map for Alternative 3

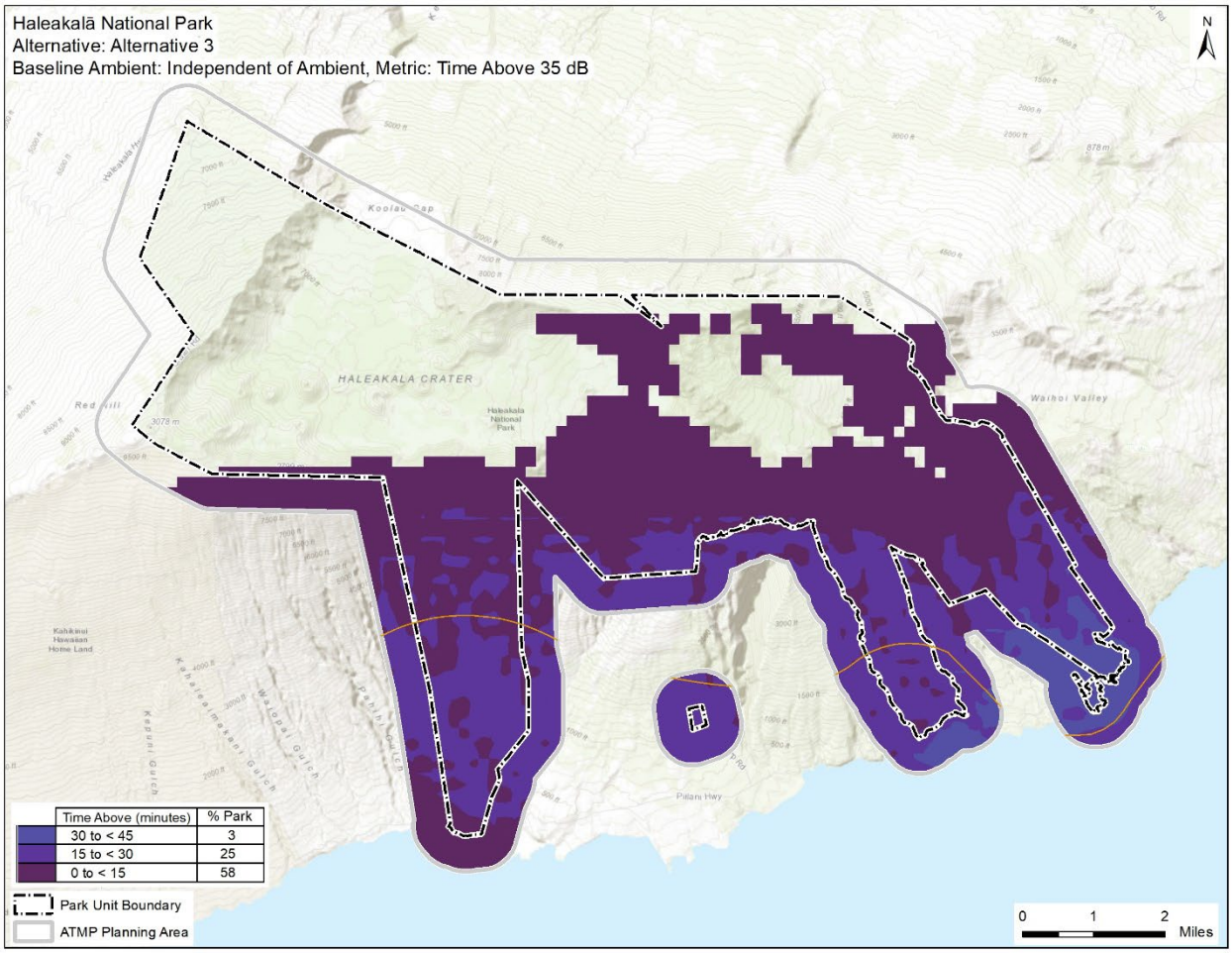

Figure 13. Time Above 35 dBA map for Alternative 3

Table 8. Location point results for Alternative 3

Location	12-Hour Equivalent Sound Level (dBA)*	Time Audible for Natural Ambient (minutes)	Time Above 35 dB (minutes)	Time Above 52 dB (minutes)	Maximum Sound Level dBA
1. Hosmer Grove	0	0.3	0.0	0.0	12.3
2. Halemauʻu Trail/Rainbow Bridge	0	3.2	0.0	0.0	14.6
3. Kalahaku Overlook	0	7.6	0.0	0.0	15.5
4. Haleakalā Visitor Center	0	24.8	0.0	0.0	19.1
5. Ka Luʻu o ka ʻOʻo	0	16.1	0.0	0.0	18.5
6. Base of Sliding Sands Trail	1.0	29.7	0.0	0.0	23.2
7. 5-Mile Marker Sliding Sands Trail	2.5	31.5	0.0	0.0	25.7
8. Kapalaoa Cabin	3.4	31.6	0.0	0.0	26.8
9. Kawilinau	0	18.5	0.0	0.0	22.0
10. Oili Puʻu	1.2	25.1	0.0	0.0	22.7
11. Holua Cabin	0	9.6	0.0	0.0	16.7
12. Lauʻulu Trail (top of the trail)	0	15.7	0.0	0.0	23.1
13. Paliku Cabin	0	2.6	0.0	0.0	14.1
14. Kaupō Trail (at park boundary)	28.9	74.9	16.8	0.0	51.5
15. New Greensword Bog	0	18.9	0.0	0.0	19.5
16. Smith Camp	0	26.5	0.0	0.0	19.4
17. Charlie Camp	14.1	57.7	0.0	0.0	34.8
18. Dogleg Camp	13.6	56.2	0.7	0.0	37.9
19. Bravo Camp	34.0	63.2	21.5	2.4	57.8
20. Kaʻapahu Camp	29.7	76.1	19.4	0.3	52.7
21. Pools of ʻOheʻo	38.6	68.7	31.9	7.9	62.2
22. Puhilele	39.7	85.5	32.0	8.2	63.6
23. Kapahu Farm	35.2	65.5	33.8	2.8	56.6
24. Waimoku Falls	24.0	56.2	9.4	0.0	48.2
25. Lelekea Stream Bridge	33.9	56.9	22.9	2.7	56.7
26. Kaupo Trailhead	35.6	81.4	22.5	4.1	57.5
27. Kaʻapahu	38.9	73.0	19.8	6.6	63.9
28. Measurement Site P01 (Namana o ke Akua)	2.0	30.4	0.0	0.0	23.3
29. Measurement Site P02 (Supply Trail)	0	2.6	0.0	0.0	14.1
30. Measurement Site P03 (Waimoku Falls/Mango Tree)	35.2	80.3	31.8	2.7	56.7
31. Measurement Site ST4 (Palikū Kaupō Gap)	12.8	32.0	0.5	0.0	37.2
32. Measurement Site ST5 (The Notch)	2.5	32.4	0.0	0.0	25.0
33. Measurement Site ST6 (Silversword Loop)	0	12.4	0.0	0.0	17.9
34. Measurement Site ST7(Kalahaku Overlook)	0	6.5	0.0	0.0	15.3
35. Measurement Site ST8 (Waimoku Falls)	30.7	67.8	29.5	0.0	50.8

Location	12-Hour Equivalent Sound Level (dBA)*	Time Audible for Natural Ambient (minutes)	Time Above 35 dB (minutes)	Time Above 52 dB (minutes)	Maximum Sound Level dBA
36. Measurement Site ST9 (Kīpahulu Scientific Reserve)	7.9	55.5	0.0	0.0	31.2
37. Measurement Site ST10 (‘Ohe‘o Coastal)	40.4	79.6	30.9	9.3	65.0
38. Nu‘u Coast	23.3	79.0	13.2	0.0	42.3
39. Nu‘u 4000 ft elev	37.1	85.1	18.2	4.9	63.7
40. Nu‘u 7500 ft elev	24.2	76.5	11.0	0.0	47.8
41. Nu‘u 3000 ft elev (West Boundary)	36.6	54.2	11.9	4.1	65.0
42. Manawainui 6200 ft elev	21.0	83.6	5.7	0.0	42.9
43. Ka‘apahu 2600 ft elev (West Boundary)	37.3	69.9	19.5	3.9	63.7
44. West Camp (6400 ft elev)	9.6	41.9	0.0	0.0	31.2

* 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 10 AM and 3 PM (i.e., 5 hours), then the 5-hour equivalent sound level would be 3.8 dBA greater than the 12-hour equivalent sound level.

7. Comparison of Alternatives by Metric

This section provides tables showing the detailed noise results, organized by metric for each of the five acoustic metrics modeled. These tables allow for comparison across the alternatives. High-level observations of the differences between alternatives by metric include:

- 12-hour Equivalent Sound Level (Table 9 and Table 12): Compared to the No Action Alternative, the average sound levels under Alternative 3 would be lower for the interior regions of the park, but may be higher in coastal regions. The noise footprint for Alternative 3 potentially affects 16% less of the ATMP planning area. See also results for points 21, 22, 23, 25, 30, 37, and 38.
- Time Audible Natural Ambient (Table 10 and Table 13): Compared to the No Action Alternative, the overall time audible noise footprint for Alternative 3 potentially would be only 1% smaller than the No Action Alternative; however, approximately 60% of the ATMP planning area would see a potential reduction in audibility between 37 and 194 minutes. The largest reductions would be at point 3 (Kalahaku Overlook) and point 4 (Haleakalā Visitor Center). The smallest reductions would be at point 24 (Waimoku Falls) and point 25 (Lelekea Stream Bridge).
- Time Above 35 (Table 11 and Table 14): Compared to the No Action Alternative, the time above 35 dBA under Alternative 3 would be up to 61 minutes less (see point 40, Nu'u 7500 ft elevation). Only at one point, 24 (Waimoku Falls), would time above 35 dBA be greater under Alternative 3 (2 minutes). The noise footprint for Alternative 3 would potentially affect 42% less of the ATMP planning area.
- Time Above 52 (Table 15): Compared to the No Action Alternative, the time above 52 dBA under Alternative 3 would be up to 24 minutes less (see point 40, Nu'u 7500 ft elevation). However, time above 52 dBA would be greater under Alternative 3 at 8 locations in the coastal regions (points, 21, 22, 23, 25, 26, 30, 37, and 41).
- Maximum Sound Level (Table 16): Compared to the No Action Alternative, the maximum sound levels under Alternative 3 would be lower for the interior regions of the park, but may be higher in coastal regions. See results for points 21, 22, 23, 25, 30, 37, and 38.

Table 9. Comparison of contour results for 12-hour Equivalent Sound Level

12-hour Equivalent Sound Level Contour Results		% Park for No Action	% Park for Alternative 3
	>- 50	0	0
	45 to < 50	1	0
	40 to < 45	5	2
	35 to < 40	20	6

Table 10. Comparison of contour results for Time Audible for Natural Ambient

Time Audible for Natural Ambient Contour Results	% Park for No Action	% Park for Alternative 3
>- 225	< 1	0
210 to < 225	2	0
195 to < 210	7	0
180 to < 195	13	0
165 to < 180	24	0
150 to < 165	33	0
135 to < 150	43	0
120 to < 135	53	0
105 to < 120	63	0
90 to < 105	80	<1
75 to < 90	89	15
60 to < 75	92	37
45 to < 60	95	54
30 to < 45	97	66
15 to < 30	99	79
0 to < 15	100	99

Table 11. Comparison of contour results for Time Above 35 dBA

Time Above 35 dBA Contour Results	% Park for No Action	% Park for Alternative 3
75 < 90	1	0
60 to < 75	11	0
45 to < 60	25	0
30 to < 45	45	3
15 to < 30	65	25
0 to < 15	100	58

Table 12. Comparison of location point results for 12-hour Equivalent Sound Level

