

National Park Service
U.S. Department of the Interior



Haleakalā National Park

Maui, Hawai'i

DRAFT
COMMERCIAL SERVICES PLAN
ENVIRONMENTAL ASSESSMENT
MAY 2012



CONTENTS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

CHAPTER 1: BACKGROUND

PURPOSE AND NEED FOR THE PLAN 4

Purpose of the Plan 4

Need for the Plan 4

SCOPE OF THE COMMERCIAL SERVICES PLAN 6

Activities of the Hawai'i Pacific Parks Association and Kīpahulu Ohana Inc. 6

BRIEF DESCRIPTION OF THE PARK 7

Park Purpose, Significance, and Mission Statements 14

Special Designations, Mandates, and Administrative Commitments 15

Guidance for Commercial Services in National Parks 16

NPS Guidelines on Impairment of National Park Resources 22

PLANNING ISSUES, CONCERNS, AND IMPACT TOPICS 23

Planning Issues and Concerns to be Addressed 23

Planning Issues and Concerns Not Being Addressed in this Plan 24

Impact Topics Selected for Analysis 25

Impact Topics Dismissed From Further Consideration 29

RELATIONSHIP OF OTHER PLANNING EFFORTS TO THIS PLAN 33

National Park Service Plans 33

Section 7 Programmatic Consultation 34

History of the Planning Effort 35

History of Management of Commercial Downhill Bicycle Tours 35

Visitor Research Studies 37

NEXT STEPS AND IMPLEMENTATION OF THE PLAN 38

The Next Steps 38

Implementation of the Plan 38

CHAPTER 2: THE ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

INTRODUCTION 41

Formulation of the Alternatives 41

Planning Assumptions 42

Identification of the Preferred Alternative 43

Necessary and/or Appropriate Commercial Services 43

ACTIONS COMMON TO ALL ACTION ALTERNATIVES 47

Sustainability and Climate Change 47

General Management of Commercial Service Providers 48

ALTERNATIVE A (NO ACTION) 54

Concept 54

Training and Certification of Guides 54

1	Commercial Tours	54
2	Estimated Cost	55
3	<i>ALTERNATIVE B (NPS PREFERRED ALTERNATIVE)</i>	57
4	Concept	57
5	Temporal Management of Commercial Service Providers	58
6	Training and Certification of Guides	58
7	Commercial Tours	58
8	Estimated Cost	59
9	<i>ALTERNATIVE C</i>	61
10	Concept	61
11	Training and Certification of Guides	61
12	Commercial Tours	62
13	Estimated Cost	62
14	<i>ALTERNATIVE D</i>	65
15	Concept	65
16	Training and Certification of Guides	65
17	Commercial Tours	66
18	Estimated Cost	68
19	<i>MITIGATION MEASURES COMMON TO ALL ACTION ALTERNATIVES</i>	70
20	General	70
21	Natural and Cultural Resources	70
22	Public Safety	71
23	<i>ENVIRONMENTALLY PREFERABLE ALTERNATIVE</i>	72
24	<i>ALTERNATIVES AND ACTIONS DISMISSED FROM FURTHER CONSIDERATION</i>	74
25	Eliminate Commercial Horseback Riding in Entire Park	74
26	Allow Downhill Commercial Bicycle Tours in the Park Like Those that Operated Prior to the	
27	2007 Emergency Stand-down	74
28	Allow Interpretive Bicycle Tours at the Summit at Sunrise	74
29	Designate "Commercial Tour-Free" Days Each Week in the Park	75
30	<i>SUMMARY TABLES</i>	77
31	CHAPTER 3: AFFECTED ENVIRONMENT	
32	<i>INTRODUCTION</i>	85
33	<i>NATURAL RESOURCES</i>	86
34	Soils	86
35	Vegetation	86
36	Special Status Species	88
37	Soundscape	90
38	<i>CULTURAL RESOURCES</i>	92
39	Background	92
40	Archeological Resources	92
41	Cultural Landscapes	94

1	Historic Structures	94
2	Ethnographic Resources and Cultural Practices	95
3	<i>VISITOR USE AND EXPERIENCE</i>	<i>100</i>
4	Trends	100
5	Area specific opportunities	105
6	Number and Diversity of Commercial Activities	106
7	Access and Quality of Experience	107
8	Opportunities for Solitude and Quiet	109
9	Level and Quality of Interpretation and Education	112
10	<i>PUBLIC HEALTH AND SAFETY</i>	<i>114</i>
11	General	114
12	Bicycle Use	116
13	<i>SOCIOECONOMICS</i>	<i>120</i>
14	Hawai'i Economic Overview	120
15	County of Maui Economic Overview	120
16	<i>PARK OPERATIONS</i>	<i>124</i>
17	Organization	124
18	Administration of Commercial Services	125
19	Commercial Services Revenue to the Park	125
20	CHAPTER 4: ENVIRONMENTAL CONSEQUENCES	
21	<i>INTRODUCTION</i>	<i>129</i>
22	Methods and Assumptions For Analyzing Impacts	129
23	General Assumptions	130
24	Natural Resources	131
25	Section 106 of the National Historic Preservation Act and impacts to Cultural Resources	
26		131
27	Archeological Resources, Cultural Landscapes, and historic structures	132
28	Ethnographic Resources and Cultural Practices	132
29	Visitor Use and Experience	133
30	Public Health and Safety	133
31	Socioeconomic Environment	133
32	Park Operations	134
33	<i>CUMULATIVE IMPACT ANALYSIS SCENARIO</i>	<i>140</i>
34	<i>IMPACTS TO NATURAL RESOURCES</i>	<i>142</i>
35	Soils	142
36	Vegetation	146
37	Special Status Species	150
38	Soundscape	154
39	<i>IMPACTS TO CULTURAL RESOURCES</i>	<i>159</i>
40	Archeological Resources	159
41	Cultural Landscapes	162

1	Historic Structures	165
2	Ethnographic Resources and Cultural Practices	168
3	<i>IMPACTS TO VISITOR EXPERIENCE</i>	<i>173</i>
4	Alternative A (No Action Alternative)	173
5	Alternative B	175
6	Alternative C	179
7	Alternative D	181
8	<i>IMPACTS TO PUBLIC HEALTH AND SAFETY</i>	<i>185</i>
9	Alternative A	185
10	Alternative B	186
11	Alternative C	187
12	Alternative D	188
13	<i>IMPACTS TO SOCIOECONOMICS</i>	<i>190</i>
14	Alternative A	190
15	Alternative B	191
16	Alternative C	195
17	Alternative D	198
18	<i>IMPACTS TO PARK OPERATIONS</i>	<i>201</i>
19	Alternative A	201
20	Alternative B	202
21	Alternative C	203
22	Alternative D	204
23	CHAPTER 5: CONSULTATION AND COORDINATION	
24	<i>PUBLIC AND AGENCY INVOLVEMENT</i>	<i>207</i>
25	Public Meetings and Newsletters	207
26	Consultation with other Agencies/Officials and Organizations	209
27	Consultations with Native Hawaiians	209
28	<i>AGENCIES, ORGANIZATIONS, BUSINESSES, AND PUBLIC OFFICIALS RECEIVING A COPY OF THIS</i>	
29	<i>DOCUMENT</i> 210	
30	Federal Agencies	210
31	Congressional Delegation	210
32	State of Hawai'i Agencies	210
33	State and Local Elected Officials	210
34	Local and Regional Governmental Agencies	210
35	Organizations and Businesses	210
36	Libraries	211
37	Media	211
38	APPENDIXES, REFERENCES, PREPARERS AND CONTRIBUTORS, AND INDEX	
39	<i>APPENDIX A: INTERIM OPERATIONS PLAN FOR SUNRISE</i>	<i>215</i>
40	<i>APPENDIX B: FINDINGS OF SAFETY BOARD OF REVIEW</i>	<i>219</i>

1 APPENDIX C: IMPLEMENTATION OF BOARD OF REVIEW FINDINGS 227
 2 APPENDIX D: ORAL COMMENTS FROM THE PUBLIC MEETINGS ON THE PRELIMINARY
 3 ALTERNATIVES 229
 4 APPENDIX E. LIST OF FEDERAL CANDIDATE, ENDANGERED, AND THREATENED SPECIES IN
 5 HALEAKALĀ NATIONAL PARK 2010 233
 6 REFERENCES 235
 7 PREPARERS AND CONTRIBUTORS 242

8
 9

FIGURES

10
 11
 12 Figure 1. Island of Maui and Haleakalā National Park 7
 13 Figure 2. Haleakalā National Park 9
 14 Figure 3. Haleakalā Summit Area 12
 15 Figure 4. Kīpahulu Coastal Area 13
 16 Figure 5. Annual Visitation (NPS Public Use Statistic Office 2012) 101
 17 Figure 6. Monthly Visitation 2005–2010 (NPS Public Use Statistics Office 2012) 101
 18 Figure 7. Monthly Visitation 2007–2010 by Park Area (NPS Public Use Statistics Office 2012) 102
 19 Figure 8. 2010 Visitation 103
 20 Figure 9. Number and Type of CUA Clients in 2010 103
 21 Figure 10. Level of Crowding by People at Summit (University of Idaho 2000) 108
 22 Figure 11 Level of Crowding by People at Kīpahulu (University of Idaho 2000) 109
 23 Figure 12. Visitors’ Mean Acceptability Ratings of Sounds Heard During Attended Listening on the Trail to
 24 Waimoku Falls by Percentage of Visitors Who Heard Each Sound (VPI 2007b) 110
 25 Figure 13. Number of Bicycle Tours from 1999 to 2006 (NPS 2008a) 117
 26 Figure 14. Total Bike Accidents 1999–2006 (NPS 2008a) 118
 27 Figure 15. Injury Rates on Public Lands during Commercial Recreational Activities (NPS 2008c) 119
 28 Figure 16. County of Maui Visitors, 2004-2009 121
 29 Figure 17. County of Maui Visitor Spending, 2004–2009 121
 30 Figure 18. Comparison of Maximum Daily Sunrise Commercial Visitors at the Summit for Road-Based
 31 Commercial Tours, Alternatives A and B 193
 32 Figure 19. Comparison of Maximum Daily Sunrise Commercial Visitors at the summit for Road-Based
 33 Commercial Tours, Alternatives A and C 196
 34 Figure 20. Comparison of Maximum Daily Sunrise Commercial Visitors at the Summit for Road-based
 35 Commercial Tours, Alternatives A and D 199

36
 37

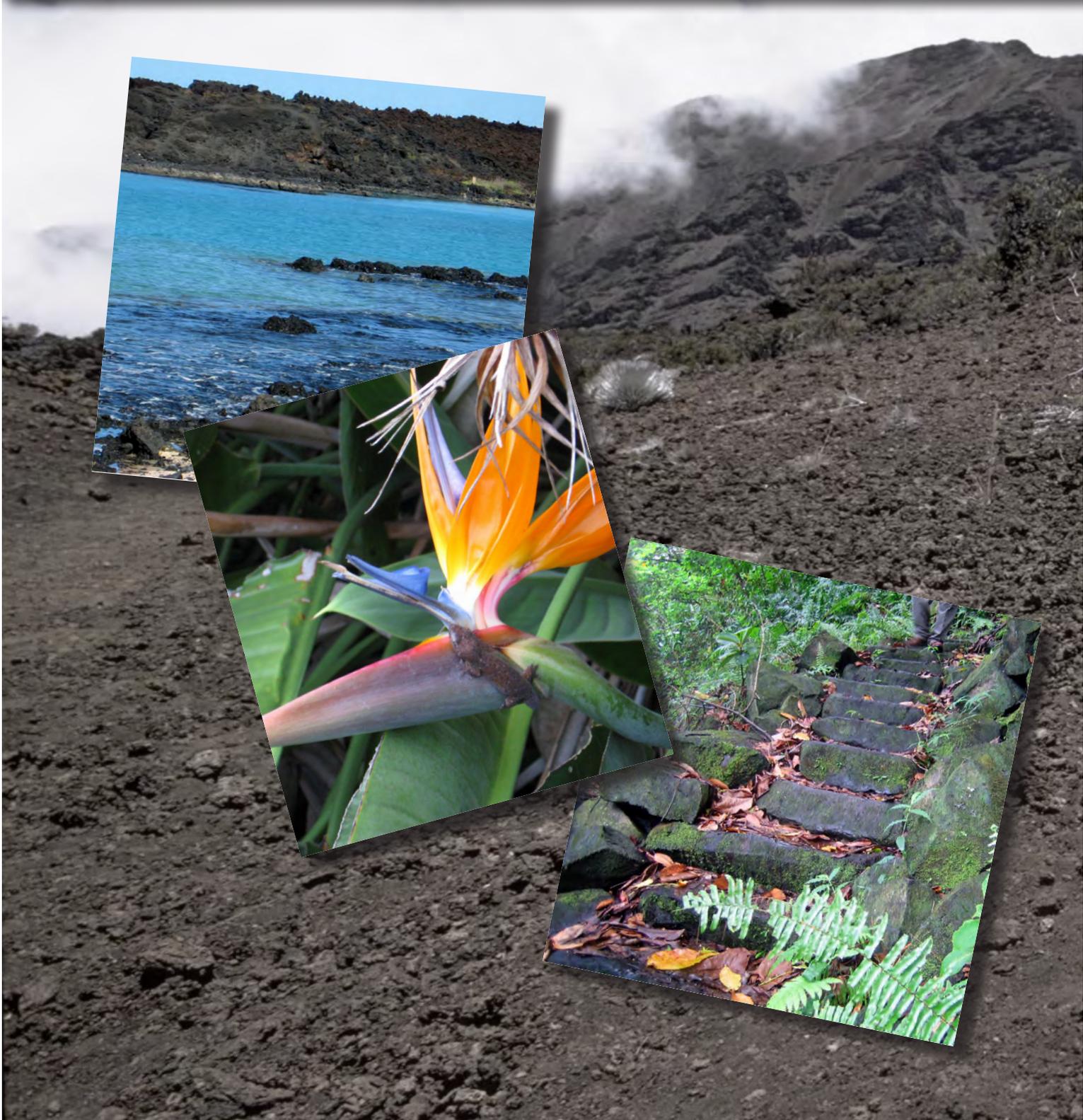
TABLES

38
 39
 40 Table 1. Commercial Services Evaluation Criteria 44
 41 Table 2. Estimated Costs of Alternative A 56
 42 Table 3. Estimated Costs of Alternative B 60
 43 Table 4. Estimated Costs of Alternative C 64
 44 Table 5. Estimated Costs of Alternative D 69
 45 Table 6. Comparison of Alternatives 77
 46 Table 7. Summary of Key Impacts 79
 47 Table 8. Natural Ambient and Existing Ambient Levels for Different Areas of Haleakalā National Park 91
 48 Table 9. Archeological Sites within 50 Feet of Areas Used by Commercial Service Providers in Summit
 49 Areas 93
 50 Table 10. Archeological Sites in the Kīpahulu Area within 50 Feet of Areas Used by Commercial Service
 51 Providers 94
 52 Table 11. List of Classified Structures 95
 53 Table 12. Plants Gathered for Traditional Use 97

1	Table 13. 2010 CUA Tour Operators	104
2	Table 14. Interpreting Sound Levels	111
3	Table 15. Explanation of Sound Level Values	112
4	Table 16. Incident Totals, 2006–2009	116
5	Table 17. Incident Total Details 2006–2009	116
6	Table 18. Commercial Service Provider Revenues for 2009	122
7	Table 19. Haleakalā National Park Commercial Tour Entrance Fee Schedule	125
8	Table 20. Total Fees Paid to Park	126
9	Table 21. Impact Threshold Definitions	135
10		

BACKGROUND

1



1 Back of divider
2

A GUIDE TO THIS DOCUMENT

1

2

3

4 This *Haleakalā National Park Commercial*
5 *Services Management Plan / Environmental*
6 *Assessment* is organized in accordance with
7 the Council on Environmental Quality’s
8 (CEQ) implementing regulations for the
9 National Environmental Policy Act (NEPA),
10 the National Park Service’s (NPS) *Park*
11 *Planning Program Standards*, and Director’s
12 Order 12 and Handbook: *Conservation*
13 *Planning, Environmental Impact Analysis,*
14 *and Decision-making*.

15
16 **Chapter 1: Background** sets the framework
17 for the entire document. It describes what
18 the plan is intended to do and why it is being
19 prepared. The chapter gives guidance for the
20 management alternatives that are being
21 considered—guidance that is based on the
22 park’s legislation, its purpose, the
23 significance of its resources, servicewide
24 laws, policies, and regulations, and other
25 park planning efforts. The chapter also
26 details the issues and concerns that were
27 raised during the scoping period and initial
28 planning team efforts; the alternatives in the
29 next chapter address these issues and
30 concerns. This chapter concludes with a
31 statement of the scope of the environmental
32 assessment—specifically what impact topics
33 are or are not analyzed in detail.

34
35 **Chapter 2: Alternatives, Including the**
36 **Preferred Alternative**, begins by
37 determining necessary and/or appropriate
38 commercial services at Haleakalā National
39 Park, and potential management actions that
40 were incorporated into the alternatives. The
41 chapter includes the continuation of current
42 management practices and trends in the park
43 (alternative A, no action). Three alternatives
44 for managing commercial services in the
45 park—the preferred alternative (alternative
46 B), alternative C, and alternative D—are next

47 presented. Mitigative measures proposed to
48 minimize or eliminate the impacts of some
49 proposed actions in the alternatives are then
50 identified. The environmentally preferable
51 alternative is identified next, followed by a
52 discussion of alternatives or actions that
53 were considered but dismissed from detailed
54 evaluation. The chapter concludes with
55 summary tables of the alternatives and the
56 key environmental consequences of
57 implementing those alternatives.

58
59 **Chapter 3: The Affected Environment**
60 describes those areas and resources that
61 would be affected by implementing the
62 actions contained in the alternatives. It is
63 organized according to the following topics:
64 natural resources, cultural resources,
65 wilderness character, visitor use and
66 experience, public health and safety,
67 socioeconomics, and park operations.

68
69 **Chapter 4: Environmental Consequences**
70 analyzes the impacts of implementing the
71 alternatives on topics described in “The
72 Affected Environment” chapter. Methods
73 that were used for assessing the impacts in
74 terms of the intensity, type, and duration of
75 impacts are outlined at the beginning of the
76 chapter.

77
78 **Chapter 5: Consultation and**
79 **Coordination** describes the history of
80 public and agency coordination during the
81 planning effort, including consultations, and
82 any future compliance requirements. It also
83 lists agencies and organizations that will be
84 receiving copies of the document.

85
86 **Appendixes, Selected References**, and a list
87 of **Preparers and Contributors** are found at
88 the end of the document.

89

PURPOSE AND NEED FOR THE PLAN

PURPOSE OF THE PLAN

The National Park Service is proposing to implement a commercial services plan (CSP or plan) for the nonwilderness areas of Haleakalā National Park (park). The plan’s primary purpose is to provide direction for management of commercial services in the park over the next 10 to 15 years. Commercial services involve the buying and selling of goods and services and are a business activity. They may take place within a unit of the National Park Service only under certain defined and limited circumstances. The commercial services plan provides details on how the park’s commercial service providers will be managed to achieve overall park goals and meet desired resource conditions and visitor experiences. The plan will also determine the overall mix of commercial ground tour services in the park excluding wilderness. (Air tour services will be addressed in a separate air tour management plan, while commercial services in the wilderness area will be addressed in a separate wilderness stewardship plan. Thus, all references in the commercial services plan to tour services are to ground services in the park outside of wilderness.) This plan will (1) determine what levels and types of commercial tour services are appropriate and meet the eligibility criteria for authorization under available legal authorities (for example, whether “necessary and appropriate” if a concession contract); (2) determine whether those services are compatible with the park’s mission of preserving and protecting its natural and cultural resources; and (3) determine how to ensure high quality experiences for visitors who participate in commercial tours.

NEED FOR THE PLAN

This plan is needed to determine that the commercial visitor services provided at the park are appropriate and meet the eligibility criteria for authorization under the available legal authorities. Actions considered by the commercial services plan may include new services and/or improvements to existing services to achieve future goals for the park. It is important to provide guidance for the future management of commercial visitor services within the park and to ensure continuity of services in support of quality visitor experiences.

An estimated 15%–30% of the park’s visitors are currently accompanied by commercial services providers, but the percentage ranges as high as 50% of Haleakalā summit visitors during sunrise. Thus, the types and levels of commercial uses in the park affect park visitors, natural and cultural resources, and park operations.

Up until 2007, Haleakalā National Park experienced a dramatic increase in commercial service use, particularly at the park’s two most developed and popular areas—the summit (and crater) and Kīpahulu. The resulting crowding and congestion have contributed to adverse impacts to visitor experience and to the park’s natural and cultural resources. Soil degradation, excessive erosion, trampling of vegetation, and disturbance of endangered species, such as the Haleakalā silversword and Hawaiian petrel, have occurred in localized areas. Crowding and inappropriate behavior have contributed to a loss of *sense of place*, which is often the initial reason visitors come to the park; interference with traditional cultural uses; and increased negative perceptions of the park by Native Hawaiians. Commercial tours are believed to have contributed to these impacts in the

1 past. A plan is needed to provide direction 25
2 on addressing adverse effects that may be 26
3 occurring due to commercial services. 27
4 28
5 A commercial services plan is needed to 29
6 provide a long-term solution to public health 30
7 and safety and visitor protection issues 31
8 created by the large number of commercial 32
9 and private vehicles attempting to park at the 33
10 Haleakalā summit to view the sunrise. These 34
11 issues were addressed on an interim basis by 35
12 the park's *Commercial Use at Sunrise Interim* 36
13 *Operations Plan* (see appendix A). This 37
14 interim plan was implemented in the fall of 38
15 2005 to better manage commercial service 39
16 uses at the summit area during peak sunrise 40
17 visitation hours. 41
18
19 In addition, a commercial services plan is 42
20 needed to address past safety issues with 43
21 regard to commercial bike tours in the park. 44
22
23 This document was prepared in accordance 45
24 with and is consistent with
46

- The National Environmental Policy Act of 1969 (42 *United States Code* (USC) 4321 et seq.) and associated regulations from the Council on Environmental Quality (1978)
- *NPS Management Policies 2006* (in particular chapter 8 regarding appropriate uses of the park for purposes of the NPS Organic Act of 1916 (16 USC 1); section 10.2, Concessions; section 10.3, Commercial Use Authorizations; and section 4.9, Soundscapes)
- Director's Order 48: *Concession Management* and 16 USC 79 subchapters 3 15966
- Director's Order 12 and Handbook: Conservation Planning, Environmental Impact Analysis, and Decision-making

SCOPE OF THE COMMERCIAL SERVICES PLAN

1

2

3

4 This commercial services plan addresses all
5 areas in the park excluding wilderness where
6 commercial visitor tour services are
7 provided, and it replaces the 2005 Haleakalā
8 interim operations plan (discussed in the
9 “Relationships of Other Planning Efforts to
10 this Plan” later in this chapter). For the
11 purposes of this plan, a service is generally
12 considered commercial if the provider
13 receives compensation (through money,
14 travel expenses, or the receipt of something
15 that has monetary value). The types of
16 commercial services addressed in this plan
17 include, but are not limited to, bicycle riding,
18 horseback tours, guided hiking, astronomy
19 tours, and road-based vehicle tours. Among
20 other issues, this plan addresses travel
21 routes, vehicle types, number of trips,
22 number of parking spaces available or
23 assigned, and entities authorized to provide
24 commercial services. The latter includes a

44

25 concession contract and commercial use
26 authorization (CUA) holders.

27

28

29 **ACTIVITIES OF THE HAWAI‘I PACIFIC** 30 **PARKS ASSOCIATION AND** 31 **KĪPAHULU OHANA INC.**

32 The plan does not address cooperating
33 association agreements (under 16 USC
34 sections 1-4, 6, 17j-2(e) and 43 USC section
35 1473a) and cooperative agreements for living
36 exhibits and demonstrations (under 16 USC
37 section 1a-2(g)) for the reasons discussed
38 above. Currently, two such agreements are
39 in force, the Kīpahulu Ohana agreement and
40 the Hawai‘i Natural History Association
41 agreement (see the “Special Designations,
42 Mandates and Administrative
43 Commitments” section later in this chapter).

BRIEF DESCRIPTION OF THE PARK

Haleakalā National Park is located on the eastern side of the island of Maui, the second largest island in the Hawaiian chain (figure 1). The park preserves part of Haleakalā Volcano and Native Hawaiian ecosystems in perpetuity. It encompasses 33,222 acres, of which 24,719 acres are designated wilderness (74% of the park) (figure 2). The park extends from sea level to 10,023 feet in elevation. This elevation change within a few miles, coupled with the wide range of precipitation (40 to 400 inches annually), creates a widely diverse collection of vegetation zones, including beach and coastal communities, lowland and mountain

rainforests, mountain cloud forests, montane bogs and dry forest remnants, mesic shrublands, subalpine grasslands and shrublands, and sparsely vegetated alpine aeolian cinder fields. The northern and eastern slopes of Haleakalā and the rainforests of the Kīpahulu Valley are one of the richest botanical regions in Hawai‘i. Surveys have documented 370 native species in the park, about 90% endemic to the Hawaiian Islands and 25% specific to Maui (NPS 1995a). The ecological diversity of the park is recognized by its designation as an International Biosphere Reserve.



FIGURE 1. ISLAND OF MAUI AND HALEAKALĀ NATIONAL PARK

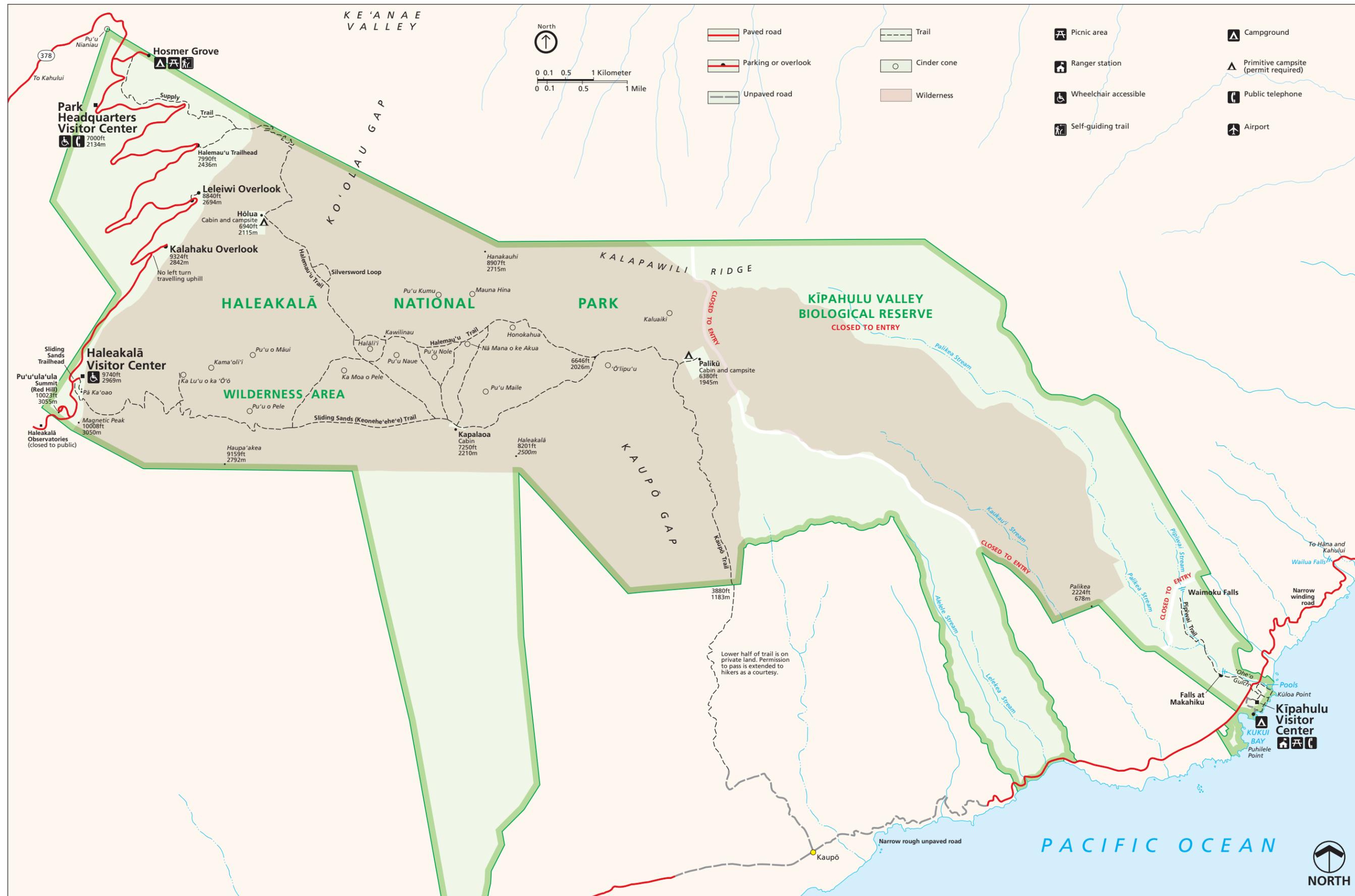


Figure 2. Haleakalā National Park
 Haleakalā National Park
 United States Department of the Interior • National Park Service

1 There are two primary visitor attractions
2 within the park—the summit and the
3 Kīpahulu coastal area (see figures 3 and 4).
4 Each area has unique natural and cultural
5 resources including a variety of fragile
6 ecosystems, and many rare and endangered
7 species. The summit area includes the
8 outstanding volcanic landscape of the upper
9 slopes of Haleakalā, and the Kīpahulu
10 coastal area protects Kīpahulu Valley and
11 the scenic stream system ending at ‘Ohe’o
12 Gulch.

13
14 In addition to supporting a diversity of
15 unique and sensitive natural resources,
16 Haleakalā National Park is of special interest
17 to Native Hawaiians and is considered a
18 sacred place (NPS 2008e).

19
20 The park contains numerous significant
21 Hawaiian archeological sites and features, as
22 well as historic features that date to the
23 arrival of missionaries on the island.

24
25 Approximately 1.2 million visitors annually
26 come to Haleakalā National Park to
27 experience the natural and cultural wonders
28 the park was designated to protect; between
29 15% and 30% of these visitors come on
30 commercial tours. The summit¹ of Haleakalā
31 Volcano (Pu‘u‘ūla‘ūla or Red Hill) is the
32 highest point on Maui and attracts people
33 from around the world to view the sunrise,
34 sunset, and night sky. From this rocky,
35 sparsely vegetated vantage point, other
36 islands of the Hawaiian chain can be seen.

37
38 Approximately 70% of all visitors surveyed
39 at the summit and headquarters / visitor
40 center attended the sunrise (University of
41 Vermont 2005). In addition to these
42 activities, guided hiking and horseback
43 riding are available in the area, as are
44 astronomy-oriented activities.

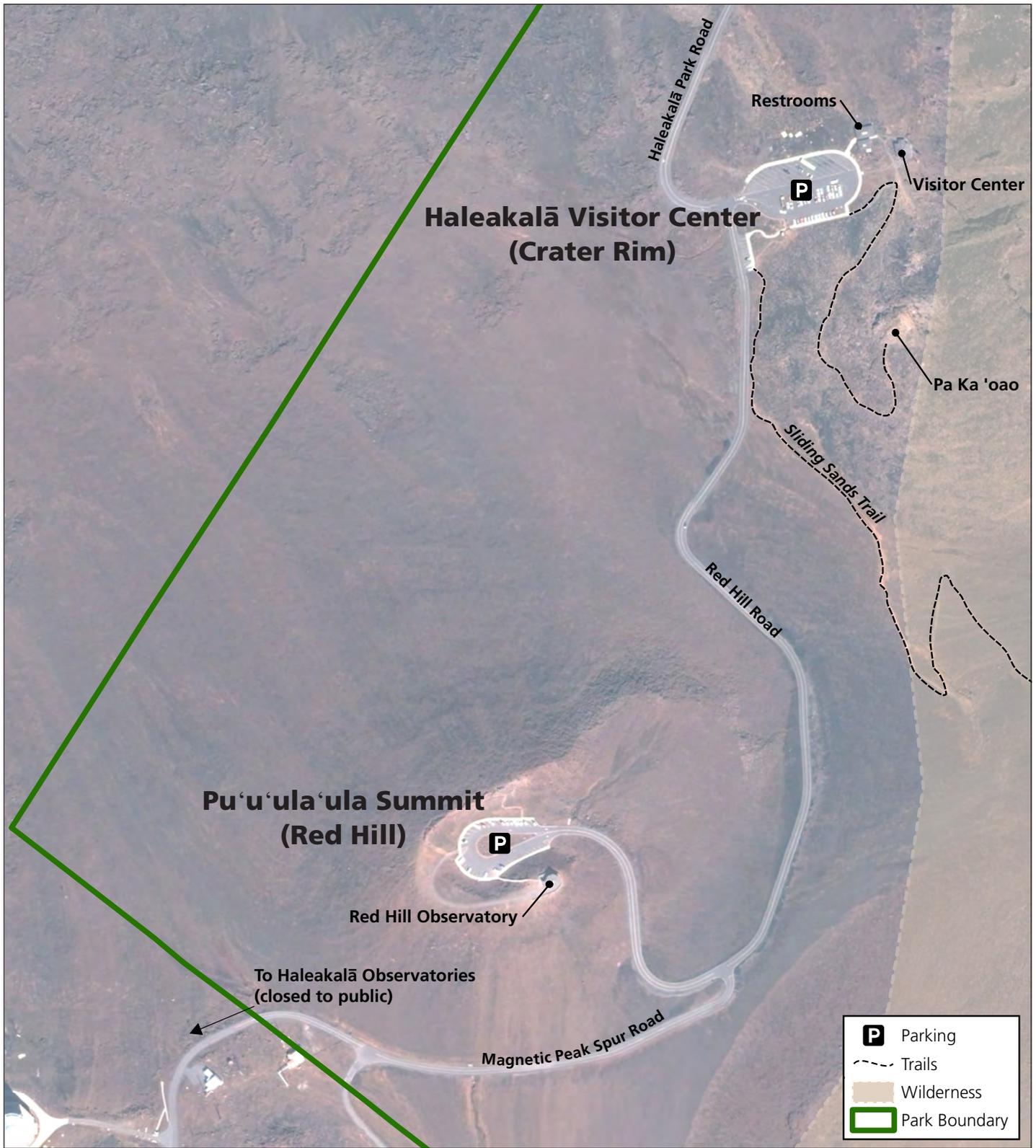
45
46 The Kīpahulu coastal area is set in a tropical
47 rainforest, atop a seaside cliff. The setting
48 provides visitors with hiking opportunities,

49 activities oriented around cultural
50 resources—people have interacted with the
51 land here for hundreds of years—and the
52 chance to experience the streams in ‘Ohe’o
53 Gulch. Guided hiking and horseback trips
54 are also provided at this end of the park.

55
56 The park wilderness includes 38.2 miles of
57 trails that lead hikers and horseback riders
58 through ecosystems that range from arid to
59 lush. Two campgrounds and three public use
60 historic cabins are located in developed
61 enclaves within the designated wilderness
62 area. These facilities are reserved on a first-
63 come, first-served basis for the public.

64
65 Haleakalā was established on August 1, 1916,
66 as part of Hawai‘i National Park. The park
67 included lands on both the islands of
68 Hawai‘i and Maui (39 *United States Statutes*
69 *at Large* (Stat.) 432). The establishing
70 legislation for the park directed that its
71 resources be preserved from injury and be
72 retained “in their natural condition as nearly
73 as possible” (16 USC 394). The Maui portion
74 of the park was established as a separate
75 national park system unit in July 1961 (74
76 Stat. 881; 16 USC 396b).

1 The term *summit* in this plan refers to both the Haleakalā Visitor Center and Red Hill.



0 250 500 1,000 Feet



Figure 3. Haleakalā Summit Area
 Haleakalā National Park
 United States Department of the Interior • National Park Service

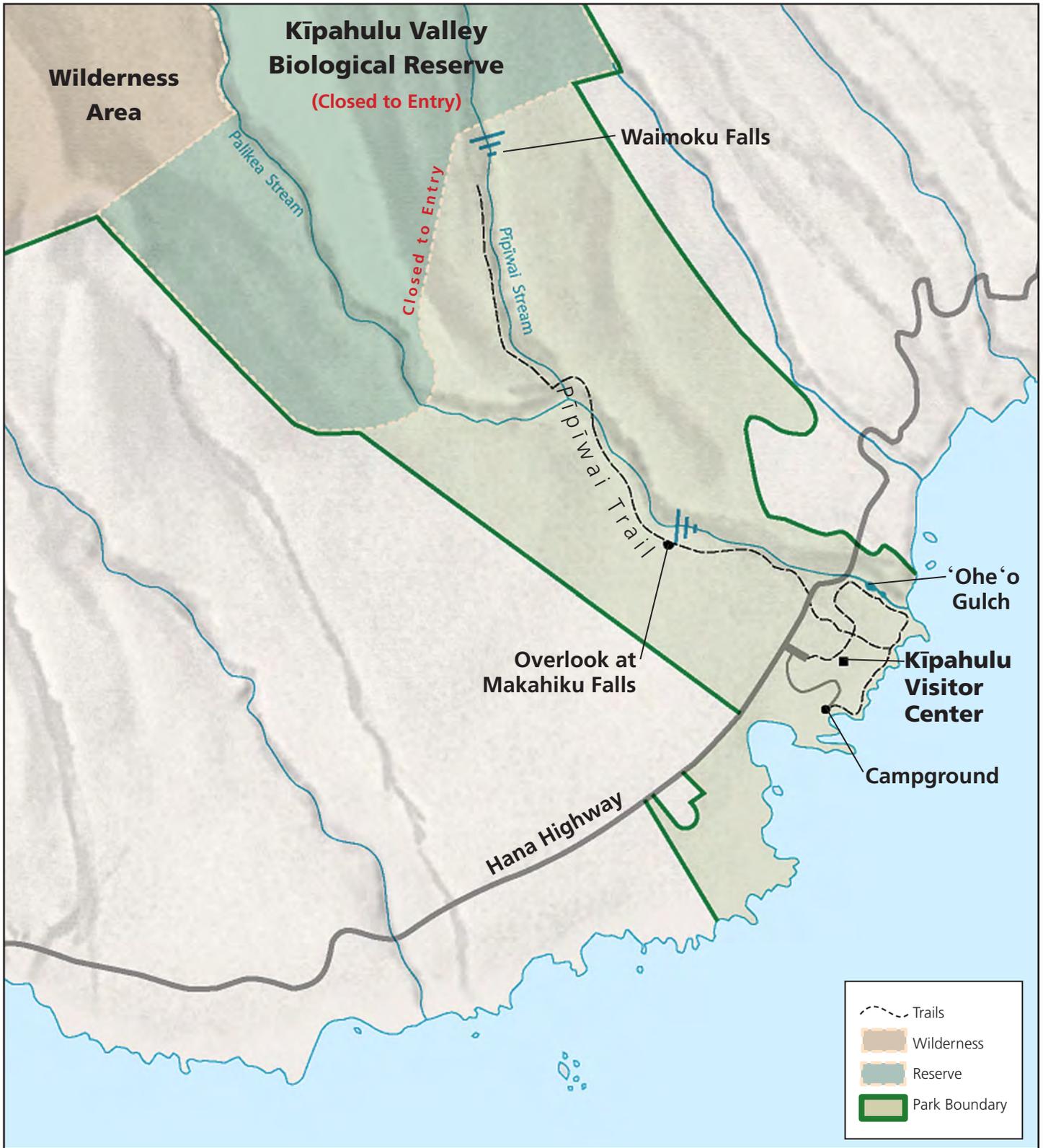


Figure 4. Kīpahulu

Haleakalā National Park

United States Department of the Interior • National Park Service

GUIDANCE FOR THE PLANNING EFFORT

PARK PURPOSE, SIGNIFICANCE, AND MISSION STATEMENTS

A park's purpose, significance, and mission underlie all decisions made about a park. All management actions should help achieve and/or be consistent with these statements. The park's general management plan (NPS 1995) identified the park purpose, significance, and mission statements.

Park Purpose

Purpose statements are derived from a park's authorizing legislation and reaffirm the reasons for which the area was established as a unit of the national park system. Purpose statements provide the foundation for all decisions regarding the management and use of the park.

The 1916 law creating Hawai'i National Park, including Haleakalā, stated the park was established as a

public park or pleasure ground for the benefit and enjoyment of the people of the United States . . . and to provide preservation from injury of all timber, birds, minerals deposits, and natural curiosities or wonders within said park, and their retention in their natural state as nearly as possible (39 Stat. 432; 16 USC 391).

The NPS Organic Act established the National Park Service. The purpose of the National Park Service is to promote and regulate the use of federal areas known as parks, monuments, and reservations. Thus, the purpose of Haleakalā National Park is also reflected in a key provision of the NPS Organic Act

to conserve the scenery and the natural and historic objects and wild life therein and to provide for the

enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations.

Significance of Park

Significance statements describe the distinguishing resources and characteristics that set a park apart in a regional, national, and sometimes international context. These statements assist managers with making decisions that preserve the resources and values necessary to accomplish the park's purpose.

The *Haleakalā National Park Statement for Management* (NPS 1997) identified the following significance statements for the park:

- represents highly diverse volcanic, geological, and biological habitat ranging from over 10,000 feet elevation (highest point on Maui, third-highest in the state) to sea level
- contains one of the few relatively intact remnants of a unique and disappearing Hawaiian biota found no other place in the world and designated as part of the biosphere reserve system
- includes the remote, pristine Haleakalā Wilderness acclaimed for its attributes of beauty, serenity, and tranquility and where visitors can temporarily retreat from civilized society
- contains abundant archeological and historical remains of the pre-European contact Hawaiian civilization
- is of religious and cultural importance to the Native Hawaiian community

- 1 ▪ has many historical and cultural sites
- 2 listed on the National Register of
- 3 Historic Places
- 4 ▪ is an important component in East
- 5 Maui Watershed Partnership whose
- 6 preservation is the objective of a
- 7 multiorganizational effort
- 8 ▪ is Maui’s number one tourist
- 9 destination, an integral part of the
- 10 tourist-based economy of the island
- 11 ▪ has a class I air quality designation
- 12 ▪ provides outdoors recreational and
- 13 educational opportunities
- 14 unavailable elsewhere on Maui to
- 15 the public

17 **Park Mission**

18 Mission statements describe the desired
 19 future conditions for a park that exist when
 20 the legislative intent is being met.

21
 22 The mission of Haleakalā National Park is as
 23 follows:

24
 25 Haleakalā National Park is an
 26 International Biosphere Reserve that
 27 supports native ecosystems in a
 28 maturing volcanic landscape. As
 29 stewards of this park, we will
 30 incorporate Native Hawaiian
 31 protocols and generational knowledge
 32 for the perpetuation of cultural
 33 resources, and implement traditional
 34 and modern methods for the
 35 preservation of natural resources.
 36 With partnerships and the
 37 community, we will protect, manage,
 38 and interpret these unique resources
 39 for the education, experience, and
 40 inspiration of all peoples and future
 41 generations (NPS 2011b).

42 **SPECIAL DESIGNATIONS,**
 43 **MANDATES, AND ADMINISTRATIVE**
 44 **COMMITMENTS**

45 Several mandates, designations, and
 46 administrative commitments affect planning
 47 for and management of Haleakalā National
 48 Park.

49
 50 In 1976, Congress enacted Public Law (PL)
 51 94-567, which designated 24,719 acres of
 52 Haleakalā National Park as wilderness. As a
 53 result, the National Park Service is mandated
 54 to manage this area to protect its wilderness
 55 character.

56
 57 In 1980, Haleakalā National Park was
 58 designated an International Biosphere
 59 Reserve. Biosphere reserves are an
 60 international conservation designation given
 61 by United Nations Educational, Scientific,
 62 and Cultural Organization (UNESCO) under
 63 its Programme on Man and the Biosphere
 64 (MAB). These reserves are intended to fulfill
 65 three basic functions: (1) to contribute to the
 66 conservation of important biological
 67 resources; (2) to foster economic and human
 68 development that is sustainable; and (3) to
 69 provide support for research, monitoring,
 70 education, and information exchange
 71 related to conservation and development
 72 issues.

73
 74 The National Park Service has entered into a
 75 series of agreements with private, nonprofit
 76 organizations to provide living exhibits and
 77 interpretative programs in the park and to
 78 sell interpretative materials and products of
 79 on-site demonstrations. These activities are
 80 considered to be visitor services (36 *Code of*
 81 *Federal Regulations* (CFR) 51.1), but because
 82 of the nature of the products and services
 83 offered as well as of their provider, these
 84 activities are authorized by legal authorities
 85 that only are available for certain
 86 educational products and services provided
 87 by nonprofit organizations. These
 88 authorities include cooperating association
 89 agreements (under 16 USC 1-4, 6, 17j-2(e)
 90 and 43 USC 1473a) and general agreements
 91 for living exhibits and demonstrations

1 (under 16 USC 1a-2(g)). Currently there are
 2 two such agreements in effect, with the
 3 Kīpahulu ‘Ohana and the Hawai‘i Pacific
 4 Parks Association (HPPA).

5
 6 **Kīpahulu Ohana agreement:** The National
 7 Park Service administers the site known as
 8 Kapahu Farm, a cultural resource, within the
 9 Kīpahulu area of Haleakalā National Park,
 10 and has and wishes to continue managing
 11 the farm in a manner that perpetuates and
 12 interprets traditional Native Hawaiian
 13 culture including agriculture, aquaculture,
 14 arts, crafts, traditional structures, medicine,
 15 ceremonial practices, and land management
 16 practices. The National Park Service has
 17 authorized a private nonprofit organization
 18 with expertise in Native Hawaiian cultural
 19 demonstrations and in traditional Native
 20 Hawaiian agriculture and aquaculture
 21 practices to provide living exhibits and
 22 interpretive programs at the Kapahu Farm.
 23 The National Park Service has entered into a
 24 series of agreements (the most recent of
 25 which is for the term 2012–2015 with the
 26 Kīpahulu ‘Ohana to provide these services.
 27 The Kīpahulu ‘Ohana is a nonprofit
 28 organization founded by Native Hawaiian
 29 residents from Kīpahulu. It is dedicated to
 30 the cultural sustainability of the Kīpahulu
 31 District on Maui by preserving and
 32 enhancing traditional Native Hawaiian
 33 cultural practices through educational
 34 programs and demonstrations concerning
 35 traditional agriculture and aquaculture
 36 features and practices, Native Hawaiian
 37 culture, and native Polynesian species of
 38 flora.

39
 40 **HPPA agreement:** The Hawai‘i Pacific
 41 Parks Association, a private nonprofit
 42 organization, has been authorized by the
 43 National Park Service to sell interpretive
 44 materials and conduct interpretive programs
 45 in the park. There have been a series of
 46 agreements with this organization. In
 47 addition, the association has been
 48 authorized through a concession contract to
 49 sell convenience items for the benefit of the
 50 visitor. The current concession contract
 51 runs from January 1, 2006, through
 52 December 31, 2015.

53 Due to their unique legal authority and
 54 limited application, cooperating association
 55 agreements and living exhibits, and
 56 demonstration agreements are not
 57 addressed by this commercial services plan.
 58 However, concession contracts are included.

61 GUIDANCE FOR COMMERCIAL 62 SERVICES IN NATIONAL PARKS

63 General

64 National parks are special places, saved by
 65 the American people so that all may
 66 experience the country’s natural and cultural
 67 heritage. The national parks movement of
 68 the mid-19th century was fueled by a
 69 determination to save beautiful and historic
 70 spots in America, in part to keep them from
 71 being populated with hotels, curio shops,
 72 and amusements. Overcommercialization
 73 and development can spoil the very
 74 character of the places visitors come to see.
 75 Yet, some kinds of commercial activities are
 76 appropriate in national parks (and
 77 sometimes necessary). They help visitors
 78 enjoy natural and cultural wonders to which
 79 they might not otherwise have access. Often
 80 commercial providers help protect park
 81 resources too.

82
 83 Commercial services involve the buying and
 84 selling of goods and services and are a
 85 business activity. Within the national park
 86 system, there are two general categories of
 87 commercial services: (1) those offered to the
 88 public (as visitor services); and (2) those that
 89 provide a specific benefit to an identifiable
 90 beneficiary and to the government but not to
 91 the public at large. There are different legal
 92 prerequisites for and different legal
 93 conditions that apply to commercial services
 94 depending on the purpose and type of the
 95 activity involved. However, all commercial
 96 service legal authorizations share one
 97 common attribute—a fee or charge is
 98 assessed for the services involved (36 CFR
 99 51.3).

1 Commercial services may take place within a 40
2 unit of the National Park Service only under 41
3 certain defined and limited circumstances. 42
4 The national park system has been 43
5 established and is preserved and managed 44
6 for the benefit and inspiration of the people 45
7 of the United States. The NPS Organic Act 46
8 and the NPS General Authorities Act of 47
9 1970, as amended, (16 USC 1, 1a-1) mandate 48
10 that park resources and values are to be 49
11 conserved and are to be provided for 50
12 enjoyment in such manner and means as will 51
13 leave them unimpaired for the enjoyment of 52
14 future generations unless a particular law 53
15 directly and specifically provides otherwise. 54
16
17 Consistent with these fundamental 55
18 principles regarding management of the 56
19 national park system, it is unlawful to engage 57
20 in or to solicit any business in an area of the 58
21 national park system, except in accordance 59
22 with the provisions of a permit, contract, or 60
23 other written agreement with the United 61
24 States unless specifically authorized under 62
25 special regulations applicable to a park area 63
26 (36 CFR 5.3). 64
27
28 Commercial activities may be authorized 65
29 through a range of legal authorities using a 66
30 variety of different permits, contracts, and 67
31 other authorizations, depending on the type 68
32 and location of the activity involved. 69
33 Examples of authorizations used for visitor 70
34 services (that is, accommodations, facilities, 71
35 and services for public use and enjoyment of 72
36 units of the national park system) include 73
37 concession contracts and commercial use 74
38 authorizations: 75
39

- Concession contracts may be used to authorize concessioners to provide accommodations, facilities, and services that the National Park Service has determined are necessary and appropriate for public use and enjoyment of a park unit and are consistent to the highest practicable degree with the preservation and conservation of the resources and values of that unit. Authorized accommodations, facilities, and services are provided for a fee or charge to the visitor by the concessioner, and the concessioner's rates and charges to the public are subject to approval by the National Park Service. The contracts must provide a reasonable opportunity for profit for concession operators. The concessioner pays the government, through the vehicle of a franchise fee, for the privilege of operating the concession business. In addition, the concessioner is required to maintain, as an expense of its business, the government-owned facilities and equipment that have been assigned to it for use in providing services to the visiting public. A public solicitation process is used (unless strictly limited exceptions apply) to award concession contracts. Lodges and restaurants within parks are operated under concession contracts.

- 1 ▪ Commercial use authorizations may 52
- 2 be used to authorize visitor services 53
- 3 under somewhat different criteria 54
- 4 than a concession contract. For a 55
- 5 commercial use authorization, the 56
- 6 visitor service must be determined 57
- 7 by the National Park Service to have 58
- 8 minimal impact on resources and 59
- 9 values of the park unit and be 60
- 10 consistent with the purpose for 61
- 11 which the unit was established and 62
- 12 with all applicable management 63
- 13 plans and park policies and 64
- 14 regulations. Additionally, the 65
- 15 National Park Service is prohibited 66
- 16 by law from issuing more 67
- 17 commercial use authorizations than 68
- 18 are consistent with the preservation 69
- 19 and proper management of park 70
- 20 resources and values. Only three 71
- 21 types of operations are eligible for 72
- 22 commercial use authorizations: (1) 73
- 23 commercial operations generating 74
- 24 not more than \$25,000 annually from 75
- 25 services originating and provided 76
- 26 solely within the national park 77
- 27 system unit; or (2) commercial 78
- 28 operations originating or terminating 79
- 29 outside of the boundaries of the 80
- 30 national park system unit; or (3) uses 81
- 31 by an appropriate children’s camp, 82
- 32 an outdoor club, or a nonprofit 83
- 33 institution not deriving taxable
- 34 income from the authorized use. A
- 35 fee must be paid to the government
- 36 for issuance of a commercial use
- 37 authorization, at a minimum to cover
- 38 associated management and
- 39 administrative costs. The term of a
- 40 commercial use authorization may
- 41 not be more than two years in
- 42 duration. An example of a
- 43 commercial use authorization would
- 44 be astronomy tours.

- 45
- 46 Services providing a specific benefit to an
- 47 identifiable beneficiary and to the
- 48 government but not to the public at large
- 49 may be authorized, for example, by leases
- 50 and special use permits:
- 51

- 52 ▪ Leases may be granted by the
- 53 National Park Service for the use of
- 54 buildings, lands associated with such
- 55 buildings, and historic land located
- 56 within the boundaries of units of the
- 57 national park system under certain
- 58 conditions. A lease may be used only
- 59 for activities consistent with the
- 60 purposes of the park area; may not
- 61 result in degradation of the purposes
- 62 and values of that park area; and
- 63 must be compatible with NPS
- 64 programs. Leases may not authorize
- 65 activities subject to authorization
- 66 through a concession contract,
- 67 commercial use authorization, or
- 68 similar instrument. A public
- 69 solicitation process is used to award
- 70 leases other than for certain
- 71 nonprofit or governmental use of the
- 72 property contributing to the
- 73 purposes and programs of the park
- 74 area or for 60 days or less in
- 75 duration. The lease must require
- 76 payment of rent to the government
- 77 equal to or higher than the
- 78 property’s fair market value rent,
- 79 taking into account any restrictions
- 80 the National Park Service may place
- 81 on the use of the leased property and
- 82 any requirements for its
- 83 rehabilitation and maintenance.

- 1 ▪ Special use permits may be used to
- 2 authorize activities that provide a
- 3 benefit to an individual or group
- 4 rather than to the public at large and
- 5 require some degree of management
- 6 by the National Park Service to
- 7 protect park resources and the
- 8 public interest. Special use permits
- 9 are, in effect, a license and, as such,
- 10 are revocable. Additionally, special
- 11 use permits may not violate or
- 12 circumvent any relevant law and may
- 13 not be issued for a visitor service or
- 14 for activities subject to authorization
- 15 by a lease. The National Park
- 16 Service, depending on the
- 17 circumstances, may recover costs
- 18 related to special park uses or charge
- 19 fees for the use of park lands and
- 20 facilities. Special use permits
- 21 typically are used to authorize
- 22 activities such as rights-of-way,
- 23 commercial filming, weddings,
- 24 festivals, and other special events.

25

26 The National Park Service must determine

27 what types and levels of commercial

28 activities are permissible under applicable

29 laws and regulations. At a minimum, all

30 commercial activities must operate in a

31 manner that is consistent with the mission of

32 the park and should provide high quality

33 visitor experience while protecting

34 important natural, cultural, and scenic

35 resources. Other requirements may also

36 apply. For example, the NPS Concessions

37 Management Improvement Act of 1998

38 limits the development of concession

39 services to those that are necessary and

40 appropriate for public use and enjoyment of

41 the park unit and that are consistent to the

42 highest practicable degree with the

43 preservation and conservation of the

44 resources and values of the unit. More

45 information concerning the concepts of

46 necessary and appropriate, and how they

47 relate to the commercial services plan, is

48 presented in chapter 2.

49

50 **Laws, Regulations, and Policies**

51 Numerous laws, regulations, and policies

52 guide the management of commercial

53 services in national park system units and

54 the development and implementation of

55 commercial services plans. Commercial

56 services plans must comply with these laws,

57 regulations, and policies and must be

58 consistent with the management

59 philosophies found in the park’s general

60 management plan. Examples of the primary

61 legal and regulatory mandates are

62 summarized below.

63

64 **NPS Organic Act**

65

66 In the NPS Organic Act, Congress directed

67 the National Park Service to manage parks

68

69 to conserve the scenery and the

70 natural and historic objects and the

71 wildlife therein and to provide for the

72 enjoyment of the same in such manner

73 and by such means as will leave them

74 unimpaired for the enjoyment of

75 future generations.

76

77 Congress supplemented and clarified these

78 provisions through enactment of the NPS

79 General Authorities Act and through

80 enactment of an amendment to the act,

81 which states, in part,

82

83 [t]he authorization of activities . . .

84 shall not be exercised in derogation of

85 the values and purposes for which

86 these various areas have been

87 established, except as may have been

88 or shall be directly and specifically

89 provided by Congress. (16 USC 1a-1).

90

91 The NPS Organic Act is silent as to the

92 specifics of park management and leaves the

93 National Park Service broad discretion in

94 determining which management approaches

95 best achieve the NPS Organic Act mandate.

96 Simply put, the National Park Service is

97 “empowered with the authority to determine

98 what uses of park resources are proper and

99 what proportion of the park resources is

100 available for each use” (*Bicycle Trails Council*

1 *of Marin v. Babbitt*, 82 F.3d 1445, 1454 (9th
2 Cir. 1996)).

3
4 While the National Park Service has
5 management discretion to allow impacts
6 within parks, that discretion is limited by the
7 statutory requirement that the National Park
8 Service must leave park resources and values
9 unimpaired unless a particular law directly
10 and specifically provides otherwise. These
11 congressional mandates ensure that park
12 resources and values will continue to exist in
13 a condition that will allow the American
14 people to have present and future
15 opportunities to enjoy them. Consistent with
16 the NPS Organic Act and other applicable
17 laws, any commercial services, including
18 motorized, bicycle, and horseback traffic,
19 must be compatible with the park’s natural
20 resources, cultural resources, threatened and
21 endangered species, and wilderness values.

22 23 **NPS Concessions Management and** 24 **Improvement Act of 1998**

25
26 The 1988 Concessions Act (title IV, PL 105-
27 391; 16 USC section 5901 note, 5951 et seq.)
28 contains two separate types of authority for
29 commercial visitor services in units of the
30 national park system—concession contracts
31 and commercial use authorizations. The
32 1988 Concessions Act mandates the uses of
33 concession contracts for authorizing any
34 visitor services except as provided through a
35 commercial use authorization or as
36 otherwise authorized by law. The 1998
37 Concessions Act also places significant
38 limitations on the types and kinds of
39 accommodations, facilities, and services that
40 may be authorized by concession contracts.
41 Such accommodations, facilities, and
42 services must be “necessary and appropriate
43 for public use and enjoyment” of the unit in
44 which located and must be “consistent to the
45 highest practicable degree with the
46 preservation and conservation of the
47 resources and values of the unit” (16 USC
48 section 5951).

49
50 The 1998 Concessions Act also authorizes
51 the use of a commercial use authorization
52 for certain types of visitor services (16 USC

53 section 5966). Commercial use
54 authorizations must meet a different
55 statutory criteria than that set in concession
56 contracts. Commercial use authorizations
57 may be issued for visitor services that have
58 minimal impact on park resources and
59 values and that are consistent with the
60 purposes for which the park unit was
61 established and with all applicable
62 management plans and park policies and
63 regulations.

64 Commercial use authorizations must also
65 provide for the payment to the National
66 Park Service of a reasonable fee to be used,
67 at a minimum, to recover associated
68 management and administrative costs.
69 Commercial use authorizations, as a matter
70 of statute, must require that authorized
71 services be accomplished in a manner
72 consistent to the highest practicable degree
73 with the preservation and conservation of
74 park resources and values. A further legal
75 restriction is placed by 16 USC section
76 5996—no more commercial use
77 authorizations may be issued than are
78 consistent with the preservation and proper
79 management of park resources and values.
80 The term of a commercial use authorization
81 may not exceed two years, and no
82 preferential right of renewal or similar
83 provisions for renewal may be provided.
84 (Commercial use authorizations are
85 discussed in more detail later in this section.)

86
87 The statute also states that a commercial use
88 authorization may not provide for the
89 construction of structures, fixtures, or
90 improvements on federally owned lands
91 within a park.

92 93 **National Environmental Policy Act**

94
95 The National Environmental Policy Act
96 requires federal agencies to assess the
97 environmental effects of a proposed action
98 and engage the public in the analyses of
99 environmental impacts before making
100 decisions affecting the human environment.
101 When the National Park Service considers
102 taking a major federal action, it prepares an
103 environmental assessment to assess the

1 impacts of the proposed action and to
 2 determine if an environmental impact
 3 statement must be prepared. The
 4 environmental assessment that is included in
 5 this document analyzes the environmental
 6 consequences of various alternatives for
 7 commercial services, including the NPS
 8 preferred alternative. If, based on the
 9 environmental assessment analysis and
 10 public comments, the National Park Service
 11 determines that the preferred alternative
 12 would not significantly affect the human
 13 environment, and then the National Park
 14 Service would prepare a “Finding of No
 15 Significant Impact” (FONSI). Conversely, if
 16 the proposed action would likely cause
 17 significant effects on the human
 18 environment, then the National Park Service
 19 prepares an environmental impact
 20 statement.

