

ATTACHMENT B

National Park Service – Statement of Compliance

ATTACHMENT B

NATIONAL PARK SERVICE STATEMENT OF COMPLIANCE FOR HAWAI'I VOLCANOES NATIONAL PARK AIR TOUR MANAGEMENT PLAN

Compliance with NPS Management Policies Unacceptable Impact and Non-Impairment Standard

As described in National Park Service (NPS or Service) 2006 Management Policies, § 1.4.4, the National Park Service Organic Act prohibits the impairment of park resources and values. *Guidance for Non-Impairment Determinations and the NPS NEPA Process* (September 2011) provides guidance for completing non-impairment determinations for NPS actions requiring preparation of an environmental assessment (EA) or environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA). The NPS has completed a non-impairment analysis for the impacts to Hawai'i Volcanoes National Park (Park) from the Air Tour Management Plan (ATMP) and determined that it will not result in impairment of Park resources, or in unacceptable impacts as described in § 1.4.7.1 of the 2006 NPS Management Policies.

Sections 1.4.5 and 1.4.6 of Management Policies 2006 further explain impairment. Section 1.4.5 defines impairment as an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Section 1.4.5 goes on to state:

An impact to any park resource or value may, but does not necessarily, constitute an impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- identified in the park's general management plan or other relevant NPS planning documents as being of significance.

Section 1.4.6 of Management Policies 2006 identifies the park resources and values that are subject to the non-impairment standard. These include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it;

scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;

- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

NPS non-impairment analysis normally does not include discussion of impacts to visitor experience, socioeconomics, public health and safety, environmental justice, land use, Park operations, Wilderness, etc., as these do not constitute impacts to Park resources and values subject to the non-impairment standard under the Organic Act. See Management Policies § 1.4.6.

Non-Impairment Determination for the Hawai'i Volcanoes National Park ATMP

As a basis for evaluating the potential for impairment or unacceptable impacts on the Park's resources, the NPS relied on the *Final Environmental Assessment for an Air Tour Management Plan for Hawai'i Volcanoes National Park* (EA) and specifically the Noise Technical Analysis: Hawai'i Volcanoes National Park, Appendix F to the EA (Noise Technical Analysis). Additionally, the non-impairment analysis for biological resources was informed by the Section 7 documentation for the Endangered Species Act (Appendix H to the EA).

The EA includes analysis of impacts to the soundscape (noise and noise-compatible land use); air quality and climate change; biological resources including federally listed species; cultural resources including ethnographic resources, sacred sites and traditional cultural properties, archeological resources, cultural landscapes and prehistoric and historic structures; Wilderness; visitor use and experience; environmental justice and socioeconomics; viewsheds (visual effects); and coastal resources. Consistent with NPS guidance described above, the NPS has not included a non-impairment determination here for Wilderness, environmental justice and socioeconomics, and visitor experience. The NPS has included the analysis for coastal resources within the Park boundary under other categories rather than a stand-alone analysis in order to avoid redundancy. A discussion of compliance with Wilderness policy is included at the end of this Statement of Compliance.

The EA evaluated the impacts of two action alternatives including the selected alternative. The selected alternative, or ATMP, authorizes 1,548 commercial air tours a year (final EA/errata, page 10) on designated routes at minimum altitude of 1,500 ft. above ground level (AGL) over land and a minimum of 2,000 ft. AGL over the ocean. The ATMP prohibits air tours over many of the most sensitive areas of the Park, including the Park's Wilderness, and includes monitoring provisions that provide the agencies' ability to monitor and ensure compliance with mitigations under the ATMP. A detailed description of the alternative is presented in the EA, pages 19-23 and final EA/errata, pages 10-15.

The EA discloses that the ATMP may result in the displacement of some air tours outside the ATMP boundary (flights ½-mile outside the Park's boundary during which the aircraft flies below 5,000 ft. AGL). Air tours outside of the ATMP boundary are not subject to the National Parks Air Tour Management Act of 2000 (NPATMA) and therefore may not be regulated under the ATMP. The NPS does not have jurisdiction over flights outside the ATMP boundary. Because flights outside of the ATMP boundary are outside the jurisdiction of the ATMP and the NPS, this non-impairment determination focuses on the impacts of air tours within the ATMP boundary as authorized in the ATMP.

The purposes of Hawai'i Volcanoes National Park, along with Park significance statements and a description of the Park's fundamental resources and values, are described in the *Foundation Document Hawai'i Volcanoes National Park* (Foundation Document), 2017. The Park's purpose is:

“...to protect, study, and provide access to Kīlauea and Mauna Loa, two of the world's most active volcanoes, and perpetuate endemic Hawaiian ecosystems and the traditional Hawaiian culture connected to these landscapes. (Foundation Document, page 5).