Location	No Action, 12-hour Equivalent Sound Level (dBA)	Alternative 3, 12-hour Equivalent Sound Level (dBA)
1. Hosmer Grove	9.5	0
2. Halemauʻu Trail/Rainbow Bridge	20.1	0
3. Kalahaku Overlook	16.3	0
4. Haleakalā Visitor Center	21.1	0
5. Ka Luʻu o ka ʻOʻo	12.6	0
6. Base of Sliding Sands Trail	37.0	1.0
7. 5-Mile Marker Sliding Sands Trail	39.2	2.5
8. Kapalaoa Cabin	30.9	3.4
9. Kawilinau	28.6	0
10. Oili Puʻu	26.1	1.2
11. Holua Cabin	22.6	0
12. Lauʻulu Trail (top of the trail)	16.5	0
13. Paliku Cabin	9.7	0
14. Kaupō Trail (at park boundary)	34.6	28.9
15. New Greensword Bog	14.2	0
16. Smith Camp	13.1	0
17. Charlie Camp	24.6	14.1
18. Dogleg Camp	33.1	13.6
19. Bravo Camp	39.9	34.0
20. Kaʻapahu Camp	36.9	29.7
21. Pools of ʻOheʻo	33.6	38.6
22. Puhilele	32.3	39.7
23. Kapahu Farm	32.7	35.2
24. Waimoku Falls	26.5	24.0
25. Lelekea Stream Bridge	31.4	33.9
26. Kaupo Trailhead	35.4	35.6
27. Kaʻapahu	40.3	38.9
28. Measurement Site P01 (Namana o ke Akua)	28.5	2.0
29. Measurement Site P02 (Supply Trail)	9.7	0
30. Measurement Site P03 (Waimoku Falls/Mango Tree)	32.2	35.2
31. Measurement Site ST4 (Palikū Kaupō Gap)	27.8	12.8
32. Measurement Site ST5 (The Notch)	37.9	2.5
33. Measurement Site ST6 (Silversword Loop)	25.1	0
34. Measurement Site ST7(Kalahaku Overlook)	16.2	0
35. Measurement Site ST8 (Waimoku Falls)	35.2	30.7
36. Measurement Site ST9 (Kīpahulu Scientific Reserve)	31.6	7.9
37. Measurement Site ST10 (ʻOheʻo Coastal)	34.0	40.4
38. Nuʻu Coast	26.7	23.3
39. Nuʻu 4000 ft elev	38.6	37.1
40. Nuʻu 7500 ft elev	45.6	24.2
41. Nuʻu 3000 ft elev (West Boundary)	34.2	36.6
42. Manawainui 6200 ft elev	31.9	21.0
43. Kaʻapahu 2600 ft elev (West Boundary)	40.3	37.3
44. West Camp (6400 ft elev)	22.6	9.6

Table 13. Comparison of location point results for Time Audible for Natural Ambient

Location	No Action, Time Audible for Natural Ambient (minutes)	Alternative 3, Time Audible for Natural Ambient (minutes)
1. Hosmer Grove	81.6	0.3
2. Halemauʻu Trail/Rainbow Bridge	146.1	3.2
3. Kalahaku Overlook	173.9	7.6
4. Haleakalā Visitor Center	219.0	24.8
5. Ka Luʻu o ka ʻOʻo	148.4	16.1
6. Base of Sliding Sands Trail	155.0	29.7
7. 5-Mile Marker Sliding Sands Trail	151.5	31.5
8. Kapalaoa Cabin	156.4	31.6
9. Kawilinau	145.3	18.5
10. Oili Puʻu	157.9	25.1
11. Holua Cabin	126.6	9.6
12. Lauʻulu Trail (top of the trail)	168.9	15.7
13. Paliku Cabin	106.2	2.6
14. Kaupō Trail (at park boundary)	212.1	74.9
15. New Greensword Bog	99.0	18.9
16. Smith Camp	97.4	26.5
17. Charlie Camp	120.5	57.7
18. Dogleg Camp	117.3	56.2
19. Bravo Camp	125.4	63.2
20. Kaʻapahu Camp	188.1	76.1
21. Pools of ʻOheʻo	173.7	68.7
22. Puhilele	187.1	85.5
23. Kapahu Farm	155.7	65.5
24. Waimoku Falls	92.6	56.2
25. Lelekea Stream Bridge	108.8	56.9
26. Kaupo Trailhead	210.6	81.4
27. Kaʻapahu	175.8	73.0
28. Measurement Site P01 (Namana o ke Akua)	182.9	30.4
29. Measurement Site P02 (Supply Trail)	106.2	2.6
30. Measurement Site P03 (Waimoku Falls/Mango Tree)	180.7	80.3
31. Measurement Site ST4 (Palikū Kaupō Gap)	168.4	32.0
32. Measurement Site ST5 (The Notch)	155.9	32.4
33. Measurement Site ST6 (Silversword Loop)	131.5	12.4
34. Measurement Site ST7(Kalahaku Overlook)	125.6	6.5
35. Measurement Site ST8 (Waimoku Falls)	171.4	67.8
36. Measurement Site ST9 (Kīpahulu Scientific Reserve)	110.9	55.5
37. Measurement Site ST10 (ʻOheʻo Coastal)	183.7	79.6
38. Nuʻu Coast	225.3	79.0
39. Nuʻu 4000 ft elev	229.8	85.1
40. Nuʻu 7500 ft elev	225.8	76.5
41. Nuʻu 3000 ft elev (West Boundary)	185.9	54.2
42. Manawainui 6200 ft elev	219.3	83.6
43. Kaʻapahu 2600 ft elev (West Boundary)	191.3	69.9
44. West Camp (6400 ft elev)	142.3	41.9

Table 14. Comparison of location point results for Time Above 35 dBA

Location	No Action, Time Above 35 dBA (minutes)	Alternative 3, Time Above 35 dBA (minutes)
1. Hosmer Grove	0.0	0.0
2. Halemauʻu Trail/Rainbow Bridge	3.7	0.0
3. Kalahaku Overlook	1.1	0.0
4. Haleakalā Visitor Center	2.8	0.0
5. Ka Luʻu o ka ʻOʻo	0.0	0.0
6. Base of Sliding Sands Trail	30.4	0.0
7. 5-Mile Marker Sliding Sands Trail	50.1	0.0
8. Kapalaoa Cabin	6.6	0.0
9. Kawilinau	22.5	0.0
10. Oili Puʻu	17.5	0.0
11. Holua Cabin	9.0	0.0
12. Lauʻulu Trail (top of the trail)	0.2	0.0
13. Paliku Cabin	0.0	0.0
14. Kaupō Trail (at park boundary)	51.9	16.8
15. New Greensword Bog	0.0	0.0
16. Smith Camp	0.0	0.0
17. Charlie Camp	12.9	0.0
18. Dogleg Camp	35.5	0.7
19. Bravo Camp	61.4	21.5
20. Kaʻapahu Camp	66.7	19.4
21. Pools of ʻOheʻo	39.2	31.9
22. Puhilele	35.8	32.0
23. Kapahu Farm	44.1	33.8
24. Waimoku Falls	7.4	9.4
25. Lelekea Stream Bridge	44.4	22.9
26. Kaupo Trailhead	68.5	22.5
27. Kaʻapahu	70.5	19.8
28. Measurement Site P01 (Namana o ke Akua)	18.7	0.0
29. Measurement Site P02 (Supply Trail)	0.0	0.0
30. Measurement Site P03 (Waimoku Falls/Mango Tree)	50.6	31.8
31. Measurement Site ST4 (Palikū Kaupō Gap)	31.0	0.5
32. Measurement Site ST5 (The Notch)	35.2	0.0
33. Measurement Site ST6 (Silversword Loop)	16.3	0.0
34. Measurement Site ST7(Kalahaku Overlook)	1.3	0.0
35. Measurement Site ST8 (Waimoku Falls)	46.1	29.5
36. Measurement Site ST9 (Kīpahulu Scientific Reserve)	24.7	0.0
37. Measurement Site ST10 (ʻOheʻo Coastal)	35.8	30.9
38. Nuʻu Coast	20.0	13.2
39. Nuʻu 4000 ft elev	73.9	18.2
40. Nuʻu 7500 ft elev	71.8	11.0
41. Nuʻu 3000 ft elev (West Boundary)	59.9	11.9
42. Manawainui 6200 ft elev	50.1	5.7
43. Kaʻapahu 2600 ft elev (West Boundary)	59.1	19.5
44. West Camp (6400 ft elev)	8.3	0.0

Table 15. Comparison of location point results for Time Above 52 dBA

Location	No Action, Time Above 52 dBA (minutes)	Alternative 3, Time Above 52 dBA (minutes)
1. Hosmer Grove	0.0	0.0
2. Halemauʻu Trail/Rainbow Bridge	0.0	0.0
3. Kalahaku Overlook	0.0	0.0
4. Haleakalā Visitor Center	0.0	0.0
5. Ka Luʻu o ka ʻOʻo	0.0	0.0
6. Base of Sliding Sands Trail	4.7	0.0
7. 5-Mile Marker Sliding Sands Trail	10.5	0.0
8. Kapalaoa Cabin	1.7	0.0
9. Kawilinau	0.0	0.0
10. Oili Puʻu	0.0	0.0
11. Holua Cabin	0.0	0.0
12. Lauʻulu Trail (top of the trail)	0.0	0.0
13. Paliku Cabin	0.0	0.0
14. Kaupō Trail (at park boundary)	1.5	0.0
15. New Greensword Bog	0.0	0.0
16. Smith Camp	0.0	0.0
17. Charlie Camp	0.0	0.0
18. Dogleg Camp	0.9	0.0
19. Bravo Camp	8.0	2.4
20. Kaʻapahu Camp	2.9	0.3
21. Pools of ʻOheʻo	2.0	7.9
22. Puhilele	1.8	8.2
23. Kapahu Farm	1.0	2.8
24. Waimoku Falls	0.2	0.0
25. Lelekea Stream Bridge	0.3	2.7
26. Kaupo Trailhead	1.3	4.1
27. Kaʻapahu	8.2	6.6
28. Measurement Site P01 (Namana o ke Akua)	0.0	0.0
29. Measurement Site P02 (Supply Trail)	0.0	0.0
30. Measurement Site P03 (Waimoku Falls/Mango Tree)	0.0	2.7
31. Measurement Site ST4 (Palikū Kaupō Gap)	0.0	0.0
32. Measurement Site ST5 (The Notch)	4.9	0.0
33. Measurement Site ST6 (Silversword Loop)	0.0	0.0
34. Measurement Site ST7(Kalahaku Overlook)	0.0	0.0
35. Measurement Site ST8 (Waimoku Falls)	1.1	0.0
36. Measurement Site ST9 (Kīpahulu Scientific Reserve)	0.5	0.0
37. Measurement Site ST10 (ʻOheʻo Coastal)	2.2	9.3
38. Nuʻu Coast	0.0	0.0
39. Nuʻu 4000 ft elev	6.1	4.9
40. Nuʻu 7500 ft elev	23.6	0.0
41. Nuʻu 3000 ft elev (West Boundary)	0.9	4.1
42. Manawainui 6200 ft elev	0.0	0.0
43. Kaʻapahu 2600 ft elev (West Boundary)	8.9	3.9
44. West Camp (6400 ft elev)	0.0	0.0

Table 16. Comparison of location point results for Maximum Sound Level

Location	No Action, Maximum Sound Level (dBA)	Alternative 3, Maximum Sound Level (dBA)
1. Hosmer Grove	29.3	12.3
2. Halemauʻu Trail/Rainbow Bridge	38.2	14.6
3. Kalahaku Overlook	36.7	15.5
4. Haleakalā Visitor Center	42.9	19.1
5. Ka Luʻu o ka ʻOʻo	33.2	18.5
6. Base of Sliding Sands Trail	59.3	23.2
7. 5-Mile Marker Sliding Sands Trail	60.5	25.7
8. Kapalaoa Cabin	60.4	26.8
9. Kawilinau	49.9	22.0
10. Oili Puʻu	46.2	22.7
11. Holua Cabin	41.6	16.7
12. Lauʻulu Trail (top of the trail)	35.7	23.1
13. Paliku Cabin	30.5	14.1
14. Kaupō Trail (at park boundary)	54.1	51.5
15. New Greensword Bog	32.0	19.5
16. Smith Camp	35.0	19.4
17. Charlie Camp	43.9	34.8
18. Dogleg Camp	53.1	37.9
19. Bravo Camp	63.1	57.8
20. Kaʻapahu Camp	57.0	52.7
21. Pools of ʻOheʻo	59.8	62.2
22. Puhilele	57.3	63.6
23. Kapahu Farm	55.9	56.6
24. Waimoku Falls	53.9	48.2
25. Lelekea Stream Bridge	53.2	56.7
26. Kaupo Trailhead	57.2	57.5
27. Kaʻapahu	64.0	63.9
28. Measurement Site P01 (Namana o ke Akua)	50.5	23.3
29. Measurement Site P02 (Supply Trail)	30.5	14.1
30. Measurement Site P03 (Waimoku Falls/Mango Tree)	51.4	56.7
31. Measurement Site ST4 (Palikū Kaupō Gap)	43.9	37.2
32. Measurement Site ST5 (The Notch)	64.6	25.0
33. Measurement Site ST6 (Silversword Loop)	44.0	17.9
34. Measurement Site ST7(Kalahaku Overlook)	36.9	15.3
35. Measurement Site ST8 (Waimoku Falls)	53.6	50.8
36. Measurement Site ST9 (Kīpahulu Scientific Reserve)	52.7	31.2
37. Measurement Site ST10 (ʻOheʻo Coastal)	60.7	65.0
38. Nuʻu Coast	44.2	42.3
39. Nuʻu 4000 ft elev	58.3	63.7
40. Nuʻu 7500 ft elev	68.7	47.8
41. Nuʻu 3000 ft elev (West Boundary)	55.9	65.0
42. Manawainui 6200 ft elev	49.5	42.9
43. Kaʻapahu 2600 ft elev (West Boundary)	62.8	63.7
44. West Camp (6400 ft elev)	40.4	31.2