21
 22 **Code of Federal Regulations**

23
 24 The national park system has been
 25 established and is preserved and managed
 26 for the benefit and inspiration of the people
 27 of the United States. Congress has mandated
 28 that park resources and values are to be
 29 conserved and are to be provided for
 30 enjoyment in such manner and means as will
 31 leave them unimpaired for the enjoyment of
 32 future generations, unless a particular law
 33 directly and specifically provides otherwise.
 34

35 To enforce these fundamental management
 36 principles, the National Park Service has
 37 adopted a number of regulations that apply
 38 to activities within NPS administered areas,
 39 including to business activities. These
 40 regulations are published in 36 CFR Parts 1–
 41 199 and are available at
 42 <http://www.gpo.gov/fdsys/>. The regulations
 43 include a number of general restrictions that
 44 may affect business activities, including for
 45 example a prohibition on engaging in
 46 business except in accordance with a permit,
 47 contract, or other written agreement unless
 48 specifically authorized under special
 49 regulations (36 CFR 5.3) and significant
 50 restrictions on the display and distribution
 51 of commercial notices or advertisements (in
 52 36 CFR 5.1). In addition, the regulations set

53 out a number of specific requirements for
 54 NPS concessioners, including applicable
 55 labor standards (in 36 CFR Part 8) and
 56 provisions for the solicitation, award, and
 57 administration of concession contracts (in
 58 36 CFR Part 51).

59
 60 For the purposes of this plan and
 61 environmental assessment, the term *bicycle* is
 62 as defined in 36 CFR 1.4:

63
 64 Bicycle means every device propelled
 65 solely by human power upon which a
 66 person or persons may ride on land,
 67 having one, two, or more wheels,
 68 except a manual wheelchair.
 69

70 **NPS Management Policies 2006**

71
 72 The *NPS Management Policies 2006* is the
 73 basic servicewide policy document of the
 74 National Park Service. It provides
 75 information on NPS policy and required
 76 and/or recommended actions covering park
 77 planning, natural and cultural resource
 78 management, wilderness management, use
 79 of the parks, and park facilities, among other
 80 topics. Section 10 addresses commercial
 81 visitor services authorized through
 82 concession contracts (section 10.2) and
 83 commercial use authorizations (section
 84 10.3). The policies state (among other
 85 things)

86
 87 [p]ublic accommodations, facilities,
 88 and services must be consistent to
 89 highest practicable degree with the
 90 preservation and conservation of park
 91 resources and values.
 92

93 *NPS Management Policies 2006* also provides
 94 several other directions of relevance to this
 95 commercial services plan. Section 6.4.4
 96 addresses commercial services in wilderness.
 97 Sections 5.3.2 and 8.5 address use of national
 98 park system units by traditionally associated
 99 groups such as Native Hawaiians. Park
 100 managers are directed to protect sacred
 101 resources to the extent practicable and in a
 102 manner consistent with the goals of
 103 traditionally associated groups. To the
 104 extent feasible and allowable by law,

1 accommodations will also be made for
2 access to and the use of sacred places when
3 interest is expressed by Native Hawaiians.

4
5 Section 7.5.7 addresses sales by cultural
6 demonstrators of self-made handicrafts
7 (such as the items sold by Kīpahulu Ohana,
8 Inc.). Section 8.12 provides guidance on
9 leases for the use of park property.

11 **Director's Order 32: Cooperating** 12 **Associations**

13
14 This interim director's order describes the
15 policy and procedural requirements for
16 relationships between the National Park
17 Service and cooperating associations. It
18 includes such topics as cooperating
19 association agreements, association
20 responsibilities, and sales and interpretive
21 activities.

23 **NPS Commercial Use Authorizations:** 24 **Interim Guidelines**

25
26 In 2005, the National Park Service issued
27 interim guidelines regarding implementation
28 of the statutory requirements for
29 commercial use authorizations. (These
30 guidelines are intended solely as guidance
31 for employees of the National Park Service.
32 They are not rulemaking and do not create
33 or confer any legal rights, privileges, or
34 benefits that may be enforced in any way by
35 private parties.) Among other things, these
36 guidelines provide for use of a competitive
37 process if the number of commercial use
38 authorizations to be issued for a particular
39 type of commercial service is limited.

40 **NPS GUIDELINES ON IMPAIRMENT** 41 **OF NATIONAL PARK RESOURCES**

42 In addition to determining the
43 environmental consequences of
44 implementing the agency preferred and
45 other alternatives, *NPS Management Policies*
46 *2006*, 1.4 requires a determination that no
47 implementation of any actions would impair
48 a park's resources and values.

50 The fundamental purpose of the national
51 park system, established by the NPS Organic
52 Act and reaffirmed by the NPS General
53 Authorities Act is conservation of park
54 resources and values. NPS managers must
55 always seek ways to avoid, or to minimize to
56 the greatest degree practicable, adverse
57 impacts on cultural and natural resources
58 and park values. However, these laws also
59 afford park managers discretion to allow
60 impacts to occur when this is necessary and
61 appropriate to fulfill the express purposes of
62 the park. That discretion is constrained by
63 the statutory requirement that the National
64 Park Service must leave resources and values
65 unimpaired unless a particular law directly
66 and specifically provides otherwise.

67
68 The prohibited impairment is any impact
69 that, in the professional judgment of the
70 responsible NPS manager, would harm the
71 integrity of park resources or values,
72 including the opportunities that otherwise
73 would be present for the enjoyment of those
74 resources or values (NPS 2006c). Whether
75 an impact has such a result depends on the
76 particular resources that would be affected;
77 the severity, duration, and timing of the
78 impact; the direct and indirect effects of the
79 impact; and the cumulative effects of the
80 impact in question combined with other
81 impacts.

82
83 As further noted in *NPS Management*
84 *Policies 2006* section 1.4.7, in addition to the
85 above potential environmental
86 consequences, the NPS manager also takes
87 into consideration consultations required
88 under section 106 of the National Historic
89 Preservation Act (NHPA), relevant scientific
90 information, pertinent information from
91 subject matter experts, and results of related
92 civic engagement and public involvement
93 activities.

94
95 The superintendent's determination of
96 nonimpairment for the alternative selected
97 following consideration of all public review
98 comments will be provided as an attachment
99 to the approved decision document
100 (anticipated to be a "Finding of No
101 Significant Impact").

PLANNING ISSUES, CONCERNS, AND IMPACT TOPICS

PLANNING ISSUES AND CONCERNS TO BE ADDRESSED

NPS staff, the public, commercial services providers, representatives from the state historic preservation office, and the park's Kūpuna (Hawaiian elders) groups identified several issues and concerns during scoping (early information gathering) for this plan. An *issue* is defined as an opportunity, conflict, or problem regarding the use or management of public lands. Comments were solicited at public meetings and through planning newsletters (see chapter 5 "Consultation and Coordination").

Comments received during scoping focused on impacts of commercial services on cultural and natural resources, Native Hawaiians, public health and safety, visitor use and experience, and park management activities. The alternatives in the commercial services plan address these issues within the context of the laws, NPS regulations and policies, and the park purpose, significance, mission goals, and special mandates.

Five major issues and concerns are addressed by this plan. It is important to keep in mind that many of the impacts discussed below can be attributed to commercial services patrons and to other park visitors. However, this plan focuses on only the impacts of commercial services.

Impacts to Natural Resources

Concerns were raised that commercial service uses have contributed to adverse impacts on natural resources in the nonwilderness portion of the park. These impacts are primarily occurring at the summit area and the Kīpahulu area. The horseback tours that take place in Kīpahulu have contributed to trail and road

degradation and do not take place in the wilderness (NPS 2006b). There are also concerns that commercial tour groups may be contributing to erosion of soils, trampling of vegetation, the introduction of nonnative invasive species (plants and insects), and disturbance of threatened and endangered species and their habitat. Commercial tours also have contributed to degradation of natural soundscapes and an increase in trash production.

Impacts to Cultural Resources

All of Haleakalā volcano is considered sacred by Native Hawaiians. Concerns have been raised that high levels of commercial and noncommercial use in concentrated areas of the summit, as well as other park areas, will interfere with traditional cultural uses and increased negative perceptions of the park by Native Hawaiians. It was noted in the scoping meetings that the sense of quiet or silence is critical to maintain the essential nature of Haleakalā and for private traditional ceremonies. Native Hawaiians expressed concerns that maintaining the current level or increasing the noise level from motor vehicles, tours, and other human activities would inhibit most Hawaiians from continuing traditional practices. Opportunities for Native Hawaiian practitioners to conduct ceremonies in privacy and solitude would be further diminished.

Crowding and Visitor Conflicts

There are concerns that tour groups have contributed to crowding and congestion in high use areas, which has adversely affected visitor experience in the park. Conflicts have occurred between guided tour groups and individual visitors for parking spaces and for standing and viewing spaces. For example, parking lots are full and travel lanes become

1 congested in the summit area at peak sunrise
 2 visitation hours. Large crowds in the area are
 3 believed to have detracted from some visitor
 4 experience of the sunrise event as well as
 5 visitor understanding of this sacred place. In
 6 the Kīpahulu area, the quality of the visitor
 7 experience also has been greatly diminished
 8 by overcrowding. Tour vans and buses of
 9 various sizes vie for limited space in the
 10 parking area, often resulting in traffic
 11 congestion and frustration for
 12 noncommercial visitors.
 13

14 **Public Health and Safety**

15 Certain activities can pose a danger to public
 16 health and safety. Prior to implementation in
 17 2005 of the *Commercial Use at Sunrise:
 18 Interim Operations Plan*, demand for
 19 commercial as well as private vehicle parking
 20 was so intense that parking was occurring
 21 outside of marked stalls, in traffic lanes, on
 22 road shoulders, and in other locations. As a
 23 result, emergency access by ambulance, law
 24 enforcement, and fire vehicles was impeded.
 25 The resulting congestion at the Haleakalā
 26 summit during sunrise created additional
 27 public health and safety and visitor
 28 protection concerns involving overflow into
 29 critical habitat areas, off-trail areas, and
 30 potentially unsafe cliff areas. Prior to the
 31 October 2007 safety stand-down of
 32 commercially guided downhill bicycle tours
 33 in the park, serious accidents (including
 34 visitor fatalities) occurred during those
 35 commercial tours. Although these activities
 36 have been suspended, other commercially
 37 provided activities may expose visitors to
 38 environmental hazards or specific risks
 39 associated with the activity (e.g., recreating
 40 in high altitudes on the mountain;
 41 conducting activities in extreme weather
 42 conditions, including heavy rains, flooding,
 43 and high winds).
 44

45 **Insufficient/Inaccurate Information
 46 Provided by Some Commercial
 47 Services Providers**

48 Although many commercial services
 49 providers take pride in providing accurate
 50 information to their clients, insufficient or
 51 inaccurate information is being given to
 52 visitors by some commercial services
 53 providers. These providers are supplying
 54 marketing information to the public that is
 55 not consistent with the park’s message or
 56 NPS interpretive standards. Some patrons
 57 have not received information regarding the
 58 inclusion of this area in the national park
 59 system and the role and mission of the
 60 National Park Service in managing the area.
 61 Patrons of some providers also have not
 62 received adequate or correct information
 63 about the nature and importance of park
 64 resources, and about appropriate and safe
 65 behavior and use of park areas such as at the
 66 summit and the streams at Kīpahulu. As a
 67 result, some commercial services patrons are
 68 believed to have contributed to resource
 69 impacts and to impacts on the experience of
 70 other visitors.
 71
 72

73 **PLANNING ISSUES AND CONCERNS
 74 NOT BEING ADDRESSED IN THIS
 75 PLAN**

76 **Commercial Air Tours**

77 Commercial air tours, primarily by
 78 helicopters, have occurred since the 1980s.
 79 Ten air tour operators (seven helicopter
 80 operators and three fixed-wing operators)
 81 are permitted to fly aircraft over the park by
 82 the Federal Aviation Administration (FAA).
 83 Concerns have been expressed about noise
 84 impacts of these flights on the park’s
 85 wilderness values, wildlife, ground visitor
 86 experiences, local communities, and Native
 87 Hawaiian traditional practices and
 88 properties. In 2000, Congress passed the
 89 National Park Air Tour Management Act
 90 (PL 106-181), which requires the National
 91 Park Service and Federal Aviation

1 Administration to develop an air tour
2 management plan for each park that has
3 commercial air tours within 0.5 mile of their
4 boundary, such as Haleakalā National Park.
5 Thus, the air tour management plan will
6 address the concerns regarding air tours in
7 the park and determine the appropriate
8 number of flights and routes of air tours over
9 the park. Work on the Haleakalā National
10 Park air tour management plan began in
11 February 2003 (E. Gordon, Haleakalā
12 National Park, pers. comm., December 2,
13 2010).

15 Climate Change

16 Climate change is a concern for the
17 Hawaiian Islands, including Haleakalā
18 National Park. Average annual temperatures
19 in the Pacific Islands have increased by
20 about 0.5°F (0.25°C) over the last century.
21 The islands are very likely to experience
22 increasing air and ocean temperatures and
23 changes in sea level, posing concerns for
24 freshwater resources, public health and
25 safety, ecosystems and biodiversity, and sea-
26 level variability ([http://classicinside.nps.gov/
27 documents/USGCRP-Islands-2000.pdf](http://classicinside.nps.gov/documents/USGCRP-Islands-2000.pdf)).
28 However, the full extent of the effects of
29 climate change on resources and visitor
30 experiences is not known.

31
32 This plan notes the need for NPS staff and
33 commercial service providers to work
34 together to address sustainability and
35 climate change (see the previous section).
36 However, climate change is a far-reaching,
37 long-term issue that will affect Haleakalā
38 National Park, its resources, visitors, and
39 management, and is beyond the scope of this
40 commercial services plan and its 10–15 year
41 time frame. With specific regard to
42 commercial services, the proportion of
43 greenhouse gases resulting from commercial
44 service providers in the park compared to
45 the emission of greenhouse gases on Maui is
46 believed to be small. No new facilities or
47 new activities are being proposed in the
48 alternatives in this plan that are believed
49 would measurably increase the park’s
50 carbon footprint. Indeed, encouraging

51 visitors to take tours rather than drive their
52 own vehicles into the park should help
53 reduce greenhouse gas emissions.
54 Furthermore, by instituting new
55 management directions for commercial
56 services and reducing congestion at the
57 summit at sunrise, the emission of
58 greenhouse gases would be expected to
59 decline. Overall, it is expected that the
60 commercial services plan will have a
61 negligible impact on greenhouse gases and
62 climate change. Thus, climate change is not
63 addressed in detail in this plan.

65 Impacts on Natural and Cultural 66 Resources in Wilderness

67 Concerns were raised during scoping for this
68 plan about impacts to natural and cultural
69 resources from commercially guided hiking
70 and horseback tours in the Haleakalā
71 Wilderness area. No actions are being
72 proposed in this plan that would affect
73 natural and cultural resources in the
74 wilderness area.

77 IMPACT TOPICS SELECTED 78 FOR ANALYSIS

79 An important part of planning is seeking to
80 understand the consequences of making one
81 decision over another. To this end, NPS
82 plans are typically accompanied by an
83 environmental document. Environmental
84 assessments, such as this document, identify
85 the anticipated impacts of possible actions
86 on resources and on park visitors and
87 neighbors. Impacts are organized by topic,
88 such as impacts on the visitor experience or
89 impacts on vegetation. Impact topics serve to
90 focus on the environmental analysis and to
91 ensure the relevance of impact evaluation.
92 Impact topics identified for the “Haleakalā
93 National Park Commercial Services Plan /
94 Environmental Assessment” were identified
95 based on federal laws and other legal
96 requirements, CEQ guidelines, NPS
97 management policies, staff subject-matter
98 expertise, and issues and concerns expressed

1 by the public and other agencies early in the
2 planning process (see previous section). The
3 planning team selected the impact topics for
4 analysis based on the potential for each topic
5 to be affected by the alternatives.

6
7 Impact topics are retained if there could be
8 appreciable impacts from the actions of the
9 alternatives considered. The following topics
10 were selected for analysis. A brief rationale
11 for selection of each impact topic is also
12 provided. Chapter 4, “Environmental
13 Consequences,” contains a more detailed
14 description of each impact topic to be
15 affected by the actions described in the
16 alternatives.

17 18 **Natural Resources**

19 **Soils.** Soil resources in national parks are
20 managed in accordance with the NPS
21 Organic Act of 1916 and NPS *Management*
22 *Policies 2006*. This topic was retained
23 because use of trails, parking lots, and
24 viewing areas by commercial tour groups has
25 contributed to erosion and soil compaction
26 in some areas.

27
28 **Vegetation.** Vegetation in national parks is
29 managed in accordance with the NPS
30 Organic Act and NPS *Management Policies*
31 *2006*. This topic was retained due to the
32 effects commercial activities may be having
33 on the park’s vegetation, such as trampling
34 of vegetation and spread of invasive species
35 along trails, parking lots, and viewing areas.

36
37 **Special Status Species.** The Endangered
38 Species Act of 1973 (16 USC section 1531 et
39 seq.) and its implementing regulations
40 require an evaluation of the effects of
41 proposed actions on all federally listed
42 endangered and threatened species and their
43 designated critical habitats with a potential
44 to be affected by the action. Haleakalā
45 National Park is home to and provides
46 habitat for a variety of federally threatened,
47 endangered, and candidate plants and
48 animals. Fifty such species have been
49 documented in the park (see appendix E).
50 Actions considered in this plan could

51 potentially affect four listed species:
52 Haleakalā silversword, nohoanu, Hawaiian
53 petrel, and Hawaiian goose.

- 54
55 ▪ **Haleakalā silversword**
56 (*Argyroxiphium sandwicense* ssp.
57 *Macrocephalum*), a threatened plant,
58 with designated critical habitat, was
59 retained for full evaluation because
60 commercial tour horses may browse
61 or nibble the plant along the Sliding
62 Sands Trail and visitors who
63 approach the plant to observe or
64 photograph may compact soils
65 around the plant’s shallow roots.
- 66 ▪ **Nohoanu** (*Geranium multiflorum*),
67 an endangered plant, with
68 designated critical habitat, was
69 retained for full evaluation because it
70 is found in proximity to areas near
71 the crater that would be used by
72 commercial service patrons.
- 73 ▪ **Hawaiian goose, or Nēnē** (*Branta*
74 *sandwicensis*), a threatened avian
75 species, was retained for full
76 evaluation because they are at risk of
77 collision with commercial tour
78 vehicles, feeding by commercial tour
79 patrons, and the potential for
80 disturbance of nests and goslings.
- 81 ▪ **Hawaiian petrel or ‘ua‘u,**
82 (*Pterodroma sandwichensis*) an
83 endangered avian species, was
84 retained for full evaluation because
85 there is potential that commercial
86 tours could affect these birds, such
87 as lights from tour vehicles driving at
88 night.

89
90 Forty-one federally listed endangered,
91 threatened, or candidate species were
92 dismissed from full analysis because they are
93 not in areas that would be affected by
94 commercial tours considered in this plan
95 and there is no potential for impact to these
96 species (see appendix E).

97
98 Five other species were not retained for
99 analysis in this document because although
100 these species may occur in areas affected by

1 tour groups, there is little or no information
 2 on the species and whether guided or
 3 unguided visitors are affecting them. These
 4 species are

- 6 ▪ Hawaiian hoary bat (*Lasiurus*
 7 *cinereus semotus*), an endangered
 8 mammal
- 9 ▪ Pacific Hawaiian damselfly
 10 (*Megalagrion pacificum*), a federal
 11 candidate insect species
- 12 ▪ Ko‘oko‘olau (*Bidens micrantha*
 13 *ssp.kalealaha*), an endangered plant
- 14 ▪ Hawaiian red-flowered geranium
 15 (*Geranium multiflorum*), an
 16 endangered plant
- 17 ▪ Hilo ischaemum (*Ischaemum*
 18 *byrone*), an endangered plant

19
 20 The ongoing programmatic section 7
 21 consultation between the National Park
 22 Service and U.S. Fish and Wildlife Service
 23 (USFWS) will address in more detail these
 24 species and include mitigation measures that
 25 would apply to all of the alternatives in this
 26 document. (See “Relationship of Other
 27 Planning Efforts to this Plan” later in
 28 Chapter 1 for more on the programmatic
 29 section 7 consultation.)

30
 31 **Note:** If the mitigation measures would
 32 affect the proposed commercial services in
 33 ways that were not foreseen, then this plan
 34 would be modified as appropriate.

35
 36 **Soundscapes.** NPS *Management Policies*
 37 *2006* (4.9) require NPS managers to strive to
 38 preserve the natural quiet and natural
 39 sounds associated with the physical and
 40 biological resources (for example, the
 41 sounds of birds and flowing water). The
 42 natural soundscape (i.e., natural quiet) in
 43 Haleakalā National Park is a special resource
 44 to many park visitors. The preservation of
 45 natural quiet at Haleakalā National Park has
 46 been identified as a high priority (NPS
 47 1995b). The soundscape has been affected in
 48 popular use areas, such as at the summit, by
 49 visitors including clients of commercial
 50 services providers. Implementing the action

51 alternatives could alter the soundscape in
 52 one or more areas of the national park. Thus,
 53 this topic was retained for analysis.

54 55 **Cultural Resources**

56 **Archeological Resources.** This topic was
 57 retained because these resources are
 58 possibly being affected by visitors, including
 59 those who are part of commercial services
 60 operations. For example, visitors may create
 61 informal trails outside of defined visitor use
 62 areas. Archeological sites situated in these
 63 areas can be damaged by trampling and
 64 vandalism and artifacts can be subject to
 65 unauthorized collecting.

66
 67 **Historic Structures.** This topic is being
 68 retained because several of the 54 historic
 69 national register-eligible structures in the
 70 park are being affected by visitor use.
 71 Commercial service activities are likely
 72 contributing to these impacts.

73
 74 **Cultural Landscapes.** Two historic
 75 landscapes have been identified within the
 76 park. The 10.6-mile Haleakalā Highway (i.e.,
 77 park road) is a historic cultural landscape
 78 (NPS 2008e) with contributing structures.

79 80 **Ethnographic Resources and Cultural** 81 **Practices**

82 **Ethnographic Resources.** This topic was
 83 retained because areas within Haleakalā
 84 National Park are culturally and spiritually
 85 important to Native Hawaiians and would
 86 be affected by management decisions under
 87 this plan. These areas (traditional cultural
 88 properties) have been used by Native
 89 Hawaiians for a wide range of traditional
 90 activities from pre-European contact (before
 91 1778) to present day.

92
 93 **Cultural Practices.** This topic was retained
 94 because there are several types of traditional
 95 cultural practices that have taken place and
 96 continue to take place within the park in
 97 areas used by commercial services providers.
 98 Some of these practices require silence and

1 solace and may require an uninterrupted
2 view plane and sacred space.

4 **Visitor Use and Experience**

5 **Number and Diversity of Commercial**
6 **Activities.** This topic was retained because
7 the number and diversity of commercial
8 services provided has contributed to
9 crowding, visitor conflicts, safety issues, and
10 competition for limited space for
11 commercial tour groups, especially in the
12 summit area. The Kīpahulu area has also
13 been affected by tour vans and buses of
14 various sizes competing for limited parking
15 space, resulting in congestion and frustration
16 for noncommercial users.

17
18 **Access and Quality of Experience.** This topic
19 has been retained because large crowds in
20 the summit area are believed to detract from
21 the quality of the sunrise experience and
22 from visitors understanding of the area as a
23 sacred place. Congestion has also occurred
24 at the Kīpahulu area and is a topic of
25 concern.

26
27 **Opportunities for Solitude and Quiet.** This
28 topic was retained because opportunities for
29 solitude and quiet are critical to the essential
30 nature of Haleakalā National Park and for
31 private traditional ceremonies. These
32 opportunities have been disrupted by noise
33 from motor vehicles, commercial tours, and
34 other human activities.

35
36 **Interpretation and Education.** This topic was
37 retained because some commercial use
38 groups have provided clients with inaccurate
39 or insufficient information that is not
40 consistent with the park's mission or NPS
41 interpretive standards. Without receiving
42 adequate information about the park's
43 natural resources and safe behavior,
44 commercial visitors are believed to be
45 contributing to natural resource impacts and
46 may be affecting the safety and experience of
47 other visitors.

48
49 **Public Health and Safety.** This topic was
50 retained because the health and safety

51 practices of commercial use groups can have
52 an impact not only on the clients using the
53 service, but also on other visitors in the area.
54 Health and safety of visitors is one of the
55 major responsibilities of the National Park
56 Service. In particular, the National Park
57 Service has a responsibility to identify public
58 safety hazards and risks and to determine
59 how and to what extent these risks can be
60 mitigated. The proposed actions included in
61 the alternatives would affect management of
62 commercial services, including the
63 information provided by them to their
64 patrons, activities they offer, and use levels,
65 all of which potentially can affect the health
66 and safety of visitors in the park.

67
68 **Bicycle Use.** This topic was retained because
69 bicycle tours from the summit area have led
70 to a variety of health and safety incidents,
71 having an impact not only on clients using
72 the service, but also on other visitors in the
73 area.

74 75 **Socioeconomic Environment**

76 Haleakalā National Park plays a major role
77 in the Maui economy, given the number of
78 visitors to the park and associated visitor
79 spending. The proposed actions in the
80 alternatives may affect the local economy of
81 the island of Maui, Hawai'i, and the
82 commercial service providers whose
83 livelihood is connected to the park. Thus,
84 this topic was retained for analysis.

85 86 **Park Operations**

87 The impacts on park operations are analyzed
88 in this plan because the actions in the
89 alternatives could result in changes in park
90 management of commercial services, which
91 in turn would have long-term implications
92 for the park's staffing, workloads, and
93 funding requirements.

1 **IMPACT TOPICS DISMISSED FROM**
2 **FURTHER CONSIDERATION**

3 **Air Quality**

4 The National Park Service has a
5 responsibility under the Clean Air Act to
6 protect its natural resources from the
7 adverse effects of air pollution. NPS
8 *Management Policies 2006* states that the
9 National Park Service will seek to perpetuate
10 the best possible air quality in parks because
11 of its importance to visitor enjoyment,
12 human health, scenic vistas, and the
13 preservation of natural systems and cultural
14 resources.

15
16 Haleakalā National Park is designated a class
17 I air quality area under the Clean Air Act
18 (NPS 2006a). Air quality in Haleakalā
19 National Park is generally excellent, with
20 few human-made sources of air pollution
21 nearby. The largest source of air pollution is
22 the Kīlauea volcano on the island of Hawai‘i,
23 approximately 80 miles to the southeast.
24 Volcanic gases and particles are periodically
25 transported by southeasterly winds to the
26 park, affecting air quality and visibility.
27 Anthropogenic sources like power
28 generation stations, sugar cane processing
29 facilities, field burning, automobiles, large
30 trucks, and buses can also affect local air
31 quality.

32
33 Dust from horse tours can affect local air
34 quality for short periods of time, but these
35 impacts on the park’s overall air quality are
36 negligible. None of the alternatives proposed
37 for the management of commercial services
38 at Haleakalā National Park would
39 measurably affect local air quality. No
40 construction is proposed. No large-scale
41 increases in vehicle numbers would be
42 anticipated as a result of the alternatives.
43 Therefore, air quality was dismissed from
44 analysis.

45
46 **Lightscape Management**

47 NPS *Management Policies 2006* states that
48 the National Park Service will preserve, to

49 the greatest extent possible, the natural
50 lightscapes of parks, including natural
51 darkness. The agency strives to minimize the
52 intrusion of artificial light into the night
53 scene. None of the actions proposed in the
54 alternatives would result in new structures
55 or require nighttime lighting. Since the
56 alternatives would have no effect on the
57 park’s lightscapes, this topic was dismissed
58 from further analysis.

59
60 **Water Resources**

61 Unique or pristine water resources at
62 Haleakalā National Park include streams,
63 springs, and coastal waters in the Kīpahulu
64 coastal area and sub-alpine lakes. Inland
65 surface waters are designated by the state of
66 Hawai‘i as “1a”—prohibiting pollution by
67 humans and requiring maintenance of their
68 natural wilderness character. This same
69 protection is extended to marine waters
70 classed as AA and marine bottom ecosystems
71 category II. As of 2004, there were no water
72 bodies within the park that were listed as
73 impaired by the state of Hawai‘i (NPS
74 2006c).

75
76 Swimming may be having a negligible to
77 minor adverse effect on water quality in
78 some areas of the park, but none of the
79 actions proposed in the alternatives would
80 likely change the water quality in fresh or
81 marine waters in or adjacent to the park.
82 Thus, this topic was dismissed from further
83 analysis.

84
85 **Wetlands and Floodplains**

86 Executive Orders 11990, “Protection of
87 Wetlands” and 11988, “Floodplain
88 Management,” and NPS Director Orders 77-
89 1: *Wetland Protection* and 77-2: *Floodplain*
90 *Management* require analysis of impacts on
91 floodplains and regulated wetlands. Wetland
92 bogs and ponds are located within the
93 Kīpahulu Valley Biological Reserve Area.
94 This area is closed to entry and is outside the
95 area of potential effect. There are no other
96 wetlands regulated under the provisions of
97 section 404 of the Clean Water Act or areas

1 designated as wetlands using the
 2 classification system of the U.S. Fish and
 3 Wildlife Service (1979) within the areas of
 4 potential effect. Therefore, wetlands are
 5 dismissed from analysis. Likewise, none of
 6 the alternatives proposed in this plan would
 7 affect the floodplain or drainage functions of
 8 ‘Ohe‘o Gulch.

9
 10 **Fish and Wildlife (excluding**
 11 **two threatened and endangered**
 12 **bird species)**

13 Under NPS *Management Policies 2006*, the
 14 National Park Service strives to maintain
 15 natural components and processes of park
 16 unit ecosystems, including the natural
 17 abundance, diversity, and ecological
 18 integrity of plants and animals. As the
 19 majority of Haleakalā National Park is
 20 managed as wilderness, fish and wildlife
 21 were not addressed as independent topics;
 22 these subjects are components of the
 23 definition for wilderness and would be
 24 included as such. Some feeding of wildlife by
 25 visitors, including commercial visitors,
 26 occurs. It is expected with additional
 27 education of guides and their clients, this
 28 practice would be minimized. Thus, none of
 29 the alternatives would likely have greater
 30 than a negligible effect on the park’s fish and
 31 wildlife populations. None of the
 32 alternatives would measurably affect wildlife
 33 habitat in the park. Therefore, this topic was
 34 dismissed from further analysis.

35
 36 **Ecologically Critical Areas or**
 37 **Other Unique Natural Resources**

38 The Nationwide Rivers Inventory identified
 39 Palikeya Stream, including ‘Ohe‘o Gulch as
 40 having potential for inclusion in the National
 41 Wild and Scenic Rivers System (NPS 1995a).
 42 None of the alternatives would affect the
 43 flow, scenic nature, or function of these
 44 streams. In addition, the alternatives would
 45 not affect any designated ecologically critical
 46 areas or other unique natural resources, as
 47 referenced in the Wild and Scenic Rivers Act
 48 (40 CFR 1508.27) or the criteria for national

49 natural landmarks, as these sensitive
 50 resources are located within portions of the
 51 park that are designated as the Kīpahulu
 52 Valley Biological Reserve and are beyond the
 53 bounds of visitor and commercial use. Thus,
 54 this topic was dismissed from further
 55 consideration.

56
 57 **Prime and Unique Farmlands**

58 Prime farmlands are defined as lands that
 59 have the best combination of physical and
 60 chemical characteristics for producing food,
 61 feed, forage, fiber, and oilseed crops and are
 62 available for these uses. Prime farmlands
 63 have the soil quality, growing season, and
 64 moisture supply needed to produce
 65 economically sustained high yields of crops
 66 when treated and managed according to
 67 acceptable farming methods, including
 68 water management. In general, prime
 69 farmlands have an adequate and dependable
 70 water supply from precipitation or irrigation,
 71 a favorable temperature and growing season,
 72 acceptable acidity or alkalinity, acceptable
 73 salt and sodium content, and few or no
 74 rocks. Unique farmlands are lands other
 75 than prime farmland that are used for the
 76 production of specific high value food and
 77 fiber crops.

78
 79 No prime or unique farmlands are part of
 80 Haleakalā National Park (USDA-NRCS
 81 2006). Some lands in the park are farmed
 82 using traditional practices, but for
 83 interpretive purposes only. Thus, this impact
 84 topic was dismissed from further
 85 consideration.

86
 87 **Wilderness Character**

88 Approximately 74% of the park (24,719
 89 acres) is designated wilderness, managed
 90 under the Wilderness Act of 1964. This topic
 91 was dismissed because no actions are being
 92 proposed that would affect the wilderness
 93 area. (Commercial services in the wilderness
 94 area will be addressed in a wilderness
 95 stewardship plan.)

1 **Museum Collections**

2 Guidance provided by NPS *Management*
3 *Policies 2006* (NPS 2006c) and NPS-28,
4 *Cultural Resource Management Guideline*
5 (NPS 1998) mandates that a park’s
6 irreplaceable museum items, archival
7 materials, photographs, natural and cultural
8 specimens, artifacts, and other collections be
9 protected from threats by human actions or
10 natural physical processes. The park
11 collections currently are housed in an
12 environment that protects them from
13 degradation or damage, maintains their
14 regional context and research value, and
15 provides access for scholars. None of the
16 alternatives would affect the park museum
17 collections. Thus, this topic was dismissed
18 from further evaluation.

20 **Indian Trust Resources**

21 Indian trust assets are owned by American
22 Indians but are held in trust by the United
23 States. Requirements for management of
24 these assets are included in the Secretary of
25 the Interior’s Secretarial Order 3206,
26 “American Indian Tribal Rites, Federal-
27 Tribal Trust Responsibilities, and the
28 Endangered Species Act” and Secretarial
29 Order 3175, “Departmental Responsibilities
30 for Indian Trust Resources.” Indian trust
31 assets do not occur within Haleakalā
32 National Park. Therefore, there would be no
33 effect on Indian trust resources resulting
34 from implementation of any of the
35 alternatives.

37 **Environmental Justice**

38 Executive Order 12898, “General Actions to
39 Address Environmental Justice in Minority
40 Populations and Low-Income Populations,”
41 requires all federal agencies to incorporate
42 environmental justice into their missions by
43 identifying and addressing the
44 disproportionately high or adverse human
45 health or environmental effects of their
46 programs and policies on minorities and
47 low-income populations and communities.

48 According to the Environmental Protection
49 Agency (EPA), environmental justice is the
50
51 . . . fair treatment and meaningful
52 involvement of all people, regardless
53 of race, color, national origin, or
54 income, with respect to the
55 development, implementation, and
56 enforcement of environmental laws,
57 regulations and policies. Fair
58 treatment means that no group of
59 people, including a racial, ethnic, or
60 socioeconomic group, should bear a
61 disproportionate share of the negative
62 environmental consequences resulting
63 from industrial, municipal, and
64 commercial operations or the
65 execution of federal, state, local, and
66 tribal programs and policies (EPA
67 1999).

69 The goal of fair treatment is not to shift risks
70 among populations, but to identify
71 potentially disproportionately high and
72 adverse effects and identify alternatives that
73 may mitigate these impacts. There are both
74 minority and low-income populations in the
75 general vicinity of Haleakalā National Park.
76 Commercial services use the same areas
77 Native Hawaiians use to conduct traditional
78 cultural practices. These impacts will be
79 analyzed under the cultural resources impact
80 topic. None of the alternatives being
81 considered would have a disproportionately
82 high or adverse effect on any minority or
83 low-income population or community. This
84 conclusion is based on the following
85 information:

- 87 ■ The planning team actively solicited
88 public comments during the
89 development of the commercial
90 services plan and gave equal
91 consideration to all input from
92 persons, regardless of age, race, sex,
93 income status, or other
94 socioeconomic or demographic
95 factors.

- 1 ▪ No impacts were identified that
2 would substantially alter the physical
3 and social structure of the nearby
4 communities.

5 6 **Conflicts with Land Use Plans, 7 Policies, or Controls**

8 Whenever actions taken by the National
9 Park Service have the potential to affect the
10 planning, land use, or development patterns
11 of adjacent or nearby lands, the effects of
12 these actions must be considered. The
13 project area for the commercial services plan
14 would not affect land development or plans
15 in areas outside the park. Therefore, none of
16 the alternatives addressed in this assessment
17 would have the potential to affect other land
18 use plans, policies, or controls beyond the
19 park's boundary.
20

21 **Energy Requirements and 22 Conservation Potential**

23 Under any alternative, the National Park
24 Service would continue to implement its
25 policies of reducing costs, eliminating waste,
26 and conserving resources by using energy-
27 efficient and cost-effective technology
28 (NPS 2006c). Irrespective of this plan, NPS
29 staff would continue to look for energy-
30 saving opportunities in all aspects of park
31 operations. The proposed alternatives also
32 would not include additional infrastructure
64

33 or facilities. Although there would be
34 differences in the number of commercial
35 vehicles operating in the various alternatives,
36 only minor changes in overall energy
37 consumption in the park would be expected
38 due to the alternatives. Therefore, this topic
39 was dismissed from further analysis.
40

41 **Natural or Depletable Resource 42 Requirements and Conservation 43 Potential**

44 As directed by NPS *Management Policies*
45 *2006*, the National Park Service strives to
46 minimize the short- and long-term,
47 environmental impacts of development and
48 other activities through resource
49 conservation, recycling, waste minimization,
50 and the use of energy-efficient and
51 ecologically responsible materials and
52 techniques. None of the alternatives being
53 considered would result in the extraction of
54 resources from the park. The alternatives
55 would not include new development.
56 Therefore, this topic was dismissed from
57 further analysis.
58

59 **Quality of Built Environment**

60 No facility construction or development is
61 included in the alternatives for this plan.
62 Therefore, quality of the built environment
63 was dismissed from further analysis.

1
2
3
4

RELATIONSHIP OF OTHER PLANNING EFFORTS TO THIS PLAN

5 **NATIONAL PARK SERVICE PLANS**

6 Several NPS plans and documents have
7 influenced this plan or would be influenced
8 by this plan when it is approved. Some of
9 these plans are described briefly here, along
10 with their relationship to this plan.
11

12 **General Management Plan /**
13 **Environmental Impact Statement**
14 **(1995)**

15 This plan has been the park’s guiding
16 document since 1995. It provided an overall
17 parkwide management direction; zoned the
18 park; and provided broad strategies for
19 resource management, visitor use, future
20 facility development, and proposed
21 additions to the park. The plan provided
22 specific directions for management of the
23 West Crater Rim and the Kīpahulu coastal
24 areas. User capacities were identified for
25 these areas. For the West Crater Rim, a
26 preliminary capacity of about 250 persons at
27 any one time was set, although it also was
28 noted that this capacity could change. The
29 general management plan also stated there
30 would be no expansion of parking area size
31 in the crater rim area. For the Kīpahulu
32 coastal area overnight capacity was set at
33 about 120 people and day use capacity was
34 set at 1,300 persons per day. The general
35 management plan provided the overall
36 direction for this commercial services plan—
37 the directions in this detailed
38 implementation plan tier off the general
39 management plan.
40

41 **Interim Operations Plan for Sunrise**
42 **(2005)**

43 This temporary plan was instituted to ensure
44 safe use of the three parking areas at the

45 summit and to ensure emergency vehicle
46 access to these areas during the sunrise
47 period. It allocated the use of the limited
48 number of spaces between commercial and
49 noncommercial users. It also froze the
50 number of commercial use authorizations
51 for bicycle tours. Originally implemented in
52 2005, this interim operations plan
53 subsequently was modified, in 2007 and
54 2008, to address changes in permitted
55 commercial use. This commercial services
56 plan replaces all of the provisions of the 2005
57 interim operations plan. (See appendix A for
58 more details on the interim operations plan.)
59

60 **Superintendent’s Compendium**
61 **(2007)**

62 This is a list of designations, closures, permit
63 requirements, and use restrictions
64 promulgated under the discretionary
65 authority of the superintendent. The
66 compendium covers public use limits; public
67 closures and area designations for specific
68 uses or activities; a list of activities that
69 require a NPS permit; regulations regarding
70 preservation of natural, cultural, and
71 archeological resources; and general
72 regulations regarding resource protection,
73 public use, vehicles and traffic safety, and
74 commercial and private operations, among
75 other topics. The compendium would be
76 modified as necessary to reflect any changes
77 resulting from implementation of this
78 commercial services plan.
79

80 **Haleakalā National Park Business**
81 **Plan (2008)**

82 This plan describes the current financial and
83 operational conditions, opportunities, and
84 challenges facing Haleakalā National Park. It
85 documents the breadth of responsibilities
86 undertaken by each of the park’s functional

1 areas and discusses how the park allocates its
 2 resources, based on fiscal year (FY) 2007
 3 expenditures and operations. The plan
 4 outlines park priorities and opportunities for
 5 the next three to five years and specific
 6 actions that the park plans to undertake to
 7 achieve these goals. It also provides analyses
 8 of strategies for the park to consider while
 9 expanding visitor services, resource
 10 protection responsibilities, and partnership
 11 opportunities. With regard to commercial
 12 services, the plan sets a priority for finalizing
 13 and implementing the commercial services
 14 plan. The business plan calls for a
 15 preauthorized debit program (or automatic
 16 payment option) for all commercial use
 17 authorization holders, which would allow
 18 NPS staff to track commercial tour-provider
 19 entrance fees on a weekly basis and
 20 automatically debit the provider’s bank
 21 account. The plan also notes the need for
 22 rehabilitation of Sliding Sands Trail,
 23 establishment of a training and certification
 24 program for commercial tour guides, and the
 25 provision of a handbook for tour
 26 participants. All of the proposed actions in
 27 the commercial services plan are consistent
 28 with the business plan.

29
 30 **Kīpahulu District Comprehensive**
 31 **Site Plan, Design Program,**
 32 **and Environmental Assessment**
 33 **(in progress)**

34 This site plan would provide direction for
 35 the future of facilities at Kīpahulu. The site
 36 plan focus would be on improving visitor
 37 experience, natural and cultural resource
 74

38 protection, and park operations. Specific
 39 elements that may be considered in the site
 40 plan include emergency landing zone area,
 41 law enforcement housing, improvements to
 42 the base yard (maintenance, resource
 43 storage, and work areas), expanding or
 44 moving the visitor center, expanding storage,
 45 maintenance staff housing, off-
 46 grid/sustainable utility improvements,
 47 improved overflow parking, improvements
 48 to the campground, and trail improvements
 49 (e.g., making trails accessible, improving
 50 circulation and flow). Although this plan will
 51 affect facilities used by tour groups, no
 52 actions are being proposed that would affect
 53 the nature or number of tour groups using
 54 the area—the actions in this commercial
 55 services plan are consistent with actions
 56 being considered in the site plan.
 57
 58

59 **SECTION 7 PROGRAMMATIC**
 60 **CONSULTATION**

61 The National Park Service initiated
 62 Endangered Species Act programmatic
 63 section 7 consultation with the U.S. Fish and
 64 Wildlife Service in 2011 for all NPS
 65 management activities at Haleakalā National
 66 Park. This consultation is covering all the
 67 species that are analyzed in this document,
 68 as well as other listed species that are
 69 affected by NPS management. The U.S. Fish
 70 and Wildlife Service agreed that work can
 71 continue on the commercial services plan
 72 while the programmatic consultation
 73 proceeds.

1 **BACKGROUND RELATED TO DEVELOPMENT**
2 **OF THE COMMERCIAL SERVICES PLAN**

3
4
5 **HISTORY OF THE PLANNING EFFORT**

6 To address public health and safety and
7 visitor protection issues created by the large
8 number of commercial and private vehicles
9 attempting to park at the Haleakalā summit
10 to view the sunrise, in fall 2005, the park staff
11 implemented the *Commercial Use at Sunrise*
12 *Interim Operations Plan*. This plan was
13 intended to provide for safe use of the
14 limited parking available during the sunrise
15 viewing period. Available parking was
16 allocated during that time period between
17 commercial and noncommercial users based
18 on prior use and was then allocated further
19 among the commercial users based on
20 historical commercial activity (see appendix
21 A). The interim plan was intended to remain
22 in effect until a more permanent solution
23 was determined through a commercial
24 services plan.

25
26 Work on the commercial services plan began
27 in summer 2006. After public scoping
28 meetings were held in October 2006, the
29 NPS planning team began developing
30 alternatives and writing the plan and its
31 accompanying environmental assessment.

32
33 In March 2010, a newsletter was distributed
34 to the public, which provided an update on
35 the planning process and described the
36 preliminary alternatives being considered by
37 the planning team. The newsletter requested
38 public feedback on the preliminary
39 alternatives. Two public meetings were also
40 held to obtain feedback on the alternatives.

41
42 Several key elements have shaped the
43 development of the commercial services
44 plan, many of which have been identified
45 earlier in this chapter (e.g., laws and policy,
46 park purpose and significant statements,
47 comments from the public, consultations
48 with the park’s Kūpuna groups).

49 Information on the details of the
50 consultation and coordination that has
51 occurred during this planning process is
52 provided in “Chapter 5: Consultation and
53 Coordination.”

54
55 In addition to the above elements, several
56 studies have contributed to this plan, and the
57 National Park Service has taken several steps
58 to address issues related to commercially
59 guided downhill bicycle tours in the park, as
60 described below.

61
62
63 **HISTORY OF MANAGEMENT**
64 **OF COMMERCIAL DOWNHILL**
65 **BICYCLE TOURS**

66 Beginning in 1983, bicycle touring
67 companies were permitted to provide tours
68 in the park. Usually tour operators drove
69 their clients up to the Haleakalā summit to
70 view the sunrise. Then, beginning at the
71 crater parking lot, visitors rode their bicycles
72 down the Haleakalā Highway through the
73 park and continued outside the park (see
74 “Chapter 3: Affected Environment” for more
75 details). This use grew rapidly in popularity
76 over the years, as did the number of other
77 commercial and private vehicles parking at
78 the summit to watch the sunrise. By 2005,
79 106,000 clients were participating in the
80 guided downhill bicycle tours per year. In
81 2006, bicycle tour clients composed 6% of
82 the park’s total recreational visits.

83
84 As use levels grew, the resulting congestion
85 at the summit during sunrise created access
86 issues due to a lack of parking spaces,
87 impeded traffic, and impeded access by
88 emergency vehicles, and caused resource
89 impacts involving overflow of visitors into
90 critical habitat and off-trail areas.

1 Commercial bicycle tours also had a history
2 of serious accidents and injuries, including
3 two fatalities, generating public health and
4 safety concerns. In addition, impacts
5 occurred to the soundscape and
6 ethnographic resources. These effects
7 contributed to increasing negative
8 perceptions of the park by Native
9 Hawaiians.

10
11 To address the public health and safety and
12 visitor protection issues created by the large
13 number of commercial and private vehicles
14 attempting to park at the Haleakalā summit
15 to view the sunrise, the National Park
16 Service implemented the *Commercial Use at
17 Sunrise: Interim Operations Plan* in fall 2005
18 (see appendix A). The purpose of this plan
19 was to provide for safe use of the limited
20 parking available during the sunrise viewing
21 period and was intended to be in effect until
22 a more permanent solution was determined
23 through a commercial services plan for the
24 park.

25
26 On September 26, 2007, a park visitor
27 participating in a commercially guided
28 downhill bicycle tour was killed after she
29 lost control of her bicycle on the downhill
30 run from the Haleakalā summit and was
31 struck by a vehicle operated by another
32 commercial downhill bicycle tour. This
33 fatality was one of a series of serious injuries
34 and fatalities that had occurred within a 12-
35 month period at the park during
36 commercially guided downhill bicycle tours.

37
38 In keeping with the responsibility to identify
39 public safety hazards, determine how and to
40 what extent these risks can be mitigated, and
41 comply with applicable legal authorities, on
42 October 10, 2007, Superintendent Marilyn
43 Parris ordered an emergency safety stand-
44 down and termination of commercial use
45 authorizations for commercially guided
46 downhill bicycle tours in the park. The
47 superintendent also requested that Regional
48 Director (now NPS Director) Jonathan B.
49 Jarvis appoint a team to conduct a safety
50 analysis of these tours (NPS 2008a). The
51 safety evaluation focused on if and how
52 commercially guided downhill bicycle tours

53 may be operated within the park so as to
54 maintain public health and safety and to
55 protect park visitors.

56
57 The safety evaluation was completed in the
58 spring of 2008, with the issuance of reports
59 by a NPS safety analysis team (NPS 2008a),
60 an NPS board of review (NPS 2008b), and
61 the park staff (NPS 2008c). The analysis
62 showed that bike tours as operated prior to
63 the safety stand-down posed an
64 unacceptably high risk to park visitors.
65 Among the factors contributing to this high
66 risk were a complex and demanding
67 environment to operate a bicycle, the wide
68 range of clients who participate (including
69 those who do not possess the skill and ability
70 to operate a bicycle in this environment),
71 lack of or poor supervision in conducting
72 the tours, and lack of fitness of clients (NPS
73 2008a).

74
75 On March 10, 2008, the park superintendent
76 issued a decision on the implementation of
77 the board of review's findings and
78 recommendations (NPS 2008d) (see
79 appendix B). The decision was made to use
80 the ongoing commercial services planning
81 process to evaluate the impacts on park
82 resources and values that could result from
83 the risk-mitigating conditions suggested in
84 the board of review's report. The
85 commercial services planning process would
86 be used to examine a different type of bike
87 tour experience, which would incorporate
88 recommendations from the board of review
89 to help mitigate the risks of the bike tours.
90 The superintendent further determined that
91 until the commercial services planning
92 process is completed, the safety stand-down
93 of all commercially guided downhill bicycle
94 tours in the park would continue.

95
96 The emergency stand-down on
97 commercially guided downhill bicycle tours
98 has remained in effect for over three years.
99 Visitors seeking a commercially led bicycle
100 tour in the park no longer have this
101 opportunity. Although most of the
102 commercial bicycle tour operators continue
103 to provide tours in the park, the tours now
104 operate as road-based tours in the park and

1 launch bicycle tours just outside of the park
2 boundary.

5 VISITOR RESEARCH STUDIES

6 Research and park data collection efforts
7 were used to identify resource and visitor
8 experience issues, including those issues
9 specifically related to commercial services.

10 The studies also identified some possible
11 adaptive management strategies that could
12 be implemented to address unacceptable
13 impacts to park resources and visitor
14 experiences.

15
16 In 2007, a series of visitor studies was done
17 to support management of visitor use and
18 resource protection in the park (NPS 2009a;
19 NPS 2006b; VPI 2007a; VPI 2007b; VPI
20 2008a; VPI 2008b). One of the studies
21 (Marion and Hockett 2009) was an
22 assessment of visitor-related resource
23 impacts at attraction sites and trails that have
24 diverse types and levels of use, including
25 commercial services. This study
26 documented baseline conditions for trails

54

27 and recreation sites and the distribution of
28 some visitor uses.

29

30 Other relevant visitor studies include a
31 visitor study (University of Vermont 2004)
32 and a transportation study (NPS 1995b)
33 evaluated use types and levels, along with
34 visitor preferences and expectations in the
35 summit area of the park. The visitor study
36 also included a survey of downhill bicycle
37 tour participants to evaluate visitor
38 motivations and preferences and to evaluate
39 existing conditions.

40

41 A 2000 visitor survey (University of Idaho
42 2000) included respondents from both
43 Kīpahulu and the summit areas of the park.
44 It examined topics such as visitor use
45 patterns, demographics, trip motivations,
46 and preferences.

47

48 Other relevant information used in
49 considering the commercial services plan
50 alternatives came from park records and
51 other unpublished sources. These included
52 data on visitor complaints, use levels, safety
53 incidents, and commercial use statistics.

NEXT STEPS AND IMPLEMENTATION OF THE PLAN

THE NEXT STEPS

After the distribution of the *Haleakalā National Park Draft Commercial Services Plan / Environmental Assessment*, there will be a 60-day public review and comment period, after which the NPS planning team will evaluate comments from other federal agencies, tribes, organizations, businesses, and individuals regarding the draft plan and make revisions as appropriate. After this public review, the plan may be approved with a “Finding of No Significant Impact,” assuming there are no significant impacts identified during public review. If significant impacts are identified, a notice of intent to initiate an environmental impact statement may be prepared.

IMPLEMENTATION OF THE PLAN

Many of the actions in this plan can be implemented immediately following the completion of the planning process. However, some actions will be phased in, depending on future NPS funding and staff workloads, e.g., requiring all guides to receive training and being certified by NPS staff so as to provide a guidebook to clients. The approval of a plan does not guarantee that the funding and staffing needed to implement the plan will be forthcoming. Other NPS management actions will depend on visitor use patterns; unanticipated environmental changes; actions of commercial services providers, such as how many providers apply for various commercial use authorizations; and monitoring of visitor experiences and resource conditions.

To be useful the commercial services plan must be flexible. To protect park resources and the quality of the visitor experience, changes may be made to this plan after its

publication. Group size limits, client-to-guide ratios, trail use, and other specifications may be revised in response to new information, such as assessments of impacts to resources, the update of the park’s general management plan, and changes in park programs. Approved activities, if found incompatible with resource protection, visitor enjoyment, and/or safety, may be suspended or terminated.

Adaptive Management
Adaptive management consists of a series of repeating incremental steps: (1) collect information on an existing problem, (2) analyze it, (3) propose appropriate interventions, (4) implement the interventions, (5) monitor the interventions, and, if needed, (6) propose and implement additional interventions to address the problem.

Adaptive management will be employed by park staff in response to changes that occur during the life of this plan. Depending on the nature of changes that occur, the National Park Service would either take additional actions consistent with the management directions in this plan or, if necessary, amend or replace the plan. Possible adjustments might include, but are not limited to

- adjusting the number of commercial use authorizations or concession contracts
- adjusting the number and/or types of trips
- changing or eliminating the locations where the activity could occur
- eliminating an activity entirely

In all cases, appropriate environmental compliance would occur before new actions are taken.

ALTERNATIVES, INCLUDING
THE PREFERRED ALTERNATIVE

2



INTRODUCTION

1

2

3

4 This chapter describes four alternatives for
5 managing commercial services in Haleakalā
6 National Park excluding wilderness over the
7 next 10–15 years. The four alternatives
8 embody the range of what the public and
9 National Park Service want to see
10 accomplished in providing for commercial
11 services while protecting resource
12 conditions and ensuring high quality visitor
13 experiences. Alternative A (no-action
14 alternative) presents a continuation of
15 current management direction and is
16 included as a baseline for comparing the
17 consequences of implementing each
18 alternative. The action alternatives are
19 alternatives B, C, and D. These alternatives
20 present different ways to manage
21 commercial services in the park.

22

23

Commercial Services and Wilderness

All of the alternatives in this plan exclude the Haleakalā Wilderness. As noted in chapter 1, a wilderness stewardship plan will address management of commercial services, including a decision on whether commercial services should be limited in the Haleakalā Wilderness. In the interim, until the wilderness stewardship plan is completed, no new commercial providers or uses would be permitted in the wilderness area.

24

25

26 As noted in chapter 1, the National Park
27 Service would continue to follow existing
28 servicewide mandates, laws, and policies
29 regardless of the alternatives considered in
30 this plan. These mandates and policies are
31 not repeated in this chapter.

32

33 Before describing the alternatives, this
34 chapter briefly explains how the alternatives
35 were developed, including the key
36 assumptions that guided their development
37 and how the preferred alternative was
38 identified. Also presented are park-specific
39 evaluation criteria for determining whether
40 commercial services in the park are
41 appropriate or necessary. After the

42 alternatives are described, mitigation
43 measures that would be used to reduce or
44 avoid impacts are listed, the environmentally
45 preferable alternative is identified, and
46 several actions or alternatives are noted that
47 the planning team considered but dismissed.
48 At the end of the chapter, two tables
49 summarize the key differences among the
50 alternatives and the differences in impacts
51 that would be expected from implementing
52 each alternative based on the analysis in
53 “Chapter 4: Environmental Consequences.”

54

55

56 **FORMULATION OF THE** 57 **ALTERNATIVES**

58 As noted in chapter 1, many elements guide
59 the management of commercial services in
60 Haleakalā National Park, including the
61 park’s purpose, significance and mission
62 statements, and servicewide mandates and
63 policies. The management directions in the
64 1995 general management plan also guide
65 the management of commercial services. In
66 particular, the 1995 plan directed that there
67 would be no expansion of parking area sizes
68 in the crater rim area. Within these
69 parameters, the planning team solicited
70 input from the public, NPS staff,
71 governmental agencies, the park’s Kūpuna,
72 commercial services providers, and others
73 regarding issues and desired conditions for
74 commercial services in the park. Newsletters
75 were distributed to the public describing
76 preliminary alternatives and requesting
77 public feedback, and several public meetings
78 were held on the preliminary alternatives
79 (see chapter 5 and appendix D). Planning
80 team members also gathered information
81 about existing commercial services, visitor
82 use, and condition of the park’s facilities and
83 resources.

84

85 Using the above information, the planning
86 team went through the following process to

1 identify alternatives that would improve the 46
 2 current management of commercial services 47
 3 at Haleakalā National Park: 48
 4 49
 5 ■ current services were evaluated to 50
 6 determine if they were necessary 51
 7 and/or appropriate 52
 8 ■ themes or management concepts 53
 9 were identified for potential action 54
 10 alternatives 55
 11 ■ specific actions were identified for 56
 12 the alternative themes 57
 13 58
 14 These elements helped to further refine the 59
 15 action alternatives. They also will serve as 60
 16 the basis for adaptive management to ensure 61
 17 that the plan is flexible when needed to 62
 18 protect resources and maintain a high 63
 19 quality experience for all park visitors 64
 20 including commercial services patrons. 65
 21 66
 22

As noted in chapter 1, the alternatives in this plan focus on commercial tours. The sale of convenience items by the Hawai'i Natural History Association in the park visitor center and the sale of self-made handicrafts by the nonprofit Kīpahulu Ohana Inc. are not addressed in these alternatives.

23
 24
 25 The four alternatives described in this 67
 26 chapter embody the range of technically and 68
 27 economically feasible alternatives with 69
 28 regard to commercial services, more broadly 70
 29 visitor uses and experiences, and natural and 71
 30 cultural resource conditions in the 72
 31 nonwilderness portions of Haleakalā 73
 32 National Park. The three action alternatives 74
 33 are intended to effectively and efficiently 75
 34 manage commercial services and address, at 76
 35 the same level, the issues associated with 77
 36 commercial services. The alternatives seek to 78
 37 incorporate both resource protection and 79
 38 visitor opportunities and were developed to 80
 39 be functional and viable. All of the action 81
 40 alternatives are intended to achieve the 82
 41 following desired conditions: 83
 42 84
 43 ■ the types of commercial activities 85
 44 sustain thematic, educational, and 86
 45 environmental values 87
 88
 89
 90

- the range of commercial goods and services offered allows visitors to safely enjoy and be satisfied with the availability, accessibility, diversity, and quality of experiences available
- commercial services are comprehensively managed to achieve the mission and goals of the National Park Service
- commercial activities support and complement the values of the park, while enhancing the visitor experience

Although all of the alternatives are consistent with maintaining the park's purpose, significance, and mission, they vary in their focus with regard to opportunities for visitor experience in the park.

67 PLANNING ASSUMPTIONS

68 The planning team made several key 69
 70 assumptions in developing the alternatives in 71
 72 this chapter. These assumptions helped 73
 74 shape the alternatives the planning team 75
 76 considered: 77

- No major changes in overall visitor use levels, patterns, or distributions from current conditions are expected during the planning horizon (10–15 years).
- The summit and Kīpahulu areas would continue to be the primary destinations for most commercial visitors; relatively few commercial visitors would go outside of these areas. Peak use times at sunrise at the summit and peak times at Kīpahulu would not change.
- Sunrise hours at the summit are defined as starting a half hour before sunrise and ending a half hour after sunrise.

- 1 ▪ There would continue to be interest
- 2 from the public in participating in
- 3 guided activities at Haleakalā,
- 4 including hiking, horseback riding,
- 5 astronomy, and bicycling.
- 6 ▪ Parking stalls reserved for
- 7 commercial providers at the summit
- 8 can accommodate up to three vans,
- 9 two minibuses, or one motor coach.
- 10 ▪ Vans can accommodate up to 15
- 11 people, including guides and driver;
- 12 minibuses can accommodate up to
- 13 25 people; and motor coaches can
- 14 accommodate up to 45 people.
- 15 ▪ Although actions would be taken to
- 16 minimize, avoid, or mitigate adverse
- 17 impacts from tour groups, as is true
- 18 with all uses impacts to some
- 19 resources and/or visitors cannot be
- 20 totally avoided.