The Park's significance statements and fundamental resources and values highlight resources that may be impacted by commercial air tours including opportunities for scientific research and monitoring, biological diversity, ecological integrity, natural sounds, scenic vistas, remote and challenging experiences, natural landscape character Wahi Kapu (Sacred Places) and Wahi Pana (Celebrated Places), the opportunity for traditional cultural use and cultural resources. Some fundamental resources and values will not be impacted by commercial air tours. Commercial air tours will not impact the Park's volcanic features and processes, the body of scientific knowledge and investigations, or the night sky (Foundation Document, pages 7-8).

As disclosed in Section 3 of the EA, the ATMP would result in overall beneficial impacts to all Park resources, including the fundamental resources and values described above, compared to current conditions. The ATMP authorizes less than 14% of the number of air tours currently conducted and is a 94% reduction from air tours currently authorized, substantially increases the altitude at which air tours are authorized to fly and eliminates the potential for air tours

over some of the most sensitive areas of the Park. These changes will result in measurable beneficial effects to Park resources compared to current conditions since air tour noise will be less frequent and less intense overall.¹ However, the 1,548 annual air tours authorized under the ATMP will continue to result in some negative effects to Park resources. The analysis presented below focuses on the actual effect or condition of the resource from 1,548 air tours (not the impact of the change from current condition) and whether those effects are an unacceptable impact or rise to the level of impairment.

Soundscape Non-Impairment Analysis

Hawai'i Volcanoes natural acoustic environment is a fundamental resource of the Park as the Park's low ambient sounds play a vital role in the health of Park natural ecosystems (NPS, 2017). Both natural and existing acoustic conditions in the Park were measured in 2002-2003 (Lee et al., 2016). Median daytime natural ambient (L_{50}) sound levels² ranged from 20 decibels, A-weighted (dBA) in backcountry areas to 54 dBA along the shoreline (Lee et al., 2016). Median daytime existing ambient sound levels for these areas exhibit similar variability, ranging from 20 dBA to 54 dBA. To provide context for understanding sound levels, Table 1 in the Noise Technical Analysis explains that, in quiet settings, outdoor sound levels exceeding 35 dBA degrade experience in outdoor performance venues. At 52 dBA, one may reasonably expect interference with Park interpretive programs or normal voice communication at five meters (two people five meters apart). See also Figure 1, page 6 of Appendix F, Noise Technical Analysis, for additional details about comparative noise levels. These metrics confirm that currently the natural acoustic environment at these sites sometimes experience disturbances from anthropogenic noise, including air tour noise. Air tour noise is currently audible throughout 40% of the Park for up to an hour a day (non-continuous). Approximately 27% of the Park experiences audible air tour noise for more than two hours a day (non-continuous). In under 3% of the Park, air tour noise is audible for five hours or more per day (300 minutes). Air tours are audible in 82% of the Park for up to 15 minutes per day (Figure 9, Noise Technical Analysis). These severe noise impacts result in unacceptable impacts to the Park's soundscape and other resources (EA, page 9).

To determine the severity of the effect and potential for impairment or unacceptable impacts under the ATMP, the NPS considered not just the presence of noise and potential for

¹ As described in the EA, some locations may experience slightly louder and prolonged compared to current conditions because of specific route designations. However, overall, the intensity and frequency of air tour noise will be less than current conditions which will have an overall beneficial effect on resources and visitor experience.

² Natural Ambient (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. Ambient data were based on a 12-hour, daytime, time period, 7 AM to 7 PM, typical operating hours for air tours.

disturbance, but also the duration, frequency, and amplitude of noise. Under the ATMP, the Park's acoustic environment will be free from commercial air tour noise within the ATMP boundary up to 60 days per year. During these days, air tour noise from within the ATMP boundary will not degrade the acoustic environment. Additionally, on days that air tours may occur, at least 50% of the Park will be free of air tour noise (Table 11, Noise Technical Analysis) and there are limits on how many flights per day an authorized operator can fly. Air tours may only fly between 10:00 AM and 2:00 PM local time (or between 9:00 AM and 5:00 PM for quiet technology aircraft), limiting potential impacts to the acoustic environment to only four hours a day for non-quiet technology aircraft and eight hours a day for those who qualify for the quiet technology incentive.

Noise modeling for the ATMP discloses that noise from 1,548 annual commercial air tours will remain audible throughout the Park on days commercial air tours will be allowed, but the noise will be at a low intensity and for a limited duration. Air tour noise will be audible in just under a third of the Park (28%) for up to one hour a day (Table 11, Noise Technical Analysis). Approximately 71% of the Park will have no noise above 35 dBA on a Standard Day, while approximately 25% of the Park will experience noise above 35 dBA for no more than 15 minutes a day (Table 12, Noise Technical Analysis), and the amount of time above 35 dBA would occur between 30-45 minutes in approximately 1% of the Park and will not exceed 45 minutes (non-continuous) at any location in the Park (Table 12, Noise Technical Analysis). While likely audible, noise at 35 dBA is low intensity noise. Under the ATMP, air tour noise will not exceed 52 dBA, the level at which speech is interrupted, for more than six minutes (non-continuous) at any modeled location on any day (Table 8, Noise Technical Analysis). Noise will reach these levels under and adjacent to the designated routes, but the intensity of noise dissipates in locations further away from the designated routes. Thus, while air tour noise will be audible throughout the Park on days when air tours are authorized, that noise will be limited in intensity and of a short duration. The heart of the Park, including the summit of Kīlauea, Mauna Loa, the majority of designated Wilderness areas, and key cultural and visitor use areas, would be free of commercial air tour noise.