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 (4,824 flights per year), it is reasonably foreseeable that current 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. This type of shift in air tour activity is referred to as "air tour displacement," and could consist of air tour operators shifting routes or altitudes to just outside the ATMP boundary. 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 above the ATMP boundary (above 5,000 ft. AGL) would result in noise within the ATMP boundary. Compared to current conditions, the noise would be spread over a larger geospatial area and would be audible for a longer period, but at lower intensity. Thus, under Alternatives 2 and 3, some locations within the ATMP planning area may experience less intense noise but for a longer period when compared to current conditions. Additionally, other locations within the ATMP planning area not currently experiencing air tour noise may experience some noise under these alternatives when compared to current conditions. However, in both cases, the intensity of noise would likely be low given the aircraft altitude; any noise that might result could also be more easily masked by opportunistic sounds such as wind and various anthropogenic noise sources. In summary, while the area of noise could be greater under these alternatives, the intensity of noise, especially when compared to current conditions at locations near or directly below existing air tour routes, would be less.

Indirect effects outside the ATMP boundary

Displaced air tours have the potential to affect noise-sensitive locations outside the ATMP boundary. 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 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 (500 ft.) altitude on a common route outside the ATMP boundary. The noise analysis considers aircraft activity in 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?

Analysis for aircraft with loudest noise level

The aircraft with the loudest noise level[9] currently operating at the park is the Aerospatiale SA350D. For overflight operations at 500 ft. AGL, the number of operations over a 12-hour period to exceed a DNL 65 dB level is 1,654 (see Table 17). Other aircraft operating at the park are the Eurocopter EC-130. The number of operations over a 12-hour period to exceed a DNL 65 dB level for this aircraft is 11,534.

Table 17. Overflight sound exposure levels and number of daily fights 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
SA350D	**500**	82.2	1,654
EC130	**500**	73.7	11,534

Analysis for the aircraft types and fleet mix distribution within the 2017-2019 reporting data

This analysis compares the number of PMAD operations and peak day operations, since they could occur outside the ATMP boundary as a result of Alternatives 2 and 3, 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 3,861 operations at 500 ft AGL over a 12-hour period to exceed a DNL 65 dB level (see Table 18). This activity level represents an increase in daily operations of 3,843 compared to the PMAD (18 operations) and an increase of 3,811 compared to the peak day (50 operations). This, coupled with the likely dispersal of air tours outside the boundary for the reasons discussed previously, indicates that it would be highly unlikely that air tours that are displaced to outside the boundary under these Alternatives would generate noise at or above DNL 65 dB.

Table 18. Number of daily fights 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
SA350D	**500**	82.2	6	33.3%	1,287
EC130	**500**	73.7	12	66.6%	2,574
	Total		**18**	**100%**	**3,861**

[9] The determination of loudest is based on the aircraft with the highest overflight sound exposure level at 500 ft 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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ATTACHMENT E

Connection Information for April 20, 2023, Consulting Party Meeting for Haleakalā National Park

The consulting party meeting will be held on Thursday, April 20th, 2023, at 9:30 a.m. to 11:00 a.m. HST over Zoom.

Web link:
https://usdot.zoomgov.com/j/1607918709?pwd=RFQvcVR1SzRDR01tTURCdVJDaWlQZz09

Meeting ID: 160 791 8709
Passcode: 602195

Call-in:
Dial by your location
+1 669 254 5252 US (San Jose)
+1 646 964 1167 US (US Spanish Line)
+1 646 828 7666 US (New York)
+1 415 449 4000 US (US Spanish Line)
+1 551 285 1373 US
+1 669 216 1590 US (San Jose)
Meeting ID: 160 791 8709
Passcode: 602195

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, 2023

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

Dear Consulting Party:

The Federal Aviation Administration (FAA) and the National Park Service (NPS) are continuing consultation for the development of an Air Tour Management Plan (ATMP) at Haleakalā National Park. This is a reminder that the agencies are holding a virtual Section 106 consulting party meeting on **Thursday, April 20, 2023, at 9:30 a.m. to 11:00 a.m. HST** over Zoom. The purpose of this meeting is to explain how the FAA arrived at the proposed finding of no adverse effect on historic properties. The initial meeting invitation accompanied the March 27, 2023, Finding of Effects letter for Haleakalā National Park.

In preparation for the meeting, the FAA is providing the enclosed PowerPoint slide presentation for your review. Information on how to access the meeting is included below.

Web link:
https://usdot.zoomgov.com/j/1607918709?pwd=RFQvcVR1SzRDR01tTURCdVJDaWlQZz09

Meeting ID: 160 791 8709
Passcode: 602195

Call-in:
Dial by your location
+1 669 254 5252 US (San Jose)
+1 646 964 1167 US (US Spanish Line)
+1 646 828 7666 US (New York)
+1 415 449 4000 US (US Spanish Line)
+1 551 285 1373 US
+1 669 216 1590 US (San Jose)
Meeting ID: 160 791 8709
Passcode: 602195

Should you have any questions about the information provided in the Finding of Effects letter, please contact me at (202) 267–4185 or at judith.walker@faa.gov, copying ATMPTeam@dot.gov. If you have any logistical issues accessing the meeting or meeting materials, please reach out to ATMPTeam@dot.gov or (857) 998-9981.

Sincerely,

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

Attachments

A. PowerPoint Slides for the April 20, 2023, Consulting Party Meeting

ATTACHMENT A

POWERPOINT SLIDES
FOR THE
APRIL 20, 2023, CONSULTING PARTY MEETING

Section 106 Consulting Party Meeting for Haleakalā National Park Air Tour Management Plan

April 20, 2023

NPS Photo

Oli

E hō mai, (Grant)
Ka nanea mai, (Enjoyment from)
Luna mai ē, (Above)
E hō mai,
E hō mai,
E hō mai ē

E hō mai, (Grant)
Ka ʻike mai, (Education from)
Luna mai ē, (Above)
E hō mai,
E hō mai,
E hō mai ē

E hō mai, (Grant)
Ke aʻo loko mai (Inspiration from)
Luna mai ē, (Above)
E hō mai,
E hō mai,
E hō mai ē

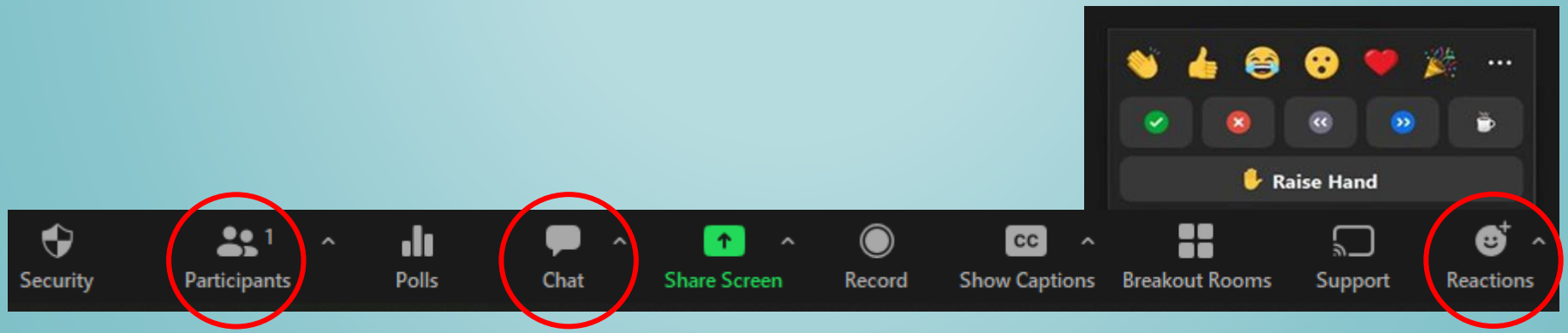
No kēia hanauna (For this generation)
A me nā hanauna hou aku ē (And future generations)

Agenda

- Housekeeping
- Introductions
- Overview of Undertaking
- Overview of Effects Analysis
  - How the FAA analyzes effects
  - Noise analysis
    - Noise Metrics
    - Overall trends
  - Visual analysis
  - Summary of No Adverse Effects
- Next Steps

Housekeeping

- Please mute your mic except when talking, this improves the sound quality for all.
- Please type your full name in chat box or change your display name to identify yourself if your name does not appear in Zoom.
  - To change your display name: click on “Participants” in the tool bar, hover over your name in the “Participants” sidebar, click on the three dots, and choose “Rename”
- If you have any questions/comments please use the “Raise Hand” icon or submit your comment in the chat box.
  - The raise your hand icon can found under "Reactions" on the tool bar.



Introductions – Federal Agencies

Federal Aviation Administration

- Judith Walker – Federal Preservation Officer

National Park Service, Haleakalā National Park

- Natalie Gates - Superintendent
- Lindsay Moore - Environmental Protection Specialist
- Rachel Hodara Nelson - Archeologist & Cultural Resources Program Manager
- Honeygirl Duman – Education Specialist & Hawaiian Community Liaison

USDOT Volpe Center

- Amanda Rapoza – Noise Specialist

Introductions – Consulting Parties

- Native Hawaiian Organizations
- Kūpuna
- Hawai‘i State Historic Preservation Division (SHPD)
- Property Owners
- Operators
- Additional consulting parties