23 IDENTIFICATION OF THE

24 PREFERRED ALTERNATIVE

25 The NPS preferred alternative was identified
 26 through a process called “choosing by
 27 advantages” (CBA). Using this process, the
 28 planning team identified and compared the
 29 relative advantages of each alternative
 30 according to a set of factors. The benefits or
 31 advantages of each alternative were
 32 compared for each of the following CBA
 33 factors:

- 34
- 35 ▪ **Protect natural resources:** How
- 36 does the alternative prevent the loss
- 37 of and improve the condition of
- 38 natural resources?
- 39 ▪ **Protect cultural resources:** How
- 40 does the alternative prevent the loss
- 41 of and improve the condition of
- 42 cultural resources?
- 43 ▪ **Provide for visitor enjoyment:**
- 44 How does the alternative provide for
- 45 high quality visitor services,
- 46 education, and recreation tours?

- 47 ▪ **Provide a safe park environment:**
- 48 How does the alternative ensure and
- 49 provide for visitor and staff safety?
- 50 ▪ **Improve efficiency of park**
- 51 **operations:** How does the
- 52 alternative improve operational
- 53 efficiency and sustainability?

54

55 The advantages of each alternative were
 56 considered in identifying the preferred
 57 alternative. The preferred alternative
 58 provides the National Park Service with the
 59 greatest overall benefits for each factor listed
 60 above at the most reasonable cost.

63 NECESSARY AND/OR APPROPRIATE

64 COMMERCIAL SERVICES

65 Commercial services may take place with a
 66 unit of the national park system only under
 67 certain defined and limited circumstances.
 68 The national park system has been
 69 established and is preserved and managed
 70 for the benefit and inspiration of the people
 71 of the United States. The NPS Organic Act
 72 and the NPS General Authorities Act
 73 mandate that park resources and values are
 74 to be conserved and are to be provided for
 75 enjoyment in such manner and means as will
 76 leave them unimpaired for the enjoyment of
 77 future generations unless a particular law
 78 directly and specifically provides otherwise.

79

80 *NPS Management Policies 2006* provides
 81 guidance on how park resources and values
 82 are to be provided so as to meet these
 83 fundamental management principles of the
 84 acts. The only uses that are to be allowed are
 85 those that (1) are appropriate to the
 86 purposes for which the park was established;
 87 and (2) can be sustained without causing
 88 unacceptable impact (unless otherwise
 89 required by law). A process has been set out
 90 in chapter 8 of the *NPS Management Policies*
 91 *2006* for determining whether a use is
 92 appropriate. That process includes
 93 evaluating a proposed park use for

- 1 1. consistency with applicable laws,
2 executive orders, regulations, and
3 policies
- 4 2. consistency with existing plans for
5 public use and resource management
- 6 3. actual and potential effects on park
7 resources and values
- 8 4. total costs to the National Park
9 Service
- 10 5. whether the public interest will be
11 served

12
13 In addition, park superintendents are to
14 continually monitor and examine all park
15 uses to ensure that unanticipated and
16 unacceptable impacts do not occur.

17
18 To assist in applying this process to
19 commercial services uses within Haleakalā
20 National Park, two sets of more specific
21 evaluation criteria were developed and are
22 stated in table 1. All commercial services
23 must meet the criteria described in table 1 as
24 appropriate in order to be considered
25 appropriate to the purposes for which the
26 park was established. If a commercial service
27 meets the appropriate criteria, then its
28 impacts will be assessed and, if acceptable,

58

29 the commercial service will be evaluated
30 under any other legal eligibility criteria set
31 out in the specific legal authority to be used
32 to authorize that service within Haleakalā
33 National Park (for example, the
34 requirements of 16 USC 5966, if a
35 commercial use authorization).

36
37 Table 1 includes another set of specific
38 evaluation criteria for determining whether a
39 commercial service is necessary. These
40 necessary criteria were developed to provide
41 park-specific criteria for one of the
42 screening elements of the NPS Concessions
43 Management Improvement Act. A public
44 accommodation, facility, or service, among
45 other things, must be necessary and
46 appropriate for public use and enjoyment of
47 the unit of the national park system in which
48 it is located in order to be authorized under a
49 concession contract (16 USC 5951(b), 5952).
50 All commercial services that meet the criteria
51 described in table 1 as appropriate and as
52 necessary will be considered to meet the
53 concessions act screening criteria. If its
54 impacts are acceptable, then the commercial
55 service also will be evaluated under the other
56 legal eligibility criteria set out in the
57 concessions act.

TABLE 1. COMMERCIAL SERVICES EVALUATION CRITERIA

Necessary	Appropriate
A service that is necessary accomplishes one or more of the following:	A service that is appropriate accomplishes all of the following:
<ol style="list-style-type: none"> 1. The service contributes to visitor understanding and appreciation of park purpose and significance. 2. The service enhances visitor experiences consistent with park area philosophies. 3. The service assists the park in managing visitor use and educating park visitors. 4. The service is an essential service or facility not available within a reasonable distance from the park. 	<ol style="list-style-type: none"> 1. The service is consistent with the purpose and significance of Haleakalā National Park. 2. The service is consistent with laws, regulations, and policies. 3. The service does not compromise public health and safety. 4. The service does not significantly impact or impair park resources or values. 5. The service does not unduly conflict with other park uses and activities. 6. The service does not exclude the public from participating in limited recreational opportunities.

59

60

1 To formulate the alternatives for managing
2 commercial services in Haleakalā National
3 Park, the park-specific evaluation criteria in
4 table 1 were applied to the following specific
5 commercial services: (1) road-based tours;
6 (2) hiking tours; (3) horseback riding tours;
7 and (4) astronomy tours. Each of the
8 commercial services types were determined
9 to be appropriate for park purposes. In
10 addition, the legal authority of a commercial
11 use authorization was determined to be the
12 most suitable form of legal authorization to
13 be used to authorize hiking tours, horseback
14 riding tours, and astronomy tours in
15 Haleakalā National Park. Road-based tours
16 were determined also to meet the evaluation
17 criteria for necessary, and the most suitable
18 form of legal authorization for such road-
19 based tours to be that of concession
20 contracts.

21
22 Several potential commercial service
23 activities have been determined to be neither
24 necessary nor appropriate in the park. These
25 activities include the following:

- 26
27 ▪ **Skateboarding and rollerblading—**
28 These activities are prohibited in the
29 park under the *Superintendent's*
30 *Compendium* (36 CFR 2.20).
31 Skateboarding and rollerblading
32 have never occurred in the park and
33 do not contribute to public use and
34 enjoyment of the park.
- 35
36 ▪ **Bicycling (other than designated**
37 **park roads and parking areas)—**
38 Bicycling is prohibited in the park
39 (other than in designated areas)
40 under the *Superintendent's*
41 *Compendium* (36 CFR 4.30). Off-
42 road bicycling has never been
43 permitted in the park and does not
44 contribute to public use and
45 enjoyment of the park. It is
46 inconsistent with protection of park
47 natural and cultural resources, and
48 poses safety concerns. In addition,
49 bicycle use is prohibited in
50 designated wilderness, which
51 encompasses most of the park.

- 52 ▪ **Hang gliding, paragliding,**
53 **ultralight aircraft, and hot air**
54 **balloons—**These activities are
55 prohibited in the park under the
56 *Superintendent's Compendium* (36
57 CFR 2.17). These activities have
58 never occurred in the park and do
59 not contribute to public use and
60 enjoyment of the park.
- 61
62 ▪ **Bungee jumping, base jumping,**
63 **rock climbing, and rappelling—**
64 These activities are prohibited in the
65 park under the *Superintendent's*
66 *Compendium* (36 CFR 1.5). These
67 activities have never occurred in the
68 park and do not contribute to public
69 use and enjoyment of the park. They
70 are inconsistent with protection of
71 park natural and cultural resources
72 and pose safety concerns.
- 73
74 ▪ **Animal tours and pack animals**
75 **(excluding horses, mules, burros,**
76 **and donkeys)—**Aside from the use
77 horses and mules, which has
78 occurred historically within the park
79 and in the area prior to
80 establishment of the park, the use of
81 animals such as llamas, goats, and
82 other livestock is not appropriate.
83 The use of these animals does not
84 contribute to public use and
85 enjoyment of the park. They have
86 the potential to adversely affect soils
87 and native vegetation through
88 browsing and nonnative species
89 introductions, and thus are
90 inconsistent with protection of park
91 natural and cultural resources.

1	▪ Food and/or beverage	8
2	carts/stands—Haleakalā National	9
3	Park does not have the capability to	10
4	provide additional water sources and	11
5	other infrastructure needed to	12
6	operate food/beverage operations.	13
7	Other commercial services (for	14
15		

example commercial filming) will be evaluated on a case-by-case basis using the criteria in table 1 and other applicable criteria, including impacts and eligibility for authorization under available legal authorities (for example, special use permits).

ACTIONS COMMON TO ALL ACTION ALTERNATIVES

The following actions would apply under all of the action alternatives. Many of the actions also apply to the no-action alternative as well.

SUSTAINABILITY AND CLIMATE CHANGE

The federal government has been emphasizing the adoption of sustainable practices. Executive Order 13423, “Strengthening Federal Environmental, Energy, and Transportation Management,” includes requirements for the reduction of greenhouse gases and other energy and water conservation measures. In NPS *Management Policies 2006*, section 1.8 states that environmental leadership will be demonstrated in all aspects of NPS activities, including commercial visitor services. Likewise, NPS Pacific West Region Directive 47 encourages entities doing business in parks to emphasize sustainable and green operations.

Sustainability can be defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable practices and principles are those choices, decisions, actions, and ethics that will best achieve ecological/biological integrity; protect qualities and functions of air, water, soil, and other aspects of the natural environment; and preserve human cultures. Sustainable practices allow for use and enjoyment by the current generation, while ensuring that future generations will have the same opportunities. Sustainable practices consider local and global consequences to minimize the short- and long-term, environmental impacts of human actions and developments through resource conservation, recycling, waste minimization, and use of energy

efficient and ecologically responsible materials and techniques.

In Haleakalā National Park, NPS staff would work with commercial service providers to adopt sustainable practices and reduce the emission of greenhouse gases and carbon footprint of the park. Under all of the action alternatives, commercial service providers would be encouraged to take such actions as

- fostering the sustainable use of natural resources by integrating and implementing pollution prevention, waste reduction, environmental purchasing, and best management practices into their operations and daily practices
- adopting practices to improve vehicle energy efficiency and reduce greenhouse gas emissions, including using more fuel-efficient vehicles, using alternatively powered vehicles (e.g., electric, natural gas, biofuels), keeping vehicles well maintained, and driving smart to improve fuel economy
- taking other mitigation measures for greenhouse gas emissions
- recycling everything that makes environmental and economic sense to recycle, including brochures and other solid waste
- practicing green procurement whenever feasible
- conducting periodic audits of their carbon footprint
- educating employees and clients on climate change, the threats it poses to the park and the wider environment, and how they can respond

- 1 ▪ educating and motivating employees 31
- 2 and clients on efforts being taken to 32
- 3 use sustainable practices and on the 33
- 4 efforts being taken to help address 34
- 5 climate change 35
- 6 36

7 **GENERAL MANAGEMENT OF**

8 **COMMERCIAL SERVICE PROVIDERS**

9 Under all of the action alternatives, the 41

10 following management directions would 42

11 continue to apply to all commercial service 43

12 providers to the extent directed by federal 44

13 statutes and regulations, NPS management 45

14 policies, *Superintendent’s Compendium*, and 46

15 past NPS practices: 47

- 16
- 17 ▪ When they are permitted to operate, 48
- 18 commercial tours would be allowed 49
- 19 the same access as general visitors to 50
- 20 all facilities, roads, and designated 51
- 21 public use trails. 52
- 22 ▪ Commercial guides must accompany 53
- 23 tours at all times within the park. 54
- 24 ▪ In all of the action alternatives 55
- 25 hiking, horseback riding, and 56
- 26 astronomy tours would be managed 57
- 27 under commercial use 58
- 28 authorizations, while road-based 59
- 29 tours would be managed under 60
- 30 concession contracts. 61

- For activities that are permitted 31
- under a commercial use 32
- authorization, all of the 33
- requirements specified in the NPS 34
- Concessions Management 35
- Improvement Act and NPS 36
- Management Policies 2006* section 37
- 10.3 would be followed (e.g., 38
- provisions will be included in the 39
- commercial use authorizations for 40
- the protection of visitors and the 41
- resources and values of the park— 42
- see chapter 1). If more applicants 43
- apply than there were commercial 44
- use authorizations available, the 45
- National Park Service would use a 46
- competitive process to determine 47
- which providers would be awarded a 48
- commercial use authorization. 49
- Commercial use authorizations 50
- would be issued on a yearly or 51
- biennial basis—existing holders of 52
- commercial use authorizations 53
- would continue to reapply for their 54
- authorization annually or biennially. 55
- There would be no preferential right 56
- to renewal. The numbers, location, 57
- and timing of tours and parking of 58
- tour vehicles would be specified in 59
- the authorization. Additional 60
- relevant conditions of authorization 61
- may be placed on providers, based 62
- on the nature of the service and type 63
- of impact the activity could have on 64
- park resources and operations. 65
- In the event that more applicants file 66
- for commercial use authorizations 67
- for a given activity than are available, 68
- per NPS guidelines a competitive 69
- process would be implemented to 70
- determine allocation of the services 71
- among the suitable commercial 72
- service providers. 73
- All new drivers, leaders, and guides 74
- would continue to be required to 75
- have a minimum of three training 76
- tours with experienced 77
- drivers/leaders prior to soloing in 78
- that role. 79

- 1 ▪ Commercial service providers must 51
- 2 have a commitment to their patron 52
- 3 and staff safety, including 53
- 4 maintenance of safe and reliable 54
- 5 vehicles, stock, and equipment. Tour 55
- 6 providers must comply with all 56
- 7 applicable federal, state, and local 57
- 8 agency requirements for food 58
- 9 service, transportation, liability 59
- 10 insurance, and other required 60
- 11 inspections, permits, and licenses. 61
- 12 ▪ The conduct of the providers and of 62
- 13 their patrons would be guided by 63
- 14 park rules and regulations and by a 64
- 15 specific set of special conditions of 65
- 16 authorization that are included as 66
- 17 part of the permit that allows the 67
- 18 service to be conducted in the park. 68
- 19 The special conditions of 69
- 20 authorization are reviewed by the 70
- 21 park's management team as needed, 71
- 22 and provisions relevant to all or 72
- 23 specific categories of commercial use 73
- 24 authorization holders may be made 74
- 25 as needed. (See also the mitigation 75
- 26 measures described at the end of this 76
- 27 chapter.) 77
- 28 ▪ Information pertaining to the park 78
- 29 distributed by commercial service 79
- 30 providers and their respective sales 80
- 31 pathways would only include NPS- 81
- 32 approved information and 82
- 33 messaging. This requirement would 83
- 34 cover all media, including television 84
- 35 and radio advertising, Internet and 85
- 36 website promotions, and 86
- 37 information, brochures, and flyers 87
- 38 distributed at local hotels and visitor 88
- 39 attractions. Such information would 89
- 40 include, but not be limited to 90
- 41 – information on the National 91
- 42 Park Service and activities that 92
- 43 take place in a unit of the 93
- 44 national park system 94
- 45 – information on the purpose and 95
- 46 mission of Haleakalā National 96
- 47 Park 97
- 48 – the significance of natural and 98
- 49 cultural resources found in 99
- 50 Haleakalā National Park 100
- descriptions of appropriate park 101
- behavior (to protect resources 102
- and values) 103
- All commercial service providers 104
- would be required to provide their 105
- clients with an educational/ 106
- interpretive Haleakalā booklet, 107
- which would be produced 108
- specifically for this audience by the 109
- National Park Service. Commercial 110
- service providers would include 111
- messages in a variety of translations, 112
- including Japanese, Spanish, and 113
- other Asian and European languages. 114
- This requirement would help ensure 115
- accuracy and consistency regarding 116
- the information being provided to 117
- patrons regarding Haleakalā 118
- National Park and the National Park 119
- Service. It would also help promote 120
- behaviors appropriate to the mission 121
- and significance of Haleakalā 122
- National Park. 123
- Only commercial service providers 124
- with authorization to have sunrise 125
- tours would be permitted to park in 126
- designated commercial stalls on the 127
- summit at sunrise. 128
- No motor coaches would continue 129
- to be permitted to drive up to the 130
- summit visitor center during sunrise 131
- hours. Motor coaches also would 132
- not be permitted at any time to drive 133
- up to Red Hill due to parking lot 134
- constraints and the absence of a 135
- turnaround area. 136

- 1 ▪ The National Park Service would
2 encourage commercial service
3 providers to employ Native
4 Hawaiian guides and interpreters,
5 who can demonstrate knowledge of
6 Hawaiian natural and cultural
7 history.

8
9 (See “Mitigation Measures Common to All
10 Action Alternatives” at the end of this
11 chapter.)
12

13 **Road-based Vehicle Tours**

14 The National Park Service has conducted a
15 study to assess the feasibility and merits of
16 managing road-based vehicle commercial
17 services via concession contracts versus
18 commercial use authorizations. Among
19 other things, this study has included
20 assessing whether the options for road-
21 based tours outlined in the various action
22 alternatives meet the statutory requirement
23 of 16 USC 5956, that a concession contract
24 be capable of generating a reasonable
25 opportunity for net profit in relation to the
26 capital invested, and the obligations of the
27 contract such that a franchise fee or other
28 monetary consideration may be paid to the
29 government for the privileges granted under
30 the concession contract. This requirement
31 generally is referred to as *financial feasibility*
32 and the study indicates that each of the
33 options outlined are capable of meeting this
34 financial feasibility requirement.
35

36 Generally, the National Park Service has
37 found that the benefits of managing road-
38 based tours through a concession outweigh
39 the benefits of issuing commercial use
40 authorizations. Thus, under all of the action
41 alternatives, road-based tours would be
42 managed under concession contracts.
43 However, the number of contracts that
44 would be issued vary between the
45 alternatives. All concession contracts would
46 be competed under the authority of the 1998
47 Concessions Management Improvement
48 Act. Concession contracts generally are
49 awarded for terms of 10 years or less;
50 however, contracts may be awarded for up

51 to 20 years under certain circumstances. No
52 determination has been made as to the final
53 time frame. The concession contracts would
54 not be awarded until a prospectus is
55 completed and approved and the
56 opportunity is put out for bid. This process
57 should take approximately 18 months after
58 this environmental assessment is completed.
59

60 **Potential New Concession Contracts** 61 **or Commercial Use Authorizations**

62 Under all of the alternatives, if new
63 commercial services are proposed that are
64 not considered in this plan, if an applicant
65 wants to make significant changes to a
66 previously approved commercial activity, or
67 if some aspects of a new activity have not
68 been evaluated before, the proposed
69 commercial services would have to meet the
70 criteria set forth by applicable legal
71 authorities, and must be necessary and/or
72 appropriate in meeting the mission of the
73 park.
74

75 All new commercial services would be
76 evaluated for a necessary and/or appropriate
77 finding prior to any issuance of a concession
78 contract or commercial use authorization.
79 The following process would be followed for
80 evaluating new or expanded commercial
81 services not considered in this commercial
82 services plan:
83

- 84 ▪ Applicants seeking to provide a
85 commercial service must apply in
86 writing to the park. Some additional
87 review may also be required,
88 including compliance procedures
89 outlined for the National
90 Environmental Policy Act in NPS
91 Director’s Order 12.
92

93 **Application Process**

94 After a request in writing is received, the
95 following steps would be followed.
96

97 **Step 1: Initial Screening**—A park
98 management interdisciplinary team would

1 review written proposals to determine
 2 whether a full review is required.
 3
 4 **Step 2: Evaluation**—An evaluation form
 5 would be used to apply legal standards,
 6 recreation potential, resource impacts, effect
 7 on management, and other factors derived
 8 from the park purpose, significance, and
 9 desired future conditions.

10
 11 If environmental analysis is required to
 12 complete the evaluation, costs for
 13 compliance with the National
 14 Environmental Policy Act may be borne by
 15 the applicant. Costs may include surveys,
 16 specialist staff time, contractors, and
 17 administrative work. The amount would
 18 depend on the complexity of the proposal,
 19 and could range from minimal to over
 20 \$40,000.

21
 22 All proposed new commercial activities
 23 reviewed through this process must provide,
 24 at a minimum, appropriate visitor services
 25 that

- 26
- 27 ▪ cannot be adequately met outside
- 28 the park boundary
- 29 ▪ do not include capital improvements
- 30 within the park boundary
- 31 ▪ create no unacceptable impacts on
- 32 natural, cultural, or aesthetic
- 33 resources or park values
- 34 ▪ create no unacceptable impacts on
- 35 visitor experience, such as increased
- 36 use in crowded or congested areas
- 37 ▪ incorporate measures to ensure safe
- 38 visitor experiences
- 39 ▪ include an educational component
- 40 appropriate to the activity
- 41 ▪ provide and document staff training
- 42 for quality educational services
- 43 ▪ comply with applicable federal, state,
- 44 and local laws, rules, codes, and
- 45 regulations

- 46 ▪ comply with Haleakalā National
- 47 Park policies as outlined in
- 48 management documents such as the
- 49 general management plan, strategic
- 50 plan, commercial services plan, and
- 51 other plans or studies that exist or
- 52 that might exist in the future

53
 54 **Step 3. Decision**—The superintendent
 55 would make the final decision as to whether
 56 the activity is appropriate and could be
 57 authorized based on the evaluation process.
 58 Due to the complexities of some proposals
 59 and the limited amount of staff time that
 60 could be dedicated to the review process, an
 61 application for a new or expanded
 62 commercial service may require a year or
 63 more to review, depending on the level of
 64 potential impact. If the service is determined
 65 to be appropriate, the park superintendent
 66 would determine which kind of
 67 authorization is most appropriate—
 68 commercial use authorization, concessions
 69 contract, lease, or special use permit. If the
 70 activity is determined to be more
 71 appropriately reviewed as a concessions
 72 operation, an evaluation would be made
 73 through the provisions listed under the
 74 concessions regulation (36 CFR 51) rather
 75 than through the completion of the
 76 commercial services authorization process.
 77

78 **Additional Considerations and**
 79 **Requirements**

80 Commercial use authorizations do not
 81 usually authorize land or facility assignments
 82 except in very limited circumstances. They
 83 also do not provide an authority to construct
 84 facilities or improvements on federally
 85 owned land. Use of park land and facilities
 86 for commercial activities is typically
 87 authorized by concession contracts and
 88 special use permits. If facilities are needed
 89 for the business to operate, the proposal
 90 would most likely be reviewed through the
 91 concessions process. All concession
 92 contracts, with extremely limited exception,
 93 must be competitively bid, as stated in the
 94 concessions act.

1 **Support Facilities/Services**

2 Many commercial activities require support
3 facilities and/or services, such as parking
4 spaces, restrooms, changing rooms, and
5 picnic areas. Such support activities have an
6 impact on park budgets, staff,
7 noncommercial visitors, and facilities. When
8 the demand for commercial services exceeds
9 the supply of support facilities and services,
10 park managers may either request a
11 modification of the activity or deny the
12 proposed commercial activity.
13

14 **Staffing Needs**

15 The process of monitoring individual
16 commercial use authorizations and
17 concession contracts would be examined to
18 determine NPS staff requirements. The
19 amount of staff time required is often
20 dictated by the complexity of the operation
21 and the potential impact on resources. To
22 assess the amount of staff time needed for
23 processing an application, for the evaluation
24 and approval process, and for subsequent
25 authorization and monitoring requirements,
26 the following definitions of complexity
27 would apply:
28

- 29 ▪ **High:** Successful monitoring of the
30 activity would include annual
31 administrative review; permit
32 compliance reviews; and, whenever
33 possible, on-site contact with the
34 operation when the activities are
35 occurring.
- 36 ▪ **Medium:** Successful monitoring of
37 the activity would include annual
38 administrative review, intermittent
39 permit compliance reviews, and
40 intermittent on-site contact with the
41 operation.

80

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69 **Other Issues**

70 Local situations and conditions that are not
71 anticipated would be identified on a case-by-
72 case basis. These issues might include the
73 effects of proposed activities on neighboring
74 communities, agencies, organizations,
75 individuals and park partners. They might
76 also include unforeseen and adverse
77 cumulative effects caused by new
78 commercial services along with already
79 approved services.

ALTERNATIVE A (NO ACTION)

4 CONCEPT

5 Alternative A provides a baseline for
6 evaluating the changes and impacts
7 presented in the other alternatives. In the
8 no-action alternative, the National Park
9 Service would continue to permit
10 commercial services in Haleakalā National
11 Park as it largely has been doing. No changes
12 would occur to the existing types of
13 commercial tours—road-based, horseback
14 riding, hiking, and astronomy tours would
15 continue to be permitted, while bicycle tours
16 would continue to be prohibited. In this
17 alternative, all commercial tours could
18 continue to grow without limits, constrained
19 only by the size of existing parking lots—as
20 required by the 1995 general management
21 plan. At the summit, commercial services
22 would be managed as they were prior to the
23 adoption of the interim operations plan,
24 which was intended to expire when the
25 commercial services plan was adopted. In
26 other words, the no-action alternative
27 describes the NPS approach to management
28 of commercial services at the summit prior
29 to 2005, with the exception that bicycle tours
30 would continue to be prohibited in the park.
31 As in all of the alternatives, park managers
32 would take necessary actions to resolve
33 unanticipated problems that arise. NPS
34 managers would continue to strive to protect
35 and preserve natural and cultural resources
36 in the park and provide for safe, quality
37 visitor experience.

38
39 In this alternative all commercially guided
40 tours in the park—including road-based,
41 hiking, horseback riding, and astronomy
42 tours—would continue to be managed under
43 commercial use authorizations. There would
44 be no limits on the number of commercial
45 use authorizations awarded. Existing holders
46 of commercial use authorizations would
47 continue to reapply for their authorization
48 annually or biennially.

49 TRAINING AND CERTIFICATION 50 OF GUIDES

51 There would be no new requirements for
52 commercial guides to be trained and
53 certified under this alternative. However, as
54 noted under “Actions Common to All
55 Alternatives” all new drivers, leaders, and
56 guides would continue to be required to
57 participate in a minimum of three training
58 tours with experienced drivers/leaders prior
59 to soloing in that role.
60
61

62 COMMERCIAL TOURS

63 Road-based Tours

64 Road-based tours primarily use park roads,
65 parking areas, visitor centers, and other
66 developed sites. Providers of road-based
67 tours with commercial use authorizations
68 would have access to both the summit and
69 Kīpahulu districts. Under alternative A,
70 there would be no limits on the number of
71 commercial service providers or the level of
72 use for road-based tours. There also would
73 be almost no restrictions on the type of
74 vehicles—commercial service providers
75 could use vans, minibuses, and motor
76 coaches on park roads, with the existing
77 exception—no motor coaches would be
78 permitted to drive up to the summit visitor
79 center during sunrise hours or at any time to
80 Red Hill. In the summit area, at the
81 Haleakalā Visitor Center, road-based tour
82 groups (vans and minibuses) would park in
83 the 13 existing designated commercial stalls
84 throughout the day, including at sunrise. At
85 Red Hill, commercial road-based tour
86 providers could park vans throughout the
87 day, including sunrise, and would compete
88 with noncommercial vehicles for available
89 spaces on a first-come, first-served basis.
90 Parking lot capacity would be the only

1 constraint on how many tour groups use the
2 summit area.

4 **Hiking Tours**

5 There would be no limits on the number of
6 commercial service providers that could
7 offer guided hiking tours in the Kīpahulu
8 District provided there are available parking
9 spaces. Hiking tour providers would be able
10 to run unlimited trips per day. Group size for
11 all hiking tours would continue to be limited
12 to a maximum of 12 people, including
13 employees.

14
15 In alternative A, hiking tour providers would
16 be able to take groups up to the summit area
17 at sunrise and would compete with
18 noncommercial vehicles for available
19 parking spaces at the Haleakalā Visitor
20 Center and Red Hill.

22 **Horseback Riding Tours**

23 Under alternative A, horseback riding
24 providers would continue to be permitted at
25 Kīpahulu.

26
27 Commercial service providers offering
28 horseback tours in the Kīpahulu area could
29 run unlimited trips per day. Tour providers
30 also would be permitted to take groups up to
31 the Haleakalā Visitor Center at the summit
32 to view sunrise. Group size would continue
33 to be limited to a maximum of 12 people,
34 including employees.

36 **Astronomy Tours**

37 Under alternative A, this activity would
38 continue to be permitted at Haleakalā
39 Visitor Center and Red Hill for celestial
40 events and stargazing.

41
42 There would be no limit on the number of
43 commercial service providers who could
44 offer astronomy tours. Each authorized
45 provider would have access to the summit
46 district and could offer unlimited trips
47 (provided there are available parking

48 spaces). Tour providers also would be able
49 to take groups up to the summit area at
50 sunrise and would compete with
51 noncommercial vehicles for available
52 parking spaces at the Haleakalā Visitor
53 Center and Red Hill. Group size would
54 continue to be limited to a maximum of 12
55 people, including employees.

57 **Bicycle Tours**

58 As noted previously, under alternative A, no
59 commercial bicycle tours would be
60 permitted in the park. No commercial
61 bicycle tours are currently occurring, and
62 the downhill commercial bicycle tours in the
63 park that operated prior to the 2007
64 emergency stand down would not be
65 permitted due to safety concerns with this
66 activity (see “Alternatives Considered and
67 Dismissed” section and appendix B).

70 **ESTIMATED COST**

71 **General**

72 Cost estimates for alternative A are
73 identified below. The cost estimates, in 2010
74 dollars, shown here are not for budgetary
75 purposes—they are intended only to show a
76 general relative comparison of costs among
77 the alternatives.

78
79 Annual costs are shown for managing
80 commercial services in Haleakalā National
81 Park, which are primarily labor costs. These
82 costs would be independent of any fees the
83 National Park Service might receive from
84 commercial service providers.

85
86 It should be noted that the cost of
87 implementing alternative A would be greater
88 than what the National Park Service devoted
89 in 2010 to the park’s commercial services
90 program. This is because there would be
91 unlimited numbers of commercial providers
92 permitted in this alternative, which would
93 potentially increase numbers of commercial
94 provider applicants and levels of commercial

1 use, requiring increased oversight and
 2 management.
 3
 4 Increased staff levels would require
 5 additional office space to be leased. For
 6 alternative A, additional offices would be
 7 needed for three full-time equivalents
 8 (FTEs), which would cost \$20,000 per year.
 9

10 **Staffing Requirements**

11 Management of the commercial services
 12 program would require staff responsible for
 13 issuing commercial use authorizations
 14 annually, meeting with providers, issuing
 15 citations, monitoring the program, as well as
 16 planning for scheduling and parking. Three
 17 full-time staff members would be required.
 18 Program management also would include
 19 annual issuing of the authorizations and
 20 following up on reporting requirements.

21 The interpretation division would require
 22 two employees to be available at the summit
 23 at sunrise to provide information to visitors.
 24
 25 One employee would be needed to remove
 26 exotic plants from trails and revegetate trails,
 27 including the Kīpahulu trail.
 28
 29 The maintenance division would require
 30 three full-time equivalents to perform trail
 31 rehabilitation and visitor facility
 32 maintenance. Unlimited numbers of
 33 commercial providers may result in
 34 increased use of visitor centers, restrooms,
 35 and parking lots, and therefore would
 36 increase the need for maintenance and
 37 cleaning.
 38
 39 Law enforcement officers would be needed,
 40 some dedicated to tours and others available
 41 at sunrise hours (6 FTEs total), to direct
 42 visitors and ensure protection of visitors and
 43 resources.

44

TABLE 2. ESTIMATED COSTS OF ALTERNATIVE A

Annual Costs	Estimated Costs
Labor Costs	
Program Management (3 FTE)	\$187,000
Interpretive Staff (2 FTE)	87,000
Trail Revegetation and Exotic Plant Removal (1 FTE)	54,000
Trail Rehabilitation and Visitor Center Maintenance (3 FTE)	180,000,000
Law Enforcement (1 FTE dedicated to tours, 3 FTE at sunrise hours)	239,000
Leasing Cost	
Office Space (leased)	\$20,000
TOTAL ESTIMATED ANNUAL COST	\$767,000
TOTAL STAFF (FTE)	13

Sources for wage and salary estimates: Office of Personnel Management, Civilian Personnel Management Service

All costs are in 2010 dollars.

These FTE numbers relate only to staffing needed to manage commercial services in the park; they do not include all park staffing and do not necessarily represent full staffing levels.

45

ALTERNATIVE B (NPS PREFERRED ALTERNATIVE)

4 CONCEPT

5 Alternative B is the NPS preferred
6 alternative for managing commercial
7 services in Haleakalā National Park. Under
8 this alternative, the National Park Service
9 would continue to provide opportunities for
10 visitors to participate in a variety of
11 commercial tours in the park, but it would
12 provide no new opportunities for
13 commercial services and would reduce the
14 number of commercial visitors in the park to
15 ensure that park resources are protected and
16 that safe, high quality experiences are
17 available to all visitors. Commercial services

18 would be limited by the number of
19 commercial service providers, the number of
20 trips per day, and the locations and number
21 of parking stalls for commercial service
22 providers. In addition, several requirements
23 would be placed on commercial service
24 providers to improve the quality of the
25 service they provide in the park. Thus, this
26 alternative would maintain most of the
27 existing types of commercial services in the
28 park while changing some aspects of
29 commercial services management to better
30 reflect the purpose, significance, and mission
31 of the park.

Primary Differences Between Alternative B and Alternative A

In alternative B

- all commercial tours would be prohibited throughout the park 3 to 5 days per year
- road-based tours would be managed through up to four concession contracts
- only road-based tours would be permitted to offer summit sunrise tours, and they could only park at the Haleakalā Visitor Center
- the number of parking stalls for road-based tours would be reduced at all times of the day
- the number of commercial service providers able to offer horseback riding tours in Kīpahulu would be reduced from 2009 levels (there would be no change in road-based hiking or astronomy tour commercial use authorizations)
- the number of trips per day each commercial service provider could offer would be limited for hiking, horseback riding, and astronomy tours
- commercial road-based tour providers would not operate motor coaches in the park at any time
- all commercial guides would be required to participate in training and be certified to operate in the park

1 **TEMPORAL MANAGEMENT OF**
2 **COMMERCIAL SERVICE PROVIDERS**

3 Under alternative B, there would be three to
4 five days per year that no commercial tours
5 would be permitted in the park. This action
6 is intended to provide opportunities for
7 Native Hawaiians to conduct cultural
8 practices without interruptions from
9 commercial tours. NPS staff would meet
10 with Kūpuna at the beginning of each year,
11 and then notify commercial operators when
12 these commercial-free days would occur.

13
14 Parking spaces assigned to commercial
15 service providers would be available to
16 noncommercial visitors during the
17 commercial-free days.

18
19
20 **TRAINING AND CERTIFICATION**
21 **OF GUIDES**

22 In addition to the training requirements for
23 new employees noted under in the “Actions
24 Common to All Alternatives” section, the
25 park staff would implement a program of
26 training and certification for tour guides and
27 other commercial service provider staff. This
28 effort would be intended to ensure that
29 patrons have high-quality experiences,
30 including messages that are consistent with
31 the park’s purpose and NPS philosophies.

32 All tour guides and lecturers would be
33 required to complete an NPS-approved
34 interpretive guide training course and be
35 reviewed and certified by NPS staff before
36 leading their patrons on park activities. The
37 guide certification curriculum would require
38 up to 40 hours of specific training for new
39 guides and up to 16 hours per year for a
40 “refresher” training session for continuing
41 guides. The park staff would develop the
42 curriculum, park messaging materials, and
43 safety information to be included in the
44 coursework.

45 **COMMERCIAL TOURS**

46 **Road-based Tours**

47 Authorized providers of road-based tours
48 would have access to both the summit and
49 Kīpahulu districts. Under alternative B, there
50 would be limits on the number of
51 commercial providers or the level of use for
52 road-based tours—up to four concession
53 contracts would be issued to commercial
54 service providers to run road-based tours in
55 the park. Commercial service providers
56 could use vans and minibuses on park roads,
57 but in alternative B motor coaches would be
58 prohibited throughout the park. In the
59 summit area, at the Haleakalā Visitor Center
60 road-based tour groups would park in eight
61 designated commercial stalls throughout the
62 day, including sunrise. (On the three to five
63 days per year when no commercial tours
64 occur, these parking spaces would be
65 available to noncommercial users.) Each stall
66 would be assigned to a commercial road-
67 based tour provider, who in turn could park
68 three vans or two minibuses. At Red Hill,
69 commercial road-based tour providers could
70 not park during sunrise hours, but they
71 could park vans throughout the rest of the
72 day. During these times, tour providers
73 would compete with noncommercial
74 vehicles for available parking spaces on a
75 first-come, first-served basis.

76
77 At Kīpahulu, the number of tours provided
78 by the four concession road-based tours
79 would not be limited and they would
80 compete with noncommercial vehicles on a
81 first-come, first-served basis for parking.

82
83 **Hiking Tours**

84 In alternative B, each tour operator could
85 run one guided hiking trip per day. Group
86 size for hiking tours would be limited to a
87 maximum of 12 people, including
88 employees.

89
90 In this alternative hiking tour providers
91 would not be permitted to take groups up to
92 the summit area at sunrise. After sunrise,

1 hiking tour providers could park their
2 vehicles at the Haleakalā Visitor Center and
3 Red Hill, competing with noncommercial
4 vehicles for available parking spaces.

6 **Horseback Riding Tours**

7 Under alternative B, horseback tour
8 providers would be permitted to use the
9 Kīpahulu area. One horseback tour provider
10 could offer one trip per day in the Kīpahulu
11 area. Group size would be limited to a
12 maximum of 12 people, including
13 employees. Authorized commercial service
14 providers would offer horseback riding
15 tours five days per week.

16
17 Horseback tour providers would not be
18 permitted to take groups up to the summit to
19 view the sunrise.

21 **Astronomy Tours**

22 Under alternative B, astronomy tours would
23 be permitted at the Haleakalā Visitor Center
24 and Red Hill for celestial events and
25 stargazing. Up to four commercial service
26 providers would be able to offer astronomy
27 tours. Group size would be limited to a
28 maximum of 12 people, including
29 employees. Each authorized astronomy tour
30 provider would have access to the summit
31 district five days per week and could offer
32 one trip per day. Astronomy tours would not
33 be permitted to use the summit area at
34 sunrise or during park-sponsored special
35 evening programs.

37 **Bicycle Tours**

38 Under alternative B, no commercial bicycle
39 tours would be permitted in the park
40 because this use would be inconsistent with
41 the alternative concept.

42 **ESTIMATED COST**

43 **General**

44 Cost estimates for alternative B are identified
45 below. The cost estimates, in 2010 dollars,
46 shown here are not for budgetary
47 purposes—they are intended only to show a
48 general relative comparison of costs among
49 the alternatives.

50
51 Annual costs are shown for managing
52 commercial services in Haleakalā National
53 Park, which consists primarily of labor costs.
54 These costs would be independent of any
55 fees the National Park Service might receive
56 from commercial service providers.

57
58 No additional office space would be needed
59 in this alternative.

61 **Staffing Requirements**

62 Management of the commercial services
63 program would require staff responsible for
64 issuing commercial use authorizations
65 annually, meeting with providers, issuing
66 citations, and monitoring the program, as
67 well as planning for scheduling and parking.
68 Staff would also participate in contracting
69 with four road-based vehicle tour
70 concessioners. Limiting the number of
71 commercial service providers would allow
72 park staff to better plan for the time and
73 effort required to manage the program.
74 While the concession contracting process is
75 more time-consuming than the CUA
76 permitting process, with reduction in the
77 number of road-based vehicle operators
78 (from 19 to 4) and the less frequent
79 contracting cycle (every 10+ years instead of
80 every 1–2 years), the workload would be less
81 over the term of the contract. Therefore, two
82 full-time staff would be required to manage
83 the commercial services program at the park.

84
85 The interpretation division would require
86 two employees to be available at the summit
87 at sunrise to provide information to visitors,
88 and 25% of one employee's time would be
89 needed to write training curriculum,

1 conduct training courses four times a year,
2 and certify employees.

3
4 To revegetate trails and remove exotic
5 plants, 50% of one employee’s time would
6 be needed.

8 The maintenance division would require 1.5
9 FTEs to perform trail rehabilitation and
10 visitor facility maintenance.

11
12 Law enforcement officers would be needed,
13 some dedicated to tours and others available
14 at sunrise hours (3 FTEs total), to ensure
15 visitor and resource protection.

16
17

TABLE 3. ESTIMATED COSTS OF ALTERNATIVE B

Annual Labor Costs	Estimated Costs
Program Management (2 FTE)	\$133,000
Interpretive Staff (2.25 FTE)	103,000
Trail Revegetation and Exotic Plant Removal (0.5 FTE)	27,000
Trail Rehabilitation and Visitor Center Maintenance (1.5 FTE)	130,000
Law Enforcement (1 FTE dedicated to tours, 2 FTE at sunrise hours)	180,000
TOTAL ESTIMATED ANNUAL COST	\$603,000
TOTAL STAFF (FTE)	9.25

Sources for wage and salary estimates: Office of Personnel Management, Civilian Personnel Management Service

All costs are in 2010 dollars.

These FTE numbers relate only to staffing needed to manage commercial services in the park; they do not include all park staffing and do not necessarily represent full staffing levels.

Some of the workload to set up concessions contracts would be shared by the regional park service staff and would be absorbed into current regional staff workloads, not requiring new staff.

ALTERNATIVE C

CONCEPT

Alternative C is similar to alternative B in that both alternatives would maintain most of the existing types of commercial services in the park while changing some aspects of commercial services management to better reflect the purpose, significance, and mission of the park. The National Park Service would continue to provide opportunities for visitors to participate in a variety of commercial tours of the park, but it would provide no new opportunities for commercial services and limit the number of commercial visitors to ensure that park resources are protected and to ensure that

safe, high-quality experiences are available to all visitors. Like alternative B, alternative C would limit the number of trips per day per commercial service provider and the locations and number of parking stalls for commercial service providers. However, alternative C would not restrict the days when commercial service providers could offer tours in the park. Instead, this alternative would impose stricter limits than alternative B on the number of commercial service providers and on group size. As in alternative B, alternative C would place several new requirements on commercial service providers to improve the quality of the service they provide in the park.

Primary Differences Between Alternative C and Alternative A

In alternative C,

- road-based tours would be managed through up to three concession contracts
- only road-based tours would be permitted to offer sunrise tours, and they could only park at the Haleakalā Visitor Center
- the number of parking stalls for road-based tours would be reduced at the summit all day
- the number of commercial service providers able to offer horseback riding tours in Kīpahulu would be reduced to one (there would be no change in the number of road-based hiking or astronomy tour providers).
- the number of trips per day each commercial service provider could offer would be limited for hiking, and astronomy tours
- group sizes would be reduced for hiking and astronomy tours
- all commercial guides would be required to participate in training and be certified to operate in the park

TRAINING AND CERTIFICATION OF GUIDES

Alternative C would implement the same program of training and certification for commercial tour guides and providers as described under alternative B. This effort would be intended to ensure that patrons have high-quality experiences, including messages that are consistent with the park's purpose and NPS philosophies.

All tour guides and lecturers would be required to complete an NPS-approved interpretive guide training course and be reviewed and certified by the NPS staff before leading their patrons on park activities. (See alternative B for additional details.)

1 **COMMERCIAL TOURS**

2 **Road-based Tours**

3 Authorized providers of road-based tours
 4 would have access to both the summit and
 5 Kīpahulu districts. Under alternative C,
 6 there would be limits on the number of
 7 commercial service providers, or the level of
 8 use, for road-based tours; up to three
 9 concession contracts would be issued to
 10 commercial service providers to run road-
 11 based tours in the park. Commercial service
 12 providers could use vans, minibuses, or
 13 motor coaches on park roads; however,
 14 motor coaches would be prohibited from
 15 going to the summit at sunrise. In the summit
 16 area at the Haleakalā Visitor Center, road-
 17 based tour groups would park in six
 18 designated commercial stalls throughout the
 19 day, including sunrise. Each stall would be
 20 assigned to a provider, who in turn could
 21 park three vans, two minibuses, or one
 22 motor coach. In alternative C, no
 23 commercial road-based tour providers
 24 would be permitted to park at Red Hill at
 25 any time during the day.

26
 27 At Kīpahulu, the number of tours run by the
 28 three concession road-based tour providers
 29 would not be limited and they would
 30 compete with noncommercial vehicles on a
 31 first-come, first-served basis.

32
 33 **Hiking Tours**

34 In the Kīpahulu District, group size for
 35 hiking tours would be limited to a maximum
 36 of six people, including employees. Each
 37 tour operator would be able to run one trip
 38 per day.

39
 40 In this alternative, hiking tour providers
 41 would not be permitted to take groups up to
 42 the summit area at sunrise. Hiking tour
 43 providers could park their vehicles at the
 44 Haleakalā Visitor Center any time after
 45 sunrise, competing with noncommercial
 46 vehicles for available parking spaces.
 47 However, they could not park at Red Hill at
 48 any time.

49 **Horseback Riding Tours**

50 Under alternative C, one authorized
 51 commercial services provider could run one
 52 horseback riding trip per day in the
 53 Kīpahulu area. Group size would be limited
 54 to a maximum of six people, including
 55 employees.

56
 57 Horseback tour providers would not be
 58 permitted to take groups up to the summit to
 59 view the sunrise.

60
 61 **Astronomy Tours**

62 Under alternative C, astronomy tours would
 63 be permitted at the Haleakalā Visitor Center
 64 and Red Hill for celestial events and
 65 stargazing. Up to four commercial providers
 66 would be authorized to offer astronomy
 67 tours in the park. Group size would be
 68 limited to a maximum of six people,
 69 including employees. Each authorized
 70 astronomy tour provider would have access
 71 to the summit district and could offer one
 72 trip per day. Astronomy tours would not be
 73 permitted to use the summit area at sunrise
 74 or during park-sponsored special evening
 75 programs.

76
 77 **Bicycle Tours**

78 Under alternative C, no commercial bicycle
 79 tours would be permitted in the park
 80 because this use would be inconsistent with
 81 the alternative concept.

82
 83
 84 **ESTIMATED COST**

85 **General**

86 Cost estimates for alternative C are
 87 identified below. The cost estimates, in 2010
 88 dollars, shown here are not for budgetary
 89 purposes—they are intended only to show a
 90 general relative comparison of costs among
 91 the alternatives.

1 Annual costs are shown for managing
2 commercial services in Haleakalā National
3 Park; these are primarily labor costs. These
4 costs would be independent of any fees the
5 National Park Service might receive from
6 commercial service providers.

7
8 No additional office space would be needed
9 in this alternative.

10

11 **Staffing Requirements**

12 Management of the commercial services
13 program would require staff responsible for
14 issuing commercial use authorizations
15 annually, meeting with providers, issuing
16 citations, and monitoring the program, as
17 well as planning for scheduling and parking.
18 Staff would also participate in contracting
19 with three road-based vehicle tour
20 concessioners. Limiting the number of
21 commercial service providers would allow
22 park staff to better estimate the time and
23 effort required to manage the program.
24 While the concession contracting process is
25 more time-consuming than the CUA
26 permitting process, with reduction in the
27 number of road-based vehicle operators
56

28 (from 19 to 3) and the less frequent
29 contracting cycle (every 10+ years instead of
30 every 1–2 years), the workload would be less
31 over the term of the contract. Therefore, two
32 full-time staff would be required.

33

34 Limits to tour numbers would decrease the
35 demands on park staff. The interpretation
36 division would require one employee to be
37 available at the summit at sunrise to provide
38 information to visitors, and 25% of one
39 employee’s time would be needed to write
40 training curriculum, conduct training
41 courses four times a year, and certify
42 employees.

43

44 To revegetate trails and remove exotic
45 plants, 50% of one employee’s time would
46 be needed.

47

48 The maintenance division would require 1.5
49 FTEs to perform trail rehabilitation and
50 visitor facility maintenance.

51

52 Law enforcement officers would be needed,
53 some dedicated to tours and others available
54 at sunrise hours (3 FTEs total) to manage
55 visitor and resource protection.

TABLE 4. ESTIMATED COSTS OF ALTERNATIVE C

Annual Labor Costs	Estimated Costs
Program Management (2 FTE)	\$133,000
Interpretive Staff (1.25 FTE)	60,000
Trail Revegetation and Exotic Plant Removal (0.5 FTE)	27,000
Trail Rehabilitation and Visitor Center Maintenance (1.5 FTE)	100,000
Law Enforcement (1 FTE dedicated to tours, 2 FTE at sunrise hours)	195,000,000
TOTAL ESTIMATED ANNUAL COST	\$516,000
TOTAL STAFF (FTE)	8.75

Sources for wage and salary estimates: Office of Personnel Management, Civilian Personnel Management Service

All costs are in 2010 dollars.

These FTE numbers relate only to staffing needed to manage commercial services in the park; they do not include all park staffing and do not necessarily represent full staffing levels.

Some of the workload to set up concessions contracts would be shared by the regional park service staff and would be absorbed into current regional staff workloads, not requiring new staff.

1

ALTERNATIVE D

CONCEPT

In alternative D, the National Park Service would expand the range of opportunities for visitors to participate in commercial tours in the park. Visitors would be able to participate in guided road, hiking, horseback riding, astronomy, and bicycling tours in this alternative. The levels of commercial use would also be increased for most commercial activities, but unlike alternative A there would be limits on the growth of the level of commercial visitation in the park to ensure that park resources are protected and to ensure that safe, high quality experiences

are available to all visitors. Commercial services would be limited by the number of commercial service providers, the number of trips per day, and the locations and number of parking stalls for commercial service providers. In addition, like alternatives B and C, alternative D would place several new requirements on commercial service providers to improve the quality of the service they provide in the park. These actions would help ensure that permitted commercial services under alternative D would be consistent with the purpose, significance, and mission of Haleakalā National Park.

Primary Differences Between Alternative D and Alternative A

In alternative D,

- road-based tours would be managed through up to five concession contracts
- the number of parking stalls for road-based tours would be increased to 15 stalls at the summit all day
- a guided interpretive bicycle tour on the summit road would be available for visitors
- the number of commercial service providers able to offer horseback riding in Kīpahulu, astronomy, and bicycle tours all would be limited (there would be no change in the number of road-based hiking providers)—up to three operators would be able to provide guided horseback tours in Kīpahulu, up to six operators would be able to provide astronomy tours, and up to two operators would be able to provide guided bike tours
- the number of trips per day each commercial service provider could offer would be limited for astronomy tours in the summit area
- all commercial guides would be required to participate in training and be certified to operate in the park

TRAINING AND CERTIFICATION OF GUIDES

Alternative D would implement the same program of training and certification for commercial tour guides and providers as described under alternative B. This effort would be intended to ensure that patrons have high-quality experiences, including receiving messages that are consistent with the park's purpose and NPS philosophies. All tour guides and lecturers would be

required to complete an NPS-approved interpretive guide training course and be reviewed and certified by the NPS staff before leading their patrons on park activities. (See alternative B for additional details.)

1 **COMMERCIAL TOURS**

2 **Road-based Tours**

3 Authorized providers of road-based tours
 4 would have access to both the summit and
 5 Kīpahulu districts. Under alternative D,
 6 there would be limits on the number of
 7 commercial service providers, or the level of
 8 use, for road-based tours; up to five
 9 concession contracts would be issued to
 10 commercial service providers to run road-
 11 based tours in the park. Commercial service
 12 providers could use vans, minibuses, or
 13 motor coaches on park roads; however,
 14 motor coaches would not be permitted to
 15 drive to the summit at sunrise. In the summit
 16 area, at the Haleakalā Visitor Center road-
 17 based tour groups would park in 15
 18 designated commercial stalls throughout the
 19 day, including sunrise. Each stall would be
 20 assigned to a provider, who in turn could
 21 park three vans, two minibuses, or one
 22 motor coach. Commercial road-based tour
 23 providers also would be permitted to park
 24 vans in two reserved spaces at Red Hill at
 25 any time during the day.

26
 27 At Kīpahulu, the number of tours run by the
 28 four concession road-based providers would
 29 not be limited and they would compete with
 30 noncommercial vehicles on a first-come,
 31 first-served basis.

32
 33 **Hiking Tours**

34 In the Kīpahulu area, each authorized hiking
 35 tour provider could run unlimited guided
 36 hiking trips per day. Group size for hiking
 37 tours would be limited to a maximum of 12
 38 people, including employees.

39
 40 In this alternative, hiking tour providers
 41 would be permitted to take groups up to the
 42 summit area at sunrise and would compete
 43 with noncommercial vehicles for available
 44 parking spaces at the Haleakalā Visitor
 45 Center and Red Hill.

46 **Horseback Riding Tours**

47 Under alternative D, one provider could
 48 offer horseback riding trips in the Kīpahulu
 49 area. Group size for horseback tours would
 50 be limited to a maximum of 12 people,
 51 including employees.

52
 53 **Astronomy Tours**

54 Under alternative D, this activity would be
 55 permitted at the Haleakalā Visitor Center
 56 and Red Hill for celestial events and
 57 stargazing. Up to six commercial providers
 58 would be authorized to offer astronomy
 59 tours. Group size would be limited to a
 60 maximum of 12 people, including
 61 employees. Each authorized astronomy tour
 62 provider would have access to the summit
 63 district and could offer one trip per day. As
 64 part of their tour, astronomy providers
 65 would be able to take groups up to the
 66 summit area at sunrise and would compete
 67 with noncommercial vehicles for available
 68 parking spaces at the Haleakalā Visitor
 69 Center and Red Hill.

70
 71 **Interpretive Bicycle Tours**

72 For the purposes of this plan and
 73 environmental assessment, the term *bicycle* is
 74 as defined in 36 CFR 1.4:

75
 76 Bicycle means every device propelled
 77 solely by human power upon which a
 78 person or persons may ride on land,
 79 having one, two, or more wheels,
 80 except a manual wheelchair.

81
 82 In alternative D, commercial service
 83 providers would be able to offer an
 84 interpretive bicycle tour on the park road
 85 down from the summit. The new tour would
 86 be a slow-paced educational experience,
 87 focusing on safety and allowing visitors to
 88 enjoy the views and learn about the park and
 89 its natural and cultural resources, history,
 90 Native Hawaiian culture, and stewardship.
 91 Interpretation would occur both on the van
 92 trip up to the summit as well as on the

1 bicycle ride down. Opportunities always
2 would be available for riders to stop and take
3 a van down the road.

4
5 Up to two commercial service providers
6 would be permitted under commercial use
7 authorizations to conduct the interpretive
8 bicycle tours. To reduce potential safety
9 concerns, bicycle providers would not offer
10 tours from the summit during sunrise hours.
11 Instead, they would offer tours for a limited
12 time, between 8 a.m. to 10 a.m., when vehicle
13 traffic is lighter on the road. Bicycle tour
14 providers would park at the Haleakalā
15 Visitor Center and would compete with
16 noncommercial vehicles for available
17 parking spaces.

18
19 Based on the 2008 NPS board of review's
20 recommendations and subsequent analysis
21 by NPS staff, the following key measures
22 would be followed to help ensure safe,
23 quality visitor experiences on the bicycle
24 tours:

- 25
- 26 ▪ Group sizes would be limited to five
27 people, plus a guide.
- 28 ▪ Bicycle tours would be permitted to
29 depart from the visitor center at 15-
30 minute intervals.
- 31 ▪ Bicycle tour providers would not be
32 permitted to use trailers within the
33 park, but rather would be permitted
34 to have bicycles on roof racks.
35 Bicycle hitches would be permitted
36 as long as they do not violate any
37 state or federal regulations, and do
38 not exceed parking stall length or
39 width.
- 40 ▪ The vehicles used for bicycle tours
41 within the park would not exceed
42 15-passenger vans.

- 43 ▪ All bicycle tours would be required
44 to use the following pullouts and
45 must allow traffic to pass, even if
46 there is only one vehicle behind
47 them, to provide opportunities for
48 patrons to rest and for safety checks:
49 (1) pullout 0.1 mile above Kalahaku
50 Overlook; (2) pullout near mile post
51 17 below Leleiwi Overlook; (3)
52 Halemau'u trailhead pullout; (4)
53 pullout at milepost 13; and (5) park
54 headquarters. Bicycle tours also
55 would be permitted to stop at other
56 pullouts to allow traffic to pass, to
57 allow patrons to enjoy the views, and
58 for interpretive opportunities.
- 59 ▪ Bicycle tour providers would be
60 encouraged to bring their clients into
61 the Haleakalā Visitor Center and
62 park headquarters visitor center
63 during operational hours to receive
64 information about the park and for
65 interpretive opportunities.
- 66 ▪ Bicycle tour providers would be
67 required to develop and NPS staff
68 would approve specific safety
69 materials about the bicycle tours and
70 the risks of the activity.
- 71 ▪ Bicycle tour guides would be
72 required to meet minimum training
73 standards, which would be reviewed
74 by NPS staff.
- 75 ▪ Improved communication would
76 occur between guides and clients
77 during the ride. At a minimum, brake
78 lights would be required on all bikes.

79
80 Additional operational actions in the board
81 of review's findings, such as requiring
82 companies to establish a reasonable refund
83 policy for clients who opt out at the summit
84 and prohibiting third party bookings, would
85 be adopted as appropriate (see appendix C).
86 All of these stipulations would be included
87 in the commercial use authorizations.

88
89 As stated in section 8.2.2 of NPS
90 *Management Policies 2006*, NPS staff would
91 monitor this new use, assess its potential

1 impacts on park resources, and ensure that
2 unacceptable impacts do not occur.

3 **ESTIMATED COST**

4 **General**

5 Cost estimates for alternative D are
6 identified below. The cost estimates, in 2010
7 dollars, shown here are not for budgetary
8 purposes—they are intended only to show a
9 general relative comparison of costs among
10 the alternatives.

11
12 Annual costs are shown for managing
13 commercial services in Haleakalā National
14 Park, which consist primarily of labor costs.
15 These costs would be independent of any
16 fees the National Park Service might receive
17 from commercial service providers.

18
19 Increased staff levels would require
20 additional office space and equipment to be
21 leased or purchased. For alternative A,
22 additional offices would be needed for 3.75
23 FTEs, which would cost \$27,000 per year.

24 25 **Staffing Requirements**

26 Management of the commercial services
27 program would require staff responsible for
28 issuing commercial use authorizations
29 annually, meeting with providers, issuing
30 citations, and monitoring the program, as
31 well as planning for scheduling and parking.
32 Staff would also participate in contracting
33 with five road-based vehicle tour
34 concessioners. Limiting the number of
35 commercial service providers would allow

75

36 park staff to better estimate the time and
37 effort required to manage the program,
38 although the limits would be higher in this
39 alternative than in alternatives B and C.
40 While the concession contracting process is
41 more time-consuming than the CUA
42 permitting process, with reduction in the
43 number of road-based vehicle operators
44 (from 19 to 5), and the less frequent
45 contracting cycle (every 10+ years instead of
46 every 1–2 years), the workload would be less
47 over the term of the contract. Therefore, 2.5
48 FTEs would be required to manage the
49 program.

50
51 The interpretation division would require
52 two employees to be available at sunrise to
53 provide information to visitors, and 25% of
54 one employee's time would be needed to
55 write training curriculum, conduct training
56 courses four times a year, and certify
57 employees.

58
59 To revegetate frontcountry trails and
60 remove exotic plants, one employee would
61 be needed.

62
63 The maintenance division would require
64 three employees to perform trail
65 rehabilitation and visitor facility
66 maintenance.

67
68 Law enforcement officers would be needed,
69 some dedicated to tours and others available
70 at sunrise hours (5.5 FTEs total), to manage
71 visitor and resource protection. A higher
72 level of staff would be needed to ensure
73 safety of visitors in relationship to bicycle
74 tours.

TABLE 5. ESTIMATED COSTS OF ALTERNATIVE D

Annual Costs	Estimated Costs
Labor Costs	
Program Management (2.5 FTE)	\$160,000
Interpretive Staff (2.25 FTE)	103,000
Frontcountry Trail Revegetation and Exotic Plant Removal (1 FTE)	54,000
Frontcountry Trail Rehabilitation and Visitor Center Maintenance (3 FTE)	195,000,000
Law Enforcement (2 FTE dedicated to tours, 3.5 FTE at sunrise hours)	302,000
Leasing Cost	
Office Space (Leased)	\$27,000
TOTAL ESTIMATED ANNUAL COST	\$841,000
TOTAL STAFF (FTE)	14.25

Sources for wage and salary estimates: Office of Personnel Management, Civilian Personnel Management Service

All costs are in 2010 dollars.

These FTE numbers relate only to staffing needed to manage commercial services in the park; they do not include all park staffing and do not necessarily represent full staffing levels.

Some of the workload to set up concessions contracts would be shared by the regional park service staff and would be absorbed into current regional staff workloads, not requiring new staff.