In summary, under the ATMP the natural and cultural soundscapes of the Park will be unimpaired and without unacceptable impacts since noise impacts from commercial air tours do not occur every day (there will be up to 60 days each year when there will be no noise from air tours within the Park boundary), and they may only occur four hours a day for non-quiet technology aircraft and eight hours a day (non-continuous) for those who qualify for the quiet technology incentive. Approximately 71% of the Park will have no noise above 35 dBA on a Standard Day while approximately 25% of the Park will experience noise above 35 dBA for no more than 15 minutes a day on a Standard Day (Table 12, Noise Technical Analysis). Noise above 35 dBA would occur between 30-45 minutes in approximately 1% of the Park on a Standard Day and will not exceed 45 minutes (non-continuous) at any location in the Park. The most severe noise impacts are near or directly below the designated routes and those noise

impacts do not exceed 52 dBA at any modeled location for more than six minutes. The Kahuku and Coastal Routes were chosen because the acoustic environment beneath the routes may help mask air tour noise. The Kahuku Route is located over Highway 11 because vehicle noise would mask some of the air tour noise, depending on distance from highway, traffic levels and time of the air tours. The Coastal Route was located over water for similar reasons, e.g., the louder natural ambient due to sounds of surf and strong winds would help mask air tour noise.

The ATMP provides the opportunity to experience natural sounds and protect this fundamental resource in Hawai'i Volcanoes National Park by providing days, periods during the day, and a large area of the Park without air tour noise and limiting the intensity of the air tour noise when air tours do occur.

Biological Species Non-Impairment Analysis

The Park protects a wide diversity of wildlife and habitat. Approximately 90% of all native wildlife on the Island of Hawai'i is endemic. There are hundreds of native species within the Park, many of which are recognized as threatened or endangered. All native mammals and several bird species in the Park are listed as federally and state listed threatened or endangered species. These species are fundamental resources of the Park since the perpetuation of these species is a component of the Park's purpose. Noise impacts to wildlife occur from noise generated by commercial air tours. The analysis in the EA discloses that noise would likely be heard by wildlife. Generally, noise from commercial air tours may impact wildlife in a number of ways: altered vocal behavior, breeding relocation, changes in vigilance and foraging behavior, predator avoidance, reproductive success, and impacts on individual fitness and the structure of ecological communities to name a few (Shannon et al., 2016; Kunc et al., 2016; Kunc and Schmidt, 2019). Air tour noise currently interferes with research and education activities such as listening to or recording bird vocalizations which is necessary to monitor and document the presence of these species in the Park (EA, page 69).

To determine the severity of the effect and potential for impairment and unacceptable impacts to wildlife under the ATMP, the NPS considered not just the presence of noise and potential for disturbance, but also the duration, frequency, and amplitude of noise. The analysis demonstrates that on a Standard Day, the 1,548 commercial air tours would result in audible air tour noise in just under a third of the Park (28%) for up to one hour a day (Table 11, Noise Technical Analysis). Approximately 71% of the Park will have no noise above 35 dBA while approximately 25% of the Park will experience noise above 35 dBA for no more than 15 minutes on a Standard Day (Table 12, Noise Technical Analysis). Noise above 35 dBA would occur between 30-45 minutes in approximately 1% of the Park on a Standard Day and will not exceed 45 minutes. Additionally, as noted above, there would be up to 60 days each year when air tours would not occur. On days they are allowed, they are limited to only four hours a day for non-quiet technology aircraft (and eight hours a day for those who qualify for the quiet

technology incentive), with an average of five tours per day. These conditions provide sufficient opportunities for Park research, visitor educational experiences, and Park wildlife to avoid being interrupted by air tour noise, including important times of dawn and dusk.

The NPS also considered the potential for bird strikes. The minimum altitude of 1,500 ft. AGL over land and 2,000 ft. AGL over the ocean substantially limits both noise exposure to wildlife in the Park, as well as the potential for bird strikes since the air tours can only be conducted on limited flight paths through the ATMP boundary, avoiding many habitat areas for sensitive species. Air tours will not be permitted at dusk and dawn, which are the times of day birds are most active. Also, the 2,000 ft. AGL over the ocean sufficiently protects turtles, whales, and other marine mammals that use the waters off the Park boundary or use the beaches. The ATMP includes a flight tracking monitoring provision that enables the NPS to ensure that the operators are flying at the designated routes and altitudes that protect these species.