Proposed Finding of No Adverse Effect

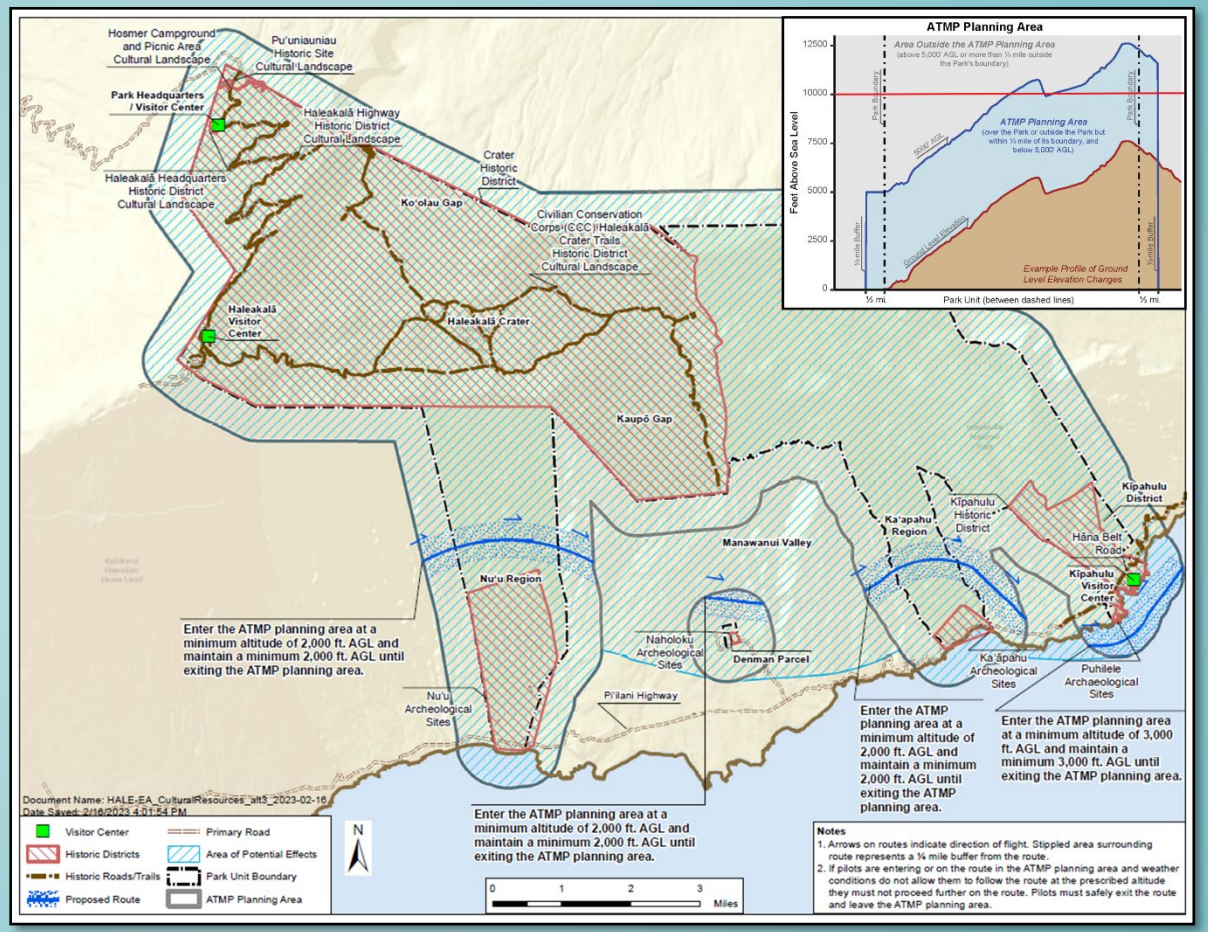
- A Finding of Effect letter with the FAA's proposed finding of **no adverse effect to historic properties** was sent to the Hawai'i SHPD and all consulting parties on March 27, 2023.
- The following slides will explain how the FAA arrived at the proposed finding.

The FAA seeks your concurrence with the proposed finding of no adverse effect by **Friday, April 28, 2023**.

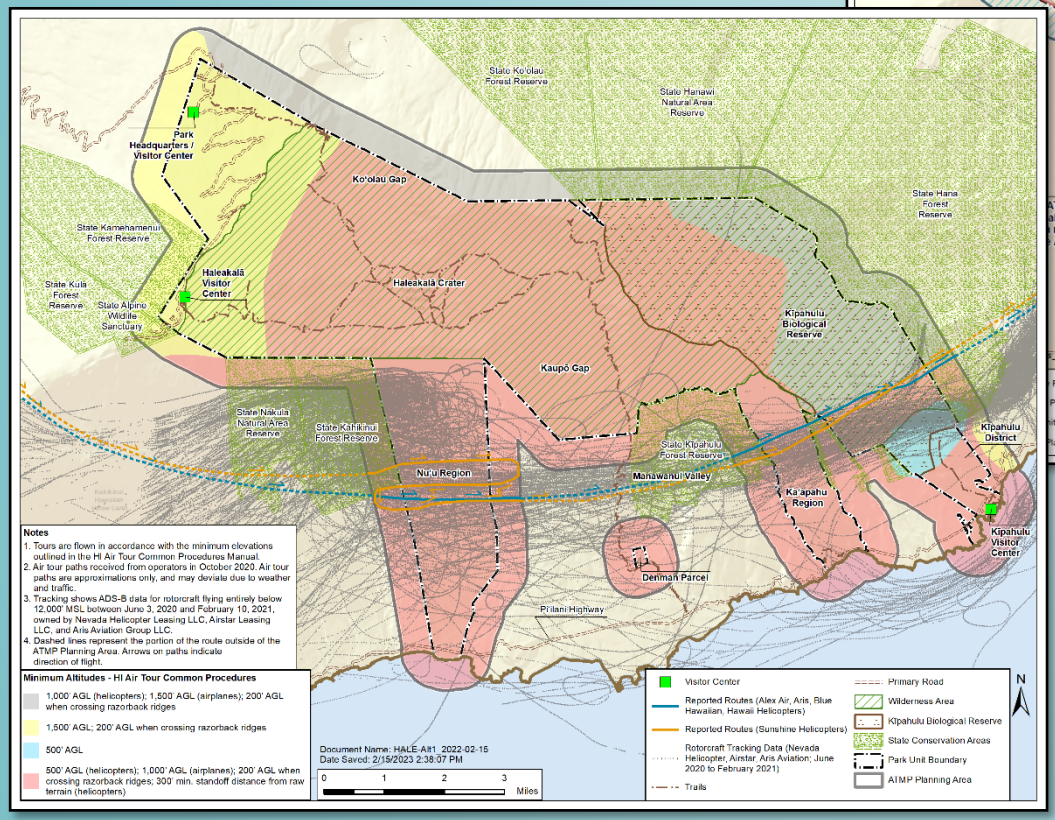
The Undertaking for Haleakalā National Park

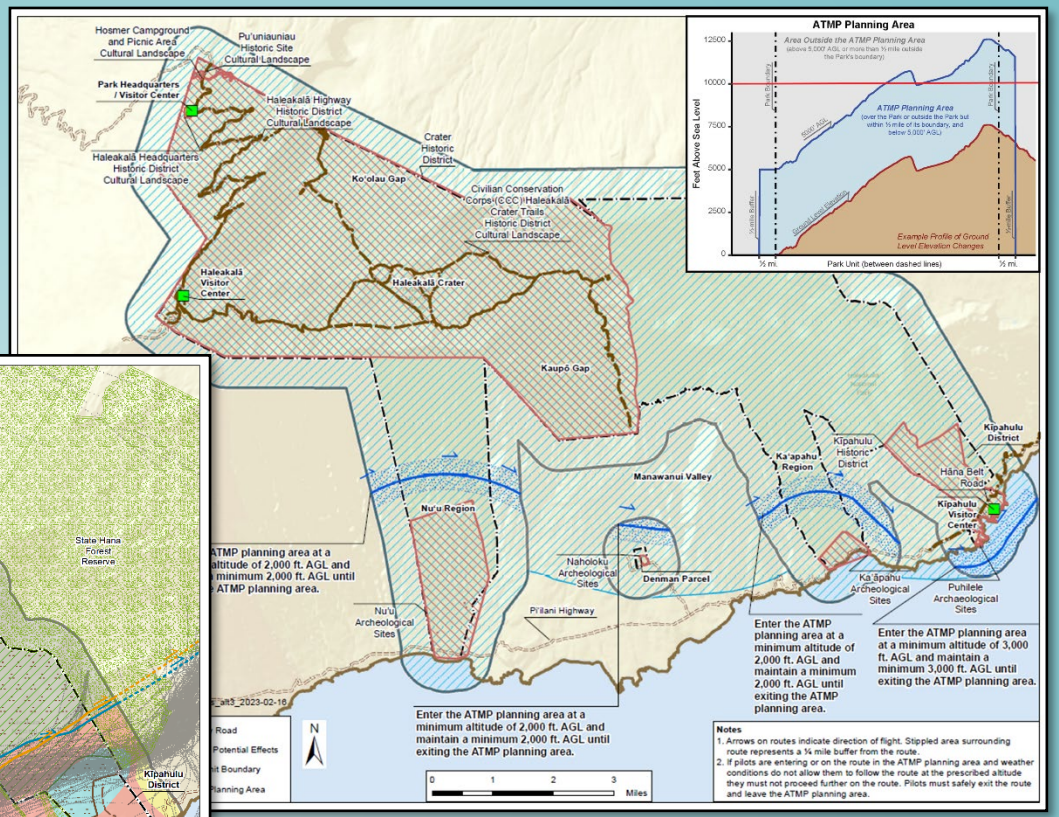
Implementation of the ATMP –Alternative 3 (Reduction of Air Tours)

- **Annual limit of air tours over the Park: 2,412**
- **Daily limit of air tours over the Park: 16**
- **Designates a singular flight path with minimum altitudes ranging from 2,000 – 3,000 ft. AGL**
- **No air tours allowed on Wednesdays or Sundays**
- **Air tours permitted between 11 AM – 2 PM on remaining days**
- **Quiet-technology (QT) air tours allowed from 11 AM – 4 PM on remaining days**
- **Six no-fly days generated by following the Hawaiian Moon Calendar and Makahiki Season; two no-fly days on Hawai'i State holidays of historical importance**
- **NPS can establish restrictions for particular events with two months' notice provided to operators.**
- **Hovering/circling prohibited**



Existing Conditions vs. the ATMP





Existing Conditions vs. the ATMP

Attribute	Existing Air Tour Conditions	Draft ATMP
Number of Air Tours Authorized Per Year	IOA: 25,827 flights per year 3-Yr. Average (2017-2019): 4,824	2,412 flights per year 16 flights per day
Routes and Altitudes	No mandatory routes or no-fly zones.	A single designated flight path with four segments. The flight path requires operators to fly in one direction at minimum 2,000 ft. AGL over land and 3,000 ft. AGL over the ocean.
Time-of-Day Restrictions	No restrictions, may occur at any time	On days where air tours are permitted: 11 AM – 2 PM for non-quiet technology flights 11 AM – 4 PM for quiet technology flights
Day-of-Week Restrictions	No restrictions, may occur on any day of the week	No-fly days on Sunday and Wednesday
Restrictions for Particular Events	No restrictions, may occur on any day of the year	Six no-fly days generated by following the Hawaiian Moon Calendar and Makahiki Season; two no-fly days on HI State holidays of historical importance with prior notice provided to operators.
Training, Education, and Meetings	No interpretive training, education or annual meeting.	Mandatory training and annual meeting. Helicopter operators required to complete the FAA Introduction to Fly Neighborly training.

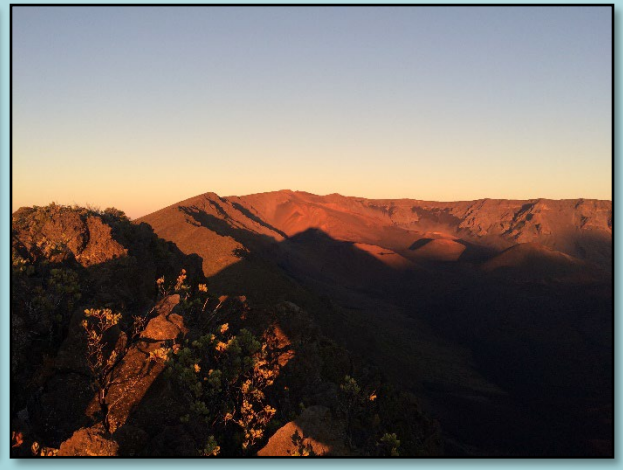
Effects Analysis Overview – Standards

- Air tours have been conducted over the Park for well over 20 years and are currently conducted under the Interim Operating Authority (IOA) that the FAA was required to grant operators by NPATMA.
- The agencies focused the assessment of effects on the potential for adverse effects from the *introduction* of **audible or visual elements** *beyond existing conditions* that could diminish the integrity of the property's significant historic features.
- **Criteria of Adverse Effect (36 CFR § 800.5(a)(1)):** An **adverse effect** is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would *diminish the integrity* of the property's location, design, setting, materials, workmanship, feeling, or association.

Significant Characteristics of Historic Properties

- Due to the nature of the undertaking, the implementation of the ATMP only has the potential to adversely affect historic properties that have a quiet setting, natural setting, and/or viewshed as a character-defining feature.
- Therefore, the agencies focused the assessment on historic properties within the area of potential effects (APE) that have a quiet setting, natural setting, and/or viewshed as a significant characteristic.