MITIGATION MEASURES COMMON TO ALL ACTION ALTERNATIVES

Congress charged the National Park Service with managing the lands under its stewardship “in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (NPS Organic Act). As a result, NPS staff members routinely evaluate and implement mitigative measures whenever conditions occur that could adversely affect national park system resources.

Mitigation measures are the practicable and appropriate methods that would be used under an action alternative to avoid or minimize harm to park natural and cultural resources, wilderness, visitors, and visitor experience.

Within the context of the commercial services plan, the following mitigative measures would be used to avoid or minimize potential impacts from the implementation of the action alternatives. Unless otherwise noted, these measures would be applied to all of the action alternatives, subject to funding and staffing constraints. Many of the measures would be included as stipulations in the authorizations for commercial service providers to operate in the park. (See also the special conditions listed on <http://www.nps.gov/hale/parkmgmt/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=224523>.)

GENERAL

- NPS staff would encourage commercial service providers to bring patrons into the park in multipassenger vehicles.
- Commercial service providers would be required to train their employees so as to minimize their impacts on park resources.

- All commercial service providers would be required to attend a yearly park sponsored educational session on strategies to minimize the spread of invasive species in the park. At this session commercial service provider vehicles may be inspected by park staff.
- Commercial service provider guides would be required to accompany tours at all times within the park to ensure that adverse impacts to park resources are avoided or minimized.

NATURAL AND CULTURAL RESOURCES

All commercial service providers would be required to

- ensure their patrons do not disturb or remove any natural or cultural items from the park, including rocks, flowers, and plants
- strictly adhere to “stay on the trail” rules and not travel off designated roads, trails, or public areas
- transport out all items brought into the park, including food, beverage containers, and trash (i.e., pack-in/pack-out waste); no park facilities or receptacles would be used for disposal of waste
- prohibit their patrons from feeding any wildlife within the park, as stated in park regulations
- comply with NPS water conservation guidelines
- clean boots and other equipment before hikers enter the park to minimize the potential to introduce invasive species

- 1 ▪ ensure areas are left in the same
- 2 condition that existed or cleaner
- 3 than the condition that existed prior
- 4 to the occurrence of the authorized
- 5 activities

- 6 ▪ maintain their vehicles to prevent
- 7 exhaust that violates state and
- 8 federal laws, and also limit idling
- 9 times of their vehicles to reduce the
- 10 potential for air pollution and to
- 11 conserve fossil fuel resources

- 12
- 13 All commercial service providers leading
- 14 horse trips within the park would be
- 15 required to

- 16
- 17 ▪ use hitching posts to tie up horses
- 18 where they are available

- 19 ▪ stay on established, designated trails
- 20 as indicated on park maps and must
- 21 ride in single file

- 22 ▪ remove manure from trailheads and
- 23 parking areas on a daily basis

- 24 ▪ use commercial feed in lieu of
- 25 grazing if deemed necessary by the
- 26 superintendent to reduce the
- 27 potential for introduction of invasive
- 28 plant species to the park

- 29 ▪ have their vehicles and pastures
- 30 inspected for invasive species at least
- 31 biannually by park staff

- 32 ▪ All astronomy tour operators must
- 33 sign and carry a permit that details
- 34 the ways they can minimize their
- 35 impact on Hawaiian petrel. NPS
- 36 biologists also would continue to
- 37 make presentations to the tour
- 38 companies regarding the behavior of
- 39 the bird in the park. NPS law
- 40 enforcement staff would continue to
- 41 regularly patrol the areas used by the
- 42 astronomy tours to ensure there are
- 43 no adverse impacts caused by the
- 44 tour groups on the birds.

76

45

46

47 **PUBLIC SAFETY**

48 All commercial service providers would be
49 required to

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

In addition,

- horseback tour providers would be required to inspect horses and equipment prior to beginning each tour to ensure patron safety
- horseback tour providers would be required to restrict tour speed of their horses to a trot pace or less
- all astronomy tour providers would be required to limit their areas of use to paved areas

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The environmentally preferable alternative is the alternative that will best promote national environmental policy as expressed in the National Environmental Policy Act. Section 101(b) of the act identifies six criteria to help determine the environmentally preferable alternative. The act directs that federal plans should

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations
2. assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings
3. attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences
4. preserve important historical, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice
5. achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources

Two of the above criteria did not make a difference in determining the environmentally preferable alternative. Criterion 1 is satisfied by all the alternatives—Haleakalā National Park is already a national park system unit, and as a trustee of this area the

National Park Service would continue to fulfill its responsibilities to protect this area for future generations. The difference between the alternatives in this regard is not appreciable. Criterion 6 was determined to be not applicable to this plan.

When considering the remaining criteria, the environmentally preferable for the commercial services plan is alternative B, the NPS preferred alternative. This alternative best satisfies the national environmental goals embodied in goals 2, 3, 4, and 5—it protects most of the park's natural and cultural resources while concurrently providing for a relatively wide range of neutral and beneficial uses of the environment.

The alternative provides all visitors with safe trips in a beautiful, diverse environment. It would help reduce congestion on the summit, reducing the number of commercial service providers and parking spaces for road-based tours, and thus provide more opportunities for Native Hawaiians and other visitors to experience a sense of quiet and relative solitude.

Additional guide training requirements would help ensure that guided visitors receive a quality, safe experience. However, most commercial visitors should be able to schedule park tours during their time on Maui, even with these limits, and should have a good quality experience in Haleakalā National Park.

With unlimited growth that could expand up to the limits of the parking lot capacities, alternative A would pose the greatest risk of all the alternatives for adversely affecting the park's natural and cultural resources. With increasing number of tours, compared to alternative B, the quality of the visitor experience could decrease as congestion, crowding, and conflicts between various

1 users increase at popular destinations like
2 the Haleakalā summit, especially at sunrise.
3 The ability of Native Hawaiians to perform
4 traditional practices and ceremonies would
5 be much diminished in alternative A
6 compared to alternative B. The potential for
7 accidents in this area could increase if more
8 motor coaches drive up the narrow summit
9 road. Although ongoing commercial services
10 management would provide a wide range of
11 visitor experiences, incorrect and
12 inappropriate information about the park's
13 resources and mission would continue.
14 Thus, compared to alternative B, alternative
15 A would not fulfill as well criteria 2, 3, 4,
16 and 5.

17
18 Both alternatives B and C would be more
19 effective in meeting criteria 2, 3, 4, and 5
20 than alternative A. By limiting commercial
21 use levels, even more than alternative B,
22 alternative C would provide more natural
23 resource protection than alternative B.
24 Crowding would be reduced at the summit,
25 especially during sunrise. Like alternative B,
26 alternative C requirements for NPS-directed
27 guide education and certification would
28 enhance visitor understanding of the park's
29 mission and resources. However, alternative
30 C would not provide as many opportunities
31 for public enjoyment and understanding of
32 the park by guided visitors—decreasing the
33 number of commercial service providers,
34 commercial parking spaces, and group sizes
35 would result in fewer opportunities for
36 guided visitors to enjoy the park and fewer
37 individual choices compared to alternative
38 B. Thus, compared to alternative B,
39 alternative C would be about the same in
40 fulfilling criteria 2 and 5 and would be better
41 in fulfilling criterion 3 (attaining the widest

83

42 range of beneficial uses of the environment
43 without degradation). However, alternative
44 C would not support as wide a diversity and
45 variety of individual choices as alternative B,
46 and thus would not fulfill as well criterion 3.
47 Although alternatives B and C are about
48 equal overall in achieving the national
49 environmental goals embodied in the
50 National Environmental Policy Act,
51 alternative B is judged to be slightly better
52 due to the wider range of opportunities for
53 all visitors to enjoy the park.

54
55 Alternative D would provide the highest
56 diversity of visitor experience of all the
57 alternatives. Like alternatives B and C, the
58 requirements in alternative D for NPS-
59 directed guide education and certification
60 would enhance visitor understanding of the
61 park's mission and resources. However, with
62 increased commercial tours, this alternative
63 would pose a higher potential than
64 alternatives B and C to result in adverse
65 effects on the park's natural and cultural
66 resources. Compared to alternative B, the
67 quality of the visitor experience would
68 decrease on the Haleakalā summit, especially
69 at sunrise, with increased commercial use
70 and the resulting increase in congestion and
71 crowding. The ability of Native Hawaiians to
72 perform traditional practices and
73 ceremonies unfettered would be much
74 diminished compared to alternative B due to
75 the increase in congestion and crowding.
76 With the new interpretive bicycle tours, the
77 potential for conflicts with vehicles, and the
78 potential for accidents on the narrow, steep
79 summit road could increase, even with all
80 the safety measures being taken. Thus,
81 compared to alternative B, alternative D
82 would not fulfill as well criteria 2, 3, 4, and 5.

ALTERNATIVES AND ACTIONS DISMISSED FROM FURTHER CONSIDERATION

During the planning process, several additional alternatives and management actions were considered, but were eliminated from further study. These alternatives and management actions, and the reasons for dismissing them, are described below.

ELIMINATE COMMERCIAL HORSEBACK RIDING IN ENTIRE PARK

Horse use on park trails has adversely affected park resources (NPS 2006b).

However, horses have historically been used to explore and access remote park areas and to maintain the park. This mode of transportation allows access for a segment of the public that might not have access to some park areas otherwise, including the elderly and disabled. Few, if any, nonlocal visitors who come to the park have their own horses. Eliminating commercial horseback tours throughout the park would thus largely remove the opportunity for visitors seeking this experience.

For the above reasons this alternative would conflict with the purposes and significance of the park; therefore, this alternative was not carried through for analysis.

ALLOW DOWNHILL COMMERCIAL BICYCLE TOURS IN THE PARK LIKE THOSE THAT OPERATED PRIOR TO THE 2007 EMERGENCY STAND-DOWN

Commercial bicycle tours within Haleakalā National Park have had a history of serious accidents and injuries (NPS 2008f). The

summit road is steep, narrow, and heavily traveled at times; has many hairpin turns; and accommodates a wide variety of vehicles, including tour buses. While the National Park Service does not guarantee visitor safety nor is it responsible for acts and decisions made by visitors that may result in injury or illness, it does have a responsibility to identify public safety hazards and risks and to determine how and to what extent these risks can be mitigated. The 2008 NPS board of review's report found that the commercial guided bicycle tours, as operated and managed prior to the emergency stand-down, "pose an unacceptably high risk to park visitors" (see appendix B). In accordance with section 8.2.5.1 of *NPS Management Policies 2006*, parks must strive to protect human life and provide injury-free visits by reducing or eliminating known hazards.

In addition to the safety concerns, the bicycle tours potentially would increase congestion at the park summit at sunrise. It is also debatable whether an adventure tour is consistent with the purpose of the park. Thus, this commercial service was determined to be unreasonable, unable to meet the objectives of this plan, and in conflict with NPS management policies. Therefore, it was dismissed from further consideration.

ALLOW INTERPRETIVE BICYCLE TOURS AT THE SUMMIT AT SUNRISE

Sunrise at the summit of Haleakalā volcano is the busiest time of the day in this area, with large crowds usually present. Allowing bicycle tours, as well as other commercial tours, to come at this time led to congestion and many management problems in the past,

1 as noted above. Safety concerns are
2 exacerbated at this time due to heavy use of
3 the summit road and low light levels. In
4 addition, there is no compelling reason why
5 bicycle tours need to take place at this time
6 of the day—they could occur later in the
7 morning at less busy times and still provide a
8 quality interpretive experience for visitors.
9 For the above reasons, this alternative would
10 not help resolve the need for this plan and
11 would conflict with section 8.2.5.1 of NPS
12 *Management Policies 2006*; therefore, it was
13 dropped from further consideration.

14
15

16 **DESIGNATE “COMMERCIAL TOUR-**
17 **FREE” DAYS EACH WEEK IN THE**
18 **PARK**

19 Under this alternative, there would be five
20 days per week commercial service providers
21 could offer tours in the park and two
22 commercial tour-free days per week. This
23 action was intended to provide a range of
24 opportunities for visitors to experience the
25 park, providing two days when visitors who
26 are seeking opportunities for more quiet and
27 solitude could be in the park without
28 encountering commercial tours. This
29 alternative was dropped because a relatively
30 large number of visitors who rely on

63

31 commercial tours to see the park would not
32 be able to come if tours were banned on two
33 days. This action would also potentially have
34 a severe economic impact on many tour
35 operators, which in could turn could affect
36 the quality of the visitor experience.
37 Determining which two days to ban this use
38 would be difficult, with different tour
39 operators likely arguing for different days. If
40 the actual commercial tour-free days were to
41 switch from year to year, depending on such
42 factors as when tour ships are visiting the
43 island, it could potentially increase
44 confusion and uncertainty among tour
45 operators, their clients, and noncommercial
46 visitors. If tours were banned two days per
47 week, noncommercial visitors would likely
48 not know this and would be unable to plan
49 their trips around those days. Nor would
50 there be a certainty that noncommercial
51 visitors would find quiet and solitude
52 without commercial tours—more
53 noncommercial visitors might drive up and
54 replace the commercial tour visitors at the
55 summit. For all of these reasons, this
56 potential alternative is unable to meet the
57 objectives of this plan and conflicts with
58 providing compatible opportunities to enjoy
59 park resources as stated in the park purposes
60 and NPS management policies. Therefore,
61 this alternative was dismissed from further
62 consideration.

1
2
3

SUMMARY TABLES

TABLE 6. COMPARISON OF ALTERNATIVES

	Alternative A (No-action Alternative)	Alternative B (NPS Preferred Alternative)	Alternative C	Alternative D
Concept	No change in management of existing commercial tours; no limit on number of CUAs awarded; when the parking lots fill to capacity, commercial vehicles would be turned away.	Maintain current types of commercial services; commercial tours would be prohibited in the park 3 to 5 days per year; the number of commercial use providers and trips per day also would be limited	Maintain existing types of commercial services, but reduce the levels of commercial use; this alternative would impose stricter limits than alternative B on the number of commercial providers and on group size, but would not restrict the days when tours operate.	Increase levels and range of current commercial visitor opportunities, but there would be some limits on the growth of commercial visitation.
Why?	This alternative is required under NEPA and serves as a baseline for comparing the beneficial and adverse effects of the other alternatives; the park is operating under an interim operations plan (IOP) that is set to expire when the CSP process is complete; if the no-action alternative is selected, the CSP process would be complete and the IOP would expire, restoring conditions before the IOP—the no action-alternative describes the park’s pre-IOP management strategy.	This alternative was developed to respond to those people who indicated that commercial services diminished their personal park experience; it continues to provide opportunities for commercial tours, while also providing opportunities for Native Hawaiians to conduct cultural practices without interruptions from commercial tours.	This alternative was developed to respond to those people who indicated that commercial services should be reduced; the alternative would reduce the opportunity for visitors to experience the park via commercial providers.	This alternative was developed to respond to those people who indicated that commercial services should be increased; the alternative would increase the opportunity for visitors to experience the park via commercial providers. Alternative D explores the beneficial and adverse effects of implementing a new bike tour as described in the NPS safety committee’s report (NPS 2008c).
Types of Commercial Visitor Uses	<ul style="list-style-type: none"> Road-based tours Horseback riding Guided hiking Astronomy tours 	Same as alternative A	Same as alternative A	Same as alternative A, plus <ul style="list-style-type: none"> Interpretive bicycle tours
Level of Use	<ul style="list-style-type: none"> No limits on the number of CUAs or the level of use with parking lot capacity being the only constraint No time constraints on use All operators with CUAs permitted to run tours at the summit at sunrise 	<ul style="list-style-type: none"> The number of CUAs issued would not exceed 2009 levels For 3 to 5 days per year no commercial tours would be permitted in the park Only road-based tours permitted at sunrise hours; all other uses start after designated sunrise hours 	<ul style="list-style-type: none"> Existing types of commercial services would be maintained, but the level of commercial services would be reduced Only road-based tours permitted at the summit during sunrise hours; all other uses start after designated sunrise hours 	<ul style="list-style-type: none"> The numbers of some CUAs would be increased for applicants up to established caps All commercial operators, except bicycle tours permitted to run tours at the summit at sunrise
Road-based Tours	<ul style="list-style-type: none"> No limits on the number of CUAs or the level of use for this activity, with parking lot capacity being the only constraint No restrictions on type of vehicles, except motor coaches would continue to be prohibited from driving to the summit at sunrise No restrictions on van parking at the Haleakalā Visitor Center or at Red Hill Those with road-based permits would have access to the summit and Kīpahulu districts 	<ul style="list-style-type: none"> Up to 4 concession contracts would be offered for road-based tours, with access to the summit and Kīpahulu districts Parking spaces available for road-based tours would be limited to 8 parking spaces at the Haleakalā Visitor Center and available parking at Red Hill after sunrise, except for 3 to 5 days per year when no commercial tours would be permitted in the park Road-based tour providers could use vans and minibuses, but motor coaches would be prohibited No limits on the number of road-based tours at Kīpahulu 	<ul style="list-style-type: none"> Up to 3 concession contracts would be offered for road-based tours with access to the summit and Kīpahulu districts Six parking spaces at the Haleakalā Visitor Center would be reserved for road-based tours throughout the day No restrictions on type of vehicles, except motor coaches would continue to be prohibited from driving to the summit at sunrise No road-based tours could park at Red Hill No limits on the number of road-based tours at Kīpahulu 	<ul style="list-style-type: none"> Up to 3 concession contracts would be offered for road-based tours, with access to the summit and Kīpahulu districts Six parking spaces at the Haleakalā Visitor Center would be reserved for road-based tours throughout the day No restrictions on type of vehicles, except motor coaches would continue to be prohibited from driving to the summit at sunrise No road-based tours could park at Red Hill There would be no limits on the number of road-based tours at Kīpahulu
Horses	<ul style="list-style-type: none"> No limit on number of CUAs awarded in the Kīpahulu District Each commercial services provider would have up to 12 horses per group and could run an unlimited number of 	<ul style="list-style-type: none"> One CUA would be issued for guided horse groups in the Kīpahulu District The commercial services provider would be allowed up to 12 horses per group and to run one trip per day, except for 3 to 5 days per year 	<ul style="list-style-type: none"> One CUA would be issued for guided horse groups in the Kīpahulu District The commercial services provider would be allowed a maximum of 6 horses per group and run one trip 	<ul style="list-style-type: none"> One CUA would be issued for guided horse groups in the Kīpahulu District The commercial services provider would be allowed up to 12 horses per group and run an

TABLE 6. COMPARISON OF ALTERNATIVES

	Alternative A (No-action Alternative)	Alternative B (NPS Preferred Alternative)	Alternative C	Alternative D
	<p>trips</p> <ul style="list-style-type: none"> Horse tour groups would be permitted on the summit during sunrise hours 	<p>when no guided tours would be permitted</p> <ul style="list-style-type: none"> No horse tour groups would be permitted on the summit during sunrise hours 	<p>per day</p> <ul style="list-style-type: none"> No horse tour groups would be permitted on the summit during sunrise hours 	<p>unlimited number of trips</p> <ul style="list-style-type: none"> Horse tour groups would be permitted on the summit during sunrise hours
Hiking	<ul style="list-style-type: none"> No limit on number of CUAs awarded Each commercial services provider would be allowed up to 12 people per group and could run an unlimited trips in the Kīpahulu District Hiking tour providers would be able to take groups to the summit at sunrise 	<ul style="list-style-type: none"> No limit on number of CUAs awarded Each commercial services provider would be allowed up to 12 people per group and could run one trip per day in the Kīpahulu District, except for 3 to 5 days per year when no guided trips would be permitted No guided hiking groups would be permitted on the summit during sunrise hours 	<ul style="list-style-type: none"> No limit on number of CUAs awarded Each commercial services provider would be allowed up to 6 people per group and could offer one hiking trip in the Kīpahulu District per day No guided hiking groups would be permitted on the summit during sunrise hours 	<ul style="list-style-type: none"> No limit on number of CUAs awarded Each commercial services provider would be allowed up to 12 people per group and could run an unlimited number of hiking trips per day in the Kīpahulu District Hiking tour providers would be able to take groups to the summit at sunrise
Astronomy	<ul style="list-style-type: none"> No limit on number of CUAs awarded or the number of trips run by authorized operator Group size would allow up to 12 people per group Astronomy CUAs would have access to the summit district 	<ul style="list-style-type: none"> The number of CUAs issued to astronomy groups would be limited to no more than four CUAs Astronomy CUAs would have access to the summit district outside of sunrise hours Each CUA could offer one trip per day area (except for 3 to 5 days per year when no guided trips would be permitted) The maximum size of each group would be 12 people 	<ul style="list-style-type: none"> The number of CUAs for astronomy groups would be limited to no more than four No restrictions on parking at the Haleakalā Visitor Center and Red Hill Astronomy CUAs would have access to the summit district outside of sunrise hours Each CUA could offer one trip per day The maximum group size would be reduced to six people 	<ul style="list-style-type: none"> Up to six CUAs would be issued for astronomy tours Astronomy CUAs would have access to the summit district, including the summit at sunrise Each CUA could offer up to one trip per day The maximum group size would be 12 people per group
Bikes	<ul style="list-style-type: none"> The National Park Service would continue to prohibit commercial bicycle riding. 	<ul style="list-style-type: none"> Same as alternative A 	<ul style="list-style-type: none"> Same as alternative A 	<ul style="list-style-type: none"> Up to two CUAs would be issued for interpretive bike tours No trailers for bicycles would be permitted within the park Tours would only be offered between 8 a.m. to 10 a.m. Bicycle tours within the park would not exceed one guide and five bicycle clients There would be a minimum of 15 minutes between launches by all CUAs
Annual Operating Costs	\$767,000	\$603,000	\$516,000,000	\$841,000
Staff (Full-Time Equivalent)	13.00	9.25	8.75	14.25
Common to All Alternatives				
<ul style="list-style-type: none"> The alternatives apply to all parts of the park excluding wilderness. When parking lots fill to capacity, no additional tour groups or other visitors will be allowed into the area. Commercial providers and guides would be required to participate in park-provided training that would include NPS messages and themes; commercial providers would be required to distribute booklets that describe park resources, stewardship ideals, and mission. If there were more applicants than CUAs available, applicants would compete to receive a CUA. 				

TABLE 7. SUMMARY OF KEY IMPACTS

	Alternative A (No-action Alternative)	Alternative B (NPS Preferred Alternative)	Alternative C	Alternative D
Natural Resources— Soils	<p>Guided groups would continue to trample some soils at the summit and guided hiker and horse group activity at Kīpahulu would produce localized, long-term, minor, adverse effects on soils.</p> <p>There would be a long-term, minor, adverse cumulative impact on soils in localized areas.</p>	<p>Some trampling, compaction, and erosion of soils still would occur; with fewer tour groups using the park and increased training of guides, alternative B would likely result in negligible to minor, long-term, adverse impacts on soils at the summit and at Kīpahulu compared to alternative A.</p> <p>There would be a long-term, minor, adverse cumulative impact in localized areas.</p>	<p>Trampling, compaction, and erosion of soils due to guided groups would occur under alternative C; however, with fewer, smaller tour groups using the park and increased training of guides, there would likely be negligible to minor, long-term, adverse impacts on soils at the summit and Kīpahulu area relative to alternative A.</p> <p>There would be the potential for a long-term, minor, adverse, cumulative impact on soils in localized areas relative to alternative A (although alternative C would reduce the intensity of the adverse cumulative impact).</p>	<p>Alternative D would likely have about the same minor, long-term, adverse effects on soils at the summit and at Kīpahulu as alternative A due to trampling, compaction, and erosion of soils by guided horse and hiking groups.</p> <p>There would be a long-term, minor, adverse, cumulative impact on soils in localized areas (although alternative D would reduce the intensity of the adverse cumulative impact).</p>
Natural Resources— Vegetation	<p>With increased use by guided groups in alternative A it is expected overall that there would continue to be localized, minor, long-term, adverse effects on vegetation in areas such as the summit and crater floor. Minor, long-term, adverse impacts also would occur to vegetation along trails in the Kīpahulu area.</p> <p>When the effects of guided visitors and expected future construction projects are added together there would be a minor, long-term, adverse cumulative impact on vegetation in localized areas.</p>	<p>Guided groups in alternative B would still result in some loss and disturbance of vegetation at popular use areas, including the summit's overlooks, and the Kīpahulu area. With reduced numbers of guided groups and increased training of guides, fewer vegetative impacts would be expected. Overall, alternative B would have a long-term, beneficial impact on vegetation in localized areas, compared to alternative A.</p> <p>There also would be the potential for a minor, long-term, adverse, cumulative effect on vegetation in localized areas when the effects of guided visitor use and expected new developments in the Kīpahulu area are added together.</p>	<p>Alternative C would have many of the same effects as alternative B. Guided groups in alternative C would still cause some loss and disturbance of vegetation at popular use areas, such as the summit's overlooks. With reduced numbers of guided groups and increased training of guides, fewer vegetative impacts would be expected. Overall, alternative C would have a long-term, beneficial impact on vegetation in localized areas, compared to alternative A.</p> <p>There also would be the potential for a minor, long-term, adverse, cumulative impact on vegetation in localized areas when the effects of guided visitor use and expected new developments in the park are added together.</p>	<p>With increased use, guided groups in alternative D would result in vegetation damage and loss at the summit and at Kīpahulu. However, with the limits on future increases in use, unlike alternative A, and increased training of guides, the impacts of alternative D would be somewhat less than alternative A. Overall, alternative D would be expected to result in a long-term, beneficial impact on vegetation in localized areas relative to alternative A.</p> <p>When the effects of guided visitors and likely future construction projects are added together, there would be a minor, long-term, adverse cumulative effect on vegetation in localized areas.</p>
Natural Resources— Special Status Species	<p>With continued use, and probably increased use, by guided groups under alternative A, minor to moderate, long-term, adverse impacts could occur to the endangered Hawaiian petrel, nēnē, Haleakalā silversword, and nohoanu. These impacts would be both disturbance and possibly injury and loss of some individuals. However, the continued use of the park by guided groups in alternative A would not threaten the continued existence of the species.</p> <p>When actions independent of this alternative are added to the effects of this alternative, there could be long-term impact on the four species.</p> <p>Based on the definitions of the U.S. Fish and Wildlife Service, alternative A may affect, but would not be likely to adversely affect, the four endangered species in the park.</p>	<p>Under alternative B there would continue to be the potential for disturbance and possibly the injury and loss of some Haleakalā silverswords, nohoanus, nēnēs, and Hawaiian petrels. However, the continued use of the park by guided groups in alternative B would not threaten the continued existence of the species. With limits on the increase of guided groups, bans on guided use several days per year, and increased training of guides, the potential for these impacts would decline when compared to alternative A. Overall, alternative B would have a minor, long-term, beneficial impact on the four listed species.</p> <p>When the effects of alternative B are combined with other present and future actions independent of this plan, there would likely be a long-term, cumulative impact on the four species.</p> <p>Based on the definitions of the U.S. Fish and Wildlife Service, alternative B may affect, but would not be likely to adversely affect, the four endangered species in the park.</p>	<p>Under alternative C there would continue to be the potential for disturbance and possible injury to and loss of some Haleakalā silverswords, nohoanus, nēnēs, and Hawaiian petrels. However, the continued use of the park by guided groups in alternative C would not threaten the continued existence of the species. With limits on increased use of guided groups, a reduction in some group sizes, and increased training of guides, the potential for these impacts would decline. Compared to alternative A, alternative C would have a minor, long-term, adverse impact on the four listed species.</p> <p>When the effects of alternative C are combined with other present and future actions independent of this plan, there would likely be a long-term, cumulative impact on the four species.</p> <p>Based on the definitions of the U.S. Fish and Wildlife Service, alternative C may affect, but would not be likely to adversely affect, the four endangered species in the park.</p>	<p>Under alternative D there would continue to be the potential for disturbance and possible injury to and loss of some Haleakalā silverswords, nohoanus, nēnēs, and Hawaiian petrels. However, the continued use of the park by guided groups in alternative D would not threaten the continued existence of the species. With limits on increased use of guided groups and with increased training of guides, the potential for such impacts would decline. Compared to alternative A, alternative D would have a minor, long-term, adverse impact on the four listed species.</p> <p>When the effects of alternative D are combined with other present and future actions independent of this plan, there would likely be long-term, cumulative impact on the four species.</p> <p>Based on the definitions of the U.S. Fish and Wildlife Service, alternative D may affect, but would not be likely to adversely affect, the four endangered species in the park.</p>
Natural Resources— Soundscape	<p>Alternative A would have a minor to moderate, long-term, adverse impact to the soundscape in localized areas of the park's popular frontcountry areas due to noise from continuing and increasing numbers of guided groups. These impacts would be most evident at the summit, on trails, and in the Kīpahulu developed area.</p>	<p>Alternative B would have a long-term, beneficial impact on the soundscape compared to alternative A. There would be some adverse impacts on the soundscape in localized areas due to noise from guided groups at the summit, and in the Kīpahulu developed area, but actions taken to manage commercial use (e.g., limits on the increase of guided groups, bans on guided use several days per year, and increased training of guides) would reduce these impacts compared to alternative A.</p>	<p>Alternative C would result in a long-term, beneficial impact on the park's soundscape. Most of the park would not be affected by the alternative. There would be some adverse impacts to localized areas of the park's soundscape due to noise from guided groups at the summit and in the Kīpahulu developed area, but actions taken to manage commercial use (e.g., a reduction in the number of commercial service providers, a ban on guided horse use on the Sliding Sands Trail, and increased training of guides) would reduce these impacts compared to alternative A.).</p>	<p>Alternative D would have a beneficial impact on the park's soundscape. Most of the park would not be affected by the alternative. There would be some adverse impacts to localized areas of the park's soundscape due to noise from guided groups at the summit and in the Kīpahulu developed area, the actions taken to manage commercial use (e.g., limits on the number of commercial service providers; limits on the number of trips per day hiking, horseback riding, and astronomy commercial service providers can offer; increased training of guides) would reduce these impacts compared to alternative A.</p>

TABLE 7. SUMMARY OF KEY IMPACTS

	Alternative A (No-action Alternative)	Alternative B (NPS Preferred Alternative)	Alternative C	Alternative D
Natural Resources— Soundscape (continued)	When noise from helicopter air tours and administrative aircraft flying over or near the park, noise from motor vehicles using the summit road to build the solar telescope, and noise from possible construction activities in and outside the park are added to noise from guided visitors in alternative A, there would be the potential for a moderate to major, short-term and a moderate to major long-term, adverse cumulative impact in localized areas of the park's soundscape. Alternative A would add a very small increment to this overall moderate to major, adverse cumulative impact.	When noise from helicopter air tours and administrative aircraft flying over or near the park and noise from possible future construction activities in and outside the park are added to noise from guided visitors in alternative B, there would be the potential for a moderate to major, short-term, adverse, cumulative impact in localized areas of the park's frontcountry. However, alternative B would add a very small increment to the overall adverse cumulative impact.	When noise from helicopter air tours, park administrative aircraft flying over or adjacent to the park and noise from likely future construction activities in and outside the park are added to noise from guided visitors in alternative C, there would be the potential for a moderate to major, short-term, adverse, cumulative impact in localized areas in the frontcountry soundscape. The beneficial increment of alternative C would slightly reduce the overall adverse cumulative impacts.	When noise from helicopter air tours and park administrative aircraft flying over or adjacent to the park and noise from likely future construction activities in and outside the park are added to noise from guided visitors in alternative D, there would be the potential for a moderate to major, short-term, adverse, cumulative impact in localized areas of the park's frontcountry. The beneficial increment added by alternative D would slightly reduce the overall adverse cumulative impact.
Cultural Resources— Archeological Resources	<p>Implementation of alternative A would result in long-term, minor, adverse, and direct impacts on historic structures.</p> <p>When the impacts of alternative A are combined with other past, present, and reasonably foreseeable actions, there would likely be long-term, negligible to minor, adverse, and direct cumulative impacts to historic structures.</p> <p><i>Section 106 Summary</i> After applying Advisory Council on Historic Preservation (ACHP) criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative A would result in determination of no adverse effect.</p>	<p>Implementation of alternative B would result in fewer long-term, minor impacts on archeological resources.</p> <p>When the impacts of alternative B are combined with other past, present, and reasonably foreseeable future actions there would likely be and long-term, minor, adverse impacts to archeological resources when compared to alternative A.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative B would result in determination of no adverse effect.</p>	<p>Implementation of alternative C would result in localized, long-term, negligible impacts on archeological resources.</p> <p>When the impacts of alternative C are combined with the impacts of other past, present, and reasonably foreseeable actions, the result would likely be long-term, negligible to minor, adverse impacts on archeological resources compared to alternative A.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative C would result in a determination of no adverse effect.</p>	<p>Implementation of alternative D would result in long-term, minor to moderate, adverse impacts on archeological resources.</p> <p>When the impacts of alternative D are combined with the impacts of other past, present, and foreseeable actions, there would likely be long-term, minor to moderate, adverse, cumulative impacts on archeological resources.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative D would result in a determination of adverse effects to archeological resources.</p>
Cultural Resources— Cultural Landscapes	<p>Implementation of alternative A would result in short- and long-term, minor to moderate, adverse impacts on cultural landscapes.</p> <p>The impacts of alternative A, in conjunction with past, present, and reasonably foreseeable future actions, would be short and long term, minor, and adverse.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative A would result in a determination of no adverse effect to cultural landscapes.</p>	<p>Implementation of alternative B would result in long-term, minor, adverse impacts on cultural landscapes.</p> <p>The impacts of alternative B, in combination with the impacts of other past, present, and reasonably foreseeable future actions would result in short- and long-term, minor to moderate, adverse impacts compared to alternative A.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative B would result in a determination of no adverse effect to cultural landscapes.</p>	<p>Implementation of alternative C would result in long-term, negligible to minor, adverse impacts on cultural landscapes</p> <p>The impacts of alternative C combined with the impacts of other past, present, and reasonably foreseeable actions would result in short- and long-term, minor to moderate, adverse impacts on cultural landscapes compared to alternative A.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, assessment of adverse effects), the National Park Service concludes that implementation of alternative c would result in a determination of no adverse effect to cultural landscapes.</p>	<p>Overall, alternative D would result in long-term, moderate, adverse impacts on the cultural landscapes compared to alternative A.</p> <p>When the impacts of alternative D are combined with the impacts of other past, present, and foreseeable actions, there would likely be long-term, moderate, adverse impacts on cultural landscapes.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative D would result in a determination of adverse effect to cultural landscapes.</p>

TABLE 7. SUMMARY OF KEY IMPACTS

	Alternative A (No-action Alternative)	Alternative B (NPS Preferred Alternative)	Alternative C	Alternative D
Cultural Resources— Historic Structures	<p>Implementation of alternative A would result in long-term, minor, adverse, and direct impacts on historic structures.</p> <p>When the impacts of alternative A are combined with the impacts of other past, present, and reasonably foreseeable actions, there would likely be short- and long-term, negligible to minor, adverse, direct impacts to historic structures.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR Part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative A would result in a determination of no adverse effect to historic structures.</p>	<p>Implementation of alternative B would result in long-term, minor, adverse impacts on historic structures.</p> <p>When the impacts of alternative B are combined with the impacts of other, past, present, and reasonably foreseeable actions, there would likely be short- and long-term, negligible to minor, adverse, direct impacts to historic structures.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative B would result in a determination of no adverse effect to historic structures.</p>	<p>Implementation of alternative C would result in long-term, minor, adverse impacts on historic structures.</p> <p>When the impacts on historic structures of alternative C are combined with the impacts of other past, present, and reasonably foreseeable future actions, there would likely be short- and long-term, minor, adverse, direct impacts compared to alternative A.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR Part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative C would result in a determination of no adverse effect to historic structures.</p>	<p>Implementation alternative D would result in long-term, moderate, adverse impacts on the cultural landscapes compared to alternative A.</p> <p>When the impacts in alternative D are combined with the impacts of other past, present, and foreseeable actions, there would likely be long-term, moderate, adverse impacts on cultural landscapes.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR Part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative D would result in a determination of adverse effect to historic structures.</p>
Ethnographic Resources and Cultural Practices	<p>Under alternative A, impacts to ethnographic resources and cultural practices would continue to be long term, minor to moderate, and adverse.</p> <p>When the impacts of alternative A are combined with the impacts of other past, present, and reasonably foreseeable future actions, the resulting impacts would likely be short and long term, negligible to minor, and adverse.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative A would result in a determination of adverse effect on ethnographic resources.</p>	<p>Under alternative B, impacts to ethnographic resources and cultural practices would be long term, minor, and adverse.</p> <p>Overall, impacts on ethnographic resources and cultural practices resulting from alternative B in conjunction with other past, present, and reasonably foreseeable future actions would be short and long term, negligible to minor, and adverse.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative B would result in a determination of no adverse effect on ethnographic resources and cultural practices.</p>	<p>Under alternative C, impacts to ethnographic resources and cultural practices would be long term, minor, and adverse.</p> <p>Overall, the impacts on ethnographic resources and cultural practices of alternative C in conjunction with other past, present, and reasonably foreseeable future actions would result in short- and long-term, minor, adverse impacts.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative C would result in a determination of no adverse effect on ethnographic resources and cultural practices.</p>	<p>Under alternative D, impacts to ethnographic resources and cultural practices would be long term, moderate, and adverse, compared to alternative A.</p> <p>Overall, impacts of alternative D on ethnographic resources, in conjunction with the impacts from other past, present, and reasonably foreseeable future actions would be short and long term, moderate, and adverse.</p> <p><i>Section 106 Summary</i> After applying ACHP criteria of adverse effect (36 CFR part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of alternative D would result in a determination of adverse effects to ethnographic resources.</p>
Visitor Use and Experience	<p>Alternative A would result in long-term, moderate, adverse impacts to the overall visitor experience due to unlimited commercial tours and use levels all year long, limited opportunities to experience solitude and quiet, and no requirements for interpretive and educational materials.</p> <p>Overall, there would be long-term, beneficial, cumulative effects to visitor experience when the effects of alternative A are added to other foreseeable actions (e.g., improved visitor facilities, roads, and trails) and moderate to major, adverse cumulative impacts when the effects of alternative A are added to the effects resulting from air tour overflights. The impact of alternative A would contribute a relatively small increment to the overall cumulative impact.</p>	<p>Alternative B would result in long-term, beneficial impacts to the overall visitor experience due to some limits on commercial use authorization / concessions and use levels, some limits on access by commercial tours during the year, intermittent improvements in opportunities to experience solitude and quiet, and requirements for interpretive and educational materials.</p> <p>Overall, there would be long-term, beneficial, cumulative effects to visitor experience when the effects of alternative B are added to other foreseeable actions (e.g., improved visitor facilities, roads, and trails) and long-term, moderate, adverse, cumulative impacts when the effects of alternative B are added to the effects resulting from air tour overflights. The beneficial impact of alternative B would contribute a considerable increment to the overall cumulative impact.</p>	<p>Alternative C would generally result in long-term, beneficial impacts to the overall visitor experience due to strict limits on commercial use authorizations / concessions and use levels (which help reduce crowding and congestion), improved opportunities to experience solitude and quiet, and requirements for interpretive and educational materials. However, compared to alternative A the limits on tours and group size would result in a long-term, minor to moderate, adverse effect on some visitor experiences.</p> <p>Overall, there would be long-term, beneficial, cumulative effects to visitor experience when the effects of alternative C are added to other foreseeable actions (e.g., improved visitor facilities, roads, and trails) and long-term, moderate, adverse, cumulative impacts when the effects of alternative C are added to the effects resulting from air tour overflights. The beneficial impact of alternative C would contribute a considerable increment to the overall cumulative impact.</p>	<p>Alternative D would generally result in long-term, beneficial impacts to the overall visitor experience due to unlimited commercial use authorizations / concessions and use levels, unlimited access by commercial tours all year long, and few opportunities to experience solitude and quiet. Improved education materials and the addition of an interpretive bike tour would also have beneficial effects on opportunities for interpretation and education.</p> <p>Overall, there would be long-term, beneficial, cumulative effects to visitor experience when the effects of alternative D are added to other foreseeable actions (e.g., improved visitor facilities, roads, and trails) and long-term, moderate, adverse, cumulative impacts when the effects of alternative D are added to the effects resulting from air tour overflights. The beneficial impact of alternative D would contribute a small increment to the overall cumulative impact.</p>

TABLE 7. SUMMARY OF KEY IMPACTS

	Alternative A (No-action Alternative)	Alternative B (NPS Preferred Alternative)	Alternative C	Alternative D
Public Health and Safety	<p>Alternative A would result in long-term, minor to moderate, adverse effects on public health and safety due to crowding and frustration on the roadways, conflicts with horse and hiker encounters, confusion due to a lack of consistent safety messaging, and a possible increase in hiker safety issues and rescues.</p> <p>When the effects of alternative A are added to the effects of the park road rehabilitation and the implementation of the Kipahulu district site plan, there would likely be minor to moderate, beneficial, cumulative impacts to public health and safety (with alternative A adding a noticeable adverse increment to the overall cumulative impact).</p>	<p>Alternative B would result in long-term, negligible to minor, beneficial effects on public health and safety due to a slight reduction in crowding and visitor frustration on the roadways and in conflicts involving horse and hiker encounters, and decreased potential for hiker safety and rescues because of some limitation on commercial use and consistent safety messages provided in interpretive booklets.</p> <p>When the effects of alternative B are added to the effects of the park road rehabilitation and the implementation of the Kipahulu district site plan there would likely be minor to moderate, beneficial, cumulative impacts to public health and safety (with alternative B adding a beneficial increment to the overall cumulative impact).</p>	<p>Alternative C would result in long-term, moderate, beneficial effects on public health and safety due to a considerable reduction in crowding and visitor frustration on the roadways and in conflicts involving horse and hiker encounters, especially at the summit area, and decreased potential for hiker safety issues and rescues due to strict limitations on commercial use and consistent safety messages provided in interpretive booklets.</p> <p>When the effects of alternative C are added to the effects of the park road rehabilitation and the implementation of the Kipahulu district site plan there would likely be minor to moderate, beneficial, cumulative impacts to public health and safety (with alternative C adding a noticeable beneficial increment to the overall cumulative impact).</p>	<p>Alternative D would result in minor to moderate, long-term, beneficial impacts due to the provision of an interpretive booklet and the institution of limits on the number of commercial use authorizations and concession contracts for tour groups in the park. The alternative also would have a long-term, moderate, adverse effect on public safety due to crowding and frustration on the roadways, conflicts with more horse and hiker encounters, increased potential for hiker safety issues and rescue due to few limitations on commercial use, and increased risks of possible accidents due to bicyclists on the road.</p> <p>When the effects of alternative D are added to the effects of the park road rehabilitation and the implementation of the Kipahulu district site plan there would likely be minor, beneficial, cumulative impacts to public health and safety.</p>
Socioeconomics	<p>Alternative A would result in overall long-term, moderate, beneficial impacts to employment in astronomy, hiking, horseback, or road-based tours due to the unlimited number of tours per day allowed, yet continued minor adverse impacts to employment at bicycle tour companies. While some adverse impacts to the local communities could occur, such as potential increased congestion, overall, alternative A is expected to result in continued long-term, minor, beneficial impacts to the community economy due to potential increased visitor spending for tours and increased park operational spending.</p> <p>In combination with other projects, alternative A would result in long-term, minor, beneficial, cumulative impacts to the economy.</p>	<p>Alternative B would result in overall long-term, minor, adverse impacts to tour company employment. Alternative B may result in negligible long-term, adverse effects to the local economies, if visitor demand exceeds maximum capacity for commercial tours of the park and due to reduced park operational spending.</p> <p>In combination with other projects, alternative B would result in short- and long-term, minor, beneficial, cumulative impacts to the economy (as reductions in park spending and visitor spending would be outweighed by the other project increases).</p>	<p>Alternative C would result in overall long-term, minor to moderate, adverse impacts to commercial tour employment and wages and would result in minor, long-term, adverse effects to local economies, if visitor demand exceeds maximum capacity for commercial tours of the park and due to reduced park operational spending.</p> <p>In combination with other projects, alternative C would result in long-term, negligible to minor, beneficial, cumulative impacts to the economy (as reductions in park spending and visitor spending would be outweighed by the other project increases).</p>	<p>Alternative D would result in overall long-term, minor beneficial impacts to tour company employment and wages. Alternative D is expected to result in continued long-term, minor beneficial impacts to the community economy (as in alternative A), with additional park operational spending adding a small benefit over alternative A.</p> <p>In combination with other projects, alternative D would result in short- and long-term, minor, beneficial cumulative impacts to the economy.</p>
Park Operations	<p>With increased numbers of commercial use authorizations, alternative A would reduce operational efficiency and result in long-term, minor to moderate, adverse impacts to park operations.</p> <p>Alternative A, combined with other projects occurring at the park, would result in increased demands on staff time and increased funding needs for staff wages, resulting in short- and long-term, moderate, adverse, cumulative impacts to NPS operations.</p>	<p>Alternative B would result in reduced staff time required to manage the commercial services program and therefore reduced funding needs, compared with alternative A. The alternative would result in long-term, minor, beneficial impacts to park operations.</p> <p>Alternative B, combined with other projects occurring at the park, would result more efficient operations and reduced funding requirements, resulting in long-term, negligible, beneficial cumulative impacts to NPS operations.</p>	<p>Alternative C would require less funding than alternative A. The reduced commercial service management would result in greater operational efficiency and therefore long-term, minor to moderate, beneficial impacts to operations.</p> <p>Alternative C, combined with other projects occurring at the park, would result in more efficient operations and reduced funding requirements, resulting in long-term, negligible to minor, beneficial, cumulative impacts to NPS operations.</p>	<p>Alternative D would require increased demands on staff time, increased number of staff, and associated additional costs, which would result in long-term, moderate, adverse impact to operations.</p> <p>Alternative D, combined with other projects occurring at the park, would result in increased demands on staff time and increased funding requirements, resulting in long-term, moderate, adverse cumulative impacts to NPS operation.</p>

AFFECTED ENVIRONMENT

3



1 back of divider
2

INTRODUCTION

1

2

3

4 The “Affected Environment” chapter
5 describes the existing environment of
6 Haleakalā National Park. The focus of this
7 chapter is on key topics (e.g., natural and
8 cultural resources, visitor opportunities,
9 socioeconomic characteristics, and park

15

10 operations) that have the potential to be
11 affected by the alternatives should they be
12 implemented. The topics in this chapter
13 correspond to the impact topics identified in
14 chapter 1.

NATURAL RESOURCES

SOILS

The widely ranging climate zones of Haleakalā National Park have given rise to a variety of general soil types, depending primarily on amount of precipitation, topography, and drainage (NPS 1995a).

Summit

At the summit and in the crater, annual precipitation ranges from less than 30 inches to 200 inches. Soils here are composed of relatively unweathered, bedded volcanic cinders, pumice, and ash associated with the cinder cones. The majority of the inner crater is covered with volcanic rocks and boulders covering the basalt and andesite lava flows (NPS 1995a). In places, recent ‘A‘ā lava (sharp, jagged) can be found, either with a thin covering of volcanic ash or directly exposed as hard, glossy, sharp masses creating rough terrain. Rock rubble slides are common on steep slopes within the crater. The west and south flanks of the summit from 8,000 to 10,000 feet consist mostly of sparsely vegetated rough, irregular ‘A‘ā lava with little or no developed soil (NPS 1995a).

Currently, there is considerable trampling at viewing sites at the Haleakalā Visitor Center and Red Hill. These locations are visited by nearly every park visitor, and the cinder soils show evidence of pulverization, especially at prime viewing locations. Soil degradation is also evident outside the designated viewing areas because visitors farther back from the railings cannot see—they move about seeking better views, sometimes to locations not intended for this use (NPS 2006b).

Kīpahulu Horse Trail

Soils along this trail are loamy with some rocks. In sharp contrast to the Sliding Sands

Trail substrates, these soils compact under horse traffic and are not very erodible. In grassy sections, the trail nearly disappears. Trail grades are steep (10%–20%), but the compactable soil, rockiness, and dense grass cover in some places retard soil erosion. Maximum incision ranges from 0.75 to 4.75 inches, not very severe given the steep grades. Muddiness can be a problem in some areas.

The trail has one recreation site, barren of vegetation, with compacted soils. This approximately 4,000-square-foot area is located in a forested area where horses are tied to trees, as no hitching posts are available. The horse use has exposed and compacted soils on 1,350 square feet of the area (NPS 2006b).

VEGETATION

Haleakalā National Park harbors a rich assemblage of native plant communities with a tremendous diversity of species (NPS 2006b; Talken-Spaulding 2005). Surveys have documented 650 plant species growing in the park, of which 370 are native (NPS 1995a). Of the native species, about 90% are endemic to the Hawaiian Islands with 25% specific to Maui. With an elevation change from sea level to 10,023 feet within a distance of a few miles and a wide range of precipitation from less than 40 inches to more than 400 inches per year, Haleakalā National Park has a diverse range of vegetation zones. Haleakalā National Park has a coastal vegetation zone grading into a highly disturbed lowland forest and mesic forest. At higher elevations, intact lowland and mountain rainforest, mountain cloud forest, montane bogs, subalpine grasslands and shrublands, alpine aeolian cinder fields, montane dry forest remnants, and leeward mesic shrublands appear (NPS 2006a).

1 Introduced feral goats and pigs, as well as
 2 past cattle grazing, have had a devastating
 3 impact on the vegetation of Haleakalā (NPS
 4 1995a). Likewise, invasive plant species out-
 5 compete and prevent seedling establishment
 6 of many native species. These stressors are
 7 broad in scope and are due to effects not
 8 associated with commercial tours and as
 9 such are not discussed in this environmental
 10 assessment.

11
 12 The majority of effects of this commercial
 13 services plan are confined to the summit of
 14 Haleakalā and the Kīpahulu area.

15 16 **Summit Area**

17 Plant communities in the summit area
 18 consist of alpine vegetation suited to the cool
 19 high altitudes and rocky substrate where
 20 plant cover is sparse with only a few hardy
 21 shrubs and grasses present. The area has less
 22 than 25% plant cover, and usually less than
 23 5%, and has low plant species diversity
 24 (Medeiros et al. 1998). The ‘ahinahina or
 25 Haleakalā silversword (*Argyroxiphium*
 26 *sandwicense* ssp. *macrocephalum*) has
 27 adapted to and can be encountered in these
 28 harsh habitats. Located below the higher
 29 elevations and above the forest line, more
 30 than a dozen species of shrubs and grasses
 31 can be found. Populations range from
 32 sparse, poor soils to dense thickets where
 33 soils are thicker.

34
 35 Five recreation sites (areas of obvious
 36 vegetative, organic litter, or soil disturbance)
 37 in the Haleakalā summit area were created
 38 by visitors and commercial services patrons
 39 leaving designated trails and overlook
 40 platforms (NPS 2006b). These sites consist
 41 largely of informal trails and viewing sites for
 42 exploration of the ridge tops, for viewing
 43 Haleakalā silverswords and for obtaining
 44 vistas of the sunrise. No detectable loss of
 45 vegetation has occurred, due to the scarcity
 46 of vegetation at this elevation; however,
 47 pulverization of substrates was evident.
 48 Marion and Hockett (NPS 2006b) observed
 49 that only a little use could result in informal
 50 trails and cause significant trampling, given

51 the nature of the substrate, and sensitivity of
 52 the plants to the harsh climate.

53 54 **Kīpahulu Valley**

55 One of the richest botanical regions in
 56 Hawai‘i lies on the northern and eastern
 57 slopes of Haleakalā (NPS 1995a, NPS 2006a).
 58 Within this rainforest belt, the dense
 59 vegetation of Kīpahulu Valley reflects the
 60 heavy rainfall, particularly from 2,500 to
 61 6,500 feet. From sea level to approximately
 62 1,200 feet the native forest cover was
 63 removed for agricultural uses and until
 64 recently was used for grazing (NPS 1995a).
 65 Many nonnative trees and shrubs grow in
 66 scattered to closed colonies throughout the
 67 grasslands.

68
 69 Proceeding up the valley, a mixed forest of
 70 native and nonnative trees and understory
 71 plants is encountered. While several guava
 72 and eucalyptus are found in the lower limits
 73 of the valley, the original dominant
 74 component, koa trees (*Acacia koa*), still
 75 characterizes the historic community (NPS
 76 1995a).

77
 78 Climbing higher, an open to closed koa
 79 forest with some ‘ohi‘a (*Metrosideros* sp.)
 80 and olapa (*Cheirodendron triynum*) trees is
 81 encountered. Except for areas disturbed by
 82 pigs, this forest seems to have escaped
 83 human-created changes and remains largely
 84 untouched (NPS 1995a).

85
 86 As elevation increases, the koa forest starts
 87 to give way to ‘ohi‘a forest where the koa
 88 disappears and olapa becomes an association
 89 dominant with ‘ohi‘a. At higher elevations
 90 the ‘ohi‘a forest gives way to a thick ground
 91 cover consisting of several native woody and
 92 herbaceous vascular plants. Feral goats
 93 formerly inhabiting this region have caused
 94 deeply eroded gullies to form on the ridge
 95 tops (NPS 1995a).

96
 97 At the top of the Kīpahulu hose trail there is
 98 extensive damage to trees from rope marks,
 99 chewed bark, and exposed roots due to
 100 horse pawing (NPS 2006b). In general,

1 approximately 38% of the vegetative cover
 2 of the 3,855 total square foot area was
 3 reduced by horse and visitor trampling in the
 4 area. Several trees also had roots exposed,
 5 with four trees showing severe root
 6 exposure.



HORSE DAMAGE AT KĪPAHULU

9
 10

11 **SPECIAL STATUS SPECIES**

12 Four federally listed endangered and
 13 threatened species occur within the project
 14 area and potentially could be affected by the
 15 commercial services plan.

16
 17 The **Haleakalā silversword** ('ahinahina)
 18 [*Argyroxiphium sandwicense* ssp.
 19 *macrocephalum*]) is a primary attraction for
 20 many park visitors and is considered by
 21 many to be a symbol of the park. It is
 22 endemic to a 2,471-acre area at the 6,890- to
 23 9,843-foot elevation in the crater and outer
 24 slopes of Haleakalā summit and it can be
 25 encountered along the trail system in the
 26 summit.

27
 28 The silversword is a distinctive, globe-
 29 shaped rosette plant with rigid (sword-like),
 30 succulent leaves covered by silver hairs. The
 31 monocarpic (i.e., flowers only once, at the
 32 end of its life) silversword matures from seed
 33 to its final flowering stage in about 15 to 50
 34 years. At the end of its life, it produces a
 35 spectacular flowering stalk 1.6 to 6.4 feet tall,

36 typically with hundreds of maroon
 37 sunflower-like flower heads.

38
 39 Excessive grazing by cattle and goats and
 40 vandalism inflicted by people in the 1920s,
 41 caused near extinction of the Haleakalā
 42 silversword (USFWS 1997). The plant was
 43 listed as a threatened species by the U.S. Fish
 44 and Wildlife Service on May 15, 1992,
 45 because of its extremely limited range and
 46 precarious lifecycle.

47
 48 Critical habitat was designated for the
 49 silversword on May 14, 2003. The critical
 50 habitat designation covers portions of the
 51 summit and crater. Habitat features
 52 considered essential for this species include
 53 lava flows with almost no soil development
 54 and otherwise barren, unstable slopes of
 55 recent volcanic cinder cones subject to
 56 frequent formation of ice at night and
 57 extreme heating during cloudless days, with
 58 an annual precipitation of approximately
 59 30 inches to 98 inches (*Federal Register*
 60 68(93): 26001).

61
 62 Although the species steadily recovered over
 63 several decades, one threat today appears to
 64 be the Argentine ant. The ant has an adverse
 65 effect on insect species that pollinate the
 66 silversword. Another threat is climate
 67 change, which appears to be adversely
 68 affecting plant populations at lower
 69 elevations—7,000 feet to 8,000 feet. There
 70 are now indications that some populations in
 71 the park have decreased in abundance by
 72 over 50% from 1982 to 2006 due to
 73 increasingly dry conditions in the
 74 silversword's habitat (L. Loope, pers.
 75 comm., June 18, 2010).

76
 77 Marion and Hockett (NPS 2006b) assessed
 78 the condition of 25 silverswords in the
 79 summit overlook area in 2006. All the plants
 80 they located had informal trails leading to
 81 them and there was evidence of trampling in
 82 the immediate area around the plants.

83
 84 The authors observed it was likely that it
 85 took only a few visitors to create an informal
 86 trail and cause significant trampling around
 87 a plant. However, little evidence of human

1 damage to the plants was observed. Nearly
 2 all of the actively growing plants were found
 3 to be healthy and showing good or vigorous
 4 growth. Only one silversword had damaged
 5 leaf tips that were believed to be caused by
 6 visitors.

7
 8 The scientists did not study the effect of
 9 trampling on silversword seeds and
 10 seedlings. Trampling would reduce the
 11 survival of seedlings (S. Anderson, pers.
 12 com., September 2, 2010). Thus, although
 13 visitors may not be harming mature
 14 silverswords, it is likely that visitors are
 15 affecting the opportunity for
 16 reestablishment and recovery of the
 17 silversword in areas used by visitors.

18
 19 The **nohoanu** (*Geranium multiflorum*) is a
 20 flowering plant of the geranium family that is
 21 endemic to the upper elevations of
 22 Haleakalā Crater (NatureServe Explorer
 23 2009). It can be found in subalpine moist to
 24 dry forests, shrublands, and grasslands
 25 growing on old volcanic substrates.
 26 Nohoanu was listed as endangered by the
 27 U.S. Fish and Wildlife Service in 1992.

28
 29 Critical habitat was designated for this plant
 30 on May 14, 2003. The critical habitat
 31 designation covers portions of the summit.
 32 Habitat features that are considered essential
 33 for the species include wet or mesic 'ōhi'a
 34 lehua (*Metrosideros polymorpha*) montane
 35 forest or alpine mesic forest, pukiawe
 36 (*Leptecophylla tameiameia*) shrubland,
 37 mamane (*Sophora chrysophylla*) subalpine
 38 dry forest, open sedge swamps, fog-swept
 39 lava flows, or montane grasslands (*Federal*
 40 *Register* 68(93): 26010).

41
 42 The numbers of plants remaining probably
 43 do not exceed 3,000 individual plants. Feral
 44 goats and pigs and competition with
 45 nonnative plants are major threats to this
 46 species.



HALEAKALĀ SILVERWORD

47

48

49 **Nēnē or Hawaiian goose** (*Branta*
 50 [= *Nesochen*] *sandwicensis*) were historically
 51 well established on Maui, but were
 52 extirpated by the late 1800s (Baldwin 1945).
 53 A total of 511 nēnē were reintroduced in the
 54 park between 1962 and 2002 (USFWS 2004).
 55 Nēnē were listed as endangered by the U.S.
 56 Fish and Wildlife Service in 1967. The
 57 current population at Haleakalā is stable at
 58 about 250–300 birds (Tamayose 2006) with
 59 approximately 1,300 individuals estimated to
 60 exist in the wild statewide (USFWS 2004).
 61 Nēnē are found in the park at elevation of
 62 around 6,300 feet to 7,700 feet. Preferred
 63 nesting sites include sparsely to densely
 64 vegetated beach strands, shrublands,
 65 grasslands, and woodlands on well-drained
 66 soil, volcanic ash, cinder, and lava rock
 67 substrates (Ducks Unlimited 2007). Nēnē
 68 can be found walking the road from the park
 69 entrance to Halemau'u Trail and around the
 70 headquarters visitor center (R. Nagata, pers.
 71 comm., 2007). One or two nēnē are killed
 72 each year by visitors driving on the park
 73 road.