Further, the NPS concluded, and U.S. Fish and Wildlife Service and the National Marine Fisheries Service concurred, that the commercial air tours authorized by the ATMP may affect but are not likely to adversely affect threatened and endangered species in the Park³ (Section 7 Consultation, Appendix H to the EA). This determination supports the conclusion that while noise from air tours authorized under the ATMP may have some impact on wildlife, and specifically threatened and endangered species, these impacts are insignificant and discountable and will not result in harassment, death, or harm to these species.⁴

In conclusion, the ATMP will not impair the Park's wildlife or its habitat because the noise impacts from the commercial air tours do not individually rise above 35 dBA for 71% of the Park, only 29% of the park will experience noise above 35 dBA on a Standard Day and it will not exceed 45 minutes at any location. As documented through this analysis, there are not expected to be direct or cumulative impacts to wildlife species on an individual or population level. These impacts do not impair the functioning of the Park's endemic species and unique ecosystems and the wildlife within. Consistent with the "may affect, not likely to adversely affect" determination, wildlife, including threatened and endangered species, will persist in the Park without a loss of integrity due to the ATMP.

Cultural Resources Non-Impairment Analysis

The Park includes many cultural resources, including ethnographic resources, sacred sites, traditional cultural properties (TCPs), archeological resources and historical and architectural resources. These resources are described in detail in the EA on pages 80-91. The volcanic landscape found throughout the Park and beyond is considered an ethnographic landscape that

³ "May affect, but not likely to adversely affect" means that all effects are beneficial, insignificant, or discountable.

⁴ [Section 3. Definitions | U.S. Fish & Wildlife Service \(fws.gov\)](#)

is very important to Native Hawaiians. Sacred or religious sites occur within the Park and include natural features such as active lava flows, the Kīlauea and Mauna Loa summit areas, native forests, sulphur deposits, volcanic steam cracks, volcanic craters and gases, the air space above the land, petroglyph fields, and additional constructed features such as shrines, heiau, or burial sites. The Kīlauea Crater is listed on the National Register for its ethnographic and scientific significance with the boundary encompassing the crater's edge. Based on an ethnographic study (Langlas, 2003), Native Hawaiians view the entire Kīlauea Crater as sacred and as the "origin of new land." Vegetation and forested areas within the Park are also an important source of spirituality and self-identification for many residents of the Island of Hawai'i (EA, pages 83-84). Sustaining these connections and interrelationships between Native Hawaiians and culturally significant Park resources and places is a fundamental resource and value of the Park (Foundation Document, page 8). Native Hawaiians have consistently noted that the persistent air tours over the Park unreasonably interfere with the silence needed to perform ceremonies conducted by Native Hawaiian practitioners at these sacred sites, which rely on hearing natural sounds (EA, page 92).

Archeological resources document the Native Hawaiian ka noho'ana (way of life in traditional land divisions, or ahupua'a, extending from the uplands to the sea). These archeological resources are also fundamental resources of the Park (Foundation Document, page 8).

There are two historic districts related to archeological resources in the Park. The first is the Puna-Ka'ū Historic District that spans over 129,000 acres and contains a density of prehistoric and protohistoric archeological features. Within the district there are vestiges of ancient Hawaiian villages, ancient agricultural areas, large petroglyph fields, and where the Waha'ula Heiau once stood. The second archeologically significant historic district is the 1790 Footprints. The district contains ancient fossilized footprints that were impressed in the hardened ash layers from the explosive Kīlauea eruptions that occurred in the 1700s. In addition to the footprints, the district contains an ancient trail system that connected villages of Ka'ū with Kīlauea Crater, upper Puna, and Hilo. The NPS determined the current number of air tours results in unacceptable impacts to the Park's cultural resources.

Noise impacts to the Park's cultural resources from the ATMP would be similar in frequency, amplitude, and duration to those described above in the non-impairment analysis for soundscapes and wildlife. The analysis in the EA evaluated the impacts from the ATMP on ethnographic resources, sacred sites, traditional cultural properties, archeological sites, and historic resources. It is likely that air tours will continue to impact these resources, including disruptions to the silence needed for ceremonies conducted by Native Hawaiian practitioners at sacred sites and air tours will continue to detract from the sacredness of the mountains. However, the ATMP limits the duration, frequency, and intensity of these impacts so that they do not unreasonably interfere or impair these purposes since there are opportunities for silence without noise from commercial air tours. Up to 60 days of the year will be completely

free of commercial air tours, and on those days when commercial air tours do occur the intensity of noise is very low over most of the Park. On days when air tours are allowed, they must occur within a four-hour window for non-quiet technology aircraft (and eight hours a day for those who qualify for the quiet technology incentive), providing times of the day when no air tour noise can intrude on cultural activities. The ATMP designates eight no-fly days that are culturally important and intended to mitigate impacts on cultural practitioners. In addition, after consulting with stakeholders, the NPS may designate additional days or periods be noise free to preserve the natural quiet necessary for ceremonies or other practices by providing two months' notice to the operators. Additionally, while air tours may be audible in most of the Park on a Standard Day, the duration of noise in most locations is very limited. In more than half of the Park location points modeled, noise will not exceed 35 dBA on a Standard Day, leaving the majority of these locations free from noise exceeding 35 dBA. Further, restricting air tours to designated routes limits noise and visual effects to many sacred sites and ethnographic resources within the Park, including the Moku'āweoweo Caldera, Kīlauea Crater, and many contributing resources to the Hawai'i Volcanoes National Park TCP. To understand how specific cultural resource sites may be impacted, see the Noise Technical Analysis. The designation of routes, altitude restrictions and other ATMP parameters were designed specifically to mitigate impacts to these important Park resources, and to provide for the opportunity for traditional cultural use, which is one of the Park's fundamental resources.