Civilian Conservation Corps (CCC) Haleakalā Crater Trails Historic District Cultural Landscape



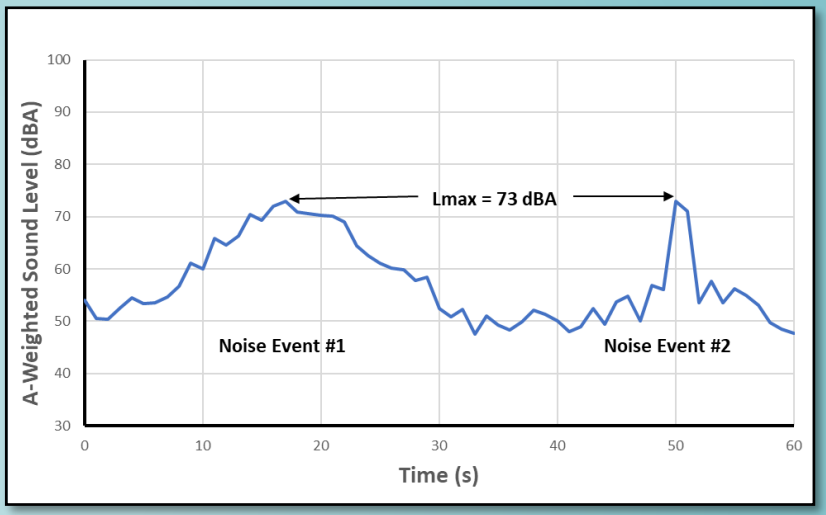
Haleakalā Summit Traditional Cultural Property (TCP)

Puhilele Archaeological Sites

Questions?

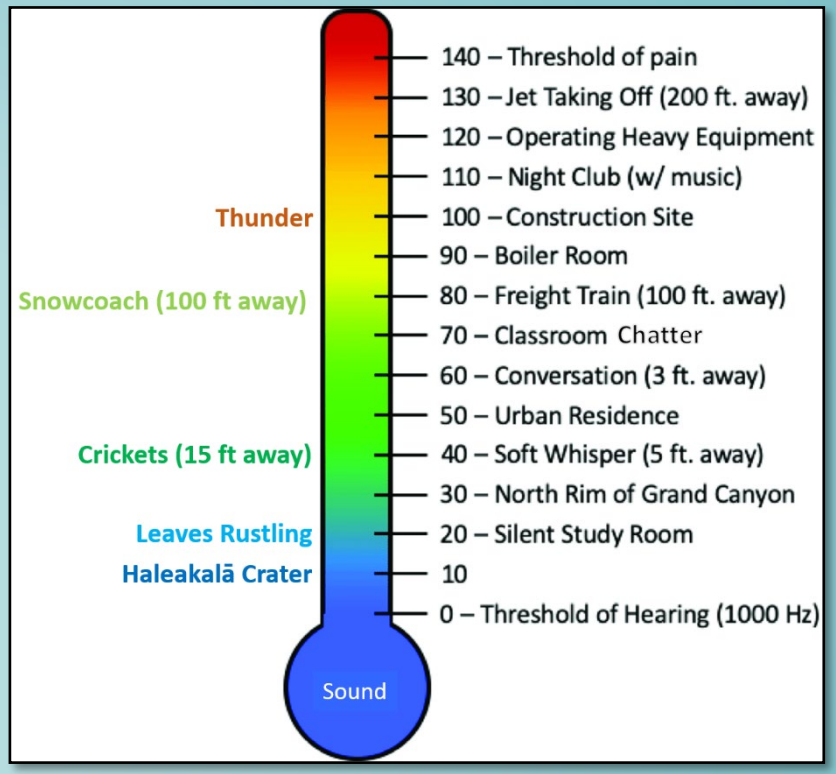
Noise Metrics

- **Equivalent sound level, LAeq, 12hr:** Average of commercial air tour sound levels (in decibels – dBA) over a 12-hour period. The 12-hour period represents typical daytime commercial air tour operating hours.
- **Maximum sound level, Lmax:** The loudest sound level (in dBA) generated by air tours during the 12-hour period. Lmax does not provide any context of the number of tour overflights or the duration.
- **Time Above 35 dBA:** The amount of time (in minutes) that aircraft sound levels are above 35 dBA
  - In quiet settings, outdoor sound levels exceeding this level degrade experience in outdoor performance venues.
- **Time Above 52 dBA:** The amount of time (in minutes) that aircraft sound levels are above 52 dBA
  - This metric represents the level at which one may reasonably expect interference with Park interpretive programs.



Noise Metrics

- **Natural Ambient:** The natural ambient is the sound level of all natural sounds in a given area. Natural ambient includes all sounds of nature but does not include any human or mechanical sounds.
- **Existing Ambient:** The sound level of all sounds in a given area, including all natural sounds and all mechanical, electrical, and other human-caused sounds.
- **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. Time audible does not indicate how loud the event is, only if it might be heard.



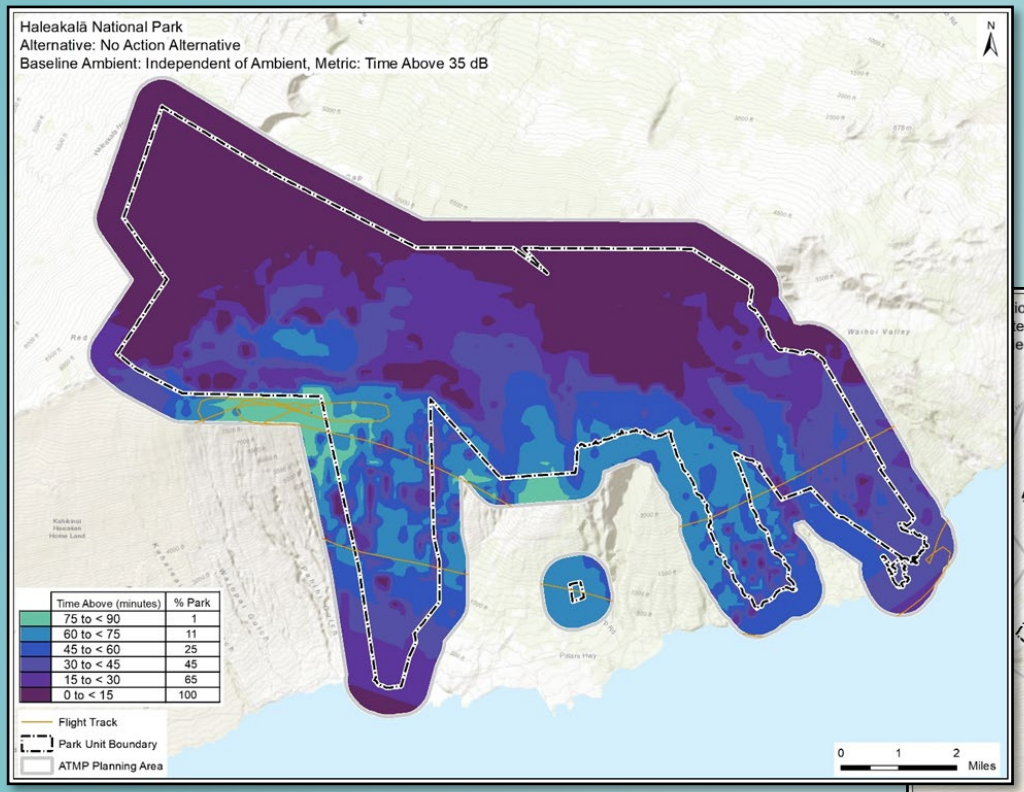
Questions?

Overall Trends: Noise Decreases in the APE – Duration vs. Intensity

Overall, historic properties in the area of potential effects (APE) would see a reduction in noise impacts compared to existing conditions.

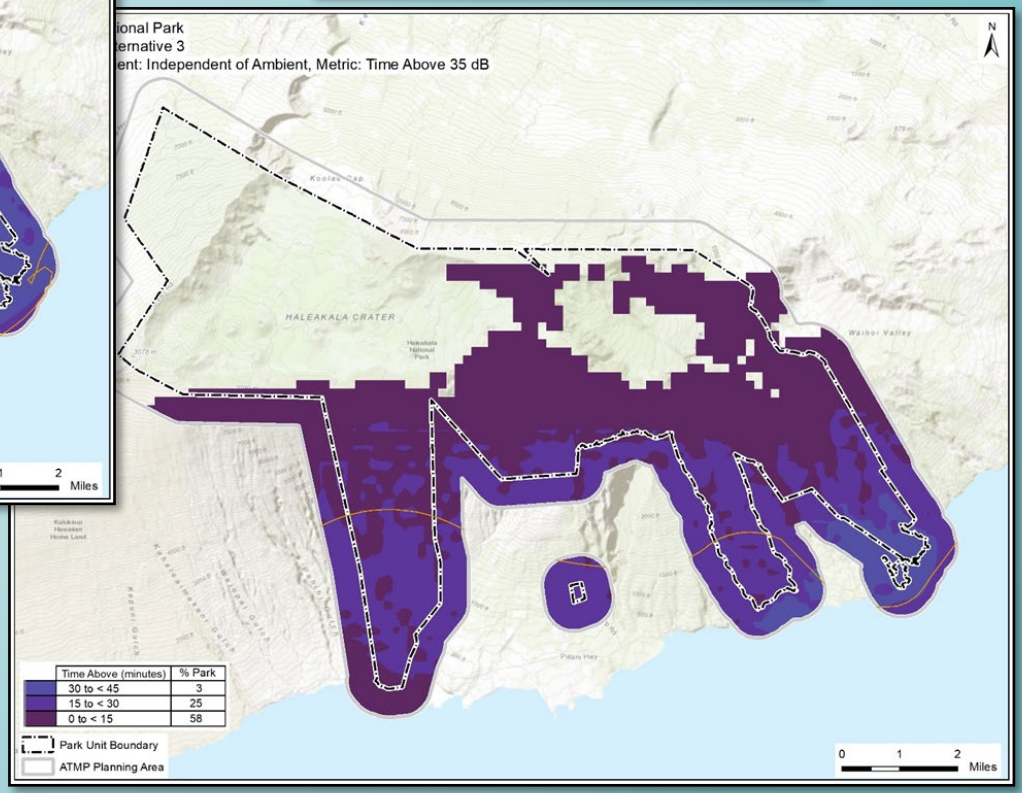
- Duration vs. Intensity:
  - **Intensity** – how loud it is
  - **Duration** – how long you hear it
- Some areas near the proposed flight path may experience increases in noise intensity but will experience decreases in noise duration compared to existing conditions.
- The finding of effect letter interprets the noise data from these metrics and finds that the changes in noise at various points throughout the Park **do not have the potential to cause adverse effects to historic properties** in the APE.
  - The following slides provide an overview of the agencies' findings.

Overall Trends: Noise Decreases in the APE – Time Above 35 dBA



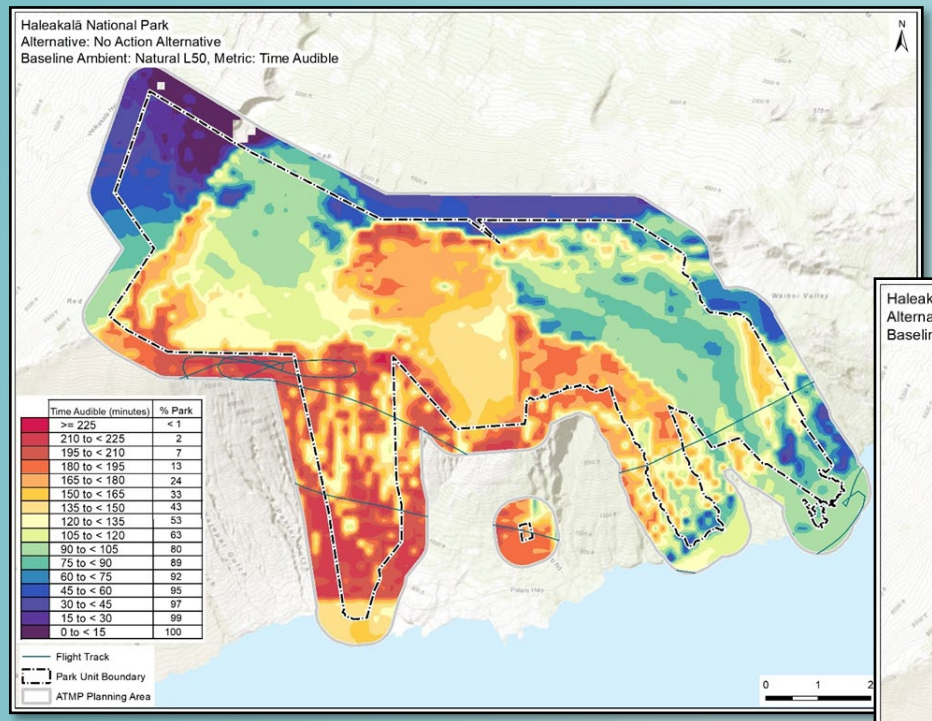
Existing Conditions

	Time Above (minutes)	% Park
	75 to < 90	1
	60 to < 75	11
	45 to < 60	25
	30 to < 45	45
	15 to < 30	65
	0 to < 15	100