74

75 Conflicts between nesting activities and
 76 camping have occurred within the park. The
 77 close proximity of campers to nesting nēnē
 78 has caused nest abandonment. Food left by
 79 campers attracts and sustains populations of
 80 predators such as rats, mongooses, and cats.
 81 Visitors also feed the geese, although this is

1 strongly discouraged by the National Park
 2 Service.
 3
 4 The ‘ua‘u or Hawaiian petrel (*Pterodroma*
 5 *sandwichensis*) is a medium-sized seabird
 6 that nests in burrows on the cliffs at
 7 Haleakalā. Hawaiian petrel burrows are
 8 found throughout Haleakalā between 6,500
 9 feet to 9,800 feet above sea level. During the
 10 nonbreeding season, the Hawaiian petrel
 11 occurs well away from land, primarily in
 12 equatorial waters of the eastern tropical
 13 Pacific; they are generally found between 20
 14 degrees north and 10 degrees south
 15 latitudes. They feed primarily on squid, but
 16 also on fish, crustaceans, and plankton
 17 found at the surface and are also known to
 18 scavenge (Simons and Hodge 1998).
 19 Haleakalā National Park has the largest
 20 known breeding population with 700 nesting
 21 pairs (NPS 2007f). The number of known
 22 Hawaiian petrel burrows in the park has
 23 increased from 14 in 1965 to 1,663 in 2009.
 24 This increase is attributed to aggressive
 25 habitat management by NPS staff.
 26
 27 The Hawaiian petrel was listed as
 28 endangered by the U.S. Fish and Wildlife
 29 Service in 1967. Main threats to the species
 30 include predation by small mammals (rats,
 31 mongooses, cats, dogs), light attraction and
 32 subsequent groundings, and collision with
 33 human-made objects (Simons and
 34 Hodges 1998; Hodges 1994; Hodges and
 35 Nagata 2001). Although it is an illegal
 36 activity, visitors in the summit area may
 37 affect Hawaiian petrels by knowingly or
 38 unknowingly going off trail into
 39 unauthorized areas and trampling areas
 40 where nests occur. Vehicles driving along
 41 the summit road for astronomy tours also
 42 may be affecting the local populations,
 43 vehicles’ white headlights attract the birds,
 44 causing them to land on the park road at
 45 night; this results in collisions and death or
 46 injury of the birds (C Bailey, pers. comm.,
 47 August 12, 2010). From 2002 through 2010,
 48 six petrels were killed by vehicles on the
 49 park road, although it is not known if
 50 astronomy tour vehicles were actually
 51 responsible for the deaths. However, with
 52 the increase in astronomy tours over time

53 (which make up approximately 20% of
 54 nighttime vehicular traffic in the park), it is
 55 likely that the astronomy tours were
 56 responsible for some of these deaths. The
 57 frequency of Hawaiian petrel roadkill also
 58 has increased significantly over time, from
 59 an average of 0.31 roadkill per year (about 1
 60 every 3 years) from 1988–2000, to 0.8 per
 61 year (about 1 every year) from 2000–2010.
 62
 63

64 **SOUNDSCAPE**

65 Soundscapes include both natural and
 66 human-caused components. Natural
 67 soundscapes include all naturally occurring
 68 sounds such as running water, birdcalls,
 69 wind blowing, rocks falling, or thunder, as
 70 well as the complete absence of those
 71 sounds. The opportunity to experience
 72 natural and cultural/historic sounds is an
 73 important element of many visitor
 74 experiences in national parks.
 75

76 The opportunity to hear natural sounds
 77 depends on the natural ambient sound level,
 78 or the consistent background sound level
 79 that exists in the absence of mechanical
 80 noise. *Noise* is defined as extraneous or
 81 undesired sound (Morfey 2001). The natural
 82 ambient sound level combines with the
 83 human threshold of hearing to set the
 84 threshold at which sounds must exceed to be
 85 heard.
 86

87 The loudest sounds that can be detected
 88 comfortably by the human ear have
 89 intensities that are one trillion times larger
 90 than those of sounds that can barely be
 91 detected. Because of this vast range, any
 92 attempt to represent the intensity of sound
 93 using a linear scale becomes unwieldy. A
 94 logarithmic unit called the decibel (dB) is
 95 commonly used to represent the intensity of
 96 sound. The loudness of a sound as heard by
 97 the human ear is estimated by an A-weighted
 98 decibel scale because the human ear does
 99 not respond equally to all frequencies.
 100

101 Acoustical data were collected at three sites
 102 in Haleakalā National Park in 2003 and 2008

1 (Lee et al. 2006; Lynch and McCusker 2008).
 2 The following table presents the natural
 3 ambient and existing ambient levels for
 4 different areas of the park (daytime hours).
 5 The existing ambient level includes both
 6 natural and human-caused sounds. Based on
 7 this data, many areas of the park have
 8 extremely low ambient levels near the
 9 human threshold of hearing.

10
 11 In developed zones of the park, natural
 12 processes and the landscape have been
 13 altered to accommodate visitors and support
 14 park operations. Human-caused sounds
 15 dominate the soundscape (e.g., vehicles,
 16 helicopters, construction and maintenance
 17 equipment, voices, cell phones, and radios).
 18 However, excessive noise and inappropriate
 19 sound sources are managed where possible
 20 (e.g., using quiet technologies and running
 21 vehicles and equipment for the minimum
 22 time necessary to perform a function).
 23 Natural zones of the park are managed to
 24 perpetuate natural conditions and processes
 25 undisturbed by humans. Natural sounds,
 26 including the absence of those sounds,
 27 dominate the soundscape. Although human-

55
 56

28 caused sounds are evident along the margins
 29 of these zones adjacent to roads and visitor
 30 use areas, these sounds are managed in a
 31 manner designed to minimize their impacts
 32 on natural sounds and visitor experience of
 33 natural sounds. Due to the extremely low
 34 ambient sound levels in the natural zones,
 35 even relatively low-level human-caused
 36 sound can be heard at great distances.

37
 38 The types of sounds created by commercial
 39 services providers in developed zones within
 40 the summit and Kīpahulu areas of the park
 41 include vehicle sounds (vans, buses, and
 42 trucks), animal sounds (horses), walking and
 43 talking (VPI 2007b). The types of sounds
 44 created by commercial services providers in
 45 natural areas within the summit and
 46 Kīpahulu districts include aircraft sounds
 47 (air tour helicopters), animal sounds
 48 (horses), and walking and talking/loud
 49 voices sounds. Noise from helicopters,
 50 including commercial air tours and other
 51 sources, such as park administrative flights,
 52 are a primary source of noise in the Kīpahulu
 53 area (NPS 2008b; E. Gordon, pers. comm.,
 54 October 25, 2010).

**TABLE 8. NATURAL AMBIENT AND EXISTING AMBIENT LEVELS
 FOR DIFFERENT AREAS OF HALEAKALĀ NATIONAL PARK**

Park Areas	Soundscape Zone	Natural Ambient (dBA)*	Existing Ambient (dBA)
Coastal Kīpahulu	Coastal Developed	38.0 ¹ 45.3 ²	38.9 ¹ 43.5 – 46.1 ²
West Crater Rim/ summit	Developed	23.6 – 27.7 ²	27.2 – 28.4 ²

Source: Lee et al. 2006 and Lynch and McCusker 2008

* It should be noted that Volpe and the National Park Service used different techniques to calculate natural ambient. These different techniques resulted in different estimates.

¹ Lynch and McCusker 2008; daytime (7 a.m. to 7 p.m.)

² Lee et al. 2006; daytime (6 a.m. to 6 p.m.), range reflects measurements taken at three different sites within coastal Kīpahulu, and two different sites within West Crater Rim/summit.

57

CULTURAL RESOURCES

1
2
3

4 As defined by NPS *Management Policies 2006*
5 and Director's Order 28: *Cultural Resource*
6 *Management*, a cultural resource may be a
7 tangible entity or a cultural practice. For
8 NPS management purposes, tangible cultural
9 resources are categorized as archeological
10 resources, cultural landscapes, historic
11 structures, museum collections, and
12 ethnographic resources. Because museum
13 collections would not be affected by the
14 management alternatives, this topic has been
15 dismissed from consideration in this
16 document (see the discussion of "Impact
17 Topics Dismissed from Further Analysis" in
18 chapter 1).

19
20 Archeological resources, cultural landscapes,
21 historic structures, ethnographic resources
22 and cultural practices are included as impact
23 topics based on the criteria presented in
24 "Impact Topics Chosen for Analysis" in
25 chapter 1.

26
27 The cultural resources described below are
28 located either within the boundaries of the
29 Crater Historic District or the proposed
30 Kīpahulu Historic District. The Crater
31 Historic District (Hawai'i State Inventory of
32 Historic Places Site # 50-50-11/12-1739) was
33 listed in the National Register of Historic
34 Places in 1974 for archeological and
35 historical significance. The Kīpahulu
36 Historic District (Hawai'i State Inventory of
37 Historic Places Site # 50-50-17-299) was
38 proposed for nomination to the National
39 Register of Historic Places in 1973, 1975, and
40 1976 for archeological and historical
41 significance.

42
43

44 BACKGROUND

45 Over 1,000 years before present, Polynesian
46 peoples from islands such as the Marquesas,
47 Society, and Cook navigated their way on
48 outrigger canoes to the far-flung archipelago

49 that has become known as Hawai'i. These
50 superior seamen brought with them
51 traditional practices and numerous species
52 of familiar food, plants, and animals, but the
53 unique species and resources at places like
54 Haleakalā soon became a part of Hawaiian
55 culture as well. Over the years, organization
56 of land use and sharing of resources
57 accompanied the changes in the natural
58 environment occasioned by these new
59 inhabitants.

60
61 During the late 1700s and early 1800s,
62 European nations sent exploratory missions
63 to the Pacific, and new species were
64 imported to the islands to provide food and
65 subsistence items. Large-scale trade became
66 an important part of the subsistence
67 economy, disrupting the traditional
68 Hawaiian heritage of sharing (Rhodes 1993).

69
70 Following the death of Hawaiian King
71 Kamehameha in 1819, traditional religious
72 systems changed; numerous European
73 Americans began to influence Hawaiian
74 culture and acquired property in the islands.
75 Haleakalā has a history of use by non-
76 Hawaiians and federal agencies. The crater
77 and the surrounding areas were used for
78 hunting and cattle grazing. The park was
79 established as part of Hawai'i National Park
80 on August 1, 1916. Haleakalā National Park
81 was named as a separate unit on September
82 13, 1960, and became a park in its own right
83 a year later.

84
85

86 ARCHEOLOGICAL RESOURCES

87 As defined by NPS *Management Policies*
88 *2006*, the term *archeological resources* refers
89 to any material remains or physical evidence
90 of past human life or activities and includes
91 precontact (prior to AD 1778) and historic
92 sites and features. This document will not
93 include specific descriptions or locations of

1 archeological resources. The nature and
 2 location of archeological resources can be
 3 withheld from disclosure to the public under
 4 section 304 of the National Historic
 5 Preservation Act and section 9 of the
 6 Archeological Resources Protection Act, if
 7 the federal land manager determines that
 8 disclosure may (1) cause a significant
 9 invasion of privacy; (2) risk harm to the
 10 resources or to the site at which such
 11 resources are located; or (3) impede the use
 12 of a traditional religious site by practitioners.
 13
 14 A total of 110 archeological sites, containing
 15 up to 111 features, have been recorded in the
 16 summit and wilderness areas of Haleakalā
 17 National Park (Carson and Mintmier 2006;
 18 Dye and Rosendahl 1977a, 1977b; Emory

19 1921; Jourdane and Peterson 1976; Komori
 20 and Oshima 1977; McEldowney 1977;
 21 Soehren 1963; Rosendahl 1975a, 1975b,
 22 1977). These sites have been determined
 23 eligible for listing in the National Register of
 24 Historic Places through consultation with
 25 the Hawai'i state historic preservation
 26 officer under criterion C and/or D. These
 27 sites are associated with temporary
 28 encampments, resource collection, burials,
 29 astronomy, ceremonial purposes, rock art,
 30 and travel. Site types include, but are not
 31 limited to, walled shelters, platforms, lithic
 32 scatters, cairns, pavement, pictographs,
 33 rockshelters, caves, trails, and quarries. Data
 34 thus far suggest the earliest sites in these
 35 areas of the park date to AD 660–1030.

36
 37

**TABLE 9. ARCHEOLOGICAL SITES WITHIN 50 FEET OF AREAS USED BY
 COMMERCIAL SERVICE PROVIDERS IN SUMMIT AREAS**

State Inventory of Historic Places Site #50-50-	Description
11-2511	Enclosures
11-3600	Cave
11-3637	Enclosures, mound
11-3641	Platform
11-3642	Cairns, rockshelter
11-3643	Cairn
11-3645	Enclosures, alignments
11-3646	Enclosures
11-3651	Multiple wall segments
11-3659	Platform
11-3660	Cairn
11-3673	Wall
11-3688	Rockshelter, wall

38
 39

40 In the summit and of the park, 13
 41 archeological sites (table 9) are near areas
 42 used by commercial service providers (the
 43 park road, visitor use areas, and trails).
 44
 45 A total of 47 archeological sites, containing
 46 up to 57 features, have been recorded in the
 47 Kīpahulu area of the Haleakalā National

48 Park (Carson and Reeve 2008; Dye et al.
 49 2002; Hoerman et al. 2008; Kornbacher
 50 1992, 1993; Soehren 1963; Rosendahl 1976).
 51 These sites have been determined eligible for
 52 listing in the National Register of Historic
 53 Places through consultation with the Hawai'i
 54 state historic preservation officer under
 55 criterion A, C, and/or D. These are sites

1 associated with agriculture and animal
 2 husbandry, permanent residences,
 3 temporary encampments, and ceremonial
 4 purposes. Site types include, but are not
 5 limited to, mounds, terraces, walls, burials,
 6 platforms, enclosures, walled shelters, trails,
 7 and rockshelters. Data thus far suggest the

8 earliest sites in this area of the park date to
 9 AD 1161–1384
 10
 11 In the Kīpahulu area of the park, nine
 12 archeological sites (table 10) are located
 13 within 50 feet of areas used by commercial
 14 service providers (visitor use areas and
 15 trails).

16
 17

TABLE 10. ARCHEOLOGICAL SITES IN THE KĪPAHULU AREA WITHIN 50 FEET OF AREAS USED BY COMMERCIAL SERVICE PROVIDERS

State Inventory of Historic Places Site # 50-50-	Description
17-3560	Walls, mounds, enclosures, platform, rockshelter, modified outcrops
17-3570	Walls, enclosures, terraces, tomb, alignment
17-3572	Enclosure, terrace
17-3763	Enclosure, terraces, path, wall
17-3766	Enclosures
17-5613	Walls
17-5614	Walls, mound, terrace
17-5615	Terraces, mounds
17-5616	Platform, terraces, mound, walls

18
 19

CULTURAL LANDSCAPES

21 As defined by NPS *Management Policies*
 22 2006, the term *cultural landscapes* refers to
 23 geographic areas, including both cultural
 24 and natural resources, associated with a
 25 historic event, activity, or person. Cultural
 26 landscapes reveal the ties between people
 27 and the land.

29 The 10.6-mile park road is a cultural
 30 landscape (NPS 2008e), with contributing
 31 structures, that has been determined eligible
 32 for listing in the National Register of
 33 Historic Places through consultation with
 34 the Hawai‘i state historic preservation
 35 officer for its association with NPS master
 36 planning during the 1930s and the NPS
 37 Mission 66 era (criterion A), and for its
 38 assemblage of buildings exemplifying the
 39 rustic and NPS modern styles of architecture
 40 and landscape architecture (criterion C).
 41 The period of significance for the park road

42 extends from 1933 to 1966, beginning with
 43 the initial construction of the road and
 44 ending with Mission 66-related
 45 improvements/expansions of development
 46 nodes (such as Red Hill and Kalahaku
 47 Overlook) along the road that furthers the
 48 park’s mission to enhance visitor access to
 49 the Haleakalā Crater.

HISTORIC STRUCTURES

52
 53 There are 54 historic structures within the
 54 park that have been determined eligible for
 55 listing in the National Register of Historic
 56 Places through consultation with the Hawai‘i
 57 state historic preservation officer under
 58 criterion A or C and are listed in the
 59 National Park Service List of Classified
 60 Structures (table 11). Thirteen historic
 61 structures are located within areas used by
 62 commercial services providers.

TABLE 11. LIST OF CLASSIFIED STRUCTURES

LCS ID #	Historic Structure Name	Current Structure Name and Number	Location
058233	Headquarters Bridge on Park Road		summit
759229	Haleakalā Park Road	Haleakalā Highway, Route 10	summit
058223	Large Masonry Culverts		summit
759220	Small Masonry Culverts		summit
759226	Kalahaku Overlook	same, HQ-28	summit
759228	Lelewi Overlook	same, HQ-29	summit
759223	Red Hill Observatory	Summit Observatory, HQ-24	summit
759225	Red Hill Stairs		summit
006737	White Hill Observatory	Haleakalā Visitor Center, HQ-24	summit
759222	White Hill Trail	same	summit
014019	George Kewalo Kanalulu House	Kanalulu House	Kīpahulu
014022	Kapahu Taro Patches and Walls	Kapahu Farm	Kīpahulu
006736	'Ohe'o Gulch Sugar Cane Flume Towers		Kīpahulu

1
2

3 ETHNOGRAPHIC RESOURCES AND 4 CULTURAL PRACTICES

5 Ethnographic Resources

6 As defined by NPS *Management Policies*
7 2006, the term *ethnographic resources* refers
8 to objects and places, including sites,
9 structures, landscapes, and natural resources
10 with traditional cultural meaning and value
11 to associated peoples. The areas comprising

12 Haleakalā National Park have cultural and
13 spiritual value to Native Hawaiians who have
14 used these areas for a broad range of
15 activities from ancient times up to the
16 present. Native Hawaiians are the lineal
17 descendants of the aboriginal, indigenous,
18 native people who, prior to January 1, 1893,
19 occupied and exercised sovereignty in the
20 area that now constitutes the State of
21 Hawai'i.

22

1 Hawaiian traditions tell that Pele (Goddess
2 of Fire) created the crater and all the cinder
3 cones and vents in the crater at Haleakalā
4 during her search for fire (CKM Cultural
5 Resources 1998). Pele was killed here during
6 an epic battle with her sister Namakaokahai;
7 legend indicates the bones of Pele remain as
8 a hill called Ka-iwi-o-Pele. According to
9 Hawaiian traditions, Haleakalā Crater was
10 home to the grandmother of the demigod
11 Maui. The ancient name for Haleakalā is
12 Alehe-la, so called because, with his
13 grandmother’s help, the demigod Maui
14 snared the rays of the sun to slow its journey
15 across the sky so the day would be
16 lengthened and his mother might be able to
17 dry her kapas (Lemuel K.N. Papa, Jr. in
18 Fornander 1916/1917; Thomas Maunupau
19 in Sterling 1998; see also Ala Hea Ka La in
20 CKM Cultural Resources 1998).

21
22 The summit of Haleakalā, including
23 Haleakalā Crater, Kīpahulu Valley, and
24 Kaupō Gaphave been determined eligible for
25 listing in the National Register of Historic
26 Places through consultation with the Hawai‘i
27 state historic preservation officer as a
28 traditional cultural property. This term,
29 *traditional cultural property*, is used to
30 identify a property eligible for inclusion in
31 the national register because of its
32 association with cultural practices or beliefs
33 of a living community that (1) are rooted in
34 that community’s history; and (2) are
35 important in maintaining the continuing
36 cultural identity of the community.

37
38 The summit of Haleakalā is significant under
39 criterion A for its association with the
40 cultural landscape of Maui—reflected in the
41 number of known uses, oral history, mele,
42 and legends surrounding Haleakalā—and
43 under criterion C because it is an example of
44 a resource type, a natural summit, and a
45 source for both traditional materials and
46 sacred uses. The value ascribed to Haleakalā
47 as a traditional cultural property can be
48 expressed in five distinct attributes,
49 solidifying the role of the summit as a place
50 of value:

51

- 52 1. The Haleakalā summit is considered by
53 Native Hawaiians, as well as more
54 recent arrivals to Hawai‘i, as a place
55 exhibiting spiritual power.
- 56 2. The summit of Haleakalā is significant
57 as a traditional cultural place because
58 of practice.
- 59 3. For both Hawaiians and non-
60 Hawaiians who live and visit here, the
61 summit is a place of reflection and
62 rejuvenation.
- 63 4. The mo‘olelo and oli surrounding the
64 summit present a cluster of stories
65 suggesting the significance of
66 Haleakalā as a traditional cultural
67 property.
- 68 5. Some believe that the summit possesses
69 therapeutic qualities.
- 70 6. The summit provides an “experience of
71 place” that is remarkable.
72

73 Cultural Practices

74 The National Park Service supports the
75 perpetuation of traditional cultural practices
76 within areas of Haleakalā National Park, as
77 appropriate under NPS policy. There are
78 several types of traditional cultural practices
79 that have and continue to take place within
80 the park in areas used by commercial
81 services providers. These practices are
82 described below. Some of these practices
83 require silence and solace and may also
84 require an uninterrupted view plane and
85 sacred space. Based on park entrance station
86 information, 4,127 Hawaiians entered the
87 summit area of the park and 1,351 Hawaiians
88 entered the Kīpahulu area of the park for
89 traditional cultural practices in 2008. In
90 2009, 4,857 Hawaiians entered the summit
91 area of the park and 837 Hawaiians entered
92 the Kīpahulu area of the park for traditional
93 cultural practices. In 2010, 2,993 Hawaiians
94 entered the summit area of the park and 493
95 Hawaiians entered the Kīpahulu area of the
96 park to conduct traditional cultural
97 practices.
98

1 **Gathering of Plants.** The gathering of plants
 2 found on the slopes and around the summit
 3 of Haleakalā for traditional uses has been
 4 documented in Abbott (1992), Dagan et al.

5 (2007), Maxwell (2002), and Prasad and
 6 Tomonari-Tuggle (2008). Table 12 identifies
 7 some of these plants.

8
 9

TABLE 12. PLANTS GATHERED FOR TRADITIONAL USE

Hawaiian Name	Common Name	Latin Name	Traditional (including contemporary) Uses
'A'ali'i	—	<i>Dodonaea viscosa</i>	Trunks and branches used to make house posts; fruit clusters woven into <i>lei</i> (Neal 1948)
'Āhinahina **	Haleakalā silversword	<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i>	Used in <i>lei</i> making (this variety is only known from Maui)
'Ahina kuahiwi	—	<i>Cyrtomium caryotideum</i>	Native fern used for medicines; also called <i>Ka'ape'ape</i> or <i>'Ape'ape</i>
'Akoko	—	<i>Chamaesyce</i> sp,	Used in <i>la'au lapa'au</i> (to rejuvenate red blood cells)
'Awa	kava	<i>Piper methysticum</i>	Used with leaves of sandalwood in medicines
Hō'io	—	<i>Diplazium arnottii</i>	Young fronds are eaten raw with freshwater shrimp or salted salmon.
'Iliahi	sandalwood	<i>Santalum freycinetianum</i>	Used to scent tapa cloth; wood used to make <i>'ūkēkē</i> , a musical bow (the only traditional Hawaiian stringed instrument); leaves used in medicines
Maile	—	<i>Alyxia olivaeformis</i>	Gathered from Kaupō area for use in <i>lei</i> making
Māmane	—	<i>Sophora chrysophylla</i>	Trunks and branches used to make <i>o'o</i> (digging stick), house poles/posts, and <i>hōlua</i> sleds; also weapons such as spears; also called <i>Kolomona</i>
Mau'u lā'ili	native Iris	<i>Sisyrinchium acre</i>	Used to treat skin disorders; sap used "to stain the skin so that travelers could prove to others at home that they had been to the volcano" (Pukui and Elbert 1986:243)
'Ōhelo	—	<i>Vaccinium reticulatum</i>	Berries are edible raw or cooked in a sauce; dried leaves used for tea; plant is sacred to Pele (Pukui and Elbert 1986:277)
'Ōhi'a lehua	—	<i>Metrosideros polymorpha</i>	Blossoms used in <i>lei</i> making; wood used for images, spears, mallets (Neal 1948)
Pōpolo	black nightshade	<i>Solanum americanum</i>	Leaves used in <i>la'au lapa'au</i> (traditional medicinal practices); relieves sore tendons, muscles, and joints
Pūkiawe	—	<i>Styphelia tameiameia</i>	<i>Haku lei</i> making; leaves used medicinally for colds or headaches (Neal 1948); food for the <i>nēnē</i> (<i>Nesochen sandwicensis</i>)

**Threatened plant species

1 **Birth and Burial Practices.** Haleakalā has a
 2 long tradition of being a location for cultural
 3 practices related to birth and burial. At least
 4 two places within Haleakalā Crater are
 5 noted as receptacles for the disposal of piko
 6 (umbilical cords) (Prasad and Tomonari-
 7 Tuggle 2008). The piko was important to the
 8 physical and spiritual development of a
 9 growing child (C. Maxwell, in Kailihiwa and
 10 Cleghorn 2003), so care was taken in
 11 disposing of the piko so that “nothing dire
 12 would happen to the child.” In particular,
 13 Haleakalā was important for burying the
 14 piko of children of both Kāne worshippers
 15 (“for that is where the sun rises up in the
 16 east”) and Pele worshippers (Kalei Tsuha, in
 17 Kailihiwa and Cleghorn 2003). There are
 18 also known ancient burial sites within
 19 Haleakalā Crater. One of the best sources of
 20 knowledge about these burials is Charlie
 21 Maxwell:

22
 23 Haleakalā is a burial ground . . . the
 24 entire crater was used as a receptacle
 25 for disposal of the burials because
 26 that’s a wahi pana. Wahi pana is where
 27 the gods live (Prasad and Tomonari-
 28 Tuggle 2008).

29
 30 **Astronomy.** As described in oli (chants) and
 31 the mo‘olelo (stories), the summit of
 32 Haleakalā was used for a training ground in
 33 the arts of reading the stars and being one
 34 with the celestial entities above, and was
 35 considered sacred because of its height and
 36 closeness to the heavens. Astronomical
 37 matters, both practical and ceremonial, may
 38 have been the basis for the most important
 39 activities at Haleakalā. All of the possible
 40 traditional names for the mountain are
 41 associated with tales of the demigod Maui
 42 and his efforts to catch and slow the sun.
 43 These tales involve two aspects—one is the
 44 perception of Haleakalā reaching to the sky
 45 and the other is Haleakalā as a place where
 46 the observation of solar movement (i.e.,
 47 marking of seasons) took place (Prasad and
 48 Tomonari-Tuggle 2008). The recognition of
 49 Haleakalā as a place to study the sun and
 50 constellations continues into modern times
 51 (Prasad and Tomonari-Tuggle 2008).

52
 53 **Travel.** Haleakalā has long been recognized
 54 as a traditional traveling route through East
 55 Maui. There are various trails within
 56 Haleakalā Crater, some of which are ancient,
 57 while others have been created in
 58 contemporary times. Charlie Maxwell
 59 describes the Kiha-a-Pi‘ilani Trail, which
 60 served as a major “artery” for ancient
 61 Hawaiians:

62
 63 . . . the trail throughout the crater called
 64 the Pi‘ilani Trail, goes through the ‘A‘ā,
 65 the most rugged lava. In the most
 66 rugged of lava, there is this paved
 67 highway. This was used for catching,
 68 taking fresh fish. They [runners] used
 69 to run from Ke‘anae to Kula, straight.
 70 And there there’s another trail that
 71 went underground in ancient times.
 72 And I think we found it, going through
 73 a cave. . . right across the crater [from
 74 Ke‘anae to Kula] (Prasad and
 75 Tomonari-Tuggle 2008).

76
 77 **Performance of Ceremonies and Spiritual
 Training.** Most of the rituals and ceremonies
 78 that continue to be practiced on Haleakalā
 79 are not known to the public because they are
 80 kept secret for personal reasons or to
 81 maintain the integrity or particular rituals
 82 from generation to generation. The best
 83 known ritual to non-Native Hawaiians is the
 84 Calling of the Sun (e ala e), which is a chant
 85 used to greet ancestors, Kūpuna, and [also]
 86 greet the sun as it rises (Dagan et al. 2007).
 87 Kumu Hula take students to Haleakalā.
 88 Kumu Hula Charlotte Nina Maxwell
 89 describes why it is important to be at the
 90 mountain when performing traditional
 91 ceremonies and storytelling (interviewed by
 92 Charlie Maxwell, quoted in Maxwell 2002):

93
 94
 95 . . . as Kumu Hula for over 30 years, I have
 96 traveled to Haleakalā many times for
 97 spiritual guidance. In doing chants or
 98 mo‘olelo (storytelling), you must go to
 99 the source, to the inspiration that
 100 connects you so that you may experience
 101 the spiritual essence of what you are
 102 trying to convey. It is not something that
 103 you can hold in your hand, it is not

1 tangible, but you actually can feel the
2 presence of the Gods.

3
4 Charlie Maxwell (2002) describes the
5 spiritual use of the mountain, where only the
6 kahuna po‘o and his haumāna (students)
7 were allowed to stay at Haleakalā for
8 extended periods, and even then, only for
9 the time needed to complete the
10 ritual/ceremonial practice:

11
12 The ancient spiritual use of the
13 mountain was for meditation and
14 receiving of spiritual information by the
15 Kāhuna Po‘o. It is a place where the
16 tones of ancient prayer are balanced
17 within the vortex of energy for spiritual
18 manifestations. In ancient times, only
19 Kāhuna and their haumāna lived at
20 Haleakalā for conducting their
21 initiation rites and practices.
22 Commoners were not allowed
23 anywhere on the summit of Haleakalā,
24 with the exception of practitioners, who
25 were practicing their arts.

26
27 Certain times of the day, month, or year are
28 considered important to practitioners
29 because at these times the sun is at zenith;
30 but the times, dates, and days can vary
31 between practitioners. In response to the
32 question about the important times for

65

33 Hawaiians to be able to access to the
34 mountain, Hokulani Holt-Padilla replied:

35
36 Beginning and ending of Makahiki, the
37 solstices and the equinoxes, would be
38 obviously important times. To certain
39 cultural practitioners, certain other times
40 in the Hawaiian lunar calendar are
41 important. But that’s more of an
42 individual or the group...you know Kāne
43 guys will want to do Kāne nights, and
44 Lono guys will want to do Lono nights.
45 That’s a little more group-specific for lack
46 of a better word (Prasad and Tomonari-
47 Tuggle 2008).

48
49 **Farming.** Subsistence farming still takes
50 place in East Maui, but to a much lesser
51 degree than either fishing or hunting. At the
52 5-acre Kapahu farm located in the Kīpahulu
53 area of the park, traditional Hawaiian
54 agriculture is being practiced and
55 demonstrated to visitors by the Kīpahulu
56 Ohana (Native Hawaiian group) under a
57 general agreement with the park. Tweetie
58 Lind refers to the farming that she and her
59 husband John are doing as “indigenous
60 farming” (Prasad and Tomonari-Tuggle
61 2008). They have largely restored the lo‘i at
62 Kapahu. They also have restored much of
63 the ancient ‘auwai (drainage ditch) that runs
64 alongside of the lo‘i.

VISITOR USE AND EXPERIENCE

TRENDS

Whether enjoying the Haleakalā summit area or exploring coastal Kīpahulu, park visitors have a variety of opportunities to experience solitude, a sense of adventure, and a connection with the natural and cultural heritage of the park. Over the years, visitors have participated in a range of recreational activities including hiking, camping, scenic driving, walking to viewpoints, stargazing and astronomy, attending ranger programs, swimming, horseback riding, and bicycling.

Park visitation has fluctuated over the last 15 years, peaking at nearly 2 million in 1999 and declining to 1.1 million in 2010 (see figure 5). Gradual decreases in overall park visitation have occurred over the last five years ranging from 1.4 million in 2005 to 1.1 million in 2010. As shown in figure 6, visitation usually peaks during the months of June, July, and August and is lowest during the months of November and February (NPS Public Use Statistic Office 2012). Figure 7 compares the monthly visitation levels at the summit area to the Kīpahulu area. In general, more park visitors go to the summit than to the Kīpahulu area each year (NPS Public Use

Statistic Office 2012). It should be noted that the dramatic decline in visitation as shown in figures 5 and 6 during November of 2007 and 2008 are due to a variety of factors. An earthquake occurred in 2006 closing the road to Kīpahulu. Because of this event and staffing issues within the park, delayed data entry and varied methodology for entering visitor use statistics has caused discrepancies in the resulting figures during 2006–2008 seasons (Manion, pers. comm. 2011a).

It should be specifically noted that the drop in 2008 visitation levels represented by figure 7 at the Kīpahulu area was due to an anomaly in data. The number of visitors estimated by the NPS Public Use Statistics Office in figures 5, 6, and 7 represents all recreation visitors including commercial use groups. Nonrecreation visitors are not included in the figures. However, an estimated 29,000 nonrecreation visitors come to Haleakalā National Park each year, or about 2,400 each month. Nonrecreational visitors may include employees, vendors, contractors, emergency vehicles, or any vehicle that trips the car counter, but whose occupants are not involved in a recreational activity.

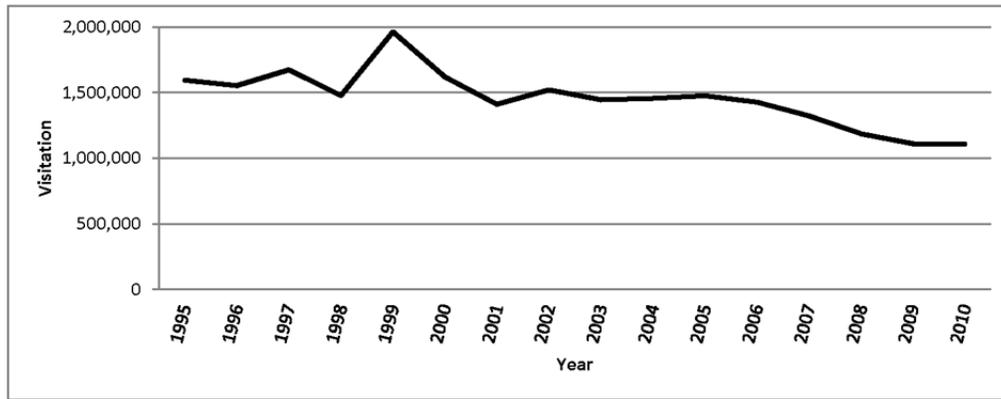


FIGURE 5. ANNUAL VISITATION (NPS PUBLIC USE STATISTIC OFFICE 2012)

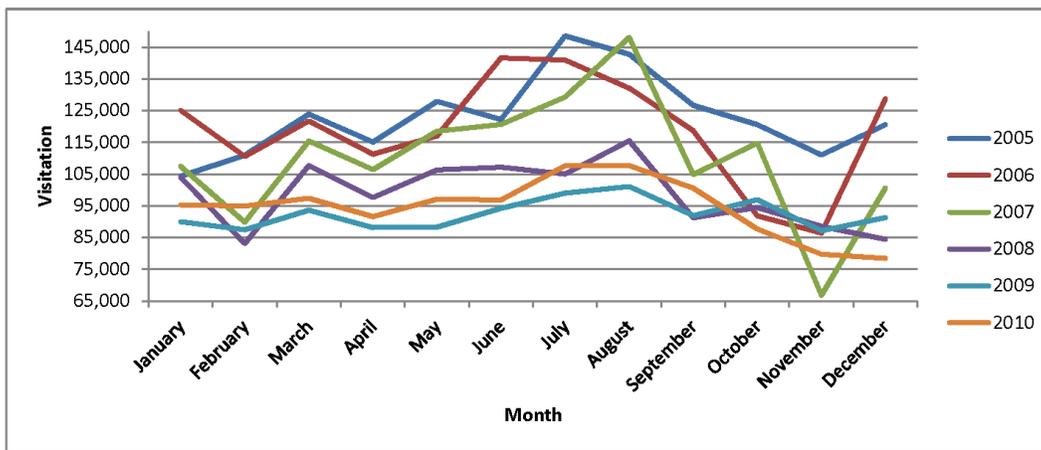


FIGURE 6. MONTHLY VISITATION 2005–20010 (NPS PUBLIC USE STATISTICS OFFICE 2012)

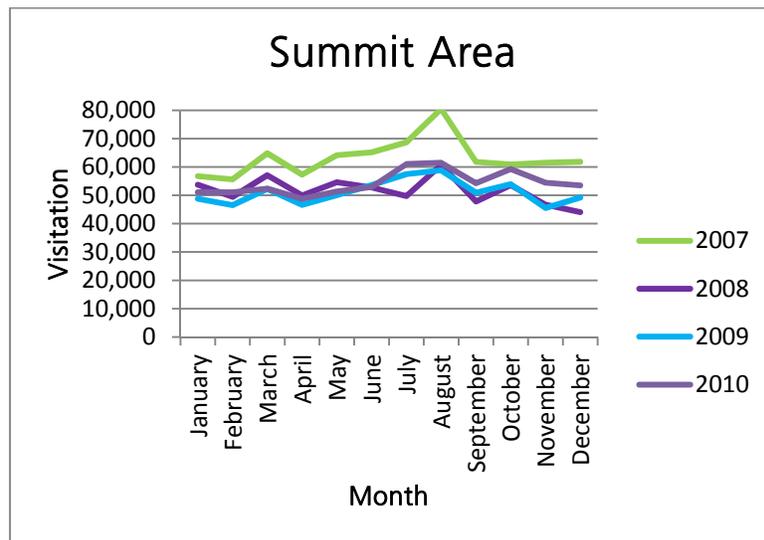
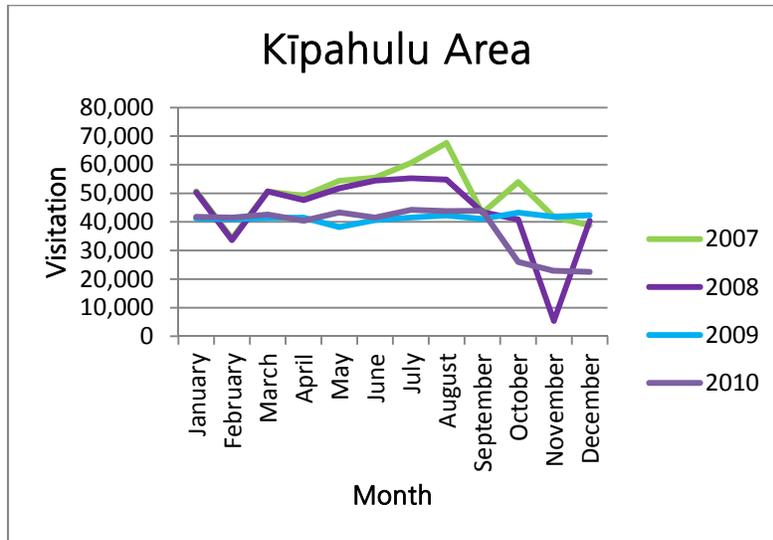


FIGURE 7. MONTHLY VISITATION 2007–2010 BY PARK AREA (NPS PUBLIC USE STATISTICS OFFICE 2012)

1
2
3

4

5
6

7 Although many visitors tour the park on
8 their own or in private groups, others
9 experience the park with commercial tours.

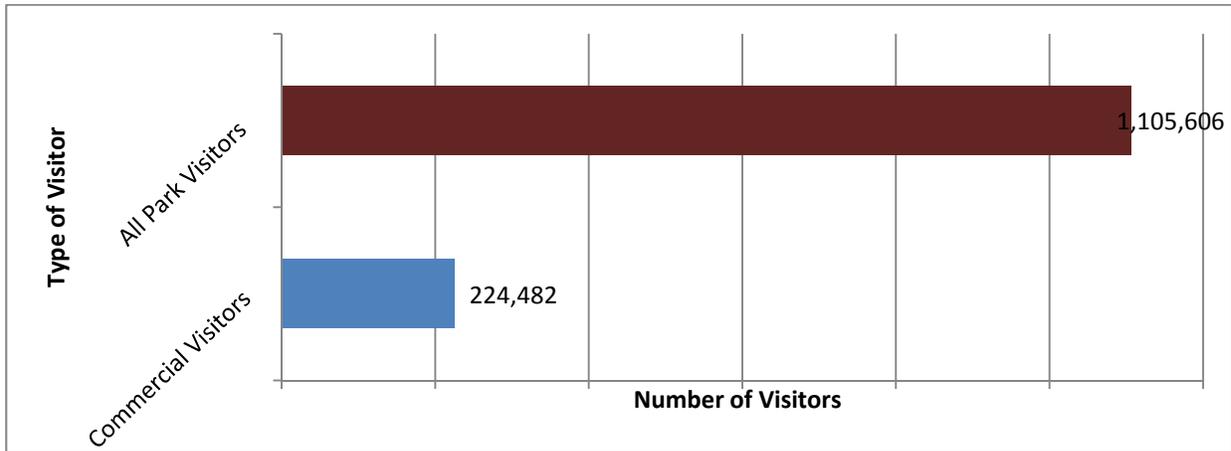
10
11 Current CUA holders provide astronomy
12 tours, hiking tours, horseback tours, and
13 road-based vehicle tours. See table 13 for a
14 list of current CUA holders and the number
15 of visitors using each provider in 2010. As
16 noted in table 13, hiking and horse tours
17 from the summit to the wilderness were not
18 included in the scope of this plan.

19 Before the “Downhill Bicycle Tour Safety
20 Stand Down” in October 2007, CUA holders
21 were also providing bicycle tours from the
22 summit area. Since the stand down, several
23 bicycle tour companies have modified their
24 packages to offer road-based tours to the
25 summit area at sunrise followed by bicycling
26 tours outside the park boundary. In 2010,
27 20% of park visitors used commercial
28 services (see figure 9). The number of
29 visitors using each type of commercial
30 service is also displayed in figure 9. In

1 general, an estimated 15%–30% of Haleakalā
 2 National Park’s visitors are accompanied by
 3 commercial services providers each year, but
 4 the percentage reaches as high as 50% of
 5 Haleakalā summit visitors during sunrise.
 6 Thus, the types and levels of commercial
 7 uses in the park affect all visitors. In

8 particular, the number and diversity of
 9 commercial activities can affect
 10 opportunities for solitude and quiet, the
 11 level and quality of interpretation and
 12 education provided to visitors, and access to
 13 and quality of visitor experiences.

14
 15

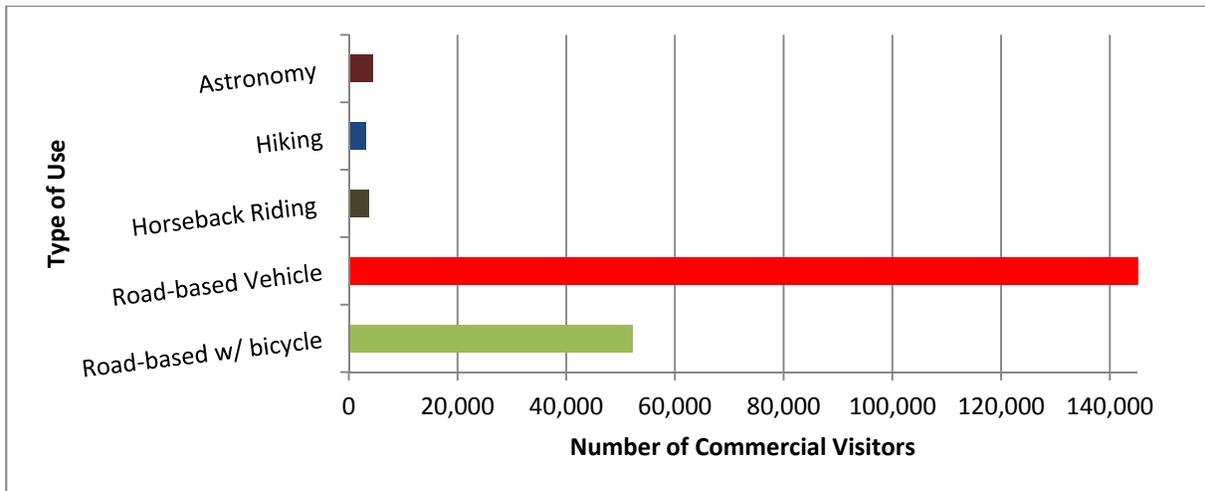


16

Source: Public Use Statistics Office 2012, Haleakalā National Park Annual Reports for CUA Holders 2010

FIGURE 8. 2010 VISITATION

17
 18



19

Source: Haleakalā National Park Annual Reports for CUA Holders 2010

FIGURE 9. NUMBER AND TYPE OF CUA CLIENTS IN 2010

20
 21

TABLE 13. 2010 CUA TOUR OPERATORS

CUA Holder	CUA Type	Total # of Clients Served	# Clients Summit Only	# Clients Kīpahulu Only
Magic Maui Inc.	Astronomy	1504	1504	0
Travel Plaza Transportation	Astronomy	1204	1204	0
Kaze Enterprises LLC	Astronomy	1700	1500	200
Star Gazers Maui	N/A			
Pulani Adventures	Hiking / Astronomy	1713	1262	451
Hike Maui	Hiking	1406	Not included in the scope of this plan	1035
Latitudes and Aditudes	N/A			
The World Outdoors	Hiking	0	Not included in the scope of this plan	0
Reiseagentur Branner	Hiking	135	Not included in the scope of this plan	135
Wigwam Tours	No report submitted			
Kīpahulu 'Ohana	Hiking	31	Not included in the scope of this plan	31
Charley's Trail Rides	Horseback Riding	0	Not included in the scope of this plan	0
Maui Horseback Tours	Horseback Riding	1245	Not included in the scope of this plan	1245
Pony Express	Horseback Riding	2533	Not included in the scope of this plan	0
Akina Aloha Tours	Road-based Vehicle Tour	214	214	0
Ekahi Tours Inc	N/A			
Island Exclusive	Road-based Vehicle Tour	20	20	0
Aloha Maui Limousine	Road-based Vehicle Tour	80	80	0
Maui Koryu Travel & Tour	Road-based Vehicle Tour	5525	5525	0
Merry China Travel	Road-based Vehicle Tour	538	538	0
Myna Tours	Road-based Vehicle Tour	85	85	0
Polynesian Adventure Tours	Road-based Vehicle Tour	101298	71758	29540
Robert's Hawaii Tours	Road-based Vehicle Tour	18598	13265	5333
Temptation Tours, Inc.	Road-based Vehicle Tour	1541	1537	4
Travel Plaza Transportation, LLC	Road-based Vehicle Tour	8022	8022	0

TABLE 13. 2010 CUA TOUR OPERATORS

CUA Holder	CUA Type	Total # of Clients Served	# Clients Summit Only	# Clients Kīpahulu Only
Valley Isle Excursions	Road-based Vehicle Tour	24873	0	24873
Bike It Maui No Ka Oi	*Road-based with bicycle option	3887	3887	0
Cruiser Phil's Volcano Riders	*Road-based with bicycle option	6111	6111	0
Haleakalā Bike Company	*Road-based with bicycle option	11986	11986	0
Maui Downhill	*Road-based with bicycle option	10565	10565	0
Maui Mountain Cruisers	*Road-based with bicycle option	7663	7663	0
Mountain Riders	*Road-based with bicycle option	6543	6543	0
Maui Sunriders Bike CO.	*Road-based with bicycle option	5462	5462	0

Source: Haleakalā National Park Annual Reports for Commercial Use Authorization Holders 2010

Note: Those businesses listed N/A above for 2010 did not hold a CUA.

*Downhill bicycle tours are not permitted within the boundaries of the Haleakalā National Park. The following companies provide a road-based vehicle tour within the park and start bike tours outside the park.

**Indicates a discrepancy in the way the data were reported.

1

2

3 **AREA SPECIFIC OPPORTUNITIES**

4 Visitors come to Haleakalā National Park to
5 experience the natural and Native Hawaiian
6 cultural wonders the park was designated to
7 protect. A brief description for opportunities
8 in each area of Haleakalā National Park
9 follows.

10

11 **Summit**

12 The most traveled access corridor into the
13 park is Highway 378, continuing as the main
14 park road to the summit of Haleakalā. The
15 journey to the crater rim takes the visitor up
16 a narrow, winding road from sea level to the
17 subalpine shrubland and a remote alpine
18 landscape. After paying the park entrance
19 fee, visitors can stop at the headquarters
20 visitor center (elevation 7,000 feet above sea
21 level) before continuing to the summit.
22 Pu‘u‘ula‘ula (Red Hill) is the highest point

23 on Maui (10,023 feet above sea level) and is
24 the site for viewing sunrise, sunset, and
25 celestial events. Visitor use areas at the
26 summit include the Haleakalā Visitor Center
27 on the crater rim and the Red Hill overlook
28 located at the summit crest. Kalahaku
29 Overlook is another option for parking near
30 the summit area. From these vantage points,
31 other islands of the Hawaiian chain can be
32 seen. Cinder cones, silverswords, native
33 birds, scenic views, and natural sounds are a
34 few of the resources that visitors can
35 experience in this part of the park. The
36 landscape of the summit is rocky, sparsely
37 vegetated, richly colored, and subject to
38 dramatic weather changes during the day.
39

40 **Kīpahulu**

41 The Kīpahulu area, on the southeastern end
42 of Maui, can be accessed by driving 10 miles
43 past the town of Hana, on the famous Hana

1 Road that circumscribes the northeast coast
2 of Maui. The site is remote with driving
3 times from the north side of the island being
4 an hour or more. The Kīpahulu area
5 encompasses both the easily accessed coastal
6 section and the highly restricted, biological
7 reserve that is closed for scientific research
8 and management work.

9
10 Kīpahulu is a lush tropical rainforest sitting
11 atop a seaside cliff. The weather is humid,
12 warm to hot depending on the season, and
13 prone to sudden heavy rains and winds.
14 Whales, turtles, dolphins, and seabirds can
15 sometimes be seen offshore. The setting
16 provides visitors with hiking opportunities,
17 education about Native Hawaiian culture,
18 and the chance to experience the stream in
19 ‘Ohe‘o Gulch. There are scheduled cultural
20 demonstrations in the visitor center. Layers
21 of history are laid out before the visitor as
22 they explore the way that people have
23 interacted with the land here for hundreds
24 of years.

27 **NUMBER AND DIVERSITY OF** 28 **COMMERCIAL ACTIVITIES**

29 The commercial services provided in the
30 park vary based on location and the types of
31 experiences that are supported in these
32 locations. The nature of visitor opportunities
33 and the associated commercial services for
34 specific areas of the park are discussed
35 below.

37 **Summit**

38 The Haleakalā Visitor Center provides
39 educational and interpretive materials about
40 park resources and related information at
41 the Hawaii Pacific Parks Association
42 bookstore. Additional commercial services
43 provided at the summit include road-based
44 tours (especially for sunrise viewing),
45 horseback tours, hiking tours, and
46 astronomy tours/lectures. Details about
47 horseback and hiking tours that enter the
48 wilderness area will not be covered under

49 the scope of this plan, but will be addressed
50 as part of the wilderness stewardship plan.
51 Although bicycle tours are not allowed
52 within park boundaries, some of the road-
53 based tours provide a bicycling option
54 outside of park boundaries after taking
55 visitors to the summit to experience the
56 sunrise. Sunrise tours are limited to CUA
57 holders who have maintained a current
58 commercial use authorization with sunrise
59 authorization since 2006. Each company is
60 allowed to have two commercial vehicles
61 (not exceeding 25 passenger minibuses) and
62 can park only in the Haleakalā Visitor
63 Center parking lot until 20 minutes after
64 sunrise.

65
66 Astronomy tours generally cater to
67 international tourists. Of the four astronomy
68 providers with commercial use
69 authorizations, only one operates at sunrise.
70 The others come to the park at sunset and
71 remain in the park for a few hours after dark.
72 This service is available most nights of the
73 week and the stargazing groups are generally
74 small. Approximately 4,208 visitors used
75 astronomy services in the summit area in
76 2010. Astronomy tours are restricted to the
77 paved areas and may use up to three adjacent
78 parking stalls for vehicles. Equipment may
79 be placed in the crosshatch area.

80
81 Nineteen road-based vehicle tour companies
82 bring visitors to Haleakalā National Park.
83 These tours also include visits to other sites
84 of interest on Maui that are not focused on
85 the park. Approximately 153,261 people
86 visited the summit on road-base tours in
87 2010. Of those, 52,217 also participated in
88 tours with a bicycling option once outside of
89 the park (Haleakalā National Park Annual
90 Reports for Commercial Use Authorization
91 Holders 2010).

93 **Kīpahulu**

94 The commercial visitor services currently
95 provided at Kīpahulu include the HPPA
96 bookstore at the visitor center, road-based
97 tours, horseback riding, and guided hiking.
98 Four hiking companies regularly visit

1 Kīpahulu. Commercially led hiking is
2 typically a 2-mile trek to Waimoku Falls. In
3 2010, 1,652 park visitors used commercial
4 hiking services at Kīpahulu.

5
6



VIEW TO WAIMOKU FALLS

7
8

9 There is currently only one permittee for
10 guided horseback riding at Kīpahulu. This
11 provider offers a 2-mile trek each way to see
12 the waterfalls. Up to two tours are offered
13 per day, with a maximum of 12 riders
14 (including guides). This activity features
15 both cultural and natural resource education
16 and interpretation. Approximately 1,245
17 visitors used commercial horseback riding
18 services at Kīpahulu in 2010.

19

20 In 2010, road-based tours to the Kīpahulu
21 area were offered by six of the commercial
22 service providers that serve the summit. Due
23 to the narrow, winding road conditions on
24 this side of Maui, only smaller
25 multipassenger vans (maximum 25
26 passengers) are permitted to tour this area.
27 These tours often visit other sites on Maui
28 and are not focused solely on the park.
29 According to the park records for
30 commercial use authorization holders,
31 approximately 59,746 commercial visitors
32 visited Kīpahulu on road-based tours in
33 2010.

34 ACCESS AND QUALITY OF 35 EXPERIENCE

36 Summit

37 Attending sunrise is a popular activity for
38 both commercial and noncommercial
39 visitors to Haleakalā National Park.
40 Availability of commercial services provides
41 many visitors with opportunities that
42 otherwise may not be available due to lack of
43 options, skill, or awareness. In this way,
44 commercial services are facilitating access,
45 and many visitors are satisfied with their
46 experiences. Unfortunately, crowding and
47 congestion have affected many visitor
48 experiences during the sunrise at the summit
49 and has detracted from understanding of the
50 area as a sacred place. Conflicts have
51 occurred between guided tour groups and
52 individual visitors vying for parking spaces
53 and for standing and viewing spaces. In a
54 visitor survey conducted by the University of
55 Idaho in 2000, respondents at the summit
56 area provided feedback on a variety of
57 important visitor use topics including
58 commercial activities, safety, crowding, and
59 interpretation. Visitors to the summit area
60 were asked to rate how crowded they felt by
61 other people during their visit. Some visitors
62 to the summit did not feel crowded at all
63 (44%), yet the rest of the visitors (56%) felt
64 somewhat crowded, crowded, very
65 crowded, or extremely crowded (see figure
66 10). Most of the visitors (82%) felt crowded
67 during the morning from 4 a.m. to noon.
68 Another visitor study was completed by the
69 University of Vermont in 2004; visitor
70 surveys and observations were conducted in
71 the park. A large portion of the visitor survey
72 was designed to address visitor-based
73 standards of quality for crowding-related
74 issues (University of Vermont 2004). This
75 survey found that many visitors rated the
76 numbers of people at viewing areas and the
77 Haleakalā Visitor Center as one of the
78 biggest problems in the park. The survey
79 respondents also believed that the number
80 of commercial groups was another one of
81 the park's biggest problems.

82



CROWDED SUMMIT AREA PARKING AT SUNRISE

1 In addition to seeking certain experiential
 2 conditions, visitors come to national parks
 3 with an expectation of finding pristine
 4 resource conditions in both frontcountry
 5 and backcountry areas. A study by Virginia
 6 Polytechnic Institute and State University
 7 (2009) identified concerns for summit area
 8 natural and cultural resources and values
 9 due to impacts from high visitation. These
 10 include running over native plant and animal
 11 habitat and blocked viewsheds due to
 12 vehicles parked along road edges. These
 13 conditions degrade the national park
 14 experience and offend cultural resource
 15 values (Marion 2009).

16
 17

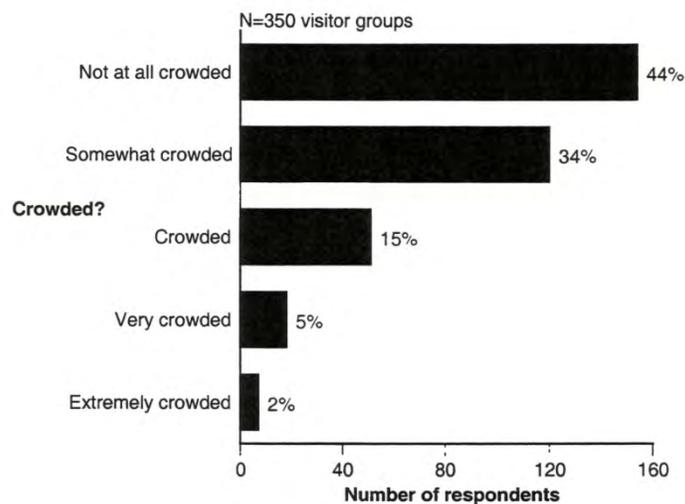


FIGURE 10. LEVEL OF CROWDING BY PEOPLE AT SUMMIT
 (UNIVERSITY OF IDAHO 2000)

18
 19

20 **Kīpahulu**

21 Visitors to the Kīpahulu area have many
 22 options for active and passive recreation,
 23 and for exploration of the area. Some of the
 24 reasons that visitors enjoy the Kīpahulu area
 25 the most include taking a trip to the
 26 waterfalls and ‘Ohe‘o Pools, enjoying the
 27 scenery and views, and experiencing the
 28 ocean coastline and natural features in the
 29 area (VPI 2008b). However, many Kīpahulu
 30 tours have similar schedules and itineraries,
 31 which results in companies arriving at the

32 same time. The outcome is often crowding
 33 and traffic congestion. In a visitor survey
 34 conducted by the University of Idaho (2000),
 35 respondents at the Kīpahulu area provided
 36 feedback on a variety of important visitor
 37 use topics including commercial activities,
 38 safety, crowding, and interpretation. Visitors
 39 to the Kīpahulu area were asked to rate how
 40 crowded they felt by other people during
 41 their visit. At Kīpahulu, 28% of visitors did
 42 not feel crowded at all and the rest of the
 43 respondents (72%) felt somewhat crowded,
 44 crowded, very crowded, or extremely

1 crowded (see figure 11). Most of the visitors
 2 felt crowded during the afternoon from
 3 noon to 6 p.m. In another survey by Virginia
 4 Polytechnic Institute and State University,
 5 about one-fifth of visitors reported that
 6 crowds and the behavior of other visitors
 7 was what they like least about their visit to

8 the Kīpahulu area of the park (VPI 2007a).
 9 Other issues identified by visitors included
 10 evidence of visitors going off trail and
 11 trampling vegetation, poor trail conditions,
 12 lack of ranger-led programs, and difficulty
 13 way finding (VPI 2007a).

14
 15

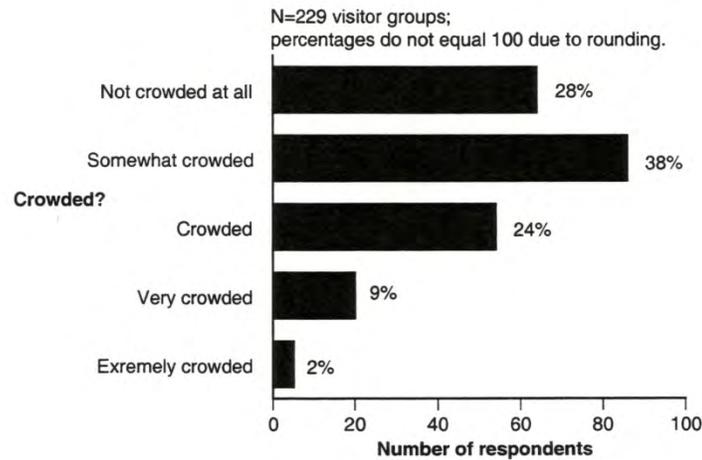


FIGURE 11 LEVEL OF CROWDING BY PEOPLE AT KĪPAHULU
 (UNIVERSITY OF IDAHO 2000)

16
 17

18 **OPPORTUNITIES FOR SOLITUDE AND**
 19 **QUIET**

20 The opportunity to experience solitude,
 21 quiet, and natural sounds are important
 22 when defining the quality of visitor
 23 experiences in parks (Gramann 1999). In
 24 fact, a survey of the American public showed
 25 that 95% of people believed that
 26 experiencing natural peace and the sounds
 27 of nature were important reasons to
 28 preserve national parks (Haas and Wakefield
 29 1998). Another survey of park visitors
 30 showed that 91% of respondents believed
 31 that enjoyment of natural quiet and the
 32 sounds of nature were compelling reasons
 33 for visiting national parks (McDonald et al.
 34 1995).

35

36 For the visitor use and experience section
 37 only, soundscapes refer to the human
 38 perception of the acoustical environment.
 39 Similarly, quiet has been defined as the
 40 absence of human caused noise. By stating
 41 that an area is quiet does not necessarily
 42 mean that there is no sound. It means there
 43 is no human-caused noise interfering with
 44 appropriate natural, cultural, or historical
 45 sounds or the type of visitor experience
 46 desired for particular areas of the park. It is
 47 important to note these distinctions to
 48 prevent confusion with similar definitions in
 49 the “Soundscapes” section of this document.
 50 In summer 2007, a study was conducted by
 51 Virginia Polytechnic Institute and State
 52 University that evaluated visitor responses to
 53 Haleakalā soundscapes. Surveys were
 54 conducted on the trail to Waimoku Falls in
 55 the Kīpahulu area. Relevant findings from
 56 the survey are summarized in figure 12. The

1 figures show the percentage of visitors who
 2 heard specified sounds at this location as
 3 well as the mean rating for those sounds. For
 4 example, natural sounds such as wind, bird
 5 song, flowing water, and waves were rated as
 6 very acceptable for the specified location.
 7 However, human-caused sounds, such as
 8 loud groups and aircraft, were generally
 9 rated as unacceptable.