In summary, there will be impacts to cultural resources in the Park under the ATMP. Still, these impacts will not rise to the level of impairment and are not unacceptable because there are a substantial number of days when air tours will not occur, the times of day during which air tours could occur are limited, the routes avoid many noise sensitive areas of the Park, and when air tours do occur the intensity of noise is low. The duration of noise is short, and the designated routes avoid many of the sacred sites in the Park.

Viewshed or Scenery Non-Impairment Analysis

Within the Park, visual resources can be related to the Park's geologic features, including lava flows, craters, coastal areas, mountains, and other natural scenic areas, such as forests, coastal plains, and grasslands, and are often tied to visitor use and ethnographic resources. In the Park's Foundation Document, Scenic Vistas are one of the Park's fundamental resources (page 8). Studies indicate that aircraft noise in national parks can impact human perceptions of aesthetic quality of viewsheds (Weinzimmer et al., 2014; Benfield et al., 2018).

Visitors may notice aircraft because of the accompanying noise. Visitor overlook areas along Chain of Craters Road and Crater Rim Drive currently experience the heaviest concentrations of commercial air tours flying directly overhead. These are also among the most heavily visited areas of the Park (EA, page 133). Currently, air tours disrupt scenic views within the Park an

average of 31 times per day, with a maximum of 90 disruptions a day on peak days (EA, page 133).

In order to determine whether the ATMP would result in unacceptable impacts or impairment to the Park's viewsheds, the NPS considered both the frequency in which air tours would disrupt viewsheds and which viewsheds would be impacted. Under the ATMP, there will be up to 60 days per year with no air tours. On days which air tours are authorized, air tours within the ATMP boundary may disrupt a viewshed an average of five per day (with a maximum of eight times on the one peak day per year)(final EA/errata, page 11). Some visitors may experience multiple disruptions in one day from air tours depending on where they are and what they are doing, however those disruptions will be short in duration for only as long as the tour passes through the viewshed. The ATMP limits the impacts of these air tours by designating routes that avoid most scenic points of interest and overlooks. Under the ATMP, commercial air tours along an authorized route could be visible from the Park's coastal areas, but they would avoid most other scenic points of interest or overlooks. Air tours will not be permitted over the heart of the Park, including the summit of Kīlauea, Mauna Loa, designated Wilderness areas, and key cultural and visitor use areas (though tours outside the ATMP boundary area may occur), so viewsheds in especially sensitive areas would not experience any impacts from air tours authorized by the ATMP (EA, page 134). The ATMP would prohibit early morning flights and late evening flights, preserving the spectacular sunrises and sunsets and the views in the immediate hours both before and after sunrise and sunset.

In summary, because the ATMP provides up to 60 flight free days, limits air tours to no more than eight tours a day, limits the hours in which air tours may disrupt the viewshed, the disruption is short in nature, and limits those tours to routes not visible from most scenic points of interests and overlooks, the Park's outstanding scenery and viewsheds will be unimpaired under the ATMP.

Air Quality Non-Impairment Analysis

The Park is a designated Class I Airshed, which means that it is afforded the highest degree of protection (NPS, 2015). Air quality within the Park is affected by several emission sources, primarily from Kīlauea volcano. Emissions of sulfur dioxide (SO₂) and other gases from Kīlauea chemically interact with sunlight, oxygen, water, and dust to form acidic volcanic smog or "vog." Vog creates a haze that obscures visibility and can contribute to acid rain that can degrade human health, natural resources, and cultural resources. In addition to vog, another source of volcanic activity that affects air quality is known as laze, which is created when hot lava reaches sea water and forms large clouds of mist. Laze often contains hydrochloric acid other airborne contaminants that impact human health.

Other sources of emissions that impact air quality within the Park include marine aerosols, motor vehicles, non-road combustion engines, helicopters, and wildfires. These activities can

release nitrogen oxides, particulate matter (PM), and other pollutants that affect air quality and visibility. Commercial air tours currently contribute 1,851 metric tons (MT) of carbon dioxide (CO₂) (EA, page 52).