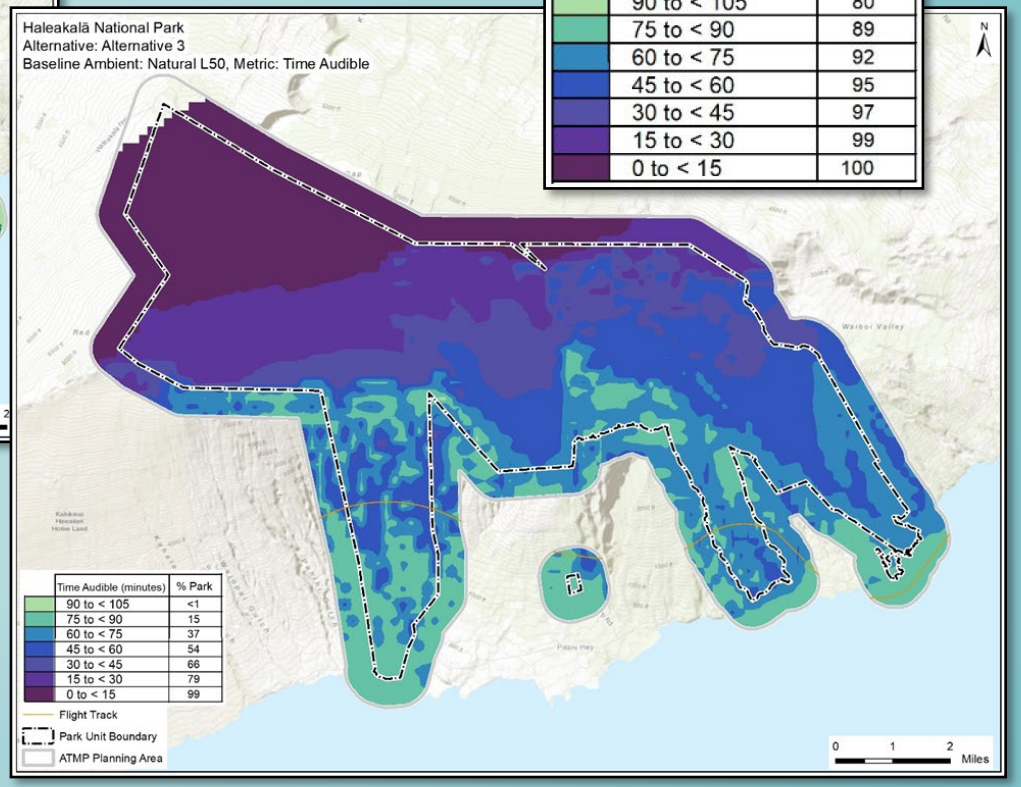


ATMP

Overall Trends: Noise Decreases in the APE – Time Audible



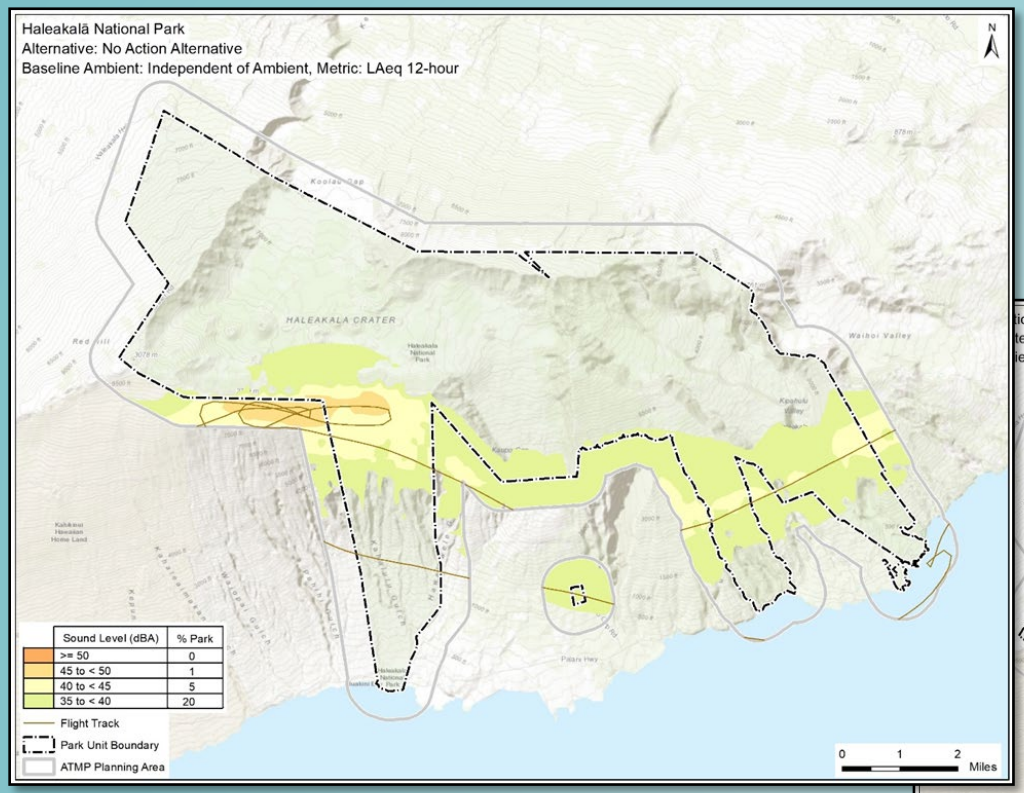
Existing Conditions



ATMP

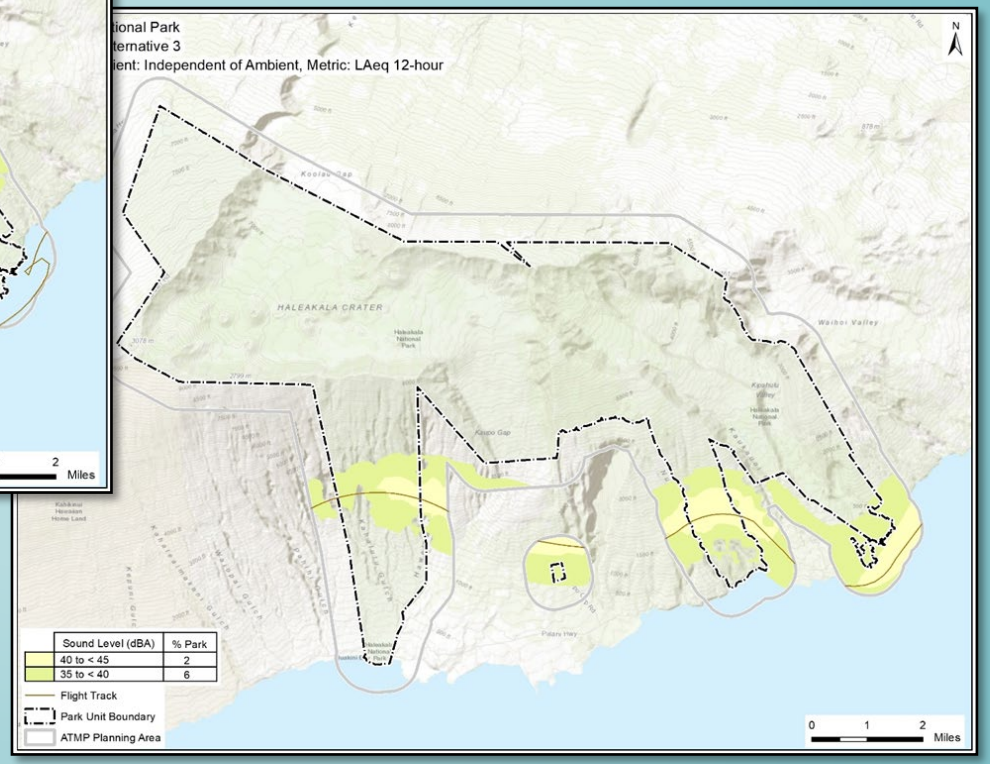
Time Audible (minutes)	% Park
>= 225	< 1
210 to < 225	2
195 to < 210	7
180 to < 195	13
165 to < 180	24
150 to < 165	33
135 to < 150	43
120 to < 135	53
105 to < 120	63
90 to < 105	80
75 to < 90	89
60 to < 75	92
45 to < 60	95
30 to < 45	97
15 to < 30	99
0 to < 15	100

Overall Trends: Noise Decreases in the APE – 12-hour Equivalent Sound Level



Existing Conditions

Sound Level (dBA)	% Park
>= 50	0
45 to < 50	1
40 to < 45	5
35 to < 40	20



ATMP

Overall Trends: Noise Decreases in the APE –
Increase in Intensity but Decrease in Duration

What does this mean?

Intensity up – Maximum sound level and time above 52 dBA are higher

+

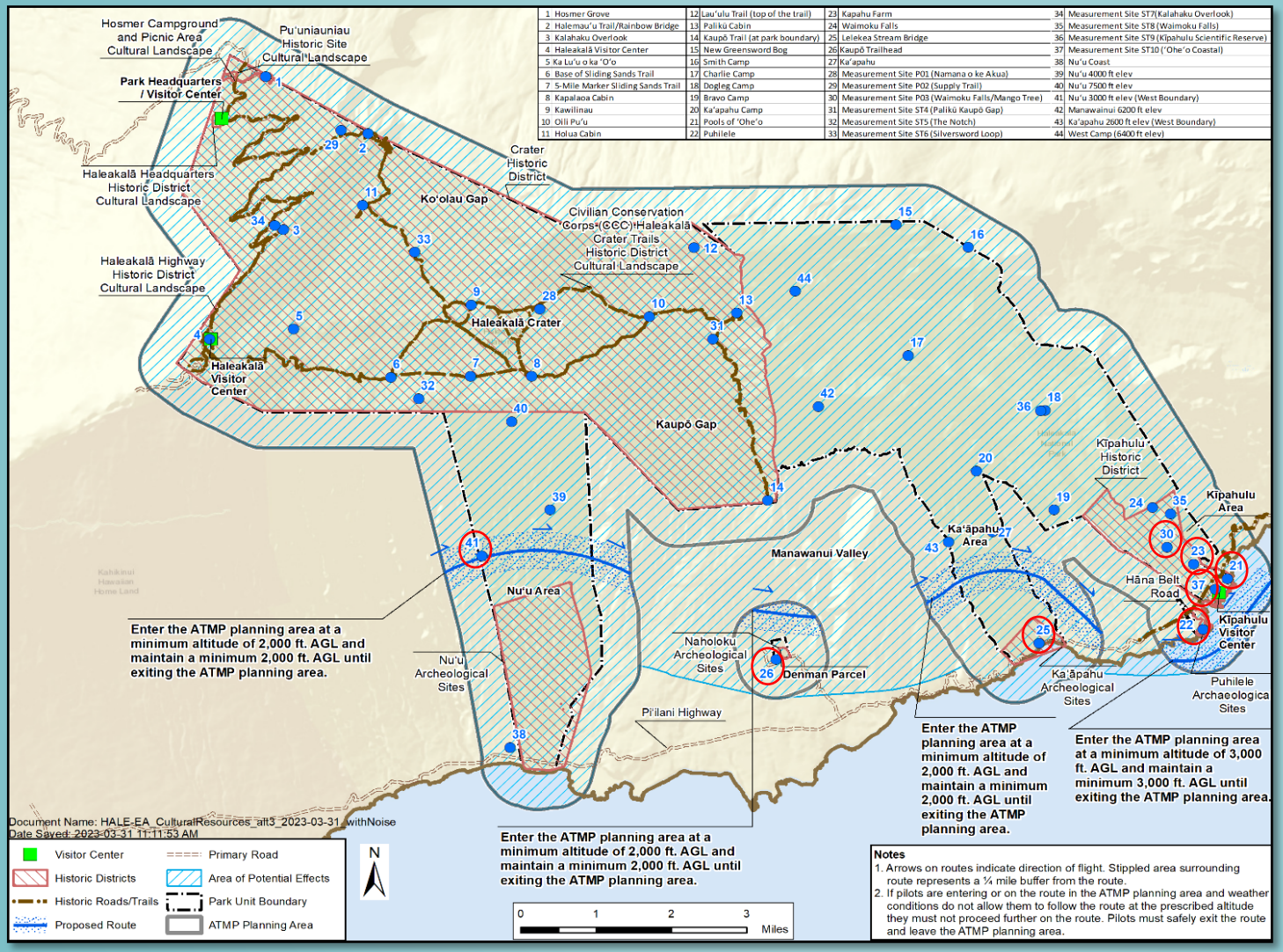
Duration down – Time above 35 dBA and time audible metrics are lower

=

More flights along the proposed route than existing conditions, but the overall reduction in flights and other measures mean they will be heard for a shorter amount of time than under existing conditions.