10
 11 Soundscapes are not only valued by visitors,
 12 but have been identified by the National
 13 Park Service as a resource that must be
 14 protected. Haleakalā National Park is
 15 managed to protect resources and
 16 experiential values that are fundamental to
 17 its purpose and significance, including the

18 natural, cultural, and historical soundscapes
 19 of Haleakalā. It should be noted that the
 20 natural ambient sound level—that is, the
 21 environment of sound that exists in the
 22 absence of human-caused noise—is the
 23 baseline condition, and the standard against
 24 which current conditions in a soundscape
 25 [acoustic resource] will be measured and
 26 evaluated” (NPS 2006b). However, the
 27 desired acoustic condition may also depend
 28 upon the resources and the values of the
 29 park, the land use, and the kinds of activities
 30 and developments that are appropriate for
 31 the purpose of the park. For instance,
 32 “culturally appropriate sounds are important
 33 elements of the national park experience in
 34 many parks (NPS 2006b).

35

36

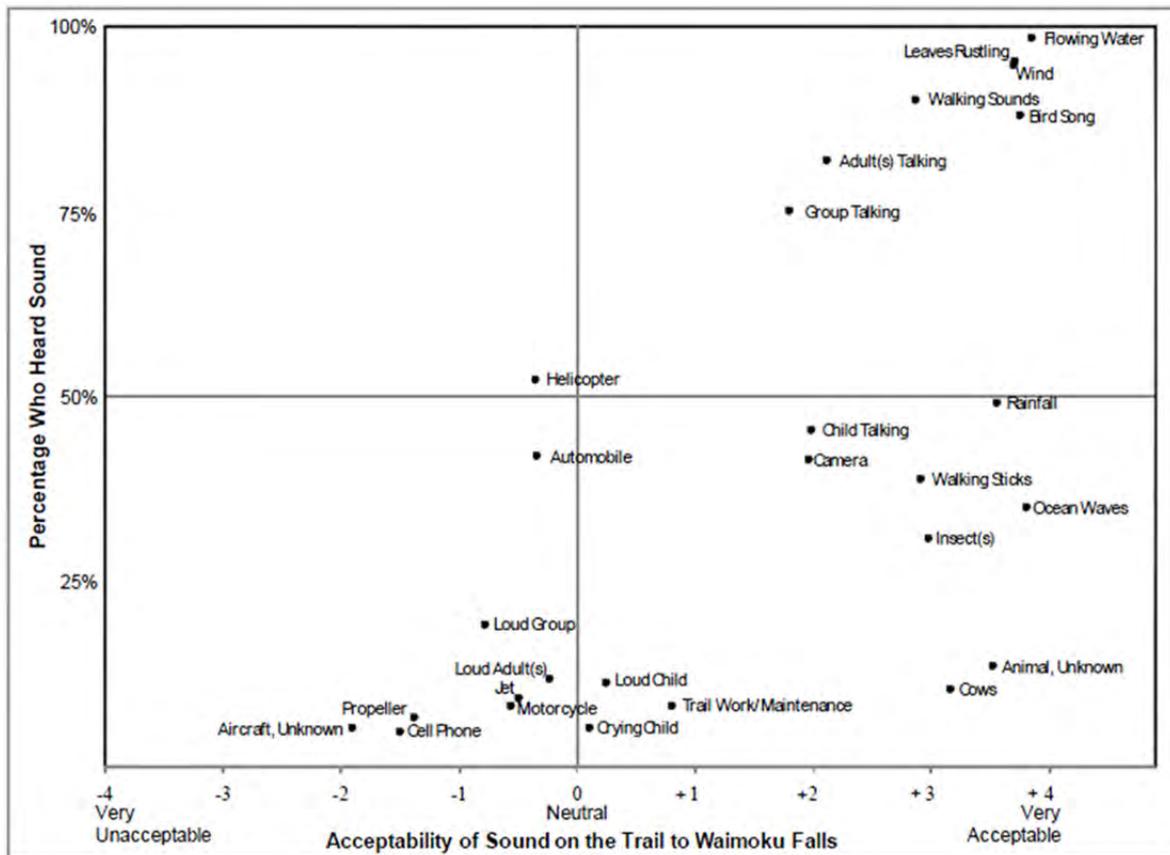


FIGURE 12. VISITORS’ MEAN ACCEPTABILITY RATINGS OF SOUNDS HEARD DURING ATTENDED LISTENING ON THE TRAIL TO WAIMOKU FALLS BY PERCENTAGE OF VISITORS WHO HEARD EACH SOUND (VPI 2007B)

37

38

39 The National Park Service Natural Sounds
 40 Program conducted acoustical monitoring at

41 three locations within Haleakalā National
 42 Park in spring 2008. The two monitoring

1 locations relevant to this plan include
 2 Halemau‘u Trail and the Kīpahulu area.
 3 Although acoustic measurements were not
 4 taken specifically to investigate areas where
 5 CUA tours operate, some of the locations
 6 overlap. Therefore, basic findings from this
 7 monitoring effort are useful for considering
 8 cumulative impacts in this commercial
 9 services plan. Overall, the NPS Natural
 10 Sounds Program staff found the selected
 11 sites to be affected by extrinsic noise most
 12 during daytime hours. The dominant
 13 extrinsic noise from 7 a.m. to 7 p.m. at all
 14 sites was helicopters, while the dominant
 15 noise source from 7 p.m. to 7 a.m. was high
 16 altitude jets (Lynch and McCusker 2008).
 17 During peak morning hours, helicopters
 18 were audible between 35% and 41% of the

19 time. Propellers were also audible during
 20 both time periods, but less frequently. Yearly
 21 air tour overflight operations were estimated
 22 to be 3,452 for south slope (Rain Gauge) and
 23 9,344 for the Kīpahulu area (Lynch and
 24 McCusker 2008).

25
 26 As a reference point for helicopter noise as
 27 compared to other common sounds, table 14
 28 shows a list of common sound sources and
 29 their corresponding decibel levels. Similarly,
 30 table 15 represents the relevance of certain
 31 decibel levels and possible effects they may
 32 have on visitors. It is useful to know that
 33 52 dBA is loud enough to interrupt an
 34 interpretive program, and 60 dBA would
 35 prevent a person from having a conversation
 36 with a friend.

37
 38

TABLE 14. INTERPRETING SOUND LEVELS

Park Sound Sources	Common Sound Sources	dBA
Crater (Haleakalā NP)	Human breathing at 3 meters	10
Leaves rustling (Canyonlands NP)	Whispering	20
Crickets at 5m (Zion NP)	Residential area at night	40
Conversation at 5m (Whitman Mission National Historic Site)	Busy restaurant	60
Snowcoach at 30m (Yellowstone NP)	Curbside of busy street	80
	Helicopter Overflight (Eurocopter EC 130 at 200 feet above ground level)	85
Thunder (Arches NP)	Jackhammer at 2m	100
Military jet at 100m AGL(Yukon-Charley Rivers National Preserve)	Train horn at 1m	120

Note: An increase of 10 dBA represents a tenfold multiplication of energy

39
 40

TABLE 15. EXPLANATION OF SOUND LEVEL VALUES

Sound Levels (dBA)	Relevance
35	Blood pressure and heart rate increase in sleeping humans (Haralabidis et al. 2008)
45	World Health Organization’s recommendation for maximum noise levels inside bedrooms (Berglund et al. 1999)
52	Speech interference for interpretive programs (EPA 1974)
60	Speech interruption for normal conversation (EPA1974)

1
2

3 Table 15 summarizes sound level values that
4 relate to human health and speech, as
5 documented in the scientific literature.
6 Human responses can serve as a proxy for
7 potential impacts to other vertebrates
8 because humans have more sensitive hearing
9 at low frequencies than most species
10 (Dooling and Popper 2007).

11
12

13 **LEVEL AND QUALITY OF**
14 **INTERPRETATION AND EDUCATION**

15 Through quality interpretation and
16 education, Haleakalā National Park has the
17 ability to inform and enlighten visitors about
18 the multitude of opportunities and natural
19 and cultural resources within the park.
20 Visitors to Haleakalā can learn about Native
21 Hawaiian culture, volcanic formations,
22 diversity of plants and wildlife, and active
23 park management. Providing meaningful
24 interpretation can inspire and provoke
25 visitors to broaden their horizons and make
26 connections to this special place. Educating
27 visitors on regulations and safety also helps
28 ensure that visitors enjoy an incident-free
29 experience in the park.

30
31
32
33
34
35
36
37
38

According to the Haleakalā special use
authorization guidelines, CUA holders must
ensure that educational information is
provided through tour leaders, brochures,
and literature or advertising to park visitors.
The information must be accurate and
reflect the most current information
available to depict park flora, fauna, geology,

39 culture, and history. This includes the
40 proper use of Hawaiian words and place
41 names. The park staff encourages all CUA
42 holders to locate accurate interpretive
43 materials at the park website, by calling the
44 interpretation division, or by locating
45 publications that are available through the
46 Hawaii Natural History Association.
47 However, the National Park Service
48 currently does not provide or require
49 training for CUA guides, does not provide
50 interpretive materials to guides, and does not
51 require them to include interpretive
52 booklets as part of their tours.

53

54 Many commercial service providers take
55 pride in providing accurate information to
56 their clients, although some CUA holders
57 have provided their clients with inaccurate
58 or insufficient information that is not
59 consistent with the park’s mission or NPS
60 interpretive standards. Another issue is that
61 some clients may not be informed of the
62 designation of Haleakalā as a national park,
63 and therefore do not understand the role or
64 mission of the National Park Service in
65 managing the area. In a study conducted by
66 the University of Vermont (2004),
67 commercial bicycle tour respondents were
68 asked if they knew what type of park they
69 were visiting before arriving. A slight
70 majority of visitors (54.6%) did realize they
71 were entering a national park; however, the
72 rest of the respondents (45.4%) did not
73 realize that they were entering a national
74 park, thought it was a state or private park or
75 did not know what type of park it was.

76

1 Because some clients have not received
2 adequate information about the park's
3 natural resources or safe behavior while
4 visiting, they are believed to be contributing
5 to natural resource impacts and impacts to
6 the experience of other park visitors. A study
7 by the Virginia Polytechnic Institute and
8 State University showed there is
9 considerable confusion at the summit about
10 the different types of trails in the park.
11 Visitors often do not understand the
12 difference between informal and formal
13 trails. The study suggested that trail
14 maintenance and improved visitor education
15 and signs about trails should be able to
16 address trail degradation problems (Marion
17 2009). In the Kīpahulu area, visitors
34

18 identified the lack of directional signs and
19 informational signs about natural and
20 cultural history to be among the most
21 significant problems in the area.
22
23 In a survey conducted by the University of
24 Idaho (2000), visitors responded that the
25 highest quality information at both the
26 summit and Kīpahulu areas was received
27 from park staff. The most commonly used
28 information at the summit was obtained
29 from the park map/brochure and the
30 Haleakalā Visitor Center. At Kīpahulu, the
31 most used sources of information included
32 the park map/brochure and self-guiding trail
33 signs and brochures.

PUBLIC HEALTH AND SAFETY

4 GENERAL

5 The health and safety of park visitors, staff,
6 and neighbors are of great importance to the
7 National Park Service. Park staff is
8 responsible for maintaining conditions that
9 protect the health and safety of employees
10 and the public in the park. Statutory and
11 regulatory provisions applicable to national
12 park system units require the National Park
13 Service to not only provide safe facilities,
14 utilities, and grounds within the park, but
15 also promote safety in park program and
16 project operations (NPS *Management*
17 *Policies, 2006*, section 8.2.5). In its centennial
18 strategy for Haleakalā National Park, the
19 National Park Service aimed to reorient
20 visitor expectations and perceptions away
21 from thrill-seeking recreation and toward
22 appreciation of wild and natural
23 environments (NPS 2007).

24
25 In a visitor survey conducted by the
26 University of Idaho (2000), respondents at
27 the summit and Kīpahulu areas provided
28 feedback for a variety of important visitor
29 use topics including perceived safety. Most
30 visitors to the summit felt safe (63%) or
31 somewhat safe (21%). However, a small
32 percentage of visitors felt somewhat unsafe
33 (6%) or very unsafe (3%). Reasons for
34 feeling unsafe included weather conditions,
35 narrow and windy roads, lack of guardrails,
36 bicycles on road, and other cars and buses.
37 Most Kīpahulu visitors also felt very safe
38 (67%) or somewhat safe (23%). A small
39 percentage felt somewhat unsafe (8%).
40 Reasons for feeling unsafe included the road
41 to Ohe‘o pools, lack of road signs, and hiking
42 on slippery rocks. In the Kīpahulu area, park
43 staff is particularly interested in addressing
44 health and safety issues for visitors who
45 choose to explore the ‘Ohe‘o pools. In a
46 study by Virginia Polytechnic Institute and
47 State University, most visitors considered
48 exploration of the ‘Ohe‘o pools area to be an

49 important reason for their visit (VPI 2008b).
50 Visitors are allowed to explore and swim in
51 the pools. Park staff gate the trail and post
52 the area as closed when water levels are high.
53 However, there is no foolproof method of
54 monitoring water levels and the National
55 Park Service strongly discourages swimming
56 in the pools for safety, public health,
57 resource protection. To discourage
58 exploration of the pools, the National Park
59 Service has provided signs and interpretive
60 information in the visitor center and along
61 trails. This information explains the dangers
62 and hazards of entering and exploring the
63 pools. Results of a visitor study showed that
64 delivering this information to visitors prior
65 to their arrival at the park would enhance
66 the effectiveness of the information in
67 changing behavior (VPI 2008b).

68
69 Public awareness of the threats a national
70 park poses are increased by providing
71 sufficient information about health and
72 safety. Park facilities are open to visitors
73 every day of the year, except for closures
74 during severe weather occurrences, and park
75 personnel are present throughout the year to
76 respond to the safety needs of staff and
77 visitors. Education and outreach information
78 is provided by the park staff and to
79 commercial tours to address safety concerns.
80 Visitor safety messages are also shared
81 through a variety of media including web-
82 based training, digital media distributed at
83 the park gate, visitor center exhibits, a park
84 film, real-time weather and viewing
85 conditions displays, and uniformed staff in
86 the frontcountry and backcountry. The
87 park’s website, brochures, and postings at
88 entrance kiosks, trailheads, and visitor centers
89 alert visitors to the dangers of recreating in
90 high altitudes in the summit area and at the
91 Kīpahulu area near the ocean.

92
93 Because the park has four user groups
94 providing commercial services within the
95 park, the following information addresses

1 health and safety for all CUA groups
2 including astronomy tours, hiking tours,
3 horseback tours, and road-based vehicle
4 tours. However, a large portion of the
5 following text also discusses the history of
6 safety issues related to bicycle tours that
7 occurred in the park from 1986 until the
8 bicycle tour safety stand-down in October of
9 2007.

10
11 Haleakalā National Park requires all CUA
12 holders to submit a biannual safety report
13 confirming that adequate safety
14 requirements are met for the following
15 categories: vehicle, employee and client,
16 equipment, and public health. In addition to
17 this report, each CUA holder must sign the
18 special conditions of authorization and an
19 addendum depending on the type of tour
20 provided. The special conditions of
21 authorization ensures that all CUA holders
22 not only have a commitment to safety of
23 employees and clients but also for visitors
24 and employees of Haleakalā National Park.
25 Safety topics that must be discussed with
26 clients include high elevation issues, weather
27 conditions, roadway conditions, and trail
28 conditions. Safety topics which CUA
29 employees must be aware of include
30 equipment maintenance, training, and public
31 health. Awareness of public health includes
32 understanding guidance for handling food,
33 potable water, human waste, vector-borne
34 and zoonotic diseases, and illness reporting.
35 CUA holders must also meet emergency
36 medical and safety requirements including
37 cardiopulmonary resuscitation (CPR) and
38 standard first aid certifications for
39 astronomy tours, hiking and backcountry
40 tours, horse tours, and road-based tours.

41 The addendum for each tour type provides
42 additional information about conducting the
43 tours and includes safety and public health
44 information specific to each activity type.
45 For example, astronomy tours must not
46 create a safety hazard and must illuminate
47 equipment during nighttime hours. They are
48 to remain on the pavement in designated
49 areas and must not block the flow of traffic
50 in the parking area, on trails, or on
51 sidewalks. Similarly, hiking tours must
52 provide clients with all equipment needed
53 for a safe trip, ensure that clients stay on the
54 trail, and provide directions for sanitary
55 food preparation and waste disposal.
56 Horseback riding tours must follow health
57 and safety guidelines similar to those
58 followed by hikers. They also ensure the
59 safety of clients by inspecting the animals
60 and associated equipment before each ride
61 and by regulating the speed of travel on the
62 trail.

63
64 The level of public health and safety is largely
65 reflected in the incidence statistics collected
66 by the park. Table 16 provides incident
67 details for the years 2006–2009. An accident
68 or incident is defined as an accidental event
69 affecting a non-NPS employee that results
70 in a death or a serious injury or illness
71 requiring medical treatment. Due to the
72 remote nature of the backcountry, park
73 visitors assume some risks in visiting and
74 using these areas of the park.

75
76 Table 17 provides incident details for the
77 years 2006–2009 and demonstrates incidents
78 resulting from private use versus commercial
79 use.

TABLE 16. INCIDENT TOTALS, 2006–2009

Type of Incident	Number of Incidents 2006
Motor vehicle accidents (combined private use and commercial vehicles)	15
Traffic Violations (combined private use and commercial vehicles)	106
Emergency Medical Services incidents, including trauma, medical, and first aid only	151
Search and rescue operations	18

*2006 data were provided by Gier 2007

1
2

TABLE 17. INCIDENT TOTAL DETAILS 2006–2009

Type of Incident	Number of Incidents 2006	Number of Incidents 2007	Number of Incidents 2008	Number of Incidents 2009
Motor vehicle accidents (private use / commercial vehicles)	5 / 0	8 / 0	6 / 0	7 / 0

3
4

5 **BICYCLE USE**

6 The NPS *Safety Analysis Report for*
 7 *Commercially Guided Bicycle Tours* (2008)
 8 summarized health and safety information
 9 for bicycle tours that occurred within
 10 Haleakalā National Park from 1986 to 2007.
 11 These tours, approximately 30 miles in
 12 length, began at the crater parking area at
 13 approximately 10,000 feet in elevation and
 14 descended 11 miles and 3,500 feet of
 15 elevation through the park. The tours then
 16 continued outside the park boundary for
 17 approximately 20 more miles and finished in
 18 various locations at or near the ocean. The
 19 road inside the park is two lanes, has no
 20 shoulder, experiences sections of 5%–6%
 21 grades, and has paved pullouts
 22 approximately every 1–2 miles. The terrain
 23 adjacent to the roadway is steep, rocky, and

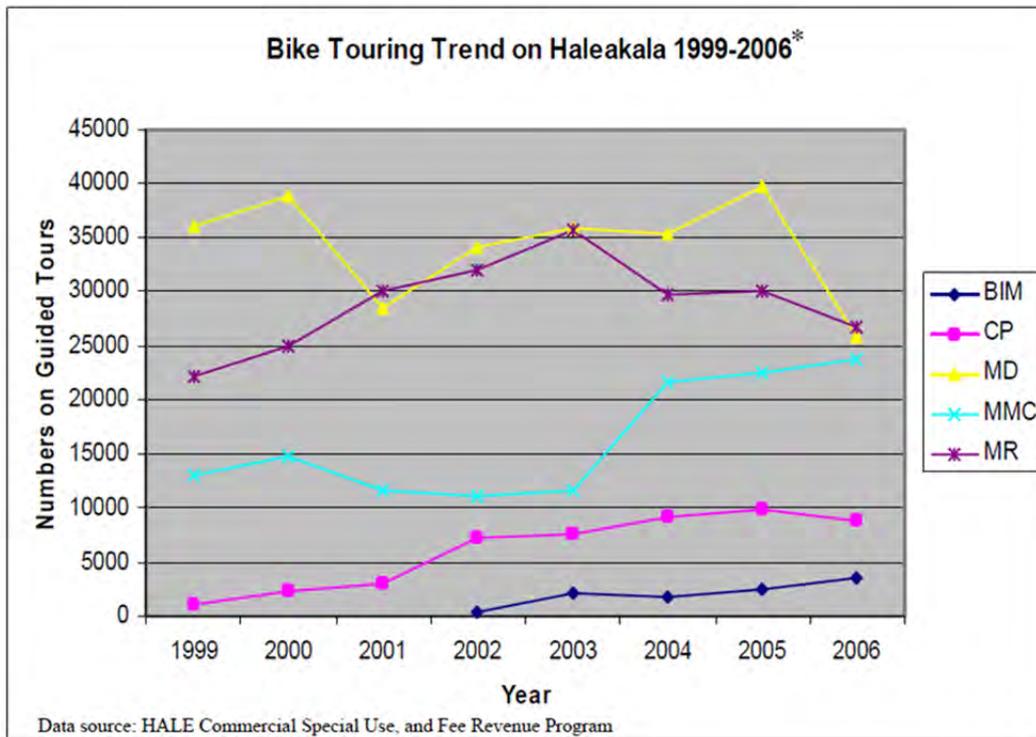
24 unforgiving of those riders who were
 25 unfortunate enough to leave the roadway.
 26
 27 When the park superintendent (at the time)
 28 authorized this commercial activity for the
 29 first time in 1986, the total client numbers
 30 were 24,000. Numbers increased steadily
 31 with the highest recorded client total
 32 reaching 106,000 in 2005. In October 2005,
 33 the National Park Service implemented an
 34 interim operations plan to manage
 35 commercial services at sunrise at the summit
 36 while the commercial services plan was
 37 being developed (NPS 2005). Under the
 38 interim operations plan, total bicycle tour
 39 client numbers were capped at 90,000 per
 40 year. Figure 13 displays the number of
 41 visitors on guided bicycle tours from 1999–
 42 2006 for five bicycle tour companies. Figure
 43 14 displays the total number of bicycle

1 accidents from 1999–2006. Some accidents
 2 did not produce injuries, but because all
 3 accidents represent an undesirable event
 4 that could produce an injury, the 2007 safety
 5 analysis team included all accidents in most
 6 of its analyses (NPS 2008a, 2008c).

7
 8 Commercial bicycle tours within Haleakalā
 9 National Park have had a history of serious
 10 accidents and injuries. After a client fatality
 11 in 1998, the NPS conducted a root cause
 12 analysis and established a bicycle work
 13 group to develop and implement a safety
 14 action improvement plan. The root cause
 15 analysis determined that weather (leader
 16 should have aborted the ride), equipment
 17 (brake failure, helmet fit), and speed were
 18 the primary causes of accidents. As a result,
 19 the National Park Service added to the
 20 permits an addendum of specific park

21 conditions. The addendum added new and
 22 strengthened existing operational and safety
 23 requirements including bike safety
 24 inspections, maximum group size limits,
 25 launch intervals, additional personal
 26 protective equipment, bicycle leader and a
 27 vehicle escorts, accident reporting, and at
 28 least one first aid/first responder-level
 29 qualified employee per tour group. Starting
 30 in 2001, client injury rates declined
 31 considerably and remained relatively steady
 32 over the next several years. This decline was
 33 likely because of the above changes and
 34 increased oversight of the program;
 35 however, the seriousness of the injuries,
 36 including the two fatalities in 2007,
 37 prompted the National Park Service to
 38 reassess the safety and future viability of
 39 commercial bicycle tours at Haleakalā
 40 National Park.

41
 42



*BIM = Bike It Maui, CP = Cruiser Phil's
 MD = Maui Downhill, MMC = Maui Mountain Cruisers
 MR = Maui Riders

FIGURE 13. NUMBER OF BICYCLE TOURS FROM 1999 TO 2006 (NPS 2008A)

43



FIGURE 14. TOTAL BIKE ACCIDENTS 1999–2006 (NPS 2008A)

1
2

3 On December 10, 2007, the NPS safety
4 analysis team convened at the park to
5 conduct a risk-based assessment of this
6 activity. After a full review of safety issues
7 related to bicycle tours, the safety analysis
8 team concluded that commercial bicycle
9 tours at Haleakalā National Park, as
10 operated and managed prior to the safety
11 stand-down and as measured by the GAR
12 (green-amber-red) risk assessment model,
13 posed moderately high risks to the tour
14 participants (NPS 2008c). In evaluating the
15 risk categories, the team identified a range of
16 operational and managerial actions that the
17 team believed could reduce the risk of this
18 activity. A subsequent NPS board of review
19 (NPS 2008d) evaluated the safety analysis
20 team’s draft report and made the following
21 findings:

22
23 1. **Commercially guided bicycle tours at**
24 **Haleakalā National Park, as operated**
25 **and managed prior to the safety stand-**
26 **down, pose an unacceptably high risk**
27 **to park visitors.** Although the accident
28 rate for this activity decreased
29 significantly between 2000 and 2001,
30 when the National Park Service

31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58

mandated additional controls for the
activity, and remained stable,
commercially guided bicycle operations
consistently resulted in 60 participant
injuries within the park annually. This
number of injuries exceeds injury rates
in other comparable commercially
guided recreational activities (NPS
2008d).

2. **Additional management and**
operational changes to this activity
may mitigate this risk to an acceptable
level. Management controls instituted in
2001 following the NPS root cause
analysis in 1999 appear to correlate
directly to a significant decline in
accident rates that had been sustained,
even as the numbers of tour participants
increased. Additional controls instituted
in 2005 reduced the number of tours,
which reduced participant numbers
from a high of 105,000 to a steady 90,000
participants annually. Finally, different
bicycle companies had different accident
rates, indicating that specific
management practices influence the
safety of the activity. The board directed

1 that a number of bicycle tour operational
 2 changes be further developed by
 3 Haleakalā
 4
 5 3. NPS staff with the assistance of regional
 6 concessions staff for consideration by

7 the superintendent and regional
 8 director. These operational changes
 9 would be designed to reduce participant
 10 risk in each of the risk categories
 11 identified by the Safety Analysis Team
 12 (NPS 2008d)

13
 14
 15

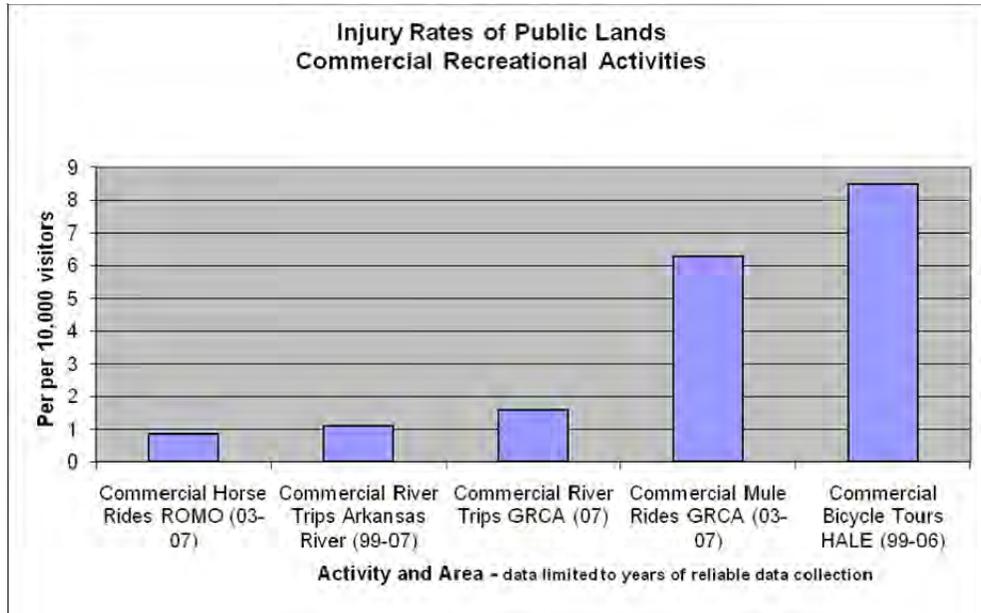


FIGURE 15. INJURY RATES ON PUBLIC LANDS DURING COMMERCIAL RECREATIONAL ACTIVITIES (NPS 2008c)

16
 17

18 In addition to the safety analysis conducted
 19 by the National Park Service, the *Maui*
 20 *County Downhill Bicycle Tour Study*
 21 discussed public concerns related to the
 22 safety of bicycle tours and disruption to local
 23 traffic (Maui County Department of Public
 24 Works 2010). This report made

25 recommendations for conducting safer
 26 bicycle tours in the future. In 2007, a statute
 27 was enacted by the state legislature creating
 28 a legal basis for changing the *Code of the*
 29 *County of Maui, Hawai'i* and allows the
 30 county to regulate commercial bicycle tours
 31 within the county.

32

SOCIOECONOMICS

HAWAI'I ECONOMIC OVERVIEW

Hawai'i has four counties that comprise the island chain. The state's total population was estimated to be 1.3 million in 2008 (U.S. Census Bureau 2010). The state's largest employers are education and health services (19%); recreation, accommodation and food services (15%); and retail trade (12%) (U.S. Census Bureau 2010). As of September 2010, the state's unemployment is the sixth lowest in the nation, at 6.3%. However, unemployment has increased significantly since its historical low in January 2007 (BLS 2010), due primarily to the nationwide economic downturn over the last few years. The state government predicts slow economic recovery and growth over the next few years (DBEDT Outlook for the Economy).

The visitor industry has been an economic mainstay for Hawai'i since statehood in 1959. The State of Hawai'i Department of Business, Economic Development, and Tourism (DBEDT) reported that 6.5 million tourists arrived to the islands and spent \$10 billion in the state in 2009 (DBEDT Outlook for the Economy). Tourism touches nearly all aspects in Hawai'i and is the primary source of revenue for many communities. As the chief generator of employment in the state, the visitor industry accounts for 20% of all Hawai'i jobs (Hawai'i Office of Economic Development 2010).

Hawai'i has seven national park system units ranging from the USS *Arizona* Memorial in Honolulu, to the geologic wonders of Hawai'i Volcanoes National Park, to small parks that protect cultural sites and practices. These parks receive 4.5 million visitors annually, who spend \$243 million in the state in association with their park visit. Nearly 6,000 jobs are supported through the Hawai'i national parks, both through visitor spending on entertainment, food, and lodging; as well as jobs directly provided

through employment with the NPS (Stynes 2009).

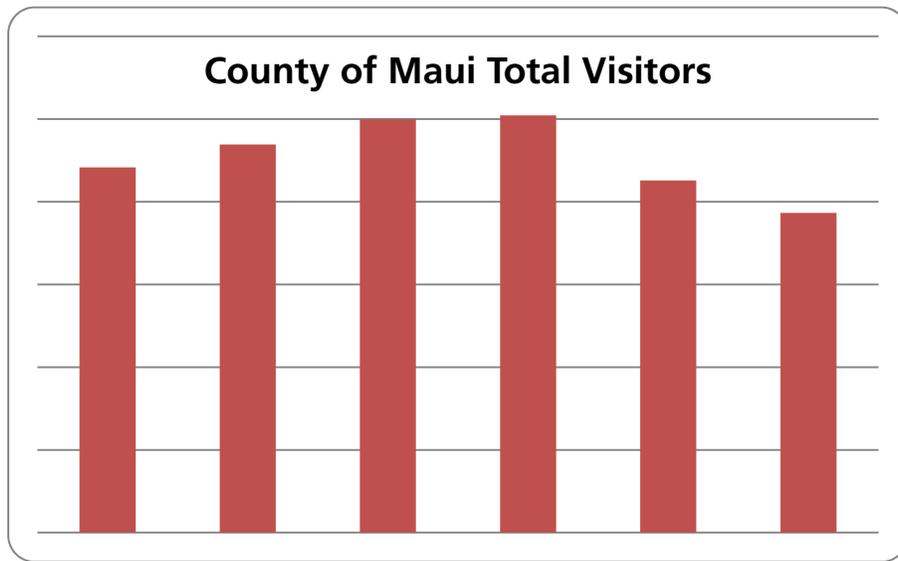
COUNTY OF MAUI ECONOMIC OVERVIEW

The County of Maui has three inhabited islands, Maui, Moloka'i, and Lana'i, and one uninhabited island, Kaho'olawe. The county's population center is Wailuku-Kahului, located on the north shore of the island of Maui. This town is the island's civic and business center and home to the seaport and airport. Beyond the urbanized area are surrounding agricultural lands, small towns, and seacoast resorts. Main cities and towns include Kahului, Kihei, Lahaina, Lana'i City, and Kaunakakai.

The population of the County of Maui was estimated at 144,000 in 2008 (U.S. Census Bureau 2010). From 2000 to 2008, the resident population in the county increased by 12%. The population of the county is growing faster than the state overall, with a projected annual growth rate of over 1% for the next 30 years (County of Maui 2006).

The economy of the County of Maui has a high reliance on the visitor industry, with 28,500 jobs (38%), being visitor-related in the categories of accommodations and food service, entertainment, and retail trade (DBEDT Quarterly Economic Indicators 2010). The county has a higher unemployment rate than does the state, at 8.5% in 2010 (DBEDT Quarterly Economic Indicators 2010).

The number of visitors to the County of Maui has decreased since 2007, and visitor spending has followed the same trend. However, the Department of Business, Economic Development, and Tourism projects visitation to the county to return to 2005 and 2006 levels in the near future. Visitation in 2010 is already up 7.8%.



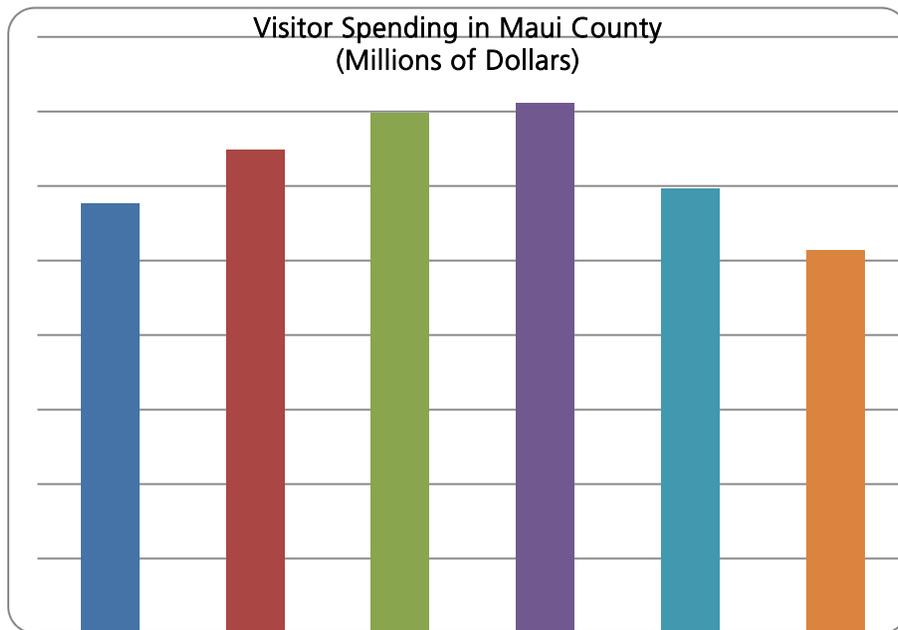
1

Source: DBEDT, Historical Visitor Statistics

FIGURE 16. COUNTY OF MAUI VISITORS, 2004-2009

2

3



4

Source: DBEDT, Historical Visitor Statistics

FIGURE 17. COUNTY OF MAUI VISITOR SPENDING, 2004-2009

5

6

1 **Economic Impacts of Park’s**
 2 **Commercial Service Providers**

3 Within the scope of this plan, 26 businesses
 4 in 2009 were permitted to offer tours within
 5 the national park, and they typically provide
 6 tours to 15%–30% of Haleakalā National
 7 Park visitors in any given year. The
 8 companies offer a variety of experiences to
 9 their clients. The companies rely on touring
 10 within the park to varying degrees, some
 11 visiting the park on all tours, while others
 12 take some tours to the park, but also offer
 13 other tours that do not enter the park. Total
 14 revenues of \$8.9 million were reported for
 15 tours visiting the park. On average, 21% of
 16 these companies’ revenues were generated
 17 by tours that visit the park.
 18

19 Table 18 summarizes the reported revenue
 20 for tours visiting the park by commercial
 21 service providers in 2009, as well as the
 22 average percentage of revenue that is
 23 attributable to tours that visit the park.
 24 Higher percentage numbers indicate a larger
 25 dependency on touring within the park.
 26 Horseback tours and road-based vehicle
 27 tours (with bicycle option outside the park)
 28 generated over half their revenue from tours
 29 that visited the park. Therefore, on average,
 30 those tour operators rely on more than half
 31 of their revenue from tours that include the
 32 park. The other three types of tours
 33 generated less than half of their revenue
 34 from tours visiting the park. While these
 35 numbers give a picture of the types of tours
 36 that rely on income generated from in park
 37 tours, operators are not necessarily
 38 consistent within each category.

39
 40

TABLE 18. COMMERCIAL SERVICE PROVIDER REVENUES FOR 2009

Provider	No. of Vendors	Revenue Attributable to Park	Revenue Attributable to Park as Percent of Total Revenue
Astronomy Lectures/Tours	4	\$350,000	23%
Guided Hiking and Guided Hiking with Astronomy	6	\$305,000	13%
Horseback Tours	2	N/A	N/A*-
Road-based Vehicle Tours	12	\$4,777,000	15%
Road-based Vehicle Tours (with Bicycle Option outside the national park)	7	\$3,404,000	68%
TOTALS	26	\$8,940,000	21%

Source: CUA forms

41
 42

1 **Astronomy Tours**

2 Stargazing services in the park are currently
3 provided by four CUA holders who pay the
4 \$350 annual permit fees (administration fee
5 and application fee). Gross revenues for
6 tours visiting the national park were
7 approximately \$350,000, making up 23% of
8 total revenue. The companies had between
9 440 and 2,000 clients for the year. The
10 stargazing groups are generally small, with
11 patrons paying \$65 to \$150 for the service.
12 Three of the four companies make most of
13 their revenue from in-park tours
14

15 **Hiking Tours**

16 Five hiking tour companies operated under
17 CUAs at Haleakalā National Park in 2009,
18 plus one company that provided guided
19 hiking with astronomy tours. Total permit
20 fees paid to the park by the hiking tour CUA
21 holders are \$350 annually for each company.
22

23 Approximately 1,900 visitors came to the
24 park on guided hiking tours in 2009. Two of
25 the hiking tour companies are daily or
26 weekly users. Four companies lead hikes less
27 frequently. Commercially guided hiking
28 prices range from \$130 to \$150. Gross
29 revenues for tours that visit the park were
30 approximately \$305,000, making up 13% of
31 total revenue.
32

33 **Horseback Tours**

34 Two horseback tour companies operated
35 under CUAs in 2009, but only one tour
36 company led tours in the park. Riders
37 generally paid between \$120 and \$300 per
38 tour, depending on discounts, ride length,
39 and the amenities provided. The companies
40 pay annual permit fees of \$350 to the
41 National Park Service.
42

43 **Road-based Vehicle Tours**

44 In 2009, there were 19 CUA holders that
45 offered road-based vehicle tours to parts of
46 Haleakalā National Park. These tours

47 generally visit other parts of Maui as well as
48 the park. Vehicle tours are conducted in
49 multi-passenger vehicles with up to 45
50 passengers. Thirteen road-based vehicle tour
51 companies held CUAs for sunrise at the
52 summit. The historical vehicle occupancy
53 rate for sunrise tours has been
54 approximately 60%.
55

56 In 2009, rates for road-based tours ranged
57 from \$20 to \$125, depending on many
58 factors, such as the type of service,
59 discounts, the number of sites visited, and
60 overall length of the tour. Gross revenues for
61 tours visiting the park were approximately
62 \$4.8 million, making up 15% of total
63 operator revenue. Each of the road-based
64 vehicle tour providers pays entrance fees to
65 the park based on ridership. One company
66 reported nearly all revenues generated from
67 tours that visited the park. Several other
68 companies reported a portion of revenues
69 generated from tours that visit the park, and
70 a few companies reported no revenues from
71 in-park tours, or did not provide
72 information.
73

74 **Road-based Vehicle Tours with** 75 **Optional Bicycle Tours**

76 Seven of the 19 road-based vehicle tour CUA
77 holders operated bike tours outside of the
78 park boundary in 2009. This number has
79 been relatively stable since the bicycle safety
80 stand down in October 2007. The companies
81 take clients to the summit for sunrise, and
82 then return down the park road, stopping
83 outside of the park boundary to launch
84 bicycle tours. Five companies operated
85 escorted tours and two operated
86 independent rides (Maui Downhill Bicycle
87 Tour Study 2010). Tour prices range from
88 \$35 to \$270, and gross revenues were
89 approximately \$3.4 million, making up 68%
90 of total revenue. Companies with a bicycle
91 option (outside of the park), overall
92 generated a high proportion of revenues
93 from tours which visited the park.

PARK OPERATIONS

4 ORGANIZATION

5 The superintendent of Haleakalā National
6 Park is responsible for managing the park, its
7 staff, commercial services, all of its
8 programs, and its interactions with persons,
9 agencies, and organizations interested in the
10 park. The superintendent is assisted by a
11 management team. Park staff provide the full
12 scope of functions and activities to
13 accomplish management objectives,
14 including interpretation and education,
15 resource protection, law enforcement,
16 emergency services, public health and safety,
17 science, visitor services, utilities, and
18 management support. In 2010, there were 95
19 employees whose duties and assignments are
20 distributed among five operational programs
21 within the park: protection, interpretation,
22 resource management, maintenance, and
23 administration. There are two areas of
24 operations: the summit area and Kīpahulu.
25 In 2010, the park employed 58 permanent
26 employees and 37 term, temporary, seasonal,
27 or intermittent employees.

28
29 Staff expertise and specialties are
30 summarized by the following programs:

31
32 The **protection program** with its six
33 employees is responsible for resource
34 protection, visitor safety services, and park
35 protection. Duties include road and trail
36 patrols, law enforcement, resources
37 protection, emergency medical assistance,
38 fire protection, and search and rescue.

39
40 The **interpretation program**, with its 15
41 employees (including four term, temporary,
42 or intermittent employees), is responsible
43 for all park activities related to providing
44 visitors with a safe and educational park
45 experience. Duties include interpretation,
46 visitor center management, interpretive
47 media, and visitor safety services. In
48 conjunction with this division, the Hawai'i

49 Natural History Association supports park
50 interpretation with staff at the three visitor
51 centers and returns to the park a portion of
52 its revenue.

53
54 The 31 employees of the **resources**
55 **management program** (including 14 term
56 and two intermittent employees) are
57 responsible for all activities related to the
58 management, preservation, and protection
59 of the park's cultural and natural resources.
60 This includes maintaining boundary and
61 strategic fences to exclude feral animals,
62 monitoring of natural and cultural resources,
63 restoring native plant communities,
64 monitoring of natural and cultural resources,
65 and control of nonnative and invasive plant
66 and animal species. This division also
67 manages environmental compliance for the
68 park.

69
70 The **administration program** has 15
71 employees (including two intermittent
72 employees) who are responsible for all
73 parkwide management and administrative
74 support activities, park-level planning,
75 human resources management, information
76 technology, procurement and contracting,
77 entrance fee collection, and financial
78 management. The division coordinates daily
79 internal operations at the park and works
80 with external constituencies. This division
81 also manages and oversees all in-park
82 commercial services and fee collection.

83
84 The **facilities management program** has 26
85 employees (including 13 term and one
86 seasonal employee) who are responsible for
87 all activities required to manage and operate
88 the park's infrastructure on a daily basis
89 through substantial repair, replacement or
90 rehabilitation of park assets, such as
91 buildings, roads, trails, facilities, fleet
92 vehicles, and equipment. Work includes
93 cyclic and routine maintenance, inspection,
94 general preventative maintenance, and
95 renovation projects. Park facilities include

1 three visitor centers with exhibits and
 2 bookstore operations, four campgrounds,
 3 38.2 miles of trails, three trail bridges, eight
 4 parking areas, and two picnic areas.

7 **ADMINISTRATION OF COMMERCIAL**
 8 **SERVICES**

9 Currently, management of the park’s fee
 10 revenue program and commercial services
 11 program (within the administration
 12 program) is done by one full-time employee.
 13 This staff member also works with the park
 14 management team and resource
 15 management program to determine whether
 16 services are safe, necessary and/or
 17 appropriate, and do not generate
 18 unacceptable levels of resource impacts.
 19 Management of the commercial services
 20 program is currently understaffed.

40
 41

21 An estimated 15%–30% of park visitors are
 22 accompanied by commercial providers, with
 23 up to 70% of summit visitors at sunrise being
 24 on commercial tours. Staffing needs,
 25 particularly for the law enforcement,
 26 interpretation, maintenance, and
 27 administration programs are affected by the
 28 levels and patterns of commercial visitors.

31 **COMMERCIAL SERVICES REVENUE**
 32 **TO THE PARK**

33 Permit fees and entrance fees comprise the
 34 commercial service provider payments made
 35 to the park. Road-based vehicle tours pay a
 36 commercial entrance fee based on the
 37 number of passengers per vehicle. For
 38 Haleakalā National Park, the fees are
 39 summarized in the table below.

TABLE 19. HALEAKALĀ NATIONAL PARK COMMERCIAL TOUR ENTRANCE FEE SCHEDULE

Haleakalā National Park Commercial Tour Entrance Fees*		
Type of Vehicle	Number of Passengers	Entrance Fee
Sedan	1-6	\$30 plus \$5 per passenger
Van	7-15	\$45
Minibus	16-25	\$45
Motor Coach	26+ persons	\$100

*These fees apply to road-based vehicle tours only.

42
 43

44 Astronomy, horseback, and hiking tour
 45 companies pay an annual administrative fee
 46 of \$250 to cover NPS staff work regarding
 47 communication and monitoring of the
 48 permits. They also pay an annual application
 49 fee of \$100. Some tour companies bring their
 50 clients in the park, while others meet their

57

51 clients within the park. When clients ride
 52 into the park with the tour company, the
 53 company pays a \$5 per person entrance fee.
 54 When clients enter the park on their own,
 55 they pay an entrance fee like any other
 56 visitor.

TABLE 20. TOTAL FEES PAID TO PARK

Fees Paid to the Park by Commercial Providers (2009)	
Tour Companies, Except Road-based Vehicle Tours	
Type of Fee	Amount
Total Administrative Fees (\$250 per company)	\$3,000
Total Application Fees (\$100 per company)	\$3,100
Other Entrance Fees (paid by clients individually entering the park)	This amount is not readily discernible, but is part of the total fees collected at entrance stations
Road-based Vehicle Tour Companies	
Type of Fee	Amount
Total Commercial Entrance Fees (see table 19 for fee schedule)	\$566,880

1

ENVIRONMENTAL CONSEQUENCES

4



1 back of divider
2

INTRODUCTION

1

2

3

4 The National Environmental Policy Act
5 requires that environmental documents
6 discuss the environmental impacts of a
7 proposed federal action, feasible alternatives
8 to that action, and any adverse
9 environmental effects that cannot be
10 avoided. In this case, the proposed federal
11 action would be the adoption of a new
12 commercial services management plan,
13 focused on commercial tours at Haleakalā
14 National Park. This chapter analyzes the
15 environmental impacts of implementing the
16 three action alternatives on natural
17 resources, cultural resources, wilderness
18 character, visitor experience, public health
19 and safety, socioeconomics, and park
20 operations. The analysis is the basis for
21 comparing the beneficial and adverse effects
22 of implementing the alternatives.

23
24 This chapter begins with a description of the
25 methods and assumptions used for each
26 impact topic. Impact analysis discussions are
27 organized by impact topic and then by
28 alternative under each impact topic. The
29 existing conditions for all of the impact
30 topics that are analyzed were identified in
31 chapter 3. All of the impact topics are
32 assessed for each alternative.

33
34 The analysis of the no-action alternative (the
35 continuation of current management)
36 identifies the future conditions in Haleakalā
37 National Park, and specifically at the summit
38 and Kīpahulu areas, if no changes to
39 management of commercial services
40 occurred. The three action alternatives are
41 then compared to the no-action alternative
42 to identify the incremental changes in
43 conditions that would occur because of
44 changes in park facilities.

45
46 Each alternative discusses cumulative
47 impacts; these are identified when this plan
48 is considered in conjunction with other
49 actions occurring in the park and adjacent
50 lands. The discussion of cumulative impacts

51 is followed by a conclusion statement. The
52 impacts of each alternative are briefly
53 summarized at the end of chapter 2.

54

55

56 METHODS AND ASSUMPTIONS FOR 57 ANALYZING IMPACTS

58 The planning team based the impact analysis
59 and the conclusions in this chapter primarily
60 on the review of existing literature and
61 studies, information provided by experts in
62 the National Park Service, and staff insights
63 and professional judgment. The team's
64 method of analyzing impacts is further
65 explained below. It is important to
66 remember that all the impacts have been
67 assessed assuming that mitigative measures
68 would be implemented to minimize or avoid
69 impacts. If mitigative measures described in
70 the chapter 2 were not applied, the potential
71 for resource impacts and the magnitude of
72 those impacts would increase.

73

74 The environmental consequences for each
75 impact topic were identified and
76 characterized based on impact type,
77 intensity, context, and duration.

78

79 *Impact intensity* refers to the degree or
80 magnitude to which a resource would be
81 beneficially or adversely affected. Impacts
82 were identified as negligible, minor,
83 moderate, or major in conformance with the
84 definitions for these classifications provided
85 for each impact topic. Because this is a
86 programmatic document, the intensities
87 were expressed qualitatively.

88

89 *Context* refers to the setting within which an
90 impact may occur, such as the affected
91 region or locality. In this document most
92 impacts are either localized (site-specific) or
93 parkwide.

94

1 *Impact duration* refers to how long an impact
 2 would last. The planning horizon for this
 3 plan is approximately 10 to 15 years. Unless
 4 otherwise specified, in this document the
 5 following terms are used to describe the
 6 duration of the impacts:

7
 8 **Short-term:** The impact would be
 9 temporary in nature, lasting one year or
 10 less, such as the impacts associated with
 11 construction.

12
 13 **Long-term:** The impact would last more
 14 than one year and could be permanent in
 15 nature, such as the loss of soil due to the
 16 construction of a new facility. Although
 17 an impact may only occur for a short
 18 duration at one time, if it occurs
 19 regularly over a longer period of time the
 20 impact may be considered to be a long-
 21 term impact. For example, the noise
 22 from a vehicle driving on a road would
 23 be heard for a short time and
 24 intermittently, but because vehicles
 25 would be driving the same road
 26 throughout the 15-year life of the plan,
 27 the impact on the natural soundscape
 28 would be considered to be long term.

29
 30 **Note:** As stated in chapter 1, this commercial
 31 services plan has a duration of 10 to 15 years.
 32 None of the actions being proposed would
 33 be temporary or last less than one year.
 34 Thus, for this environmental assessment, all
 35 of the impacts of the actions being analyzed
 36 are long-term impacts—there would be no
 37 short-term impacts that result from the
 38 alternatives. However, when other actions
 39 independent of this plan are analyzed
 40 together with the alternatives in the
 41 cumulative impacts analysis, there is the
 42 possibility of short-term, cumulative
 43 impacts.

44
 45 Effects also can be *direct* or *indirect*. Direct
 46 effects are caused by an action and occur at
 47 the same time and place as the action.
 48 Indirect effects are caused by the action and
 49 occur later or farther away, but are still
 50 reasonably foreseeable. This document
 51 discloses and analyzes both direct and
 52 indirect effects, but does not differentiate

53 between them in the discussions in order to
 54 simplify the narrative.

55
 56 The impacts of the action alternatives
 57 describe the *difference between*
 58 implementing the no-action alternative and
 59 implementing the action alternatives. To
 60 understand a complete picture of the
 61 impacts of implementing any of the action
 62 alternatives, the reader must also take into
 63 consideration the impacts that would occur
 64 in the no-action alternative.

67 GENERAL ASSUMPTIONS

68 For the purposes of this impact analysis,
 69 several assumptions were made in assessing
 70 the impacts of the alternatives:

- 71
 72 ■ No changes occur in NPS policies
 73 regarding managing of commercial
 74 services, including the *Commercial*
 75 *Use Authorizations: Interim*
 76 *Guidelines*.
- 77 ■ No substantial change occurs in
 78 interest in visiting the park by
 79 commercial or noncommercial
 80 visitors. Use levels continue at about
 81 existing levels or gradually increase.
- 82 ■ All facilities described in the
 83 “Cumulative Impact Analysis
 84 Scenario” occur as described. No
 85 major changes occur in air tours
 86 flying above or near the park.
- 87 ■ All activities requiring commercial
 88 use authorizations would to be
 89 issued every two years.
- 90 ■ Road-based tour concession
 91 (category 3) contracts would be
 92 issued every 10 years or less. These
 93 tours would begin and end outside
 94 of the park. No facilities or
 95 infrastructure would be assigned to
 96 the companies awarded these
 97 contracts. The maximum number of
 98 concession contracts allowed under
 99 each action alternative would be
 100 issued.

1 NATURAL RESOURCES

2 Analysis of natural resources (soils,
3 vegetation, several threatened and
4 endangered species, and soundscapes) was
5 based on knowledge of the area’s resources,
6 and the best professional judgment of
7 planners, natural resource specialists, and
8 biologists who have experience with similar
9 types of projects. Information on the area’s
10 natural resources was gathered from several
11 sources. As appropriate, additional sources
12 of data are identified under each topic
13 heading.

14
15 *Soundscape* (acoustic environment) is
16 considered a natural resource of a park and
17 can be affected by noise. However, noise
18 also affects wildlife and people. For the
19 natural resource impact topic, soundscape
20 only addresses the change in sound levels
21 from natural ambient levels. Changes in the
22 soundscape that affect park visitors are
23 addressed in the “Visitor Use and
24 Experience” section. (Wildlife is not an
25 impact topic in this environmental
26 assessment, and therefore impacts of
27 changes in the soundscape on wildlife are
28 not addressed. Although the environmental
29 assessment does examine the effects of the
30 alternatives on two wildlife species (nēnē
31 and Hawaiian petrel), there is insufficient
32 information to analyze changes in noise
33 levels due to the alternatives that affect these
34 wildlife species in Haleakalā National Park.

37 SECTION 106 OF THE NATIONAL 38 HISTORIC PRESERVATION ACT AND 39 IMPACTS TO CULTURAL RESOURCES

40 In this environmental assessment, impacts to
41 cultural resources are described in terms of
42 type, context, duration, and intensity, which
43 is consistent with the regulations of the
44 Council on Environmental Quality that
45 implement the National Environmental
46 Policy Act. These impact analyses are
47 intended, however, to comply with the
48 requirements of both the National

49 Environmental Policy Act and section 106 of
50 the National Historic Preservation Act. In
51 accordance with Advisory Council on
52 Historic Preservation (ACHP) regulations
53 implementing section 106 of the National
54 Historic Preservation Act (36 CFR 800,
55 *Protection of Historic Properties*), impacts to
56 cultural resources were also identified and
57 evaluated by (1) determining the area of
58 potential effects; (2) identifying cultural
59 resources present in the area of potential
60 effects that are either listed in or eligible to
61 be listed in the National Register of Historic
62 Places; (3) applying the criteria of adverse
63 effect to affected national register-eligible or
64 national register-listed cultural resources;
65 and (4) considering ways to avoid, minimize,
66 or mitigate adverse effects.

67
68 Under ACHP regulations, a determination of
69 either *adverse effect* or *no adverse effect* must
70 also be made for affected national register-
71 listed or national register-eligible cultural
72 resources. An *adverse effect* occurs whenever
73 an impact alters, directly or indirectly, any
74 characteristic of a cultural resource that
75 qualifies it for inclusion in the National
76 Register of Historic Places, e.g., diminishing
77 the integrity (or the extent to which a
78 resource retains its historic appearance) of
79 its location, design, setting, materials,
80 workmanship, feeling, or association.
81 Adverse effects also include reasonably
82 foreseeable effects caused by the alternatives
83 that would occur later in time, be farther
84 removed in distance, or be cumulative (36
85 CFR 800.5, *Assessment of Adverse Effects*). A
86 determination of *no adverse effect* means
87 there is an effect, but the effect would not
88 diminish the characteristics of the cultural
89 resource that qualify it for inclusion in the
90 national register.

91
92 CEQ regulations and NPS Director’s Order
93 12: *Conservation Planning, Environmental
94 Impact Analysis, and Decision-making* also
95 call for a discussion of mitigation, as well as
96 an analysis of how effective the mitigation
97 would be in reducing the intensity of a
98 potential impact, e.g., reducing the intensity
99 of an impact from major to moderate or
100 minor. Any resultant reduction in intensity

1 of impact due to mitigation, however, is an
 2 estimate of the effectiveness of mitigation
 3 under the National Environmental Policy
 4 Act only. It does not suggest that the level of
 5 effect as defined by section 106 is similarly
 6 reduced. Once the historic fabric of a
 7 resource is gone, nothing can restore its
 8 authenticity or gain the information that
 9 might have been found through analysis.
 10 Therefore, although actions determined to
 11 have an adverse effect under section 106 may
 12 be mitigated, the effect remains adverse.

13
 14 The following discussion correlates the
 15 different NHPA and NEPA requirements to
 16 disclose potential effects on cultural
 17 resources and to achieve compliance with
 18 both laws.

19
 20 A section 106 summary is included in the
 21 impact analysis sections. The section 106
 22 summary is an assessment of the effect of the
 23 undertaking (implementation of the
 24 alternative), based upon the criterion of
 25 effect and criteria of adverse effect found in
 26 ACHP regulations.

27
 28
 29 **ARCHEOLOGICAL RESOURCES,
 30 CULTURAL LANDSCAPES, AND
 31 HISTORIC STRUCTURES**

32 Archeological resources include a variety of
 33 archeological resources at the summit and in
 34 other areas of the park, including 13
 35 archeological sites located within 50 feet of
 36 areas used by commercial service providers.
 37 In the Kīpahulu area of the park, nine
 38 archeological sites are located within 50 feet
 39 of areas used by commercial service
 40 providers.

41
 42 Two cultural landscapes have been defined
 43 within the park. The 10.6-mile park road is a
 44 historic cultural landscape (NPS 2008e) with
 45 contributing structures that has been
 46 determined eligible for listing in the National
 47 Register of Historic Places. The developed
 48 areas of Hōlua, Kapalaoa, and Palikū are also

49 a cultural landscape, but are not affected by
 50 this plan.

51
 52 There are 54 historic structures within the
 53 park that have been determined eligible for
 54 listing in the National Register of Historic
 55 Places through consultation with the Hawai'i
 56 state historic preservation officer under
 57 criterion A and/or criterion C and are listed
 58 in the National Park Service List of
 59 Classified Structures. There are 27 historic
 60 structures located within areas used by
 61 commercial services providers.

62
 63
 64 **ETHNOGRAPHIC RESOURCES AND
 65 CULTURAL PRACTICES**

66 **Ethnographic Resources**

67 Certain important questions about human
 68 culture and history can only be answered by
 69 gathering information about cultural content
 70 and context of associated cultural resources.
 71 Questions about contemporary peoples or
 72 groups, their identity, and their heritage have
 73 the potential to be addressed through
 74 ethnographic resources. As defined in NPS
 75 Director's Order 28: *Cultural Resource
 76 Management Guidelines* (NPS 1998)
 77 ethnographic resources can be both natural
 78 and cultural resources that have been
 79 identified as having cultural significance by
 80 culturally associated users. They are
 81 subsistence and ceremonial locales and sites,
 82 structures, objects and rural and urban
 83 landscapes assigned cultural significance by
 84 traditional users. Some such specific places
 85 of traditional cultural use may be eligible for
 86 inclusion in the National Register of Historic
 87 Places if they are of religious or cultural
 88 importance.

89
 90 Ethnographic resources describe the summit
 91 of Haleakalā, including Haleakalā Crater,
 92 Kīpahulu Valley, and Kaupō Gap, as a
 93 traditional cultural property. The term
 94 *traditional cultural property* is used by the
 95 National Register of Historic Places to
 96 identify a property eligible for inclusion in

1 the national register because of its
 2 association with cultural practices or beliefs
 3 of a living community that (a) are rooted in
 4 that community's history; and (b) are
 5 important in maintaining the continuing
 6 cultural identity of the community.
 7 Hawaiian traditions tell that Pele, the
 8 Goddess of Fire, created the crater and all
 9 the cinder cones and vents in the crater at
 10 Haleakalā. The summit of Haleakalā,
 11 including Haleakalā Crater, Kīpahulu Valley,
 12 and Kaupō Gap, has been determined
 13 eligible for listing in the National Register of
 14 Historic Places through consultation with
 15 the Hawai'i state historic preservation
 16 officer as a traditional cultural property.