The NPS completed an air quality and climate change analysis and determined that 1,548 commercial air tours authorized under the ATMP (which is 17 less flights than what was modeled as part of the draft EA) contributes a minimal amount of emissions to the local air quality and would not have a regional impact (EA, page 53, final EA/errata, page 15). Authorized air tours would contribute less than 463 MT of CO₂. Also, the ATMP's authorization of these air tours would not cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards for any of the time periods analyzed. Because the amount of emissions is so small the ATMP will not affect the integrity of the Park's air quality, leaving it unimpaired for future enjoyment.

Conclusion

As demonstrated here and in the analysis referenced above, the impacts to these resources, neither individually nor cumulatively, would preclude the NPS from achieving the purposes of the Park or desired conditions for resources. The impacts would not unreasonably interfere with Park programs or activities, another appropriate use, the overall atmosphere of peace and tranquility or the natural soundscape, or NPS concessioner or contractor operations or services. As a result, there will not be impairment of or unacceptable impacts to the Park's natural and cultural resources or visitor experience as a result of the ATMP. Impacts to other resources potentially affected were considered so small and insignificant that they did not warrant a written analysis here.

The ATMP sections on adaptive management and amending the plan will allow Park managers to ensure that unanticipated or unacceptable impacts do not occur and the requirement for implementing flight monitoring technologies included in the ATMP will better enable the NPS to monitor and enforce the restrictions in the ATMP.

Compliance with NPS Management Policies Regarding Appropriate Uses

A separate written appropriate use analysis is not required under NPS 2006 Management Policies. In recognition of comments suggesting that the NPS consider whether commercial air tours are an appropriate use over the Park, for this ATMP the NPS has decided to briefly address the issue of appropriate use below.

NPS 2006 Management Policies § 1.5 state:

An "appropriate use" is a use that is suitable, proper, or fitting for a particular park, or to a particular location within a park. Not all uses are appropriate or allowable in units of

the national park system, and what is appropriate may vary from one park to another and from one location to another within a park.”

Section 8.1.2 of Management Policies further explain:

The fact that a park use may have an impact does not necessarily mean it will be unacceptable or impair park resources or values for the enjoyment of future generations. Impacts may affect park resources or values and still be within the limits of the discretionary authority conferred by the Organic Act. In these situations, the Service will ensure that the impacts are unavoidable and cannot be further mitigated.

In determining whether a use is appropriate, the NPS evaluates:

- consistency with applicable laws, executive orders, regulations, and policies;
- consistency with existing plans for public use and resource management;
- actual and potential effects on park resources and values;
- total costs to the Service;
- whether the public interest will be served.

Parks may allow uses that are appropriate even if some individuals do not favor that particular use. NPATMA contemplates that commercial air tours may be an acceptable use over National Park System units so long as protections are in place to protect park resources from significant impacts of such tours, if any. Therefore, commercial air tours are authorized by law, though not mandated, and generally may be appropriate where they do not result in significant impacts or cause unacceptable impacts on park resources and values.

Hawai'i Volcanoes National Park ATMP – Consistency with NPS Management Policies for Appropriate Uses

The NPS relied on the mitigations in the ATMP (Attachment C to the Record of Decision (ROD)), the agencies' ability to monitor and ensure compliance with those mitigations under the ATMP, the analysis in the EA (Attachment A to the ROD), the Section 7 Consultation for the Endangered Species Act (Appendix H to the EA), the unacceptable impact and non-impairment analysis above, and the language in NPATMA as a basis for finding that the ATMP's authorization of 1,548 commercial air tours over Hawai'i Volcanoes National Park is an appropriate use.

- The ATMP for Hawai'i Volcanoes National Park is consistent with applicable laws, executive orders, regulations, and policies. NPATMA specifically provides that air tours may be allowed over National Park System units where they do not result in significant

impacts. Commercial air tours are not prohibited in applicable laws, regulations, or policies.

- Development of the ATMP is consistent with the Park's existing management plans. No existing management plans preclude commercial air tours, though the NPS may set different management direction in the future. The ATMP authorizes 1,548 commercial air tours over the Park. Mitigations, including limiting the number of commercial air tours per year, restricting air tours to four hours a day for non-quiet technology aircraft (and eight hours a day for those who qualify for the quiet technology incentive) on days tours are allowed, restricting commercial air tours to designated routes, and setting minimum altitudes, limit impacts to visitor experience and other resources.
- The effects of the 1,548 commercial air tours authorized in the ATMP on Park resources were evaluated in the materials referenced above and unacceptable impact and non-impairment discussion above. Approximately 71% of the Park will have no noise above 35 dBA while approximately 25% of the Park will experience noise above 35 dBA for no more than 15 minutes a day on a Standard Day (Table 12, Noise Technical Analysis). Noise above 35 dBA would occur between 30-45 minutes in approximately 1% of the Park on a Standard Day and will not exceed 45 minutes (non-continuous) at any location in the Park. The commercial air tours are short in duration and will occur at decibel levels that do not rise to the level of an unacceptable impact nor impair Park resources. The NPS does not interpret § 8.1.1 to require the NPS to contemplate mitigating Park uses to the point that the use no longer has any impact or no longer can occur. Rather, this section requires the NPS to consider whether there are mitigations that can reduce impacts to Park resources and whether the impacts of those uses, after applying mitigations, result in unacceptable impacts or impairment. In this case, the NPS evaluated the impacts of 1,548 commercial air tours and included specific mitigations in the ATMP to minimize impacts to Park resources. The NPS acknowledges that prohibiting commercial air tours entirely would avoid all impacts to Park resources, but the elimination of commercial air tours is not required at this time to avoid unacceptable impacts or impairment of Park resources. The mitigations in the ATMP are sufficient to protect Park resources. Additional mitigations are not required because the impacts associated with the ATMP are not significant and do not result in unacceptable impacts or impairment.
- The cost to the NPS from implementing the ATMP includes yearly compiling of operator reported commercial air tours and aircraft monitoring data which is done in coordination with the Federal Aviation Administration. These activities would occur anyway, because they are required under NPATMA, regardless of whether the Park has an ATMP because commercial air tours are currently authorized under interim operating authority (IOA). This is done by the NPS's Natural Sounds and Night Skies Division which also provides noise monitoring, modeling, and planning support to parks across the