Historic properties affected: Portions of Haleakalā Summit TCP, Puhilele Archaeological Sites, Kaʻāpahu Archeological Sites, Naholoku Archaeological Sites, Lonoaea Heiau, Lonoʻoʻaiʻa Heiau (Hale O Kane Heiau), Pictograph and Rock Shelter (Marciel's Pictograph), and Kīpahulu Historic District.

Overall Trends: Noise Decreases in the APE –
Increase in Intensity but Decrease in Duration



- Noise points 21, 22, 23, 25, 26, 30, 37 and 41 will see an increase in intensity but decrease in overall duration.
- Largest intensity increase is Point 37: maximum sound level goes from 60.7 dBA to 65 dBA.
- Duration of time audible decreases at Point 37 from 183.7 to 79.6 minutes.
- All other noise points in the ATMP planning area will experience decreases in both noise intensity and duration.

No Adverse Noise Effects

- Overall, the ATMP reduces flights and increases altitudes, thereby reducing noise in the APE.

Additional ATMP Restrictions Further Minimize Effects

- No fly days
- Quiet technology (QT) incentives
- Time of day restrictions to avoid sunrise and sunset
- Restrictions for particular events
- Shifting and consolidating route avoids direct overflights of most historic resources

Questions?

Visual Analysis: Viewshed Intrusions Reduced

- Visual intrusions to historic properties are expected to significantly decrease compared to existing conditions.
  - Historic properties in the APE already experience visual intrusions by air tours under existing conditions.
  - The ATMP reduces flights in the ATMP planning area by 50%, raises the minimum altitude of air tours, and implements time-of-day and day-of-week limits.
- Air tours are transitory by nature.
- The implementation of the ATMP will not introduce visual elements that may alter the characteristics of any historic property that qualifies it for inclusion in the National Register of Historic Places.

Haleakalā Summit Traditional Cultural Property (TCP)

Summary of No Adverse Effects

- The undertaking – the implementation of the ATMP – will result in:
  - Significant reduction in the number of air tours and times in which air tours are allowed.
  - A single designated flight path that moves air tours away from the most sensitive cultural resources in the APE and avoids direct overflights of most resources, including the Haleakalā Crater.
  - Reduction of noise footprint within Park.
  - Effects to resources along the proposed flight path where daily flights may be increased.
    - These effects are not adverse as flights already exist in these areas.
      - Noise duration is decreasing throughout.
      - Air tours are transitory in nature, and any noise and visual impacts to historic properties would be temporary, infrequent, and less intrusive than existing conditions in the Park.
      - The ATMP restrictions minimize the effects of air tours to historic properties and reduce the likelihood that an air tour would interrupt Native Hawaiian traditional practices.

The undertaking would not alter the significant characteristics of any historic properties located within the APE in a manner that would diminish its integrity.

Questions?

Next Steps:

- Based on this analysis, the FAA proposes a finding of no adverse effect on historic properties. We request that you review the information provided in the March 27, 2023, Finding of No Adverse Effect letter and respond in writing whether you concur with the proposed finding by **April 28, 2023**, to the email address or mailing address below.
- Should you have questions regarding the effects assessment, please contact:
  - Judith Walker at (202) 267-4185 or at judith.walker@faa.gov, copying ATMPTeam@dot.gov
  - Mailing address:

    United States Department of Transportation
    FEDERAL AVIATION ADMINISTRATION
    Office of Policy, International Affairs & Environment
    Office of Environment and Energy
    800 Independence Ave, SW, Suite 900 West
    Washington DC 20591

THANK YOU

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 28, 2023

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

Dear Consulting Party:

The Federal Aviation Administration (FAA) and the National Park Service (NPS) held a virtual Section 106 informational meeting on Thursday, April 20, 2023, to explain how the FAA arrived at the proposed finding of no adverse effect on historic properties for the Air Tour Management Plan (ATMP) at Haleakalā National Park. The initial meeting invitation accompanied the March 27, 2023, Finding of Effects letter, and the agencies provided a copy of the PowerPoint slide presentation to all consulting parties prior to the meeting.

The FAA is providing the enclosed meeting summary with a list of questions received during the meeting and the agencies' responses for your awareness.

Should you have any questions, please contact me at (202) 267–4185 or at judith.walker@faa.gov, copying ATMPTeam@dot.gov.

Sincerely,

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

Attachments

A. April 20, 2023, Consulting Party Meeting Summary and Q&A

ATTACHMENT A

APRIL 20, 2023, CONSULTING PARTY MEETING SUMMARY AND Q&A

Section 106 Consulting Party Meeting for the Development of an Air Tour Management Plan (ATMP) at Haleakalā National Park

Meeting Summary and Q&A

Date: Thursday, April 20, 2023, at 3:30 PM ET / 9:30 AM HT

Attendees:

- **FAA/NPS staff:** Bennadette (Honeygirl) Duman (NPS), Eric Elmore (FAA), Natalie B. Gates (NPS), Shauna Haas (U.S. DOT Volpe Center), Rachel Hodara Nelson (NPS), Amy Hootman (U.S. DOT Volpe Center), Lindsay Moore (NPS), Judith Walker (FAA), Karen Trevino (NPS), Amanda Rapoza (U.S. DOT Volpe Center), Sarah Killinger (NPS), Denise Louie (NPS)
- **Other Attendees:** Kiersten Faulkner (Historic Hawai'i Foundation), Lyons Cabacungan ('Aha Moku o Kaupō), Kamakana Ferreira (Office of Hawaiian Affairs), Tara Apo (Kaupō Community Association), Glenna (Tweetie) Lind (Kīpahulu 'Ohana, HALE Kūpuna group), Betsy Merritt (National Trust for Historic Preservation), Donna Sterling, Olena Alec (Haleakalā Conservancy), Alohalani Smith ('Aha Moku o Kaupō), Ka'uiki Lind (Kīpahulu 'Ohana), Courtney Williams (support to FAA)

Meeting Summary:

<u>Introduction</u>

- The Federal Aviation Administration (FAA) welcomed attendees, and the National Park Service (NPS) led the Oli.
- The FAA stated that the purpose of the meeting is to review the analysis of how the agency arrived at the finding of no adverse effect to historic properties.
- The FAA provided an overview of the basic features of Zoom and noted that the meeting would not be recorded. A meeting summary and responses to questions will be provided to consulting parties after the meeting.
- The FAA and NPS staff introduced themselves to attendees and asked for the other attendees to introduce themselves.
- The FAA sent a letter with the proposed finding of no adverse effect to historic properties to all consulting parties on March 27, 2023. The FAA seeks concurrence with the finding in writing by Friday, April 28, 2023. Mailed responses must be postmarked by April 28, 2023.

<u>The Undertaking</u>

- The FAA provided an overview of and map showing the undertaking and the area of potential effects (APE). The undertaking for the Park is the ATMP. The ATMP designates a single flight path within its planning area and reduces the annual number of commercial air tours over the Park. The APE (or the area where the ATMP will affect cultural resources) is the Park and the half mile around the Park's boundary and also includes the area depicted on the map within the dog legs.
- The ATMP:
    - Reduces air tour operations from an average of 25,827 annual flights down to a limit of 2,412 annual flights and imposes a daily limit of 16 air tours over the ATMP planning area.

- Designates a single discontinuous flight path with minimum altitudes of 2,000 – 3,000 ft. above ground level (AGL).
- Imposes time-of-day limits and day-of-week limits, including no air tours on Wednesdays or Sundays and air tours permitted only between 11AM-2PM on the remaining days.
- Includes quiet technology (QT) incentives, allowing QT air tours from 11AM-4PM on the remaining days.
- Includes six no-fly days generated by following the Hawaiian Moon Calendar and Makahiki Season and two no-fly days on Hawai'i State holidays of historical importance.
- Allows for NPS to establish restrictions for particular events with two months' notice provided to operators.
- Prohibits hovering and circling.

- The FAA provided an overview of the existing conditions compared to the ATMP. FAA shared maps showing the existing flights in and surrounding the ATMP planning area and the single designated flight path under the ATMP.

Assessment of Effects

- Air tours have been conducted in the Park for over 20 years and are currently conducted under the Interim Operating Authority (IOA) that the FAA was required to grant operators by the National Parks Air Tour Management Act of 2000 (NPATMA).
- The agencies focused the assessment of effects on the potential for adverse effects from the introduction of audible or visual elements beyond existing conditions that could diminish the integrity of a historic property.
- An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places (NRHP) in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.
- The Undertaking would not result in physical effects to historic properties but has the potential to affect resources for which feeling and setting are contributing elements. Due to the nature of the Undertaking, the agencies focused the assessment on historic properties that have a quiet setting, natural setting, and/or viewshed as a significant characteristic.

Noise Assessment

- The U.S. DOT Volpe Center provided an overview of the noise metrics used for the effects assessment, including: 12-hour equivalent sound level, maximum sound level, time above metrics, natural ambient, existing ambient, and time audible natural ambient. Each of these metrics measure different things, and the agencies used them all to gather the big picture of potential effects. These metrics and the noise modeling results are explained further in the March 27, 2023, Finding of No Adverse Effect letter.
- Overall, historic properties in the APE would see a reduction in noise impacts compared to existing conditions.
    - Some areas near the proposed flight path may experience increases in noise intensity but will experience decreases in noise duration compared to existing conditions.
    - The agencies find that the changes in noise at various points throughout the Park do not have the potential to cause adverse effects to historic properties in the APE.
- The agencies reviewed a map which showed the noise point locations that will experience an increase in noise intensity but a decrease in duration of noise. The agencies went over the

intensity and duration changes to Noise Point 37, where there is the largest increase in noise intensity compared to existing conditions. The FAA noted that other than the locations noted on the map near the proposed flight path, all other noise points in the ATMP planning area will experience decreases in both noise intensity and duration.

- The agencies explained why it is proposing a no adverse effect finding for the undertaking. Overall, the ATMP would reduce flights and increase altitudes, thereby reducing noise impacts to historic properties. The ATMP introduces restrictions that would reduce the likelihood of effects to historic properties, including no-fly days, time-of-day and day-of-week restrictions, QT incentives, and shifting and consolidating routes to avoid direct overflights of most historic resources.

Visual Assessment

- FAA provided an overview of the visual analysis. By reducing the number of air tour flights, visual intrusions would be reduced under the ATMP compared to existing conditions.
    - The ATMP would reduce flights in the ATMP planning area by 50%, raises the minimum altitude of air tours, and implements time-of-day and day-of-week limits.
    - Air tours are transitory by nature and intrusions would be brief.
    - The ATMP would avoid direct overflights of many historic properties, including over the Haleakalā Crater.
    - The implementation of the ATMP would not introduce visual elements that may alter the characteristics of any historic property that qualifies it for inclusion in the National Register of Historic Places.

Summary of No Adverse Effects

- The FAA summarized the noise and visual effects assessment and how the ATMP would avoid adverse effects.

Next Steps

- The FAA requested that consulting parties review the information provided in the March 27, 2023, Finding of No Adverse Effect letter and respond whether they concur with the proposed finding in writing by April 28, 2023. Written comments are due or postmarked by April 28, 2023, to the email or mailing addresses below.
- For questions regarding the effects assessment, please contact Judith Walker at (202) 267-4185 or at judith.walker@faa.gov, copying ATMPTeam@dot.gov.
- Mailing address:
  United States Department of Transportation
  FEDERAL AVIATION ADMINISTRATION
  Office of Policy, International Affairs & Environment
  Office of Environment and Energy
  800 Independence Ave, SW, Suite 900 West
  Washington DC 20591

Meeting Questions/Comments:

Q.1. Were there any existing restrictions on air tours? Doesn't the FAA have an island-specific agreement for all tours, in addition to a Voluntary Agreement (VA) with the Park?