18 Cultural Practices

19 In 2008, 4,127 Hawaiians entered the summit
 20 area of the park and 1,351 Hawaiians
 21 entered the Kīpahulu area of the park for
 22 traditional cultural practices. In 2009, 4,857
 23 Hawaiians entered the summit area of the
 24 park and 837 Hawaiians entered the
 25 Kīpahulu area of the park for traditional
 26 cultural practices. In 2010, 2,993 Hawaiians
 27 entered the summit area of the park and 493
 28 Hawaiians entered the Kīpahulu area of the
 29 park to conduct traditional cultural
 30 practices. Cultural practices known to occur
 31 within the park include gathering of plants,
 32 birth and burial practices, astronomy, travel,
 33 performance of ceremonies and spiritual
 34 training, and farming.

37 VISITOR USE AND EXPERIENCE

38 The impact analysis considers various
 39 aspects of visitor use and experience at
 40 Haleakalā National Park, including the
 41 following:

- 43 ▪ number and diversity of commercial
 44 activities
- 45 ▪ access and quality of experience
- 46 ▪ opportunities for solitude and quiet
- 47 ▪ interpretation and education

48 The analysis is primarily qualitative rather
 49 than quantitative due to the conceptual
 50 nature of the alternatives. Impacts on visitor
 51 use and experience were determined
 52 considering the best available information.

53
 54 Information that was considered in the
 55 analysis includes the park's annual reporting
 56 of visitor use levels to the NPS Public Use
 57 Statistics Office, and local and regional travel
 58 and tourism data. Additional information
 59 was gathered during the planning process
 60 for this plan, including opinions from park
 61 visitors collected in a variety of park studies
 62 and visitor surveys, visitor observations, and
 63 information from park staff.

66 PUBLIC HEALTH AND SAFETY

67 The impact analysis considered aspects of
 68 public health and safety for visitors at
 69 Haleakalā National Park, including
 70 commercial use and bicycle use. Impacts on
 71 public health and safety were assessed using
 72 data and information obtained through
 73 consultation with park staff and by
 74 reviewing various safety analysis reports
 75 pertaining to park safety and commercial use
 76 at Haleakalā National Park.

79 SOCIOECONOMIC ENVIRONMENT

80 Recreation-related tourism is an important
 81 element of the island economy, which for
 82 the purposes of this analysis is the County of
 83 Maui. The park is a popular visitor attraction
 84 for visitors to Maui, and as such, plays a role
 85 in the county economy. Historically, nearly
 86 60% of visitors to the island of Maui have
 87 visited the park (DBEDT 2009). In the
 88 County of Maui, 2% of jobs are supported
 89 by the park and 2.6% of visitor spending is in
 90 association with visiting the park. Thus, any
 91 changes to the park that affect local
 92 businesses and the economy of Maui are of
 93 special interest.

1 The commercial services plan is unlikely to
2 affect the number of visitors to Maui;
3 however, there may be an impact on the
4 number and patterns of commercial visitors
5 to Haleakalā. In other words, the overall
6 economy of the county would be changed
7 very little by the alternatives, but patterns of
8 visitor spending may change.

9
10 Implementation of the commercial services
11 plan will also affect the park commercial
12 providers and commercial tour company
13 employment, and those impacts have been
14 characterized in this section. Socioeconomic
15 issues such as traffic congestion are also
16 considered in this analysis.

17
18 The approach used in this analysis considers
19 the following main factors in the
20 alternatives:

- 21
- 22 ▪ changes in number of commercial
- 23 use authorizations (CUAs) or
- 24 concession contracts available to
- 25 commercial service providers
- 26 ▪ changes in federal spending to
- 27 operate the park

28
29 Implementation costs of the alternatives,
30 including staffing were estimated based on
31 current budgets and actual project costs at
32 the park and other national park system
33 units. Actual future outlays would reflect
34 future NPS policies, on-the-ground
35 conditions, unanticipated events and
36 opportunities, and budgets approved by
37 Congress for the National Park Service in
38 general or Haleakalā National Park
39 specifically.

40
41 Socioeconomic impacts were determined
42 based on applied logic, professional
43 expertise, and professional judgment. A
44 mostly qualitative analysis was completed
45 given the conceptual nature of the
46 alternatives. However, this is sufficient to
47 compare and disclose the impacts of
48 alternatives for decision-making purposes.

49

50 **PARK OPERATIONS**

51 The impact analysis evaluated the effects of
52 the alternatives on park operations,
53 including staffing, facilities and
54 maintenance, and concessions management.
55 The analysis focused on how park
56 operations might vary with the different
57 management alternatives. Whether the
58 alternative would result in improved
59 efficiency of park operations, and whether
60 the operations are sustainable under park
61 budgets are considered. The analysis is
62 qualitative rather than quantitative because
63 of the conceptual nature of the alternatives.
64 Consequently, professional judgment was
65 used to reach reasonable conclusions as to
66 the intensity, duration, and type of potential
67 impact.

68
69 All of the alternatives propose that
70 commercial use authorizations be available
71 for some activities. Commercial service
72 providers, under a commercial use
73 authorization, would bear the expense of
74 associated management and administrative
75 costs on a cost recovery basis through
76 payment of reasonable fees to the National
77 Park Service. This includes costs to manage
78 commercial providers, protect resources,
79 and other associated costs.

80
81 The action alternatives propose concessions
82 contracts as the management tool for
83 commercial road-based vehicle tours.
84 Concession contracts must provide for
85 payment to the government of a franchise
86 fee, i.e., the amount to be indicated in the
87 contract. The franchise fee rate is
88 determined based on the value of the
89 contract, given reasonable opportunity to
90 make a profit. The National Park Service's
91 first priority though, is not the revenue
92 generated to the agency, but the preservation
93 of park areas and provision of necessary and
94 appropriate services for visitors at
95 reasonable rates. Eighty percent of franchise
96 fees collected are available to the park to
97 fund high-priority resource management
98 programs and operations. The remaining
99 20% is available to projects throughout the
100 national park system.

TABLE 21. IMPACT THRESHOLD DEFINITIONS

Impact Topic and Duration	Negligible	Minor	Moderate	Major
NATURAL RESOURCES— Soils	The action would result in a change in a soil, but the change would be so small that it would not be detectable based on standard scientific methods. The effects on soil productivity would be slight.	The action would result in a detectable change, but the change would be slight. There could be changes in topsoil in a relatively small area, but the change would not noticeably change the potential for erosion. Effects on soil productivity would be slight.	The action would result in a clearly detectable change in a soil. There could be a loss or alteration of the topsoil in a small area, or the potential for erosion to remove small quantities of additional soil would noticeably increase or decrease. The effect on soil productivity would be apparent.	The action would result in the substantial loss or alteration of soils in a relatively large area, or there would be a strong likelihood that erosion would remove large quantities of additional soil. There would be a substantial change in soil productivity.
NATURAL RESOURCES— Terrestrial Vegetation	The action might result in a change in vegetation, but the change would not be measurable or would be at the lowest level of detection.	Effects on multiple plants would be measurable or perceptible. However, the natural function and character of plant communities in terms of growth, abundance, reproduction, distribution, structure, or diversity of native species would only be perceptible in small, localized areas. Changes to local ecological processes would be minimal.	A change would occur in the natural function and character of plant communities in terms of growth, abundance, reproduction, distribution, structure, or diversity of native species, but not to the extent that plant community properties (i.e., size, integrity, or continuity) change. Changes to local ecological processes would be of limited extent.	The action would be severely adverse to a population. The effects would be substantial and highly noticeable, and they could result in widespread change. Effects on plant community properties would be readily apparent and would substantially change the natural function and character of the vegetation community. This could include changes in the abundance or distribution of a local or regional population to the extent that the population would not be likely to recover. Key ecological processes would be altered and landscape-level (regional) changes would be expected.
NATURAL RESOURCES— Selected Special Status Species	The action could result in a change to a population or individuals of a species or designated critical habitat, but the change would be so small that it would not be of any measurable or perceptible consequence and would be well within natural variability. This impact intensity equates to a U.S. Fish and Wildlife Service “may affect, not likely to adversely affect” determination.	The action could result in a change to a population or individuals of a species or designated critical habitat. The change would be measurable, but small and not outside the range of natural variability. This impact intensity equates to a U.S. Fish and Wildlife Service “may affect, not likely to adversely affect” or a “likely to adversely affect” determination.	The action could result in a detectable change to a population or individuals of a species or designated critical habitat. Changes to the population or habitat might deviate from natural variability, but the changes would not threaten the continued existence of the species in the park. This impact intensity equates to a U.S. Fish and Wildlife Service “may affect, not likely to adversely affect”	The action would result in a noticeable effect on the viability of a population or individuals of a species or designated critical habitat. Considerable changes may occur during key time periods for a species. Changes to the population or habitat would substantially deviate from natural variability and threaten or help ensure the continued existence of the species in the park.

TABLE 21. IMPACT THRESHOLD DEFINITIONS

Impact Topic and Duration	Negligible	Minor	Moderate	Major
			or a “likely to adversely affect” determination.	A major adverse impact would be considered a “take situation” and would equate to a U.S. Fish and Wildlife Service “likely to adversely affect” determination.
NATURAL RESOURCES— Soundscape	<p>Natural Areas: The alternative would rarely cause a change in the natural ambient sound conditions and/or there would be little or no change in periods of time between noise events; natural sounds predominate. The amount of time that noise from the alternative is audible would cause changes so slight they would not be measurable or perceptible.</p> <p>Developed/ Frontcountry Areas: Human-caused noise may be present much of the time during daylight hours, but it is concentrated at the sources and only travels short distances from the sources. Natural sounds still predominate in large portions of the frontcountry area. When noise is present, it is mostly at low levels.</p>	<p>Natural Areas: The alternative would occasionally cause a change in the natural ambient sound conditions, and/or there would be a small change in periods of time between noise events. The amount of time that noise is audible from the alternative would change a small amount from the natural ambient sound conditions. Sound sources would be identifiable.</p> <p>Developed/ Frontcountry Areas: Human-caused noise may predominate during daylight hours, but for the majority of the time the noise is at low levels, is only rarely greater than medium levels, and does not travel more than medium distances throughout frontcountry areas.</p>	<p>Natural Areas: The alternative would cause a change in natural ambient sound conditions for an intermediate amount of the day, and/or there would be an intermediate change in periods of time between noise events caused by the alternative. The amount of time that noise is audible would change an intermediate amount from natural ambient. Human-caused sounds would be readily apparent and identifiable.</p> <p>Developed/ Frontcountry Areas: Human caused noise may predominate, but it is at medium or lower levels a majority of the time. Localized areas may experience medium to high levels of human caused noise during half of the daylight hours. Noise travels medium distances throughout frontcountry areas.</p>	<p>Natural Areas: The alternative would cause a change in natural ambient sound conditions for a large amount of the day, and/or there would be more than an intermediate change in periods of time between noise events caused by the alternative. The amount of time that noise is audible would be substantial, and at a level that obscures or mask natural sounds.</p> <p>Developed/ Frontcountry Areas: Human-caused noise predominates during daylight hours and is at greater than medium levels a majority of the time the noise is present. Large portions of the frontcountry area are affected by medium to high levels of noise during a majority of the daylight hours.</p>

TABLE 21. IMPACT THRESHOLD DEFINITIONS

Impact Topic and Duration	Negligible	Minor	Moderate	Major
CULTURAL RESOURCES—Archeological Resources	Impact is at the lowest level of detection with neither adverse nor beneficial consequences and would not alter resource condition. The determination of effect for section 106 would be no effect.	Adverse impact: Alteration of a pattern(s) or feature(s) would not diminish the overall integrity of the resource. The determination of effect for section 106 would be no adverse effect.	Adverse impact: Alteration of a pattern(s) or feature(s) would diminish the overall integrity of the resource. The determination of effect for section 106 would be adverse effect. A memorandum of agreement is executed between the National Park Service and applicable state or tribal historic preservation officer, and, if necessary, the Advisory Council on Historic Preservation, in accordance with 36 CFR 800.6(b).	Adverse impact: Alteration of a pattern(s) or feature(s) would greatly diminish or destroy the overall integrity of the resource. The determination of effect for section 106 would be adverse effect. Measures to minimize or mitigate adverse impacts cannot be agreed upon and the National Park Service and applicable state or tribal historic preservation officer and/or Advisory Council on Historic Preservation are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR 800.6(b).
CULTURAL RESOURCES—Cultural Landscapes	Impact is at the lowest levels of detection with neither adverse nor beneficial consequences. The determination of effect for section 106 would be no effect.	Adverse impact: Alteration of a feature would not diminish the overall integrity or character-defining features of a national register-eligible or national register-listed historic property. The determination of effect for section 106 would be no adverse effect.	Adverse impact: Impacts to a national register-eligible or national register-listed historic property would change the character-defining features of the resource, but do not diminish the integrity of the resource to the point of being ineligible. The determination of effect for section 106 would be adverse effect. A memorandum of agreement may be executed between the National Park Service and applicable state historic preservation officer, and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR 800.6(b). Measures are identified in the memorandum of agreement to minimize or mitigate adverse impacts and/or preserve important information.	Adverse impact: Impacts to a national register-eligible or national register-listed historic property would change character-defining features of a resource, diminishing the integrity of the resource to the extent that it is no longer eligible for listing in the national register. The determination of effect for section 106 would be adverse effect. Measures to minimize or mitigate adverse impacts cannot be agreed on and the National Park Service, applicable state historic preservation officer, and/or Advisory Council on Historic Preservation are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR 800.6(b).

TABLE 21. IMPACT THRESHOLD DEFINITIONS

Impact Topic and Duration	Negligible	Minor	Moderate	Major
<p>CULTURAL RESOURCES— Historic Structures</p>	<p>Impact is at the lowest levels of detection with neither adverse nor beneficial consequences. The determination of effect for section 106 would be no effect.</p>	<p>Adverse impact: Alteration of a structure would not diminish the overall integrity or character-defining features of a national register-eligible or national register-listed structure. The determination of effect for section 106 would be no adverse effect.</p>	<p>Adverse impact: Impacts to a national register-eligible or national register-listed structure would change the character-defining features of the resource, but do not diminish the integrity of the resource to the point of being ineligible. The determination of effect for section 106 would be adverse effect. A memorandum of agreement may be executed between the National Park Service and applicable state historic preservation officer, and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR 800.6(b). Measures identified in the memorandum of agreement to minimize or mitigate adverse impacts and/or preserve important information.</p>	<p>Adverse impact: Impacts to a national register-eligible or national register-listed structure would change character-defining features of a resource, diminishing the integrity of the resource to the extent that it is no longer eligible for listing in the national register. The determination of effect for section 106 would be adverse effect. Measures to minimize or mitigate adverse impacts cannot be agreed on and the National Park Service, applicable state historic preservation officer, and/or Advisory Council on Historic Preservation are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR 800.6(b).</p>
<p>CULTURAL RESOURCES— Ethnographic Resources and Cultural Practices</p>	<p>The impact(s) would be barely perceptible and would not alter resource conditions such as traditional access or site preservation. The impact(s) would not alter the relationship between the resource and the affiliated group's body of practices and beliefs. There would be no change to a group's body of beliefs and practices. For purposes of NHPA section 106, the determination of effect on the property would be no effect.</p>	<p>Adverse impact: The impact would be slight but noticeable, but would not appreciably alter resource conditions such as traditional access or site preservation. For purposes of NHPA section 106, the determination of effect on the resource would be no adverse effect.</p>	<p>Adverse impact: The impact(s) would be apparent and would negatively alter the relationship between the resource and the affiliated group's beliefs and practices. For purposes of section 106, the determination of effect on the resource would be adverse effect. The determination of effect for section 106 would be adverse effect. A memorandum of agreement may be executed among the National Park Service, applicable state historic preservation officer, affected groups, and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR 800.6(b). Measures identified in the</p>	<p>Adverse impact: The impact would greatly alter the relationship between the resource and the affiliated group's body of beliefs and practices. For purposes of section 106, the determination of effect on the resource would be adverse effect. A memorandum of agreement may be executed among the National Park Service, applicable state historic preservation officer, affected groups, and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR 800.6(b). Measures to minimize or mitigate adverse impacts cannot be agreed on and the National Park Service, applicable state historic</p>

TABLE 21. IMPACT THRESHOLD DEFINITIONS

Impact Topic and Duration	Negligible	Minor	Moderate	Major
			memorandum of agreement minimize or mitigate adverse impacts.	preservation officer, and/or Advisory Council on Historic Preservation are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR 800.6(b).
VISITOR USE AND EXPERIENCE	Most visitors would likely be unaware of any effects associated with the implementation of the alternative.	Actions related to commercial activities would be slight yet detectable, would affect a few visitors, and would not appreciably limit or enhance primary visitor experience, opportunities, and/or setting conditions.	Actions related to commercial activities would be noticeable, would affect many visitors, and could have an appreciable effect on primary visitor experiences, opportunities, and/or setting conditions.	Actions related to commercial activities would be highly apparent, would affect most visitors, and would have severely adverse or exceptionally beneficial effect on primary visitor experiences, opportunities, and/or setting conditions.
PUBLIC HEALTH AND SAFETY	Potential risks related to public health and safety would be small and would be barely perceived, if at all.	Potential risks related to public health and safety would be slightly improved or reduced and would be perceived by some visitors.	Potential risks related to public health and safety would be noticeably improved or reduced; and would be perceived by many visitors.	Potential risks related to public health and safety would be exceptionally improved or severely reduced; and would be perceived by most visitors.
SOCIO-ECONOMICS	<p>Tour Company Employment: Changes in the commercial services program would have little effect on the profitability of individual tour businesses or tour industry employment.</p> <p>Local Communities: Effects on social and economic conditions would be barely detectable or would affect a very small population.</p>	<p>Tour Company Employment: Changes in the commercial services program would measurably affect some tour businesses and tour industry employment.</p> <p>Local Communities: Effects on social and economic conditions would be relatively small, but detectable, and would affect a small number of people.</p>	<p>Tour Company Employment: Changes in the commercial services program would affect many tour businesses or have an effect at the local tour industry level. The changes would widely affect the tour industry employment.</p> <p>Local Communities: Effects on social and economic conditions would be evident, affecting a population segment and/or local businesses.</p>	<p>Tour Company Employment: Changes in the commercial services program would substantially affect many tour businesses, would have a widespread effect on the local tour industry, or would create large shifts in tour industry employment.</p> <p>Local Communities: Effects on social and economic conditions would be apparent on the island of Maui, affecting a large segment of the population and/or many local businesses.</p>
PARK OPERATIONS	Effects would be below the level of detection.	Effects would be small but detectable. The change would be noticeable to staff, but probably not to the public.	Effects would be readily apparent to staff and possibly to the public in terms of effects on visitor experience.	Effects would be readily apparent to staff and the public and would result in substantial, widespread changes.

CUMULATIVE IMPACT ANALYSIS SCENARIO

A cumulative impact is described in the Council on Environmental Quality’s regulation 1508.7 as follows:

Cumulative impacts are the impacts that result from incremental impacts of the action when added to other past, present, and reasonably foreseeable actions, regardless of what agency (federal or nonfederal) or person undertakes such other action. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over time.

Each cumulative impact analysis is additive, considering the overall impact of the alternative when combined with effects of other actions—both inside and outside the park—that have occurred or that would likely occur in the foreseeable future.

To determine potential cumulative impacts, past, present, and future potential actions and developments within and surrounding Haleakalā National Park were considered by the planning team. In this case, most of the cumulative impacts that can be analyzed are due to actions that have occurred in the past. Haleakalā National Park is a relatively remote park. Most of the park is wilderness, and its island location isolates it from other adjacent land uses. With a few exceptions, no new actions or developments are foreseen within or adjacent to the park that would affect park resources and uses. No new developments, including tourism developments and roads, or changes in land ownership and management of adjacent lands are expected to occur that would directly or indirectly affect the park. No new uses of the park or changes in transportation to the island are considered likely, independent of what is proposed in the alternatives. Park visitation has been relatively stable and is not expected to

substantially change over the time frame being analyzed.

Listed below are several reasonably foreseeable NPS actions that are considered in the cumulative impact analysis:

- The implementation of the Kīpahulu District comprehensive site plan, design program and site plan. Specifics being considered in the master plan are visitor safety/operations, emergency landing zone area, and law enforcement housing.
- Operations—improvements to the base yard (maintenance, resource storage and work areas), expanded or moved visitor center, expanded storage, maintenance staff housing, and off-grid/sustainable utility improvements.
- Visitor experience—improved overflow parking and improved campground.
- Trail improvements—accessible, improved circulation and flow, taking into consideration cultural resource locations.

(Note: For purposes of this analysis, it is assumed that all new developments would occur in the existing development zone and adjacent disturbed areas; no new trails or other facilities would be built outside of these areas, although some existing facilities (e.g., trails) may be improved.)

- 1 ▪ Rehabilitation of parking lots and
2 approximately 4 miles of the park
3 road between the park headquarters/
4 visitor center and the Halemaʻu
5 trailhead (Note: For purposes of
6 analysis, it is assumed that all
7 disturbance would occur within the
8 existing road bench.)
- 9 ▪ The implementation of an air tour
10 management plan that will govern
11 commercial air tour operators flying
12 over the park (Note: There are
13 currently 12,796 helicopter flights
14 per year, but 26,325 flights are
15 authorized under the interim
16 operating authority (IOA). Although
17 the number of air tours flying over or
18 adjacent to the park could increase
19 to the IOA level, in recent years the
20 number of tours has been declining.
21 Thus, for purposes of analysis it is
22 assumed the number of air tours
23 flying over or adjacent to the park
24 will stay at current levels.)
- 25 A non-NPS action that is planned to occur,
26 which would likely affect the park
27 independent of this plan, is the
28 construction by the National Science
29 Foundation (NSF) and operation by
30 Association of Universities for Research in
31 Astronomy (AURA) of a new advanced
32 technology solar telescope adjacent to the
33 summit outside of the park but within the
34 Crater Historic District at the summit.

IMPACTS TO NATURAL RESOURCES

SOILS

Alternative A

Analysis. With the number of commercial groups likely to continue to increase under alternative A, the potential for soils to be trampled at the summit would persist or increase should visitors stray from established trails. Surface disturbance and compaction and pulverization of clinker soils would continue. Changes would occur in the topsoil in localized areas (e.g., loss of surface organic matter, reductions in surface organic horizons, compaction of mineral soil). Some topsoil would continue to be eroded and lost. Guided groups would continue to contribute to this erosion at the summit overlooks, primarily during sunrise and less during other times of the day. However, many of the soils in the overlook areas already have been substantially altered by past use. Thus, continuing soil impacts due to guided groups would be expected to be localized, adverse, minor to moderate, and long term.

At Kīpahulu, some soil erosion would likely continue to occur due to guided hiking groups using the Pīpīwai Trail, although periodic trail maintenance work should minimize this erosion. Ongoing use of the horse trail would likely result in a continuing limited amount of trail incision. The rapid rate of vegetation growth would continue to keep the trail from widening. Thus, alternative A would result in localized, long-term, minor, adverse effects on soils along the horse trail, particularly in wet, muddy areas. Localized long-term, minor, adverse effects on soils also would continue at the points where the horses stop, such as at the turnaround/end point—soil compaction and disturbance would continue to occur at the bases of trees used to tie horses. Overall, alternative A would result in long-term,

minor, adverse impacts on soils in localized areas in Kīpahulu.

Overall, from a parkwide perspective, alternative A would have a minor long-term, adverse impact on soils, focused in a few areas.

Cumulative Impacts. The rehabilitation of the park road should occur within the existing road bench. This action would result in the compaction and loss of some soils along the road, resulting in a minor, long-term, adverse impact.

The construction of the solar telescope on the Haleakalā summit, adjacent to the park, would result in land clearing, grading and leveling, excavation, and other disturbance due to earthmoving. This would have a minor, short-term, adverse impact on soils (NSF 2009, 2011).

Possible new developments at Kīpahulu, such as the development of new staff housing, trails, and relocation of the base yard would disturb soils and result in increased impervious surface in the area. These projects would produce localized, long-term, minor to moderate, adverse effects on soils, but they would all occur in already disturbed areas and largely in different areas from the areas affected by guided groups.

When the localized, long-term, minor, adverse effects of guided groups on soils in alternative A are combined with minor, adverse impacts from expected construction projects, there would likely be a minor to moderate, long-term, adverse cumulative impact on soils in localized areas.

Conclusion. Guided groups would continue to trample some soils at the summit and guided hiker and horse group activity at Kīpahulu would produce localized, long-

1 term, minor, adverse effects on soils. Overall,
2 alternative A would have a minor, long-term,
3 adverse effect on the park's soils.

4
5 When the effects of guided visitors and
6 expected future construction projects are
7 added together, there would be a long-term,
8 minor to moderate, adverse cumulative
9 impact on soils in localized areas.

11 **Alternative B**

12 **Analysis.** Alternative B would have the same
13 type of effects on soils on the summit as
14 alternative A, but the intensity of the impact
15 would differ. With fewer guided groups
16 compared to alternative A, a ban on activities
17 on a couple days per year, and increased
18 training of guides, guided tour groups would
19 still continue to impact soils at the summit,
20 but at a reduced level compared to
21 alternative A. Nevertheless, some surface
22 disturbance and compaction and
23 pulverization of clinker soils due to guided
24 groups walking in the area would still
25 continue, along with changes to topsoil in
26 localized areas (e.g., loss of surface organic
27 matter, reductions in surface organic
28 horizons, compaction of mineral soil), and
29 some erosion and loss of topsoil would
30 continue. Thus, alternative B would result in
31 a localized, long-term, negligible to minor,
32 adverse impact.

33
34 At Kīpahulu, the new limits on commercial
35 use, including initiating a few commercial
36 tour-free days, would also reduce guided
37 horse and hiking tours in this area. Some soil
38 erosion would still likely occur due to
39 guided hiking groups using the Pīpīwai Trail,
40 although periodic trail maintenance work
41 should minimize this. A limited amount of
42 trail incision would still be expected to occur
43 due to horse use on the horse-trail, although
44 vegetation growth would continue to keep
45 the trail from widening. Localized long-
46 term, minor, adverse effects on soils would
47 continue along the trail in wet, muddy areas
48 and areas where horses stop, such as at the
49 turnaround/end point—soil compaction and
50 disturbance would occur at the bases of trees

51 used to tie horses. Overall, with fewer guided
52 groups and increased training of guides,
53 alternative B would probably result in less
54 adverse effects on soils in Kīpahulu relative
55 to alternative A—alternative B would likely
56 result in a long-term, negligible to minor,
57 adverse impact on soils in Kīpahulu.

58
59 Overall, compared to alternative A from a
60 parkwide perspective, alternative B would
61 have a long-term, minor, adverse impact on
62 the park's soils, focused on a couple areas.

63
64 **Cumulative Impacts.** As described in
65 alternative A, the rehabilitation of the park
66 road would result in the compaction and
67 loss of some soils along the road, resulting in
68 a minor, long-term, adverse impact.

69
70 The construction of the solar telescope on
71 the Haleakalā summit, adjacent to the park,
72 would have a minor, short-term, adverse
73 impact on soils (NSF 2009).

74
75 As noted in alternative A, a few new
76 developments at Kīpahulu would be
77 expected to occur, which would result in a
78 minor to moderate, long-term, adverse
79 impact on local soil resources. However,
80 these soil impacts would all occur in already
81 disturbed areas and mostly in different areas
82 from the areas affected by guided groups.

83
84 When the localized, long-term, adverse
85 effects of guided groups on soils in
86 alternative B are combined with the minor to
87 moderate impacts of new developments in
88 and outside the park, there would likely be a
89 minor to moderate, long-term, adverse,
90 cumulative impact on soils in localized areas.

91
92 **Conclusion.** Some trampling, compaction,
93 and erosion of soils still would occur under
94 alternative B, but with fewer tour groups
95 using the park and increased training of
96 guides, alternative B would likely result in
97 long-term, minor, adverse impacts on soils at
98 the summit and at Kīpahulu—a reduction in
99 impacts compared to alternative A. From a
100 parkwide perspective, alternative B would
101 have a long-term, negligible to minor,

1 adverse impact on the park's soils, focused in
2 a few small areas.

3
4 When the effects of guided visitors are
5 added together along with expected new
6 developments, there would be a long-term,
7 minor, adverse, cumulative impact in
8 localized areas.

10 **Alternative C**

11 **Analysis.** Alternative C would decrease
12 adverse effects on the summit's soils
13 compared to alternative A. With a reduction
14 in the number of parking spaces for road-
15 based tours at the Haleakalā visitor center
16 and a ban on parking at Red Hill, guided
17 tour groups would continue to trample soils
18 at the summit, but at a reduced level
19 compared to alternative A. Some surface
20 disturbance and compaction and
21 pulverization of clinker soils would still
22 continue due to guided groups walking in
23 the area, along with changes to topsoil in
24 localized areas. Some erosion and loss of
25 topsoil also would continue. With fewer
26 guided groups and increased training of
27 guides there would be fewer soil impacts.
28 Thus, alternative C would result in a
29 localized long-term, negligible to minor,
30 adverse impact on soils on the summit
31 compared to alternative A.

32
33 At Kīpahulu, keeping the number of
34 commercial use authorizations at 2009
35 levels, limiting group sizes of guided horse
36 and hiking groups, and limiting the number
37 of hiking trips per day would reduce the
38 overall number of guided horse and hiking
39 visitors in this area. Some soil erosion still
40 would likely continue to occur due to guided
41 hiking groups using the Pīpīwai Trail,
42 although periodic trail maintenance work
43 should minimize this. With continued horse
44 use, a limited amount of trail incision would
45 still be expected to occur on the horse-trail,
46 although vegetation growth would continue
47 to keep the trail from widening. Localized
48 long-term, minor, adverse effects on soils
49 would continue along the trail in wet, muddy
50 areas and in areas where horses stop, such as

51 at the turnaround/end point area—soil
52 compaction and disturbance would occur at
53 bases of trees used to tie horses. Overall,
54 with fewer and smaller groups and increased
55 training of guides, alternative C would result
56 in a reduction in the level of adverse impacts.
57 Compared to alternative A, alternative C
58 would result in a long-term, negligible to
59 minor, adverse effect on soils in Kīpahulu.

60
61 From a parkwide perspective, alternative C
62 would have a long-term, negligible to minor,
63 adverse impact on the park's soils, focused
64 on a couple small areas, compared to
65 alternative A.

66
67 **Cumulative Impacts.** Alternative C would
68 have the same potential for cumulative
69 effects as the previous alternatives. Like the
70 previous alternatives, the rehabilitation of
71 the park road would result in the
72 compaction and loss of some soils along the
73 road, resulting in a minor, long-term,
74 adverse impact.

75
76 As described in alternative A, the
77 construction of the solar telescope on the
78 Haleakalā summit, adjacent to the park,
79 would have a minor, short-term, adverse
80 impact on soils (NSF 2009).

81
82 As noted in alternative A, a few new
83 developments would be expected in the
84 Kīpahulu area, which would result in a
85 minor to moderate, long-term, adverse
86 impact on local soil resources. However,
87 these soil impacts would all occur in already
88 disturbed areas and mostly in different areas
89 from the areas affected by tour groups.

90
91 When the localized, long-term, negligible to
92 minor, adverse effects of guided groups on
93 soils in alternative C are combined with the
94 minor to moderate, long-term, adverse
95 impacts of expected new developments
96 inside and outside the park, there would
97 likely be a minor to moderate, long-term,
98 adverse, cumulative impact in localized
99 areas.

100

1 **Conclusion.** Alternative C would have many
2 of the same effects as alternative B. Some
3 trampling, compaction, and erosion of soils
4 due to guided groups would occur under
5 alternative C, but with fewer, smaller tour
6 groups using the park and increased training
7 of guides, alternative C would likely result in
8 long-term, negligible to minor, adverse
9 impacts on soils at the summit and at
10 Kīpahulu area. From a parkwide perspective,
11 alternative C would have a long-term,
12 negligible to minor, adverse impact on the
13 park's soils, focused on a few small areas.

14
15 When the overall effects of guided and
16 unguided visitors and the effects of expected
17 new developments are added together, there
18 would be the potential for a long-term,
19 minor to moderate, adverse, cumulative
20 impact on soils in localized areas relative to
21 alternative A.

23 **Alternative D**

24 **Analysis.** Alternative D would have similar
25 effects on soils on the summit as alternative
26 A. However, capping the number of
27 commercial service providers, limiting the
28 number of guided hiking trips per day,
29 capping the number of parking spaces for
30 road-based tours, and requiring training of
31 commercial guides would be expected to
32 somewhat reduce the level of adverse impact
33 compared to alternative A. Some surface
34 disturbance and compaction and
35 pulverization of clinker soils due to guided
36 groups walking in the area would still
37 continue, along with changes to topsoil in
38 localized areas. Some erosion and loss of
39 topsoil would continue. With fewer guided
40 groups causing fewer soil impacts,
41 alternative D would result in a localized
42 long-term, minor, adverse impact compared
43 to alternative A.

44
45 Alternative D also would have about the
46 same effects as alternative A at Kīpahulu.
47 Localized, long-term, minor, adverse effects
48 would occur on soils along the horse trail
49 due to horse use would result in soil
50 compaction and disturbance in muddy, wet

51 areas, and at points where the horses stop,
52 such as at the bases of trees used to tie
53 horses. Some soil erosion also would still
54 occur due to guided hiking groups walking
55 up the Pīpīwai Trail. Overall, alternative D
56 would result in long-term, minor, adverse
57 impacts on soils in localized areas in
58 Kīpahulu.

59
60 Overall, from a parkwide perspective,
61 compared to alternative A. Alternative D
62 would have a long-term, negligible to minor,
63 adverse impact on the park's soils, focused
64 on a couple of small areas, but more
65 potential for impacts than the other
66 alternatives.

67
68 **Cumulative Impacts.** Alternative D would
69 have the same potential for cumulative
70 effects as the previous alternatives. Like the
71 previous alternatives, the rehabilitation of
72 the park would result in the compaction and
73 loss of some soils along the road, resulting in
74 a minor, long-term, adverse impact.

75
76 As described under alternative A, the
77 construction of the solar telescope on the
78 Haleakalā summit, adjacent to the park,
79 would have a minor, short-term, adverse
80 impact on soils (NSF 2009).

81
82 As noted in alternative A, a few new
83 developments at Kīpahulu would be
84 expected to occur, which would result in a
85 minor to moderate long-term, adverse
86 impact on local soil resources. However,
87 these impacts would all occur in already
88 disturbed areas and mostly in different areas
89 from the areas affected by tour groups.

90
91 When the localized, long-term, minor,
92 adverse effects of guided groups on soils in
93 alternative D are combined with the effects
94 of expected new developments inside and
95 outside the park, there would likely be a
96 minor to moderate, long-term, adverse,
97 cumulative impact on soils in localized areas.

98
99 **Conclusion.** Alternative D would likely have
100 about the same minor long-term, adverse
101 effects on soils at the summit and at
102 Kīpahulu as alternative A due to trampling,

1 compaction, and erosion of soils by guided
2 horse and hiking groups. From a parkwide
3 viewpoint, alternative D would have a long-
4 term, negligible to minor, adverse impact on
5 the park's soils, focused on a couple of small
6 areas.

7
8 When the adverse effects of guided visitors
9 and expected new developments are added
10 together, there would be a long-term, minor
11 to moderate, adverse, cumulative impact on
12 soils in a few localized areas.

13

14

15 VEGETATION

16 Alternative A

17 **Analysis.** With increased numbers of guided
18 groups and higher numbers of guided road-
19 based hiking and astronomy visitors, under
20 alternative A, the potential for adverse
21 impacts to the summit's vegetation would be
22 expected to increase. Trampling and
23 crushing of vegetation would likely increase.
24 Some vegetation also would be lost or
25 damaged due to the disturbance of the soil
26 substrate and downhill sliding of soils onto
27 vegetation. This would have a minor, long-
28 term, adverse impact in localized areas,
29 particularly at the summit overlooks
30 (although the terrain, sidewalks, and
31 guardrails would largely limit these impacts).

32
33 At Kīpahulu, the vegetative cover and soils
34 are more suited for horse use than those of
35 the crater. With increased hiking and horse
36 traffic in alternative A, increased disturbance
37 to vegetation would occur in localized areas,
38 primarily trampling and crushing vegetation.
39 Horses would have the potential to
40 introduce and spread nonnative vegetation.
41 Some vegetation also would still be damaged
42 or lost due to guided hiking groups walking
43 up the Pipīwai Trail, going slightly off-trail in
44 areas without boardwalks to avoid muddy
45 areas or obstructions, which would result in
46 a long-term, negligible, adverse impact. On
47 the horse trail, horses would continue to
48 nibble on vegetation. Areas along the trail

49 where horses stop and are tied up, also
50 would likely continue to experience
51 vegetation loss due to trampling and grazing.
52 However, the vegetation in these areas is
53 largely nonnative. Overall, increased guided
54 hiking and horse groups in alternative A
55 would be expected to result in localized,
56 long-term, minor, adverse effects on
57 vegetation, primarily along the horse trail.

58

59 Overall, from a parkwide perspective,
60 alternative A would likely have a minor,
61 adverse impact on the park's vegetation,
62 focused in a few areas.

63

64 **Cumulative Impacts.** The rehabilitation of
65 the park road should occur within the
66 existing road footprint. Thus, this action
67 should not affect native vegetation along the
68 roadside.

69

70 The construction of the solar telescope on
71 the Haleakalā summit, adjacent to the park,
72 would result in the loss of vegetation on the
73 site due to earth movement. With the
74 application of mitigation measures, this
75 would have a negligible, long-term, adverse
76 impact on vegetation (NSF 2009).

77

78 Possible new developments at Kīpahulu,
79 such as the development of new staff
80 housing, trails, and relocation of the base
81 yard would result in the loss and disturbance
82 of vegetation in localized areas, but they
83 would mostly occur in areas that already
84 have been disturbed and in different areas
85 from the areas affected by tour groups.
86 These projects would likely produce
87 localized long-term, negligible to minor,
88 adverse effects on the area's vegetation. The
89 construction of the solar telescope on the
90 Haleakalā summit would have a long-term,
91 minor, adverse impact on vegetation (NSF
92 2009).

93

94 When the minor adverse effects of guided
95 groups on vegetation in alternative A are
96 combined with the future possible
97 construction projects in and outside of the
98 park, there would likely be a minor, long-
99 term, adverse, cumulative impact on
100 vegetation in localized areas.

1 **Conclusion.** With increased use by guided
2 groups in alternative A, it is expected overall
3 that there would continue to be localized,
4 long-term, minor, adverse effects on
5 vegetation in areas such as the summit and
6 along trails in the Kīpahulu area. From a
7 parkwide perspective, alternative A would
8 have a long-term, minor, adverse impact on
9 the park's vegetation.

10
11 When the effects of guided visitors, and
12 expected future construction projects are
13 added together, there would be a long-term,
14 minor, adverse, cumulative impact on
15 vegetation in localized areas.

17 **Alternative B**

18 **Analysis.** With a freeze on the number of
19 commercial use authorizations issued at
20 2009 levels, a ban on guided activities on a
21 couple days, and increased training of
22 guides, guided road-based hiking and
23 astronomy tour groups would still continue
24 to impact vegetation at the summit, but at a
25 reduced level compared to alternative A.
26 With fewer guided groups, trampling and
27 crushing of vegetation would likely decrease.
28 Thus, compared to alternative A, alternative
29 B would have a reduced long-term,
30 negligible, adverse impact on vegetation in
31 localized areas, particularly at the summit
32 overlooks.

33
34 The same conditions noted above in
35 alternative A also would apply in the
36 Kīpahulu area. Some trampling and crushing
37 of vegetation would still occur due to guided
38 hiker groups going off the Pīpīwai Trail to
39 avoid muddy areas or obstructions. On the
40 horse trail, there would be the potential for
41 horses to introduce and spread nonnative
42 vegetation. Horses would continue to nibble
43 on vegetation. Areas along the trail where
44 horses stop and are tied up at the bases of
45 trees, also would likely continue to
46 experience vegetation loss due to trampling
47 and grazing. However, the vegetation in
48 these areas is largely nonnative. With
49 reduced use levels and more training of
50 guides, vegetation loss and disturbance

51 would be expected to decline compared to
52 alternative A, resulting in a long-term,
53 negligible impact to vegetation along
54 Kīpahulu trails.

55
56 Overall, from a parkwide perspective,
57 alternative B would reduce the impact on the
58 park's vegetation, resulting in a long-term,
59 negligible, adverse impact on the park's
60 vegetation relative to alternative A.

61
62 **Cumulative Impacts.** As noted in alternative
63 A, the rehabilitation of the park road should
64 have no effect on native vegetation,
65 assuming all disturbances occur within the
66 existing road bench.

67
68 With mitigation, the construction of the
69 solar telescope on the Haleakalā summit,
70 adjacent to the park, would have a negligible,
71 long-term, adverse impact on vegetation
72 (NSF 2009).

73
74 As noted in alternative A, a few new
75 developments in Kīpahulu would be
76 expected to occur, which would result in the
77 loss and modification of vegetation in
78 localized areas. However, the vegetation in
79 these areas is mostly nonnative, and these
80 impacts would mostly occur in different
81 areas from those affected by tour groups.
82 Thus, the adverse impacts of the new
83 developments would likely be localized,
84 negligible to minor, and long term.

85
86 When the negligible adverse effects of
87 guided groups on vegetation in alternative B
88 are combined with the impacts of new
89 developments in and outside the park, there
90 would likely be a minor, long-term, adverse,
91 cumulative effect on vegetation in localized
92 areas. However, the increment added by
93 alternative B to the overall cumulative
94 impact would be very small.

95
96 **Conclusion.** Guided groups in alternative B
97 would still result in some loss and
98 disturbance of vegetation at popular use
99 areas, including the summit's overlooks and
100 the Kīpahulu area. With reduced numbers of
101 guided groups and increased training of
102 guides, fewer vegetative impacts would be

1 expected. Overall, alternative B would have
 2 less of an impact on vegetation in localized
 3 areas, compared to alternative A, resulting in
 4 a long-term, negligible, adverse impact.
 5 There also would be the potential for a
 6 minor, long-term, adverse, cumulative effect
 7 on vegetation in localized areas when the
 8 effects of guided visitor use and expected
 9 new developments are added together.

10

11 **Alternative C**

12 **Analysis.** Under alternative C guided road-
 13 based hiking and astronomy tour groups
 14 would still continue to trample and crush
 15 vegetation at the summit, but at a reduced
 16 level compared to alternative A. With a
 17 reduction in the number of commercial use
 18 providers, a reduction in hiker group sizes, a
 19 reduction in parking spaces for road-based
 20 tours at the Haleakalā visitor center, a ban
 21 on parking at Red Hill, and increased
 22 training of guides, trampling and crushing of
 23 vegetation by guided tour groups would
 24 likely decrease. Thus, compared to
 25 alternative A, alternative C would have a
 26 reduced long-term, negligible, adverse
 27 impact on vegetation in localized areas,
 28 particularly at the summit overlooks.

29

30 The same conditions noted above also
 31 would apply in the Kīpahulu area. Some
 32 trampling and crushing of vegetation would
 33 still occur due to guided hiker groups going
 34 slightly off the Pipīwai Trail to avoid muddy
 35 areas or obstructions. On the horse trail,
 36 there would always be the potential for
 37 horses to introduce and spread nonnative
 38 vegetation. Horses would continue to nibble
 39 on vegetation. Areas along the trail where
 40 horses stop and are tied up at the bases of
 41 trees, also would likely continue to
 42 experience vegetation loss due to trampling
 43 and grazing. However, the vegetation in
 44 these areas is largely nonnative. And with
 45 reduced use levels and more training of
 46 guides, vegetation loss and disturbance
 47 would be expected to decline compared to
 48 alternative A, resulting in a reduced long-
 49 term, negligible, adverse impact to
 50 vegetation along Kīpahulu trails.

51 Overall, from a parkwide perspective,
 52 alternative C would have fewer impacts on
 53 the park's vegetation, resulting in a long-
 54 term, negligible, adverse impact on the
 55 park's vegetation relative to alternative A.

56

57 **Cumulative Impacts.** As noted in alternative
 58 A, the rehabilitation of the park road should
 59 have no effect on native vegetation,
 60 assuming all disturbance occurs within the
 61 existing road prism.

62

63 With mitigation, the construction of the
 64 solar telescope on the Haleakalā summit,
 65 adjacent to the park, would have a negligible,
 66 long-term, adverse impact on vegetation
 67 (NSF 2009).

68

69 As noted in alternative A, new developments
 70 occur in the Kīpahulu area dependent on the
 71 outcome of the Kīpahulu District
 72 comprehensive site plan process. New
 73 development would result in the loss and
 74 modification of the area's vegetation.
 75 However, these impacts would mostly occur
 76 in already disturbed areas with nonnative
 77 vegetation and in different areas from those
 78 affected by tour groups. Thus, the adverse
 79 impacts of the new developments would
 80 likely be localized, negligible to minor, and
 81 long term.

82

83 When the negligible, adverse effects of
 84 guided groups on vegetation in alternative C
 85 are combined with the impacts of new
 86 developments inside and outside the park,
 87 there would likely be a minor, long-term,
 88 adverse, cumulative effect on vegetation in
 89 localized areas. However, the increment
 90 added by alternative C to the overall
 91 cumulative impact would be very small.

92

93 **Conclusion.** Alternative C would have many
 94 of the same effects as alternative B. Guided
 95 groups in alternative C would still cause
 96 some loss and disturbance of vegetation at
 97 popular use areas, such as the summit's
 98 overlooks. With reduced numbers of guided
 99 groups and increased training of guides,
 100 fewer vegetative impacts would be expected.
 101 Overall, alternative C would have a less of an
 102 impact on vegetation in localized areas,

1 compared to alternative A, resulting in a
2 long-term, negligible, adverse impact. There
3 also would be the potential for a minor,
4 long-term, adverse, cumulative impact on
5 vegetation in localized areas when the effects
6 of guided visitor use and expected new
7 developments in and outside the park are
8 added together.

10 **Alternative D**

11 **Analysis.** Alternative D would have similar
12 effects on vegetation on the summit as
13 alternative A. Guided road-based hiking and
14 astronomy groups would still trample and
15 crush vegetation. (Bike tours would be
16 expected to stay on paved areas and would
17 not affect vegetation.) However, capping the
18 number of commercial service providers,
19 limiting the number of hiking trips per day,
20 and requiring training of commercial guides
21 would be expected to reduce the level of
22 impact compared to alternative A. With
23 fewer guided groups causing fewer
24 vegetation impacts, alternative D would
25 result in a reduced, localized, long-term,
26 negligible, adverse impact to vegetation on
27 the summit compared to alternative A.

28
29 Alternative D also would have similar effects
30 as alternative A at Kīpahulu. With increased
31 use levels, some vegetation would be
32 damaged or lost due to guided hiking groups
33 walking up the Pīpīwai Trail. As in all of the
34 alternatives, horses would have the potential
35 to introduce and spread nonnative
36 vegetation. Localized, long-term, minor,
37 adverse effects would occur on vegetation
38 along the horse trail due to horses trampling
39 and feeding on plants, particularly in areas
40 along the trail where horses stop and are tied
41 up at the bases of trees. However, the
42 vegetation in these areas is largely nonnative.
43 With limits on how much guided group use
44 could increase, and with increased training
45 of guides, alternative D would be expected
46 to have fewer adverse impacts than
47 alternative A—alternative D would result in
48 reduced, localized, negligible, adverse
49 impacts on vegetation along the Pīpīwai Trail
50 compared to alternative A.

51 Overall, from a parkwide viewpoint,
52 alternative D would have less of an impact
53 on the park's vegetation compared to
54 alternative A, resulting in a long-term,
55 negligible, adverse impact.

56
57 **Cumulative Impacts.** Alternative D would
58 have the same potential for cumulative
59 impacts as the previous alternatives. As
60 noted in alternative A, the rehabilitation of
61 the park road would have no effect on native
62 vegetation, assuming all disturbance occurs
63 within the existing road prism.

64
65 With mitigation, the construction of the
66 solar telescope on the Haleakalā summit,
67 adjacent to the park, would have a negligible,
68 long-term, adverse impact on vegetation
69 (NSF 2009).

70
71 As noted in alternative A, a few new
72 developments would be expected to occur in
73 the Kīpahulu area, which would result in the
74 loss and modification of vegetation in
75 localized areas. However, these areas already
76 have been disturbed and the impacts would
77 mostly occur in different areas from the
78 areas affected by tour groups. Thus, the
79 effect of the new developments would be a
80 negligible to minor, long-term, adverse
81 impact on the area's vegetation.

82
83 When the negligible, adverse effects of
84 guided groups on vegetation in alternative D
85 are combined with the impacts of new
86 developments in and outside the park, there
87 would likely be a minor, long-term, adverse
88 cumulative effect on vegetation in localized
89 areas. However, the increment added to the
90 overall cumulative impact by alternative D
91 would be very small.

92
93 **Conclusion.** With increased use, guided
94 groups in alternative D would result in
95 vegetation damage and loss at the summit,
96 and at Kīpahulu. However, with the limits on
97 future increases in use, unlike alternative A,
98 and increased training of guides, the impacts
99 of alternative D would be somewhat less
100 than alternative A. Overall, alternative D
101 would be expected to have less of an impact
102 on vegetation in localized areas relative to

1 alternative A, resulting in a long-term,
2 negligible, adverse impact. When the effects
3 of guided visitors and likely future
4 construction projects are added together,
5 there would be a long-term, minor, adverse,
6 cumulative effect on vegetation in localized
7 areas.

10 SPECIAL STATUS SPECIES

11 Alternative A

12 **Analysis.** As noted in chapter 1, four
13 federally listed species are analyzed in this
14 assessment—Haleakalā silversword,
15 nohoanu, nēnē, and Hawaiian petrel. Critical
16 habitats for the silversword and nohoanu are
17 also analyzed. (There are no designated
18 critical habitats for the nēnē and Hawaiian
19 petrel.)

20
21 Humans have affected, and likely would
22 continue to affect, all of these listed species.
23 However, it is not usually known if guided or
24 unguided visitors, or both groups, are
25 affecting the four species or to what degree
26 they are being affected. Under alternative A
27 guided visitor groups walking on the summit
28 would probably unknowingly trample some
29 silversword seeds and seedlings, affecting
30 the recovery of the species. Nēnē may be fed
31 by visitors in tour groups who are not being
32 watched by guides, nesting geese may be
33 disturbed by a group walking by, and it is
34 possible that a vehicle driven by commercial
35 operator could occasionally hit and kill or
36 injure a nēnē. Likewise, vehicles driving up
37 the road for astronomy tours may
38 occasionally collide with Hawaiian petrels.
39 For all these species it is possible under
40 alternative A that continued use of the park
41 by guided groups, and potentially increased
42 use in the future, would result in minor to
43 moderate, long-term, adverse impacts.
44 However, although some individuals may be
45 lost, injured, or their behavior altered, it is
46 likely that this use would not threaten the
47 continued existence of the species.

48

49 None of the actions in alternative A would
50 alter or degrade the essential habitat features
51 for the Haleakalā silversword or the
52 nohoanu, as described in chapter 3 (e.g., lava
53 flows, precipitation). Thus, there would be
54 no effects of alternative A on the designated
55 critical habitats of the two listed plant
56 species.

57

58 **Cumulative Impacts.** None of the possible
59 new developments and expansion or
60 rehabilitation of existing facilities on park
61 lands identified in the “Cumulative Impacts
62 Scenario” would affect the silversword,
63 nohoanu, Hawaiian petrel, and nēnē or their
64 habitats.

65

66 As noted by the National Science
67 Foundation, development of the new solar
68 telescope on the Haleakalā summit (with
69 mitigation) would be expected to have
70 negligible, short- and long-term, adverse
71 impacts on the silversword and moderate,
72 long-term, adverse impacts on the Hawaiian
73 petrel and nēnē (NSF 2009, 2011). No other
74 impacts on the four listed species would be
75 expected due to present and future actions
76 taken by other entities.

77

78 When the minor to moderate adverse effects
79 of alternative A are added to the above
80 effects, there would likely be a minor, long-
81 term, adverse, cumulative impact on these
82 species.

83

84 Because alternative A would have no effects
85 on critical habitats of the species, the
86 alternative would not contribute to
87 cumulative effects on designated critical
88 habitat.

89

90 **Conclusion.** With continued use, and
91 probably increased use, by guided groups
92 under alternative A, minor to moderate,
93 long-term, adverse impacts could occur to
94 the federally listed Hawaiian petrel, nēnē,
95 Haleakalā silversword, and nohoanu. These
96 impacts would be both disturbance and
97 possible injury and loss of some individuals.
98 While the National Park Service believes that
99 alternative A would have negligible, long-
100 term impacts on the four species, the effects

1 of activities in alternative A cannot be
2 uncoupled from other park activities. These
3 effects are also being analyzed and
4 addressed through a programmatic
5 consultation under section 7 of the
6 Endangered Species Act with the U.S. Fish
7 and Wildlife Service. The programmatic
8 consultation is taking place in 2012 and will
9 be incorporated into the decision for this
10 document.
11

12 **Alternative B**

13 **Analysis.** As noted in alternative A, humans
14 have affected, and likely would continue to
15 affect, individuals of the federally listed
16 Haleakalā silversword, nohoanu, nēnē, and
17 Hawaiian petrel. However, it is usually not
18 known if guided or unguided visitors, or
19 both groups, are affecting these species and
20 their habitats, or to what degree they are
21 being affected. As in all of the alternatives, it
22 is possible in alternative B that guided visitor
23 groups walking on the summit would
24 unknowingly trample some silversword
25 seeds and seedlings; vehicles driving up the
26 road for astronomy tours may occasionally
27 collide with Hawaiian petrels; and nēnē may
28 be fed by visitors in tour groups who are not
29 being watched by guides, nesting geese may
30 be disturbed by a group walking by, or a
31 vehicle driven by commercial operator could
32 occasionally hit and kill or injure a nēnē.
33 However, with a reduction in the number of
34 commercial service providers; limits on the
35 number of trips per day that hiking,
36 horseback riding, and astronomy
37 commercial service providers can offer; a
38 ban on all guided use several days per year;
39 and increased training of guides, the
40 potential for adverse impacts on the species
41 would decline relative to alternative A. Thus,
42 although there would be the potential for
43 some individuals of the four species to be
44 lost, injured, or the behavior of the two
45 animal species to be altered, compared to
46 alternative A, alternative B would have less
47 of a long-term, adverse impact on the four
48 listed species—alternative B would be
49 expected to have a long-term, minor,
50 adverse impact on the four species.

51 None of the actions in alternative B would
52 alter or degrade the essential habitat features
53 for the Haleakalā silversword or the
54 nohoanu, as described in chapter 3 (e.g., lava
55 flows, precipitation). Thus, there would be
56 no effects of alternative B on the designated
57 critical habitats of the two listed plant
58 species.
59

60 **Cumulative Impacts.** None of the proposed
61 new developments and expansion or
62 rehabilitation of existing facilities on park
63 lands identified in the “Cumulative Impacts
64 Scenario” would affect the silversword,
65 nohoanu, Hawaiian petrel, nēnē or their
66 habitats.
67

68 As noted by the National Science
69 Foundation, development of the new
70 telescope on the Haleakalā summit (with
71 mitigation) would be expected to have
72 negligible, short- and long-term impacts on
73 the silversword and moderate, adverse, long-
74 term impacts on the Hawaiian petrel and
75 nēnē (NSF 2009, 2011). No other impacts on
76 the four listed species would be expected
77 due to present and future actions taken by
78 other entities.
79

80 When the minor, adverse effects of
81 alternative A are added to the above effects,
82 there would likely be a minor, long-term,
83 adverse, cumulative impact on these species.
84

85 Because alternative B would have no effects
86 on critical habitats of the two plant species,
87 the alternative would not contribute to
88 cumulative effects on designated critical
89 habitats of the two species.
90

91 **Conclusion.** Under alternative B, there
92 would continue to be the potential for
93 disturbance and possible injury and loss of
94 some Haleakalā silverswords, nohoanus,
95 nēnēs, and Hawaiian petrels. However, the
96 continued use of the park by guided groups
97 in alternative B would not threaten the
98 continued existence of the species. With
99 limits on the increase of guided groups, bans
100 on guided use several days per year, and
101 increased training of guides, the potential for
102 these impacts on the species would decline

1 compared to alternative A. Overall,
2 alternative B would have a minor, long-term,
3 adverse impact on the four listed species.

4
5 When the effects of alternative B are
6 combined with other present and future
7 actions independent of this plan, there
8 would likely be a minor, long-term, adverse,
9 cumulative impact on the four federally
10 listed species. Based on the definitions of the
11 U.S. Fish and Wildlife Service, alternative B
12 may affect but would not be likely to
13 adversely affect the four federally listed
14 species in the park and would not affect
15 designated critical habitats for the two plant
16 species.

17
18 While the National Park Service believes that
19 alternative B would have negligible to minor,
20 long-term impacts on the four species, the
21 effects of activities in alternative B cannot be
22 uncoupled from other park activities. These
23 effects are also being analyzed and
24 addressed through a programmatic
25 consultation under section 7 of the
26 Endangered Species Act with the U.S. Fish
27 and Wildlife Service. The programmatic
28 consultation is taking place in 2012 and will
29 be incorporated into the decision for this
30 document.

31

32

33 **Alternative C**

34 **Analysis.** As noted in the previous
35 alternatives, humans have affected, and
36 likely would continue to affect, individuals
37 of the federally listed Haleakalā silversword,
38 nohoanu, nēnē, and Hawaiian petrel.
39 However, it is usually not known if guided or
40 unguided visitors, or both groups, are
41 affecting these species and their habitats, or
42 to what degree they are being affected. As in
43 all of the alternatives, it is possible in
44 alternative C that guided visitor groups
45 walking on the summit would unknowingly
46 trample some silversword seeds and
47 seedlings; some nohoanu may be trampled
48 or eaten by horses in guided groups at the
49 top of the Kaupō Trail; vehicles driving up
50 the road for astronomy tours may

51 occasionally collide with Hawaiian petrels;
52 and nēnē may be fed by visitors in tour
53 groups who are not being watched by guides,
54 nesting geese may be disturbed by a group
55 walking by, or a vehicle driven by
56 commercial operator could occasionally hit
57 and kill or injure a nēnē. However, with a
58 reduction in the number of commercial
59 service providers; limits on the number of
60 trips per day hiking, horseback riding, and
61 astronomy commercial service providers can
62 offer; a reduction in the group size for
63 horseback riding and astronomy tours; and
64 increased training of guides, the potential for
65 adverse impacts on the species would
66 decline relative to alternative A. Thus,
67 although there would be the potential for
68 some individuals of the four species to be
69 lost or injured, or the behavior of the two
70 animal species to be altered, compared to
71 alternative A, alternative C would have less
72 of a long-term, adverse impact on the four
73 listed species—alternative C would be
74 expected to have a minor, long-term,
75 adverse impact on the four listed species.

76

77 Like the previous alternatives, none of the
78 actions in alternative C would alter or
79 degrade the essential habitat features for the
80 Haleakalā silversword or the nohoanu, as
81 described in chapter 3. Thus, there would be
82 no effects of alternative C on the designated
83 critical habitats of the two listed plant
84 species.

85

86 **Cumulative Impacts.** None of the proposed
87 new developments and expansion or
88 rehabilitation of existing facilities on park
89 lands identified in the “Cumulative Impacts
90 Scenario” would affect the silversword,
91 nohoanu, Hawaiian petrel, nēnē or their
92 habitats.