country. Currently, the Park collects aircraft tracking data and maintains equipment provided by the Natural Sounds and Night Skies Division.

- While some visitors may not like commercial air tours, air tour patrons may appreciate the opportunity to view the Park from a commercial air tour. Commercial air tours, as contemplated in NPATMA, serve the public in this way.

Additional commercial air tours and commercial air tours on other routes may not be appropriate. In future planning documents, the Park may set management direction to work with the FAA to eliminate all commercial air tours over the Park, in furtherance of other Park management objectives. However, the NPS has determined that because the ATMP authorizes 1,548 commercial air tours, and because those commercial air tours are restricted to designated routes which avoids many of the Park's most sensitive resources, are relatively short in duration, and are at an acceptable altitude, the ATMP is protective of Park resources and the commercial air tours it authorizes are an appropriate use at this time.

Compliance with NPS Management Policies for Soundscape Management

A separate written compliance analysis for Soundscape Management is not required under NPS 2006 Management Policies. In recognition of comments suggesting that the NPS consider whether the ATMP complies with NPS soundscape policies and guidance, the NPS has opted to briefly discuss the issue with respect to this ATMP.

Management Policies § 4.9 states, "The National Park Service will preserve, to the greatest extent possible, the natural soundscapes of parks." Section 5.3.1.7 similarly addresses cultural and historic resource sounds.

Section 8.4 specifically addresses overflights, including commercial air tours, which notes:

Although there are many legitimate aviation uses, overflights can adversely affect park resources and values and interfere with visitor enjoyment. The Service will take all necessary steps to avoid or mitigate unacceptable impacts from aircraft overflights.

Because the nation's airspace is managed by the Federal Aviation Administration (FAA), the Service will work constructively and cooperatively with the Federal Aviation Administration and national defense and other agencies to ensure that authorized aviation activities affecting units of the national park system occur in a safe manner and do not cause unacceptable impacts on park resources and values and visitor experiences.

Director's Order #47 (NPS, 2000) gives further guidance for the management of natural and cultural soundscapes, requiring the consideration of both the natural and existing ambient levels.

Hawai'i Volcanoes National Park ATMP – Consistency with NPS Management Policies for Soundscape Management.

Consistent with Management Policies § 8.4, the NPS worked constructively and collaboratively with the FAA to develop the ATMP. The NPS relied on the mitigations in the ATMP (Attachment C to the ROD), the agencies' ability to monitor and ensure compliance with those mitigations under the ATMP, the analysis in the EA (Attachment A to the ROD), the Section 7 Consultation for the Endangered Species Act (Appendix H to the EA), and the unacceptable impact and non-impairment analysis above as a basis for finding that the ATMP complies with the policies and guidance for management of natural and cultural soundscapes.

Consistent with Management Policies § 4.9, the ATMP eliminates some noise, or moves the Park closer to natural ambient conditions, by limiting commercial air tours to 1,548 per year, which is a reduction from the current authorized number 24,880 under IOA (final EA/errata, page 5). In addition, the ATMP limits the operation of commercial air tours on days when tours are allowed to 10:00 AM – 2:00 PM for non-quiet technology flights and 9:00 AM – 5:00 PM for quiet technology flights, provides for one consistent no-fly day each week, establishes designated air tour routes, increases the minimum altitude that commercial air tours may fly over the Park from as low as 500 ft. AGL under existing operations to a minimum 1,500 ft. AGL over land; minimum 2,000 ft. AGL over the ocean, and includes quiet technology incentives which could further reduce noise. When developing the ATMP, the NPS considered the existing commercial air tour routes and evaluated the potential for noise to reach the most sensitive resources in the Park, including cultural and natural resources, Wilderness, and areas where commercial air tours could disrupt educational opportunities and detract from the Park's outstanding views. The designated commercial air tour routes limit the duration, frequency and intensity of noise to the Park's most sensitive locations.