A.1. No air tour restrictions have yet been put in place by FAA and NPS pursuant to the requirements set forth in the National Parks Air Tour Management Act (the Act) for air tour

operations conducted at Hawai‘i National Parks. In 1998, an agreement was signed by the then air tour operators and the Haleakalā Superintendent. However, that agreement does not allow the agencies to come into compliance with the Act because it does not meet the following requirements for a Voluntary Agreement (VA) set forth in the Act:

1. It does not address the management issues necessary to protect the Park's natural and cultural resources and visitor use.
2. It was not made available for public review.
3. FAA is not a party to the agreement.
4. The agencies did not have authority to enter into Voluntary Agreements prior to 2012 and this agreement was developed in 1998.
5. The Agencies did not consult with any Native Hawaiian Organizations in the development of the Agreement as required.
6. The Agreement was not based on "reasonable scientific methods" nor was it informed by sound level or aircraft noise monitoring or modeling or other information that would meet the legal obligations of NPS and FAA.

While some operators have noted they follow the agreement with the Park, the agreement does not reflect the current list of active operators, and there is no method of monitoring or enforcing that the agreement be followed. The only restrictions in place include the Hawai‘i Air Tour Common Procedures Manual. All commercial air tours within the State of Hawai‘i that are authorized to conduct operations below 1,500' above ground level (AGL) must comply with the requirements and limitations detailed in the Hawai‘i Air Tour Common Procedures Manual. This manual prescribes requirements for operators that must be met prior to flying below 1,500' AGL and specific requirements and instructions during operations including minimum altitudes. This manual prescribes requirements for operators that must be met prior to flying below 1,500' AGL and specific requirements and instructions during operations including minimum altitudes.

Q.2. What is the Denman Parcel?

A.2. The Denman Parcel was acquired by the NPS in 2004. It is a 17-acre parcel located approximately 1.3 miles north of Pi'ilani Highway, and the Park has been surveying it for historic properties.

Q.3. There is a heiau near the Denman Parcel named Lo‘alo‘a Heiau, which is listed on the National Register of Historic Places but is outside the APE. Can this be included in the historic properties list? Can the APE be expanded to include additional historic properties?

A.3. The APE was delineated through consultation with the Hawai‘i State Historic Preservation Division (SHPD) and consulting parties. See page 5 of the March 27, 2023, letter for more discussion on how the APE was delineated. In delineating the APE, which determines the area in which historic properties are identified, the agencies considered the reasonably foreseeable areas where operators may fly given the implementation of the ATMP and therefore the areas within which the undertaking may directly or indirectly cause alterations in the character or use of historical properties within the APE if any such properties exist.

Q.4. What about air tour noise that exists and will continue to exist in areas outside the APE, such as over the Lo‘alo‘a Heiau and in other areas of the Manawainui Valley?

A.4. The Section 106 process for this undertaking (the implementation of the ATMP) does not assess where operators fly generally, and instead looks very specifically at the effect that the

implementation of the ATMP may have on historic properties in the APE. The effects assessment looks at the change between the existing conditions and what is reasonably foreseeable under the ATMP. The implementation of the ATMP will affect where air tours operate within the ATMP planning area, which is the Park and ½ mile outside the boundary of the Park, and it is reasonably foreseeable that they may fly adjacent to or above the ATMP planning area or in areas outside the ATMP planning area that maintain a direct connection to the proposed flight path as a result of the ATMP. Air tour operators currently fly outside the ATMP planning area and the APE, and they would still be able to do so after the implementation of the ATMP.

Q.5. Cultural practitioners have conveyed that air tours interrupt cultural practices, so why wasn't the no air tours alternative chosen? It was noted that other Parks consulting with Native American Tribes have chosen to eliminate air tours, whereas the Hawai'i parks have not even though Native Hawaiians have said that they want no air tours.

A.5. Section 106 is a consultative process that does not require a specific outcome; it does require that the federal agency assess the effects of the undertaking on historic properties within the APE. The terms and conditions of an ATMP vary from park to park and are determined through analysis of impacts to park resources and visitor experience, ability to reduce those impacts, flight safety, and consultation with tribes/Native Hawaiians and other consulting parties. The objective of this ATMP, under the Act, is to develop acceptable and effective measures to mitigate or prevent significant adverse impacts, if any, of commercial air tour operations on the Park's natural and cultural landscapes and resources, areas of historic and spiritual significance to Native Hawaiians, wilderness character, and visitor experience. In the case of Haleakalā, Native Hawaiian organizations, park Kūpuna consulting groups, and individuals articulated a preference for zero air tours because of similar concerns to Native American Tribes consulting on South Dakota parks about impacts from air tours. However, unlike the South Dakota parks, the size and topography of Haleakalā National Park provided several opportunities for reducing air tour impacts. The preferred alternative was developed to protect Park resources while allowing air tours by moving flights away from noise sensitive areas in the Park; creating no fly zones over the summit of Haleakalā to provide greater protection from noise impacts to cultural resources, Native Hawaiian cultural practices, ceremonial sites, and Traditional Cultural Properties; setting minimum altitudes; significantly limiting number of flights; and establishing no fly days.

Q.6. Why does the wilderness distinction of wilderness areas not extend into the airspace?

A.6. The Wilderness Act is a law enacted by Congress. It assesses the aircraft touching the ground, which is a limited use, and looks at noise impacts from helicopter tours, as that affects the solitude experienced by people and the natural quality of natural resources. An assessment of impacts to wilderness will be included in the forthcoming environmental assessment (EA). The agencies are trying to ensure that impacts to the wilderness are lessened. Consulting parties will be notified when the EA is available for review and what the specific comment period dates are when it is made available to the public.

Q.7. The silence of the Park is an important feature of the Park; why was this not given more weight in the assessment?

A.7. Overall historic properties in the APE experience a decrease in noise. The significant features of the Haleakalā Summit Traditional Cultural Property (TCP) as well as the other historic properties in the APE were considered in the evaluation of effects. Quiet and/or natural settings are noted

for many properties and discussed in the March 27, 2023, letter. See page 10 of the March 27, 2023, letter and the noise technical report in the appendix of the letter for more discussion on where and by how much noise is reduced in the Park. All areas of the park will see a reduction in the duration of noise, including time audible and the time above metrics. The overall footprint where noise from air tours will be heard is significantly reduced under the ATMP. The areas of the park with the lowest natural ambient levels, such as the summit area, are currently the most impacted by air tours but under the ATMP will see the biggest reductions in direct noise impacts, with sound exceeding 35 dBA for less than 15 minutes a day if at all. Time audible in the park will drop from a maximum of over 225 minutes to less than 90 minutes. Most areas where noise levels may increase are along the proposed route and near the coast, where natural ambient is between 45 and 50 dBA. In these areas of increased noise levels, the time air tours will be audible will be reduced from what they are currently experiencing.

Q.8. Was the existing agreement between the Park and operators considered as part of existing conditions in the evaluation of the effect of the ATMP? Why are the agencies pursuing an ATMP instead of a Voluntary Agreement (VA) at the Park as allowed by the Act?

A.8. The agencies determined the existing conditions by looking at the number of operations reported during 2017-2019 and using the average. Routes were reported by operators and using ASD-B flight tracking data. The agreement between operators and the Park was in effect during this time frame and therefore these conditions reflect operations under the agreement.

Congress did not authorize the FAA and NPS to enter into air tour agreements with operators until 2012; therefore, the existing agreement with operators from 1998 does not meet the requirements of NPATMA. A VA under NPATMA is an agreement between the operators and agencies and was determined not to be appropriate at the Park. Note that a VA would have the same boundaries as the ATMP but would not have the same consultation process. Unlike ATMPs, VAs do not require compliance with the National Environmental Policy Act (NEPA) or other environmental laws. Consultation and public comment for a VA would take place strictly under NPATMA and would differ from the Section 106 process for an ATMP. See A.1 for more information.

Q.9. Have the agencies considered cumulative impacts, such as reasonably foreseeable past, present, and future impacts, including impacts from other parties? For example, the ATMP may lead to operators moving flights to other areas that would cause impacts to other historic properties.

A.9. The agencies did consider reasonably foreseeable operations as a result of the ATMP implementation in developing the APE. Refer to the March 27, 2023, letter's indirect effects section that discussed the potential for displaced flights.

Q.10. Can the agencies extend the 6 no-fly day zones to 12, aligning with the Hawaiian Moon Calendar and Makahiki Season?

A.10. The ATMP currently includes 6 no-fly days generated by following the Hawaiian Moon Calendar and Makahiki Season. The park added two Hawai'i State Holidays that are historically significant to Native Hawaiians, bringing the total no-fly days to 8. This comment proposes a change to the proposed ATMP/Undertaking based on a concern that the no-fly days do not include days that are historically significant to Native Hawaiians. It is recommended consulting parties make this comment through the public comment period for the Draft ATMP and the NEPA process since the flight-free days are part of the proposed action for the ATMP and

therefore, any changes to that would be made as part of the NEPA process. That comment period is expected to begin in May. Consulting parties will be notified of the specific comment period dates when it is made available to the public for review. The commenter can also provide this comment in response to the proposed finding of effect letter that was sent to all consulting parties. On March 27, 2023, the agency sent all the consulting parties the proposed finding of no adverse effect for the undertaking at Haleakalā National Park in a letter and included the documentation in 36 CFR 800.11(e). The agency is seeking concurrence on the proposed finding. Consulting parties that do not agree with the proposed finding must state their disagreement and the reason for it in writing within the 30-day review period. The comment review period for the finding of effects letter and concurrence on the proposed finding ends April 28, 2023. Comments that are not responsive or address issues outside of the Section 106 process will be referred to the appropriate agency team for a response.

Q.11. Who would monitor the helicopters flying over Kahikinui? One consulting party noted that they have seen air traffic violations over these areas.

A.11. The NPS and the FAA are both responsible for the monitoring and oversight of the ATMP. If the NPS identifies instances of noncompliance, the NPS will report such findings to the FAA's Flight Standards District Office (FSDO) with geographic oversight of the Park, which is the Honolulu FSDO. The public may also report allegations of noncompliance with this ATMP to the FSDO. The FSDO will investigate and respond to all written reports consistent with applicable FAA guidance.

FAA determination of noncompliance may result in loss of authorization to conduct commercial air tours authorized by this ATMP. Any violation of OpSpecs shall be treated in accordance with FAA Order 2150.3, FAA Compliance and Enforcement Program.

Q.12. Were the Kūpuna comments from before 2017 included in the assessment?

A.12. Kūpuna comments associated with the ATMP process, such as letters and meeting notes that date to before the current Section 106 process, were considered in development of the ATMP, establishing the Area of Potential Effects, and determination of effects. For example:

- Summary of Issues Raised By Kūpuna During Discussion in 2004: *Generally speaking, all of Haleakalā is sacred. Silence on Haleakalā is sacred. Kīpahulu Valley was specifically mentioned as an area of concern.*
  Action taken: Preferred alternative (the undertaking) avoids and moves commercial air tours further away from the Haleakalā Summit and Kīpahulu Valley.

- Summary of Issues Raised By Kūpuna During Discussion in 2004: *Commercial air tours need to be restricted. Preferred tour routes over the ocean instead of the land. Concerned about the monitoring of commercial air tours (i.e., how air tour restrictions are going to be enforced).*
  Action taken: Preferred alternative (the undertaking) restricts commercial air tours and shifts the route over the ocean. See Q.11. for further description on how air tours will be monitored under the ATMP.

- Comment received during public scoping on proposed alternatives in 2011: *I believe protecting the summit of Haleakalā (meaning rim and crater) as a Traditional Cultural Property with spiritual and cultural significance to Native Hawaiians; threatened and endangered species and*

other wildlife sensitive to noise; Congressionally designated Wilderness; ground-based visitor experience; Hawaiian traditional cultural practices; scenic qualities and natural sounds should take precedence over commercial air tours.
Action taken: Preferred alternative (the undertaking) avoids and moves commercial air tours further away from the Haleakalā rim and crater compared to existing conditions. The undertaking implements annual limits, daily limits, time-of-day restrictions, and no-fly days, which reduce the likelihood that an air tour would interrupt the scenic qualities and natural sounds of the Park; ground-based visitor experiences; and Native Hawaiian traditional practices such as ceremonies, fishing, or farming.