Management Policies § 5.3.1.7 prohibits excessive noise and § 1.4.7.1 prohibits actions that unreasonably interfere with "the atmosphere of peace and tranquility, or the natural soundscape maintained in Wilderness and natural, historic, or commemorative locations within the park." As discussed above under the soundscape non-impairment discussion, the noise from commercial air tours is limited in frequency, duration and intensity. Therefore, the noise from commercial air tours is neither excessive nor does it unreasonably interfere with the overall peace and tranquility of the Park, Wilderness character, or natural or historic locations. In conclusion, the ATMP complies with § 8.4, § 4.9, and § 5.3.1.7 of the Management Policies because the NPS has successfully collaborated with the FAA and developed an ATMP that will not result in unacceptable impacts to natural or cultural soundscapes or impairment of Park resources.

Compliance with NPS Management Policies for Wilderness Preservation and Management

A separate written compliance analysis for Wilderness Preservation and Management is not required under NPS Management Policies. In recognition of comments suggesting that the NPS consider whether the ATMP complies with NPS Wilderness policies and guidance, the NPS has elected to briefly discuss the issue with respect to this ATMP.

Management Policies for Wilderness preservation and management do not specifically address commercial air tours. However, § 7.3 of Director's Order #41 (NPS, 2013) notes that commercial air tours are inconsistent with preservation of Wilderness character and requires the NPS to consider ways to further prevent or minimize impacts of commercial air tours on Wilderness character.

The ATMP does not allow commercial air tours to take off or land within Wilderness. Therefore, § 4(c) of the Wilderness Act and § 6.4 of Director's Order #41 do not apply and a minimum requirements analysis is not required. While the NPS did not complete a minimum requirements analysis, the NPS did analyze and report on the impacts of commercial air tours on Wilderness character and minimized those impacts.

Hawai'i Volcanoes National Park ATMP – Consistency with NPS Management Policies for Wilderness Preservation and Management.

The NPS relied on the mitigations in the ATMP (Attachment C to the ROD), the agencies' ability to monitor and ensure compliance with those mitigations under the ATMP, the analysis in the EA (Attachment A to the ROD), the unacceptable impact and non-impairment analysis above, and soundscape management analysis above as a basis for finding that the ATMP complies with the policies and guidance for Wilderness Preservation and Management.

The Park has four distinct areas of the designated Wilderness that are informally considered units because they vary in characteristics such as vegetation, elevation, location, and climate. These four units, the Mauna Loa, Ka'ū Desert, East Rift, and 'Ōla'a, collectively span approximately 123,100 acres across the Park's 354,461 acres. In addition, the NPS determined that approximately 121,015 acres of the Kahuku unit are eligible for inclusion under the National Wilderness Preservation System. The Park also has 7,500 acres of potential Wilderness, and 19,201 acres that have not yet been evaluated for Wilderness eligibility.

Natural landscape character and remote and challenging experiences are two of the Park's fundamental resources that are connected to Wilderness character. Additionally, because natural sound is such an integral part of Wilderness character, any noise which is audible may detract from Wilderness character. The NPS determined that ongoing air tours unreasonably interfere with the opportunity for solitude and detract from the undeveloped and natural qualities of Wilderness.

The NPS considered the impact of 1,548 commercial air tours on Wilderness character, both the opportunity for solitude and the natural quality of Wilderness. The ATMP would not allow air tours to be conducted over any of the designated, eligible, or potential Wilderness within the ATMP boundary (EA, Figure 18), limiting the intensity of noise. As described in the EA, noise from commercial air tours will be audible in some areas of Wilderness for less than 135 minutes a day, although in most of the Park's Wilderness, noise will be audible for a much shorter amount of time. Noise at two of the modeled locations in Wilderness along the coast would experience a slight increase in the time above 35 dBA as compared to the No Action Alternative. Noise above 35 dBA would occur for 7.3 minutes a day (an increase of 3.8 minutes) on a Standard Day and 10.4 minutes a day (an increase of 6.9 minutes) on a quiet technology-only day at Ka'aha Wilderness Camp. Noise above 35 dBA would occur for 7.2 minutes a day (an increase of 5.4 minutes) on a Standard Day and 10 minutes (an increase of 8.2 minutes) on a quiet technology-only day at Halapē Wilderness Camp. During up to 60 days of the year (non-continuous), there will be no air tour noise in Wilderness from air tours conducted within the ATMP boundary. On those days where air tours occur, air tours will only potentially be audible (location dependent) during a four-hour window for non-quiet technology aircraft (and an eight-hour window for quiet technology aircraft) on any day they are allowed. In most of the Park's Wilderness, noise from commercial air tours will not reach 35 dBA. This provides ample opportunity for solitude and protection of the natural quality of Wilderness. Wilderness character will remain unimpaired under the ATMP since a Park visitor will have the opportunity to hear the sounds of nature and experience the primeval character of the Park's Wilderness, and the natural and cultural soundscape will remain largely unmarred by air tour noise the vast majority of time.

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