93

94 As noted by the National Science
95 Foundation, development of the new
96 telescope on the Haleakalā summit (with
97 mitigation) would be expected to have
98 negligible, short- and long-term, impacts on
99 the silversword, and moderate, long-term,
100 adverse impacts on the Hawaiian petrel and
101 nēnē (NSF 2009, 2011). No other impacts on
102 the four listed species would be expected

1 due to present and future actions taken by
2 other entities.
3
4 When the minor, adverse effects of
5 alternative C are added to the above effects,
6 there would likely be a minor, long-term,
7 adverse, cumulative impact on these species.
8
9 Because alternative C would have no effects
10 on critical habitats of the two plant species,
11 the alternative would not contribute to
12 cumulative effects on designated critical
13 habitats of these species.
14
15 **Conclusion.** Under alternative C there
16 would continue to be the potential for
17 disturbance and possibly the injury and loss
18 of some Haleakalā silverswords, nohoanus,
19 nēnē, and Hawaiian petrels. However, the
20 continued use of the park by guided groups
21 in alternative C would not threaten the
22 continued existence of the species. With
23 limits on increased use by guided groups, a
24 reduction in some group sizes, and increased
25 training of guides, the potential for these
26 impacts on the species would decline.
27 Compared to alternative A, alternative C
28 would have a long-term, minor, adverse
29 impact on the four listed species. When the
30 effects of alternative C are combined with
31 other present and future actions
32 independent of this plan, there would likely
33 be a minor, long-term, adverse, cumulative
34 impact on the four federally listed species.
35 Based on the definitions of the U.S. Fish and
36 Wildlife Service, alternative C may affect but
37 would not be likely to adversely affect the
38 four federally listed species in the park and
39 would not affect designated critical habitats
40 for the two plant species.
41
42 While the National Park Service believes that
43 alternative C would have a minor, long-term
44 effect on the four species, the effects of
45 activities in alternative C cannot be
46 uncoupled from other park activities. These
47 effects are also being analyzed and
48 addressed through a programmatic
49 consultation under section 7 of the
50 Endangered Species Act with the U.S. Fish
51 and Wildlife Service. The programmatic
52 consultation is taking place in 2012 and will

53 be incorporated into the decision for this
54 document.
55

56 **Alternative D**

57 **Analysis.** As noted in the previous
58 alternatives, humans have affected, and
59 likely would continue to affect, individuals
60 of the federally listed Haleakalā silversword,
61 nohoanu, nēnē, and Hawaiian petrel.
62 However, it is usually not known if guided or
63 unguided visitors, or both groups, are
64 affecting these species and their habitats, or
65 to what degree these species are being
66 affected. As in all of the alternatives, it is
67 possible in alternative D that guided visitor
68 groups walking on the summit would
69 unknowingly trample some silversword
70 seeds and seedlings; that vehicles driving up
71 the road for astronomy tours may
72 occasionally collide with Hawaiian petrels;
73 and that nēnē may be fed by visitors in tour
74 groups who are not being watched by guides,
75 nesting geese may be disturbed by a group
76 walking by, or a vehicle driven by
77 commercial operator could occasionally hit
78 and kill or injure a nēnē. Unlike the other
79 action alternatives, commercial guided
80 groups could increase in number in
81 alternative D, which could increase the
82 potential for impacts. However, with limits
83 on the number of commercial service
84 providers; limits on the number of trips per
85 day hiking, horseback riding, and astronomy
86 commercial service providers can offer; and
87 increased training of guides, the potential for
88 adverse impacts on the species would
89 decline relative to alternative A. There
90 would be the potential for some individuals
91 of the four species to be lost or injured, or
92 for the behavior of the two animal species to
93 be altered; however, compared to alternative
94 A, alternative D would have less of a long-
95 term, adverse impact on the four listed
96 species—alternative D would be expected to
97 have a minor, long-term, adverse impact on
98 the four species.
99

100 Like the previous alternatives, none of the
101 actions in alternative D would alter or
102 degrade the essential habitat features for the

1 Haleakalā silversword or the nohoanu, as
 2 described in chapter 3. Thus, there would be
 3 no effects of alternative D on the designated
 4 critical habitats of the two listed plant
 5 species.

6
 7 **Cumulative Impacts.** None of the proposed
 8 new developments and expansion or
 9 rehabilitation of existing facilities on park
 10 lands identified in the “Cumulative Impacts
 11 Scenario” would affect the silversword,
 12 nohoanu, Hawaiian petrel, nēnē or their
 13 habitats.

14
 15 As noted by the National Science
 16 Foundation, development of the new
 17 telescope on the Haleakalā summit (with
 18 mitigation) would be expected to have
 19 negligible, short- and long-term impacts on
 20 the silversword, and moderate, long-term,
 21 adverse impacts on the Hawaiian petrel and
 22 nēnē (NSF 2009, 2011). No other impacts on
 23 the four listed species would be expected
 24 due to present and future actions taken by
 25 other entities.

26
 27 When the minor adverse effects of
 28 alternative D are added to the above effects,
 29 there would likely be a minor, long-term,
 30 adverse, cumulative impact on these species.

31
 32 Because alternative D would result in no
 33 effects on critical habitats of the species, the
 34 alternative would not contribute to
 35 cumulative effects on designated critical
 36 habitats of the two plant species.

37
 38 **Conclusion.** Under alternative D there
 39 would continue to be the potential for
 40 disturbance and possibly the injury and loss
 41 of some Haleakalā silverswords, nohoanus,
 42 nēnēs, and Hawaiian petrels. However, the
 43 continued use of the park by guided groups
 44 in alternative D would not threaten the
 45 continued existence of the species. With
 46 limits on increased use of guided groups and
 47 increased training of guides, the potential for
 48 such impacts on the species would decline.
 49 Compared to alternative A, alternative D
 50 would have a minor, long-term, adverse
 51 impact on the four listed species. When the
 52 effects of alternative D are combined with

53 other present and future actions
 54 independent of this plan, there would likely
 55 be a minor, long-term, adverse cumulative
 56 impact on the four federally listed species.
 57 Based on the definitions of the U.S. Fish and
 58 Wildlife Service, alternative D may affect but
 59 would not be likely to adversely affect the
 60 four federally listed species in the park and
 61 would not affect designated critical habitats
 62 for the two plant species.

63
 64 While the National Park Service believes that
 65 alternative D would have minor, long-term
 66 impacts on the four species, the effects of
 67 activities in alternative D cannot be
 68 uncoupled from other park activities. These
 69 effects are also being analyzed and
 70 addressed through a programmatic
 71 consultation under section 7 of the
 72 Endangered Species Act with the U.S. Fish
 73 and Wildlife Service. The programmatic
 74 consultation is taking place in 2012 and will
 75 be incorporated into the decision for this
 76 document.

79 **SOUNDSCAPE**

80 **Note:** This section only examines the effects
 81 of changes in sounds on the soundscape.
 82 The effect of noise on the visitor experience
 83 is evaluated under “Opportunities for
 84 Solitude and Quiet” in the “Visitor Use and
 85 Experience” section.

87 **Alternative A**

88 **Analysis.** Under alternative A most of the
 89 park’s soundscape would continue to be
 90 primarily comprised of natural-caused
 91 sounds. In developed areas, including the
 92 summit and Kīpahulu area, and the road to
 93 the summit, noise from people, horses, and
 94 vehicles would continue to generate noise
 95 above the natural ambient sound level. With
 96 increased guided use in the future, noise
 97 levels would be expected to increase,
 98 particularly in popular areas, resulting in a
 99 minor to moderate, long-term, adverse
 100 impact to the soundscape in localized

1 frontcountry areas (e.g., the summit and
2 Kīpahulu).

3
4 Overall, from a parkwide perspective,
5 alternative A would have a minor to
6 moderate, long-term, adverse impact on the
7 park's soundscape.

8
9 **Cumulative Impacts.** The major source of
10 human-caused noise for parts of Haleakalā
11 National Park, particularly the Kīpahulu
12 area, is from air tours and park
13 administrative flights. Based on acoustic data
14 collected in 2008, these aircraft are affecting
15 the park's soundscape (Lynch and
16 McCusker 2008). In the Kīpahulu area, noise
17 from air tours would also affect sound levels,
18 although noise from the Waimoku Falls
19 would somewhat mask the aircraft noise in a
20 localized area. Assuming there are no
21 substantial changes in the types of aircraft,
22 the number of administrative flights, or the
23 number of helicopter air tours that fly over
24 the park and the routes they typically take,
25 air tours and park administrative aircraft
26 probably would continue to have a long-
27 term, moderate to major, adverse impact on
28 the soundscape of the crater and a moderate
29 adverse impact on the soundscape in the
30 Kīpahulu area.

31
32 Noise from any proposed construction
33 activities in the Kīpahulu developed area and
34 the rehabilitation of part of the summit road
35 would predominate during most of the
36 daylight hours at low or medium levels. This
37 would result in a moderate, short-term,
38 adverse impact to the soundscape in these
39 localized areas.

40
41 Noise from vehicles driving up and down
42 the summit road to build the solar telescope
43 and from construction-related noise on the
44 summit (outside of the park) would result in
45 a short-term, major, adverse impact. Noise
46 from operation of the telescope would result
47 in a minor, long-term, adverse impact on the
48 soundscape (NSF 2009).

49
50 When all of the effects from actions in and
51 outside the park are added to the noise from
52 guided visitors in alternative A, there would

53 be the potential for a moderate to major,
54 short-term and a moderate to major, long-
55 term, adverse, cumulative impact in localized
56 areas of the park's soundscape. However,
57 the increment added by alternative A to the
58 overall cumulative impact would be very
59 small—the impacts of alternative A would
60 not result in a substantive contribution to
61 the existing adverse cumulative impacts.

62
63 **Conclusion.** Alternative A would have a
64 minor to moderate, long-term, adverse
65 impact on the park's soundscape. Most of
66 the park's soundscape would not be affected
67 by the alternative. However, there would
68 continue to be a minor to moderate, long-
69 term, adverse impacts to the soundscape in
70 localized areas of the park's popular
71 frontcountry areas due to noise from
72 continuing and increasing numbers of
73 guided groups. These impacts would be
74 most evident at the summit, on trails and in
75 the Kīpahulu developed area. When the
76 noise from helicopter air tours and
77 administrative aircraft flying over or near the
78 park and noise from construction activities
79 inside and outside the park are added to the
80 noise from guided visitors in alternative A,
81 there would be the potential for a moderate
82 to major, short-term and a moderate to
83 major, long-term, adverse, cumulative
84 impact in localized areas of the park's
85 soundscape. Alternative A would add a very
86 small increment to this overall moderate to
87 major adverse cumulative impacts.

88 **Alternative B**

89
90 **Analysis.** Alternative B would primarily
91 affect the soundscape in a few areas. In
92 developed areas, including the summit and
93 Kīpahulu area, and the road to the summit,
94 the presence of guided visitors, horses, and
95 vehicles would continue to generate noise
96 above the natural ambient sound level.
97 However, with a reduction in the number of
98 commercial service providers, limits on the
99 number of trips per day hiking, horseback
100 riding and astronomy commercial service
101 providers can offer, a ban on all guided use
102 several days per year, and increased training

1 of guides, noise levels would probably
2 decline somewhat. Compared to alternative
3 A, alternative B would result in a reduced
4 long-term, minor, adverse impact to the
5 soundscape in localized areas in the
6 frontcountry (e.g., the summit and
7 Kīpahulu).

8
9 Overall, from a parkwide perspective,
10 alternative B would have a less of an adverse
11 impact on the park's soundscape compared
12 to alternative A, resulting in a long-term,
13 minor, adverse.

14
15 **Cumulative Impacts.** As in alternative A,
16 helicopter air tours and NPS administrative
17 flights probably would have a long-term,
18 moderate to major, adverse impact on the
19 soundscape of the crater and a moderate,
20 adverse impact on the soundscape in the
21 Kīpahulu area, assuming there are no
22 substantial changes in the types of aircraft
23 and the number of administrative aircraft
24 and helicopter air tours that fly over the park
25 and the routes they typically take.

26
27 As noted in alternative A, noise from any
28 proposed construction activities in the
29 Kīpahulu developed area and the
30 rehabilitation of part of the summit road
31 would result in a short-term, moderate,
32 adverse impact.

33
34 Also as described in alternative A, noise from
35 vehicles driving up and down the summit
36 road to build the solar telescope and from
37 construction activities on the summit,
38 outside of the park, would result in a short-
39 term, major, adverse impact. Noise from
40 operation of the telescope would result in a
41 minor, long-term, adverse impact on the
42 soundscape (NSF 2009).

43 When all of the effects from actions in and
44 outside the park are added to the noise from
45 guided visitors, there would be the potential
46 for a moderate to major, short-term, adverse
47 cumulative impact in localized areas in the
48 frontcountry. However, the increment
49 added by alternative B would have a very
50 small effect on the overall adverse
51 cumulative impacts.

52

53 **Conclusion.** Overall, alternative B would
54 have less of an impact on the park's
55 soundscape compared to alternative A,
56 resulting in a long-term, minor, adverse
57 impact. There would be some adverse
58 impacts on the soundscape in localized areas
59 due to noise from guided groups at the
60 summit, and in the Kīpahulu developed area,
61 but actions taken to manage commercial use
62 (e.g., limits on the increase of guided groups,
63 bans on guided use several days per year,
64 and increased training of guides) would
65 reduce these impacts compared to
66 alternative A. When the noise from
67 helicopter air tours and administrative
68 aircraft flying over or near the park and from
69 likely future construction activities in and
70 outside the park are added to the noise from
71 guided visitors in alternative B, there would
72 be the potential for a moderate to major,
73 short-term, adverse cumulative impact in
74 localized areas of the park's frontcountry.
75 However, the increment added by
76 alternative B would have a very small effect
77 on the overall adverse cumulative impacts.

78

79 **Alternative C**

80 **Analysis.** Like all of the alternatives,
81 alternative C would primarily affect a few
82 areas of the park. In developed areas,
83 including the summit and Kīpahulu areas,
84 and the road to the summit noise from
85 guided visitors, horses, and vehicles would
86 continue to generate noise above the natural
87 ambient sound level. However, with a
88 reduction in the number of commercial
89 service providers, limits on the number of
90 trips per day hiking, horseback riding and
91 astronomy commercial service providers can
92 offer, a reduction in the group size for
93 horseback riding and astronomy tours, and
94 increased training of guides, noise levels
95 would probably decline. Compared to
96 alternative A, alternative C would result in a
97 reduced long-term, minor, adverse impact to
98 the soundscape in localized areas in the
99 frontcountry (e.g., the summit, and
100 Kīpahulu.

101

1 From a parkwide perspective, alternative C
2 would less of an impact on the park's
3 soundscape relative to alternative A,
4 resulting in a long-term, minor, adverse
5 impact.

6
7 **Cumulative Impacts.** Like the previous
8 alternatives, helicopter air tours and park
9 administrative flights probably would have a
10 long-term, moderate to major, adverse
11 impact on the soundscape of the crater and a
12 moderate, long-term, adverse impact on the
13 soundscape in the Kīpahulu area, assuming
14 there are no substantial changes in the types
15 of aircraft, the number of helicopter air tours
16 and administrative aircraft that fly over the
17 park and the routes they typically take.

18
19 As noted in alternative A, noise from any
20 proposed construction activities in the
21 Kīpahulu developed area and rehabilitation
22 of part of the summit road would result in a
23 short-term, moderate, adverse impact.

24
25 Noise from vehicles driving up and down
26 the summit road to build the solar telescope
27 and from construction activities on the
28 summit, outside of the park, would result in
29 a short-term, major, adverse impact. Noise
30 from operation of the telescope would result
31 in a minor, long-term, adverse impact on the
32 soundscape (NSF 2009).

33
34 When all of the effects from actions in and
35 outside the park are added to the noise from
36 guided visitors, there would be the potential
37 for a moderate to major, short-term, adverse
38 cumulative impact in localized areas in the
39 frontcountry soundscape. However, the
40 increment of alternative C would have a very
41 small effect on the overall adverse
42 cumulative impacts.

43
44 **Conclusion.** Alternative C would have less of
45 an impact on the park's soundscape than
46 alternative A, resulting in a long-term,
47 minor, adverse impact. Most of the park
48 would not be affected by the alternative.
49 There would be some adverse impacts to
50 localized areas of the park's soundscape due
51 to noise from guided groups at the summit,
52 and in the Kīpahulu developed area, but

53 actions taken to manage commercial use
54 (e.g., a reduction in the number of
55 commercial service providers, increased
56 training of guides) would reduce these
57 impacts compared to alternative A. When
58 the noise from helicopter air tours and park
59 administrative aircraft flying over or
60 adjacent to the park and from any possible
61 future construction activities inside and
62 outside the park are added to the noise from
63 guided visitors in alternative C, there would
64 be the potential for a moderate to major,
65 short-term, adverse cumulative impact in
66 localized areas in the frontcountry. But the
67 increment of alternative C would have a very
68 small effect on the overall adverse
69 cumulative impacts.

71 **Alternative D**

72 **Analysis.** Like all of the alternatives, under
73 alternative D most of the park's soundscape
74 would continue to be primarily comprised of
75 natural-caused sounds. In developed areas,
76 including the summit and Kīpahulu areas,
77 the road to the summit, noise from guided
78 visitors, horses, and vehicles would continue
79 to generate noise levels above the natural
80 ambient level. Unlike the other action
81 alternatives, commercial guided groups
82 could increase in number in alternative D.
83 However, limits on the number of
84 commercial service providers, limits on the
85 number of trips per day hiking, horseback
86 riding and astronomy commercial service
87 providers can offer, and increased training
88 of guides would help reduce noise levels
89 somewhat. Thus, compared to alternative A,
90 alternative D would result in a reduced,
91 long-term, minor, adverse impact to the
92 soundscape in localized areas in the
93 frontcountry (e.g., the summit and
94 Kīpahulu.).

95 From a parkwide perspective, alternative D
96 would have less of an impact on the park's
97 soundscape relative to alternative A,
98 resulting in a long-term, minor, adverse
99 impact.

100

1 **Cumulative Impacts.** As in all of the
 2 alternatives, helicopter air tours and NPS
 3 administrative flights probably would have a
 4 long-term, moderate to major, adverse
 5 impact on the soundscape of the crater and a
 6 moderate adverse impact on the soundscape
 7 in the Kīpahulu area, assuming there are no
 8 substantial changes in the types of aircraft,
 9 the number of helicopter air tours and
 10 administrative aircraft that fly over the park
 11 and the routes they typically take.

12
 13 As noted in alternative A, noise from
 14 construction activities in the Kīpahulu
 15 developed area and rehabilitation work on
 16 part of the summit road would result in a
 17 short-term, moderate, adverse impact.

18
 19 Also as described in alternative A, noise from
 20 vehicles driving up and down the summit
 21 road to build the solar telescope and from
 22 construction activities on the summit,
 23 outside of the park, would result in a short-
 24 term, major, adverse impact. Noise from
 25 operation of the telescope would result in a
 26 minor, long-term, adverse impact on the
 27 soundscape (NSF 2009).

28
 29 When all of the effects from actions in and
 30 outside the park are added to the noise from
 31 guided visitors, there would be the potential
 32 for a moderate to major, short-term, adverse
 33 cumulative impact in localized areas in the
 34 frontcountry soundscape and a moderate to
 35 major, long-term, adverse cumulative impact

70

36 in localized areas of the wilderness
 37 soundscape. However, the increment of
 38 alternative D would have a very small effect
 39 on the overall adverse cumulative impacts.

40

41 **Conclusion.** Overall, alternative D would
 42 have less of an impact on the park's
 43 soundscape compared to alternative A,
 44 resulting in a long-term, minor, adverse
 45 impact. Like all the alternatives, alternative
 46 D would not affect most of the park's
 47 soundscape. There would be some adverse
 48 impacts to localized areas of the park's
 49 soundscape due to noise from guided groups
 50 at the summit, and in the Kīpahulu
 51 developed area, the actions taken to manage
 52 commercial use (e.g., limits on the number of
 53 commercial service providers, limits on the
 54 number of trips per day hiking, horseback
 55 riding, and astronomy commercial service
 56 providers can offer, increased training of
 57 guides) would reduce these impacts
 58 compared to alternative A. When the noise
 59 from helicopter air tours and park
 60 administrative aircraft flying over or
 61 adjacent to the park, and from likely future
 62 construction activities in and outside the
 63 park are added to the noise from guided
 64 visitors in alternative D, there would be the
 65 potential for a moderate to major, short-
 66 term, adverse cumulative impact in localized
 67 areas of the park's. The increment added by
 68 alternative D would have a very small effect
 69 on the overall adverse cumulative impact.

IMPACTS TO CULTURAL RESOURCES

ARCHEOLOGICAL RESOURCES

Alternative A (no action)

Impact on archeological resources and other cultural resources emanate essentially from increase in visitor use, development of new facilities, and management programs, such as research or preservation of historic settings. The first two sources vary in their impact depending on the area of the park and on the amount and type of use expected (NPS 1995a). Archeological resources can be affected by visitors, including those who are part of commercial services operations. Visitors create informal trails outside of defined visitor use areas. Archeological sites in these areas can be damaged by visitors doing things like rock stacking, vandalism and artifact collecting when they walk off established trails.

Analysis. The no-action alternative describes the NPS approach to management of commercial services at the summit prior to 2005, with the exception that bicycle tours would continue to be prohibited in the park. Under the no-action alternative, archeological resources would continue to be adversely impacted. However, it is not usually known if guided or unguided visitors, or both groups, are affecting archeological resources or to what degree they are being affected. Some guided visitors would continue to leave established trails and walk through archeological resources. Some vandalism, rock stacking, and collection of artifacts would continue to occur. Guided horse groups would continue to have conflicts with hikers and create shortcuts and informal trails that diminish the integrity of archeological resources. Archeological resources adjacent to or easily accessible from trails and developed areas would be vulnerable to surface disturbance, inadvertent damage, and vandalism. The loss of surface archeological materials, alteration

of artifact distribution, and reduction of contextual evidence would continue to occur. As in all of the alternatives, park managers would take necessary actions to resolve unanticipated problems as they arise. NPS managers would continue to strive to protect and preserve natural and cultural resources in the park. Impacts to archeological resources under alternative A would be long-term, minor, and adverse. (Note: All cultural resource impacts would be confined locally to the park.)

Cumulative Impacts. Past, present, and reasonably foreseeable future projects with the potential to affect archeological resources include (1) NPS implementation of the Kīpahulu District comprehensive site plan and design program;(2) rehabilitation of 3.77 miles of park road between park headquarters/visitor center and Halemau‘u trailhead; and (3) construction and operation of a new telescope within the Crater Historic District at the summit.

The Kīpahulu District comprehensive site plan is currently being developed by the National Park Service with a focus on improving visitor experience, natural and cultural resource protection, and park operations. It is assumed that any new development would be in the existing development zone and adjacent disturbed areas; no new trails or other facilities would be built outside of these areas, although some existing facilities (e.g., trails) may be improved. Implementation of the Kīpahulu District comprehensive site plan would have negligible, long-term, adverse impacts on archeological resources.

Rehabilitation of the main park road will occur within the existing road prism and will not involve expansion of the road or disturbance of adjacent lands and as such would have no impact on archeological resources.

1 Construction and operation of a new
2 telescope at the summit will result in long-
3 term, negligible, adverse, direct impacts on
4 archeological resources (NSF 2009).

5
6 The effects of past, present, and reasonably
7 foreseeable future actions on archeological
8 resources would be long term, negligible to
9 minor, and adverse.

10
11 **Conclusion.** As described above,
12 implementation of alternative A would result
13 in long-term, minor, adverse, and direct
14 impacts on archeological resources.

15
16 When the impacts of alternative A are
17 combined with other past, present, and
18 reasonably foreseeable actions, there would
19 likely be long-term, negligible to minor,
20 adverse, and direct cumulative impacts to
21 archeological resources.

22
23 **Section 106 Summary.** After applying
24 ACHP criteria of adverse effect (36 CFR Part
25 800.5, Assessment of Adverse Effects), the
26 National Park Service concludes that
27 implementation of alternative A would result
28 in determination of no adverse effect.

29
30 **Alternative B (Preferred Alternative)**

31 **Analysis.** Alternative B is intended to limit
32 commercial services and reduce the number
33 of commercial services visitors in the park.
34 Alternative B would have the same type of
35 effects on archeological resources at the
36 summit as alternative A, but the intensity and
37 frequency of the impacts would decrease
38 slightly. Alternative B would freeze the
39 number of guided groups to 2009 levels,
40 prohibit commercial services activities on
41 three to five days a year, limit sunrise
42 commercial services to road-based tours,
43 prohibit road-based tours from using motor
44 coaches, reduce the number of parking
45 spaces for road-based tours (from 13 under
46 alternative A to 8 under alternative B);
47 reduce the number of commercial service
48 providers that can offer road-based hiking
49 and horseback tours; reduce the number of
50 hiking, horseback, and astronomy trips per

51 day for each provider; and require all
52 commercial guides to participate in training
53 and be certified to operate in the park.

54 Guided tour groups would continue to
55 adversely impact archeological resources at
56 the summit, but at a reduced level compared
57 to alternative A. Some disturbance of
58 archeological resources due to guided
59 groups walking in the area would continue.
60 Fewer guided groups, smaller group sizes,
61 prohibiting commercial tours three to five
62 days per year, and better trained/certified
63 guides would result in fewer impacts,
64 compared to alternative A. Alternative B
65 would result in fewer long-term, minor
66 impacts on archeological resources.

67
68 The new limits on commercial use, including
69 initiating three to five commercial tour-free
70 days per year, would also reduce guided
71 horse and hiking tours in Kīpahulu. Some
72 damage to archeological resources would
73 still likely occur due to guided hiking groups
74 using the Pīpīwai Trail.

75
76 Overall alternative B would result in fewer
77 long-term, minor, adverse impacts on
78 archeological resources when compared to
79 alternative A.

80
81 **Cumulative Impacts.** As discussed under
82 Alternative A, cumulative impacts from all
83 past, present, and reasonably foreseeable
84 actions would be long term, negligible to
85 minor, and adverse.

86
87 **Conclusion.** As described above,
88 implementation of alternative B would result
89 in fewer long-term, minor effects to
90 archeological resources when compared to
91 alternative A.

92
93 When the impacts of alternative B are
94 combined with other past, present, and
95 reasonably foreseeable future actions there
96 would likely be long-term, negligible to
97 minor, adverse impacts to archeological
98 resources when compared to alternative A.

99
100 **Section 106 Summary.** After applying
101 ACHP criteria of adverse effect (36 CFR Part

1 800.5, Assessment of Adverse Effects), the
2 National Park Service concludes that
3 implementation of alternative B would result
4 in determination of no adverse effect.
5

6 **Alternative C**

7 **Analysis.** Alternative C would have the same
8 type of effects on archeological resources at
9 the summit as alternative A; however, the
10 intensity and frequency of the impact would
11 decrease significantly. Alternative C would
12 limit sunrise tours to road-based tours;
13 reduce the number of parking spaces (from
14 13 in alternative A to 6 in alternative C) for
15 road-based tours at the summit; ban parking
16 at Red Hill; reduce the number of
17 commercial service providers that offer
18 road-based hiking and horseback tours; limit
19 the number of trips per day each provider
20 could offer tours; and require commercial
21 guides to participate in training and become
22 certified to operate in the park.
23

24 Guided tour groups would likely continue to
25 impact archeological resources at the
26 summit, but at a reduced frequency and
27 intensity compared to alternative A. Some
28 disturbance of archeological resources
29 would continue due to guided groups
30 walking in the area. However, with fewer
31 guided groups, smaller group sizes and
32 increased training and certification of guides
33 there would be fewer impacts to
34 archeological resources.
35
36

37 At Kīpahulu, limiting the number of
38 commercial use authorizations to one,
39 limiting group sizes of guided hiking groups
40 to six individuals, and limiting the number of
41 hiking trips to one per day would reduce the
42 overall number of hiking visitors in this area.
43 Some impact on archeological resources
44 would likely continue to occur due to guided
45 hiking groups using the Pipīwai Trail.
46

47 Overall implementation of alternative C
48 would result in localized, long-term,
49 negligible impacts on archeological
50 resources.

51 **Cumulative Impacts.** As discussed under
52 Alternative A, cumulative impacts from all
53 past, present, and reasonably foreseeable
54 actions would be long term, negligible to
55 minor, and adverse.
56

57 **Conclusion.** Overall implementation of
58 alternative C would result in localized, long-
59 term, negligible impacts on archeological
60 resources.
61

62 When the impacts of alternative C are
63 combined with the impacts of other past,
64 present, and reasonably foreseeable actions,
65 the result would likely be long-term,
66 negligible to minor, adverse impacts on
67 archeological resources compared to
68 alternative A.
69

70 **Section 106 Summary.** After applying
71 ACHP criteria of adverse effect (36 CFR Part
72 800.5, Assessment of Adverse Effects), the
73 National Park Service concludes that
74 implementation of alternative C would result
75 in a determination of no adverse effect.
76

77 **Alternative D**

78 **Analysis.** Alternative D would have the same
79 type of effects on archeological resources at
80 the summit as alternative A, but the intensity
81 and frequency of the impact would increase
82 compared to alternative A. Alternative D
83 would increase the number of commercial
84 use authorizations to established caps,
85 establish up to five concession contracts for
86 road-based tours, increase the number of
87 parking stalls for road-based tours to 15 at
88 the summit and 2 at Red Hill, and would
89 authorize a new interpretive bicycle tour on
90 the summit road. Alternative D would also
91 allow each road-based tour operator to run
92 an unlimited number of trips in Kīpahulu.
93

94 Guided tour groups would likely continue to
95 impact archeological resources at the
96 summit. The establishment of up to five
97 concession contracts, increased number of
98 parking stalls, a new interpretive bicycle
99 tour, and increasing the number of
100 commercial use authorizations up to

1 established caps would result in increased
2 impacts on archeological resources
3 compared to alternative A.

4
5 Alternative D would allow an unlimited
6 number of trips would be allowed in
7 Kīpahulu. Alternative D would require
8 guides to participate in training and to be
9 certified to operate in the park. At Kīpahulu
10 some impact on archeological resources
11 would likely continue to occur due to guided
12 hiking groups using the Pīpīwai Trail.

13
14 Overall, with increased training and
15 certification of guides, alternative D would
16 result in long-term, minor to moderate,
17 adverse impact on archeological resources in
18 localized areas compared to alternative A.

19
20 **Cumulative Impacts.** As discussed under
21 Alternative A, cumulative impacts from all
22 past, present, and reasonably foreseeable
23 actions would be long term, negligible to
24 minor, and adverse.

25
26 **Conclusion.** Implementation of alternative
27 D would result in long-term, minor to
28 moderate adverse impacts on archeological
29 resources.

30
31 When the impacts of alternative D are
32 combined with the impacts of other past,
33 present, and foreseeable actions, there
34 would likely be long-term, minor to
35 moderate, adverse cumulative impacts on
36 archeological resources.

37
38 **Section 106 Summary.** After applying
39 ACHP criteria of adverse effect (36 CFR Part
40 800.5, Assessment of Adverse Effects), the
41 National Park Service concludes that
42 implementation of alternative D would
43 result in a determination of adverse effects
44 to archeological resources.

45 CULTURAL LANDSCAPES

46 Alternative A (no action)

47 **Analysis.** Impacts to cultural landscapes
48 emanate essentially from three sources—

49 increasing visitor use; development of new
50 facilities; and management programs, such as
51 research or preservation of historic settings.

52 The first two sources vary in their impact
53 depending on the area of the park and on the
54 amount and type of use expected (NPS
55 1995). Cultural landscapes can be affected by
56 visitors, including those who are part of
57 commercial services operations. Impacts to
58 the Haleakalā Highway landscape are
59 associated with visitor use of the park road. .

60
61 The no-action alternative describes the NPS
62 approach to management of commercial
63 services at the summit prior to 2005, with the
64 exception that bicycle tours would continue
65 to be prohibited in the park.

66
67 Commercial service providers operate
68 within the Haleakala Highway of cultural
69 landscape. The park road provides access to
70 and egress from the developed areas.
71 However, it is not usually known if guided or
72 unguided visitors, or both groups, are
73 affecting these cultural landscapes or to what
74 degree they are being affected

75
76 As in all of the alternatives, park managers
77 would take necessary actions to resolve
78 unanticipated problems that arise. NPS
79 managers would continue to strive to protect
80 and preserve natural and cultural resources
81 including cultural landscapes in the park.

82
83 Under alternative A, impacts to cultural
84 landscapes would be long-term, minor, and
85 adverse.

86
87 **Cumulative Impacts.** Past, present, and
88 reasonably foreseeable future projects with
89 the potential to affect cultural landscapes
90 include (1) NPS implementation of the
91 Kīpahulu District site plan and design
92 program; (2) rehabilitation of 3.77 miles of
93 the park road between the park
94 headquarters / visitor center and the
95 Halemau‘u trailhead; and (3) construction
96 and operation of a new telescope within the
97 Crater Historic District at the summit.

98
99 The Kīpahulu District comprehensive site
100 plan is currently being developed by the

1 National Park Service with a focus on
2 improving visitor experience, natural and
3 cultural resource protection, and park
4 operations. It is assumed that any proposed
5 new development would be in the existing
6 development zone and adjacent disturbed
7 areas; no new trails or other facilities would
8 be built outside of these areas, although
9 some existing facilities (e.g., trails) may be
10 improved.

11 Implementation of the Kīpahulu District
12 comprehensive site plan would have no
13 impact on cultural landscapes.

14
15 Rehabilitation of the main park road will
16 occur within the existing road prism and will
17 not involve expansion of the road or
18 disturbance of adjacent lands and as such
19 should have no impact on cultural
20 landscapes.

21
22 Construction and operation of a new
23 telescope at the summit will result in short-
24 term, minor to moderate, adverse, direct
25 impacts to cultural landscapes within the
26 park (NSF 2009).

27
28 Overall impacts on cultural landscapes from
29 all past, present, and reasonably foreseeable
30 actions would be short term, minor to
31 moderate, and adverse.

32
33 **Conclusion.** Overall impacts to cultural
34 landscapes from alternative A would be long
35 term, minor, and adverse. In conjunction
36 with past, present, and reasonably
37 foreseeable future actions, impacts would be
38 short term, minor to moderate, and adverse.

39
40 **Section 106 Summary.** After applying
41 ACHP criteria of adverse effect (36 CFR Part
42 800.5, Assessment of Adverse Effects), the
43 National Park Service concludes that
44 implementation of alternative A would result
45 in a determination of no adverse effect to
46 cultural landscapes.

47

48 **Alternative B (Preferred Alternative)**

49 **Analysis.** Alternative B is intended to limit
50 commercial services and reduce the number
51 of commercial services visitors in the park.

52

53 Alternative B would have the same type of
54 effects on the cultural landscape at the
55 summit as alternative A, but the intensity and
56 frequency of the impacts would decrease
57 slightly. Some wear and tear impacts,
58 occasional vehicle accidents, as well as some
59 graffiti and vandalism from commercial
60 services providers using the park road would
61 continue to occur.

62

63 Alternative B would freeze the number of
64 guided groups to 2009 levels; prohibit
65 commercial services activities on three to
66 five days a year; limit sunrise commercial
67 services to road-based tours, prohibit road-
68 based tours from using motor coaches;
69 reduce the number of parking spaces for
70 road-based tours (from 13 under alternative
71 A to 8 under alternative B); reduce the
72 number of commercial service providers that
73 can offer road-based hiking and horseback
74 tours; reduce the number of hiking and
75 astronomy trips per day for each provider;
76 and require that all commercial guides
77 participate in training and become certified
78 to operate in the park.

79

80 Under alternative B, guided tour groups
81 would likely continue to adversely impact
82 the cultural landscape at the summit, but at a
83 reduced level compared to alternative A.
84 Some disturbance of the cultural landscape
85 due to guided groups walking in the area
86 would continue. Fewer guided groups,
87 smaller group sizes, the prohibition of
88 commercial tours three to five days per year,
89 and better trained/certified guides would
90 result in fewer impacts, compared to
91 alternative A. Alternative B would result in
92 fewer long-term, minor, adverse impacts on
93 cultural landscapes.

94

95 **Cumulative Impacts.** As discussed under
96 alternative A cumulative impacts on cultural
97 landscapes from all past, present, and

1 reasonably foreseeable actions would be
2 short term, minor to moderate, and adverse.

3
4 **Conclusion.** As described above,
5 implementation of alternative B would result
6 in long-term, minor to moderate, adverse
7 effects to cultural landscapes.

8
9 The impacts of alternative B, in combination
10 with the impacts of other past, present, and
11 reasonably foreseeable future actions would
12 result in short- and long-term, minor to
13 moderate, adverse impacts compared to
14 alternative A.

15
16 **Section 106 Summary.** After applying
17 ACHP criteria of adverse effect (36 CFR Part
18 800.5, Assessment of Adverse Effects), the
19 National Park Service concludes that
20 implementation of alternative B would result
21 in a determination of no adverse effect to
22 cultural landscapes.

24 **Alternative C**

25 **Analysis.** Alternative C would have the same
26 type of effects on the cultural landscape at
27 the summit as alternative A; however, the
28 intensity and frequency of the impact would
29 decrease significantly. Some wear and tear
30 impacts, occasional vehicle accidents, as well
31 as some graffiti and vandalism from
32 commercial services providers using the
33 park road would continue to occur.

34
35 Alternative C would limit sunrise tours to
36 road-based tours; reduce the number of
37 parking spaces (from 13 in alternative A to 6
38 in alternative C) for road-based tours at the
39 summit; ban parking at Red Hill; reduce the
40 number of commercial service providers that
41 offer road-based hiking and horseback
42 tours; limit the number of trips per day each
43 provider could offer; and require
44 commercial guides to participate in training
45 and be certified to operate in the park.

46
47 Guided tour groups would likely continue to
48 adversely impact the cultural landscape at
49 the summit, but at a reduced frequency and
50 intensity compared to alternative A. Some

51 disturbance of the cultural landscape due to
52 guided groups walking in the area would
53 continue. However, with fewer guided
54 groups, smaller group sizes and increased
55 training and certification of guides there
56 would be fewer impacts to cultural
57 landscapes. Thus, alternative C would result
58 in localized, long-term, negligible to minor,
59 adverse impacts on the cultural landscape at
60 the summit compared to alternative A.

61
62 Overall implementation of Alternative C
63 would result in a localized, long-term,
64 negligible to minor, adverse impacts on
65 cultural landscapes.

66
67 **Cumulative Impacts.** As discussed under
68 alternative A cumulative impacts on cultural
69 landscapes from all past, present, and
70 reasonably foreseeable actions would be
71 short term, minor to moderate, and adverse.

72
73 **Conclusion.** Implementation of alternative C
74 would result in long-term, negligible to
75 minor, adverse impacts on cultural
76 landscapes.

77
78 The impacts of alternative C combined with
79 the impacts of other past, present, and
80 reasonably foreseeable actions would result
81 in short- and long-term, minor to moderate,
82 adverse impacts on cultural landscapes
83 compared to alternative A.

84
85 **Section 106 Summary.** After applying
86 ACHP criteria of adverse effect (36 CFR part
87 800.5, assessment of adverse effects), the
88 national park service concludes that
89 implementation of alternative c would result
90 in a determination of no adverse effect to
91 cultural landscapes.

93 **Alternative D**

94 **Analysis.** Alternative D would have the same
95 type of effects on the cultural landscape at
96 the summit as alternative A, but the intensity
97 and frequency of the impact would increase
98 compared to alternative A. Some wear and
99 tear impacts, occasional vehicle accidents, as
100 well as some graffiti and vandalism from

1 commercial services providers using the
2 park road would continue to occur.

3
4 Alternative D would increase the number of
5 commercial use authorizations up to
6 established caps, establish up to five
7 concession contracts for road-based tours,
8 increase the number of parking stalls for
9 road-based tours to fifteen at the summit
10 and two at Red Hill, and would authorize a
11 new interpretive bicycle tour on the summit
12 road. Alternative D would also allow each
13 road-based tour operator to run an
14 unlimited number of trips in Kīpahulu.

15
16 Under alternative D, guided tour groups
17 would likely continue to adversely impact
18 the cultural landscape at the summit, but at
19 an increased frequency and intensity
20 compared to alternative A. The
21 establishment of up to five concession
22 contracts, increased number of parking
23 stalls, a new interpretive bicycle tour, and an
24 increased number of commercial use
25 authorizations up to established caps would
26 result in localized, long-term, minor, adverse
27 impacts on the cultural landscape at the
28 summit compared to alternative A.

29
30 Overall, alternative D would result in long-
31 term, minor to moderate, adverse impacts on
32 the cultural landscapes compared to
33 alternative A.

34
35 **Cumulative Impacts.** As discussed under
36 alternative A cumulative impacts on cultural
37 landscapes from all past, present, and
38 reasonably foreseeable actions would be
39 short term, minor to moderate, and adverse.

40
41 **Conclusion.** Overall, alternative D would
42 result in long-term, minor to moderate,
43 adverse impacts on the cultural landscapes
44 compared to alternative A.

45
46 When the impacts of alternative D are
47 combined with the impacts of other past,
48 present, and foreseeable actions there would
49 likely be long-term, minor to moderate,
50 adverse impacts on cultural landscapes.

51

52 **Section 106 Summary.** After applying
53 ACHP criteria of adverse effect (36 CFR Part
54 800.5, Assessment of Adverse Effects), the
55 National Park Service concludes that
56 implementation of alternative D would
57 result in a determination of adverse effect to
58 cultural landscapes.

61 HISTORIC STRUCTURES

62 Alternative A (no action)

63 Several of the park's 54 historic national
64 register-eligible structures are being affected
65 by visitor use. However, it is not usually
66 known if guided or unguided visitors, or
67 both groups, are affecting these historic
68 resources or to what degree they are being
69 affected; except for guided horse tours.
70 Thirteen historic structures are located in
71 areas used by commercial service providers.
72 Some intentional vandalism and graffiti
73 damage diminishes the integrity of these
74 historic resources. Additional damage is
75 attributable to regular wear and tear caused
76 by use of the historic buildings and the
77 historic park road. Commercial service
78 activities are likely contributing to all of
79 these impacts.

80
81 **Analysis.** The no-action alternative
82 describes the NPS approach to management
83 of commercial services at the summit prior
84 to 2005, with the exception that bicycle tours
85 would continue to be prohibited in the park.
86 Under the no-action alternative, historic
87 structures would continue to be adversely
88 impacted by commercial services activities at
89 the current level. Some visitors would
90 damage historic structures by adding graffiti
91 and vandalizing historic structures.

92
93 As in all of the alternatives, park managers
94 would take necessary actions to resolve
95 unanticipated problems as they arise. NPS
96 managers would continue to strive to protect
97 and preserve historic structures in the park.

1 Impacts to historic structures under
2 alternative A would be long term, minor to
3 moderate, adverse, and direct.

4
5 **Cumulative Impacts.** Past, present, and
6 reasonably foreseeable future projects with
7 the potential to affect historic structures
8 include (1) NPS implementation of the
9 Kīpahulu District comprehensive site plan,
10 and design program; (2) rehabilitation and
11 expansion of the Kīpahulu visitor center /
12 ranger station; (3) rehabilitation of 3.77 miles
13 of the park road between the park
14 headquarters/visitor center and the
15 Halemau‘u trailhead; and (4) construction
16 and operation of a new telescope within the
17 Crater Historic District at the summit.

18
19 The Kīpahulu District comprehensive site
20 plan currently being developed would focus
21 on improving visitor experience, natural and
22 cultural resource protection, and park
23 operations. New development would occur
24 in the existing development zone and
25 adjacent disturbed areas, although some
26 existing facilities may be improved.
27 Implementation of the Kīpahulu District
28 comprehensive site plan would have long-
29 term, negligible adverse impacts on historic
30 structures.

31
32 Rehabilitation and expansion of the
33 Kīpahulu visitor center / ranger station,
34 including new construction and trenching
35 for utilities in previously undisturbed areas
36 should have no impact on historic
37 structures.

38
39 Rehabilitation of the main park road
40 (considered a historic structure) will occur
41 within the existing road prism and would
42 not involve expansion of the road or
43 disturbance of adjacent lands; therefore, it
44 would have a minor, long-term, adverse
45 impact on historic structures other than the
46 road itself. Impacts to the historic park road
47 resulting from the rehabilitation project
48 would include small changes in the road’s
49 original width in select areas. During
50 construction, segments of the road may
51 experience temporary lane closures. Overall,
52 the park road rehabilitation project would

53 have short- and long-term, minor, adverse
54 direct impacts on historic structures.

55
56 Construction of a new telescope at the
57 summit will require full closure of the main
58 park road to visitor traffic to accommodate
59 extremely wide trucks. Large vehicles
60 traveling the main park road have the
61 potential to adversely impact features of the
62 historic road.

63
64 Therefore, the effects on historic structures,
65 within the park road corridor associated
66 with the construction and operation of a
67 new telescope at the summit would result in
68 short- and long-term, negligible to minor,
69 adverse, direct impacts (NSF 2009, 2011).

70
71 Overall past, present, and reasonably
72 foreseeable actions should have short- and
73 long-term, negligible to minor, adverse, and
74 direct impacts on historic structures.

75
76 **Conclusion.** As described above,
77 implementation of alternative A would result
78 in a short- and long-term, moderate,
79 adverse, and direct impact on historic
80 structures.

81
82 When the impacts of alternative A are
83 combined with the impacts of other past,
84 present, and reasonably foreseeable actions,
85 there would likely be short- and long-term,
86 moderate, adverse, and direct impacts to
87 historic structures.

88
89 **Section 106 Summary.** After applying
90 ACHP criteria of adverse effect (36 CFR Part
91 800.5, Assessment of Adverse Effects), the
92 National Park Service concludes that
93 implementation of alternative A would result
94 in a determination of no adverse effect to
95 historic structures.

97 **Alternative B (Preferred Alternative)**

98 **Analysis.** Alternative B is intended to limit
99 commercial services and reduce the number
100 of commercial services visitors in the park.
101 Alternative B would have the same type of
102 effects on historic structures as alternative A

1 but the intensity and frequency of the
2 impacts would decrease slightly. Alternative
3 B would freeze the number of guided groups
4 to 2009 levels, prohibit commercial services
5 activities on three to five days a year; limit
6 sunrise commercial services to road-based
7 tours; prohibit road-based tours from using
8 motor coaches; reduce the number of
9 parking spaces for road-based tours (from
10 13 in alternative A to 8 in alternative B);
11 reduce the number of commercial service
12 providers that can offer road-based hiking
13 and horseback tours; reduce the number of
14 hiking, horseback, and astronomy trips per
15 day for each provider; and require all
16 commercial guides to participate in training
17 and become certified to operate in the park.

18
19 Guided tour groups would continue to
20 adversely impact historic structures, but at a
21 reduced level compared to alternative A.
22 Some disturbance of historic structures due
23 to guided groups would continue. Fewer
24 guided groups, smaller group sizes, the
25 prohibition of commercial tours three to five
26 days per year, and better trained/certified
27 guides would result in fewer incidents of
28 graffiti and vandalism on historic structure
29 and fewer impacts, compared to
30 alternative A. Continued use of the historic
31 cabins, trails, and park road would continue
32 to result in wear and tear and contribute to
33 damage.

34
35 Alternative B would result in long-term,
36 moderate, adverse, direct impacts on historic
37 structures.

38
39 **Cumulative Impacts.** As described under
40 alternative A, cumulative impacts from all
41 past, present, and reasonably foreseeable
42 actions should have short- and long-term,
43 negligible to minor, adverse, and direct
44 impacts on historic structures.

45
46 **Conclusion.** Implementation of alternative B
47 would result in long-term, moderate,
48 adverse impacts on historic structures.

49
50 When the impacts of alternative B are
51 combined with the impacts of other, past,
52 present, and reasonably foreseeable actions,

53 there would likely be short- and long-term,
54 moderate, adverse, and direct impacts to
55 historic structures.

56
57 **Section 106 Summary.** After applying the
58 Advisory Council on Historic Preservation's
59 criteria of adverse effect (36 CFR Part 800.5,
60 Assessment of Adverse Effects), the National
61 Park Service concludes that implementation
62 of alternative B would result in a
63 determination of no adverse effect to
64 historic structures.

66 **Alternative C**

67 **Analysis.** Alternative C would have the same
68 type of effects on historic structures as
69 alternative A; however, the intensity and
70 frequency of the impact would decrease
71 significantly. Alternative C would limit
72 sunrise tours to road-based tour; reduce the
73 number of parking spaces (from 13 in
74 alternative A to 6 in alternative C) for road-
75 based tours at the summit; ban parking at
76 Red Hill; reduce the number of commercial
77 service providers that offer road-based
78 hiking and horseback tours; limit the
79 number of trips per day each provider could
80 offer; and require commercial guides to
81 participate in training and become certified
82 to operate in the park. Individuals on guided
83 tour groups would likely continue to add
84 graffiti and occasionally vandalize historic
85 structures. Historic structures would
86 continue to be used by guided visitors and
87 that use would continue to contribute to the
88 impacts from wear and tear.

89
90 Overall implementation of alternative C
91 would result in localized, long-term,
92 negligible to minor, adverse, direct impacts
93 on historic structures.

94
95 **Cumulative Impacts.** As described under
96 alternative A, cumulative impacts from all
97 past, present, and reasonably foreseeable
98 actions should have short- and long-term,
99 negligible to minor, adverse, and direct
100 impacts on historic structures.

1 **Conclusion.** Implementation of alternative C
2 would result in long-term, negligible to
3 minor, adverse effects to historic structures.

4
5 When the impacts on historic structures of
6 alternative C are combined with the impacts
7 of other past, present, and reasonably
8 foreseeable future actions, there would likely
9 be short- and long-term, negligible to minor,
10 adverse, direct impacts.

11
12 **Section 106 Summary.** After applying
13 ACHP criteria of adverse effect (36 CFR Part
14 800.5, Assessment of Adverse Effects), the
15 National Park Service concludes that
16 implementation of alternative C would result
17 in a determination of no adverse effect to
18 historic structures.

20 **Alternative D**

21 **Analysis.** Alternative D would have the same
22 type of effects on historic structures as
23 alternative A, but the intensity and frequency
24 of the impact would increase compared to
25 alternative A. Alternative D would increase
26 the number of commercial use
27 authorizations to established caps, establish
28 up to five concession contracts for road-
29 based tours, increase the number of parking
30 stalls for road-based tours to 15 at the
31 summit and 2 at Red Hill, and would
32 authorize a new interpretive bicycle tour on
33 the summit road. Alternative D would also
34 allow each road-based tour operator to run
35 an unlimited number of trips in Kīpahulu.
36 Individuals with guided tour groups would
37 likely continue to add graffiti to historic
38 structures and would likely occasionally
39 vandalize historic structures. Historic
40 structures would continue to be used by
41 guided visitors and that use would continue
42 to contribute to the impacts from wear and
43 tear.

44
45 Overall, even with increased training and
46 certification of guides, alternative D would
47 result in long-term, minor to moderate,
48 adverse, direct impacts on historic structures
49 compared to alternative A.

50 **Cumulative Impacts.** As described under
51 alternative A, cumulative impacts from all
52 past, present, and reasonably foreseeable
53 actions should have short- and long-term,
54 negligible to minor, adverse, and direct
55 impacts on historic structures.

56
57 **Conclusion.** Implementation alternative D
58 would result in long-term, minor to
59 moderate, adverse impacts on the cultural
60 landscapes compared to alternative A.

61
62 When the impacts in alternative D are
63 combined with the impacts of other past,
64 present, and foreseeable actions there would
65 likely be long-term, minor to moderate,
66 adverse impacts on historic structures.

67
68 **Section 106 Summary.** After applying
69 ACHP criteria of adverse effect (36 CFR Part
70 800.5, Assessment of Adverse Effects), the
71 National Park Service concludes that
72 implementation of alternative D would
73 result in a determination of adverse effect to
74 historic structures.

77 **ETHNOGRAPHIC RESOURCES AND 78 CULTURAL PRACTICES**

79 **Alternative A (no action)**

80 **Analysis.** Many areas within Haleakalā
81 National Park are culturally and spiritually
82 important to Native Hawaiians and would
83 be affected by management decisions under
84 this plan. These areas (traditional cultural
85 properties) have been used by Native
86 Hawaiians for a wide range of traditional
87 activities from pre-European contact (before
88 1779) to present day. Impacts to
89 ethnographic resources and cultural
90 practices include visitor noise and the
91 presence of non-Hawaiians during
92 traditional practices, which are both
93 disruptive to the quiet and solitude required
94 for most traditional practices.

95
96 The no-action alternative describes the NPS
97 approach to management of commercial

1 services at the summit prior to 2005, with the
2 exception that bicycle tours would continue
3 to be prohibited in the park. Under the no-
4 action alternative, ethnographic resources
5 and cultural practices would continue to be
6 adversely impacted by commercial services
7 activities at the current level. Some guided
8 visitors and guided horse groups would
9 continue to leave established trails and
10 trample native vegetation that is important
11 for traditional Hawaiian gathering. Guided
12 groups would also continue to contribute to
13 local crowding, increased levels of noise, and
14 inappropriate behavior, all of which
15 interfere with traditional cultural practices
16 and reduce the opportunity for silence and
17 solace necessary for most ceremonial
18 activities.

19
20 NPS managers would continue to strive to
21 protect and preserve ethnographic resources
22 and provide opportunities for traditional
23 cultural practices in the park. As in all of the
24 alternatives, park managers would take
25 necessary actions to resolve unanticipated
26 problems that arise. Impacts to ethnographic
27 resources and cultural practices would
28 therefore continue to be long term, minor to
29 moderate, and adverse.

30
31 **Cumulative Impacts.** Past, present and
32 reasonably foreseeable future projects with
33 the potential to affect ethnographic
34 resources and cultural practices include (1)
35 NPS implementation of the Kīpahulu
36 District comprehensive site plan and design
37 program; (2) implementation of an air tour
38 management plan for commercial air tours
39 over the park; (3) rehabilitation and
40 expansion of the Kīpahulu visitor center /
41 ranger station; (4) rehabilitation of 3.77 miles
42 of the park road between the park
43 headquarters/visitor center and the
44 Halemau‘u trailhead; and (5) construction
45 and operation of a new telescope within the
46 Crater Historic District at the summit.

47
48 The Kīpahulu District comprehensive site
49 plan is currently being developed by the
50 National Park Service with a focus on
51 improving visitor experience, natural and
52 cultural resource protection, and park

53 operations. It is assumed that all new
54 development would be in the existing
55 development zone and adjacent disturbed
56 areas; no new trails or other facilities would
57 be built outside of these areas, although
58 some existing facilities (e.g., trails) may be
59 improved. Implementation of the Kīpahulu
60 District comprehensive site plan would have
61 negligible, long-term, adverse impacts on
62 ethnographic resources or cultural practices.

63
64 An air tour management plan is also being
65 drafted by the National Park Service and
66 Federal Aviation Administration to minimize
67 visual and sound impacts due to commercial
68 air tours over the park. This planning effort
69 is in the early stages and no preferred
70 alternative has been identified to date.
71 Currently, air tour overflights are limited to
72 26,325 flights annually as authorized under
73 the interim operating authority. The current
74 level of helicopter flights in the park is
75 12,796 annually. Continued overflights
76 create noise and intrude on the natural sense
77 of quiet and solitude required by many
78 cultural practices. In general, limiting air
79 tours to current levels would have short- and
80 long-term, minor, adverse impacts on
81 ethnographic resources and cultural
82 practices.

83
84 With regard to the rehabilitation and
85 expansion of the Kīpahulu visitor center /
86 ranger station, new construction and
87 trenching for utilities in previously
88 undisturbed areas has the potential for
89 short-term, negligible to minor, adverse
90 impacts on ethnographic resources and
91 cultural practices.

92
93 Rehabilitation of the park road, within the
94 existing road prism, would not involve
95 expansion of the road or disturbance of
96 adjacent lands between the visitor center
97 and Halemau‘u trailhead; therefore, it would
98 have no impacts on ethnographic resources
99 or cultural practices. Construction would
100 require traffic restrictions during the
101 construction period. Traffic delays resulting
102 from lane restrictions would create traffic
103 backups and inconvenience all visitors and
104 Hawaiians who wish to conduct traditional

1 cultural practices. The impacts to
2 ethnographic resources and cultural
3 practices would be short term, minor, and
4 adverse.

5
6 Construction and operation of a new
7 telescope at the summit would have long-
8 term, moderate, adverse, direct impacts to
9 ethnographic resources and cultural
10 practices within the park (NSF 2009).

11
12 Overall impacts from all past, present, and
13 reasonably foreseeable actions would be
14 short-and long-term, moderate and adverse

15
16 **Conclusion.** Under alternative A, impacts to
17 ethnographic resources and cultural
18 practices would continue to be long term,
19 major, and adverse.

20
21 When the impacts of alternative A are
22 combined with the impacts of other past,
23 present and reasonably foreseeable future
24 actions, the resulting impacts would likely be
25 short and long term, minor to moderate, and
26 adverse.

27
28 **Section 106 Summary.** After applying
29 ACHP criteria of adverse effect (36 CFR Part
30 800.5, Assessment of Adverse Effects), the
31 National Park Service concludes that
32 implementation of alternative A would result
33 in a determination of adverse effect on
34 ethnographic resources.

36 **Alternative B (Preferred Alternative)**

37 **Analysis.** Alternative B would have the same
38 type of effects on ethnographic resources at
39 the summit as alternative A, but the intensity
40 and frequency of the impact would decrease
41 slightly. Alternative B would offer up to four
42 concession contracts for road-based tours;
43 freeze the number of guided groups to 2009
44 levels; limit sunrise commercial services to
45 road-based tours; prohibit road-based tours
46 from using motor coaches; reduce the
47 number of parking spaces for road-based
48 tours (from 13 in alternative A to 8 in
49 alternative B); reduce the number of
50 commercial service providers that can offer

51 road-based hiking and horseback tours;
52 reduce the number of hiking, horseback
53 riding, and astronomy trips per day for each
54 provider; and increase training of guides.

55
56 Alternative B would also prohibit
57 commercial service activities on three to five
58 days per year to provide some time with
59 smaller crowds and less noise.

60
61 Guided tour groups would continue to
62 impact ethnographic resources and cultural
63 practices at the summit and other areas in
64 the park, but at a reduced level compared to
65 alternative A. Some disturbance of
66 ethnographic resources and cultural
67 practices due to guided groups walking in
68 the area would continue. With fewer guided
69 groups causing fewer impacts compared to
70 alternative A, alternative B would result in
71 long-term, minor, adverse, impacts to
72 ethnographic resources and cultural
73 practices.

74
75 **Cumulative Impacts.** As described under
76 alternative A, cumulative impacts from all
77 past, present, and reasonably foreseeable
78 actions would be short- and long-term,
79 major and adverse.

80
81 **Conclusion.** Under alternative B, impacts to
82 ethnographic resources and cultural
83 practices would be long-term, minor,
84 adverse impacts on ethnographic resources
85 and cultural practices.

86
87 Overall, impacts on ethnographic resources
88 and cultural practices resulting from
89 alternative B in conjunction with other past,
90 present, and reasonably foreseeable future
91 actions would be short and long-term,
92 major, and adverse.

93
94 **Section 106 Summary.** After applying
95 ACHP criteria of adverse effect (36 CFR Part
96 800.5, Assessment of Adverse Effects), the
97 National Park Service concludes that
98 implementation of alternative B would result
99 in a determination of no adverse effect on
100 ethnographic resources and cultural
101 practices.

1 **Alternative C**

2 **Analysis.** Alternative C would have the same
3 type of effects on ethnographic resources
4 and cultural practices at the summit as
5 alternative A, but the intensity and frequency
6 of the impact would decrease significantly.

7 Alternative C would offer up to three
8 concession contracts for road-based tours;
9 freeze the number of guided groups to 2009
10 levels; limit sunrise commercial services to
11 road-based tours; prohibit road-based tours
12 from using motor coaches; reduce the
13 number of parking spaces for road-based
14 tours (from 13 in alternative A to 6 in
15 alternative C); reduce the number of
16 commercial service providers that can offer
17 road-based hiking and horseback tours;
18 reduce the number of hiking, horseback
19 riding, and astronomy trips per day for each
20 provider; and increase training and
21 certification of guides.

22
23 Guided tour groups would continue to
24 impact ethnographic resources and cultural
25 practices at the summit, but at a reduced
26 level compared to alternative A. Some
27 disturbance of ethnographic resources and
28 cultural practices due to guided groups
29 walking in the area would continue. With
30 fewer guided groups causing fewer impacts
31 compared to alternative A, alternative C
32 would result in long-term, minor, adverse,
33 impacts to ethnographic resources and
34 cultural practices.

35
36 **Cumulative Impacts.** As described under
37 alternative A, cumulative impacts from all
38 past, present, and reasonably foreseeable
39 actions would be short- and long-term,
40 major and adverse.

41
42 **Conclusion.** Under alternative C impacts to
43 ethnographic resources and cultural
44 practices would be long-term, minor,
45 adverse impacts on ethnographic resources
46 and cultural practices.

47 Overall, the impacts on ethnographic
48 resources and cultural practices of
49 alternative C in conjunction with other past,

50 present, and reasonably foreseeable future
51 actions, would result in short and long term,
52 major, adverse impacts.

53
54 **Section 106 Summary.** After applying
55 ACHP criteria of adverse effect (36 CFR Part
56 800.5, Assessment of Adverse Effects), the
57 National Park Service concludes that
58 implementation of alternative C would result
59 in a determination of no adverse effect on
60 ethnographic resources and cultural
61 practices.

62
63 **Alternative D**

64 **Analysis.** Alternative D would have the same
65 type of effects on ethnographic resources at
66 the summit as alternative A; however, the
67 intensity and frequency of the impacts
68 would increase. Alternative D would offer
69 up to five concession contracts for road-
70 based tours; increase the number of parking
71 spaces for road-based tours (from 13 in
72 alternative A to 15 spaces at the Haleakalā
73 Visitor Center and 2 spaces at Red Hill);
74 increase the number of commercial use
75 authorizations up to established caps; cap
76 the number of horse tours on the Sliding
77 Sands Trail to 2009 levels; and implement a
78 new bike tour. There would be no further
79 time constraints on commercial use under
80 alternative D. Disturbance of ethnographic
81 resources due to guided groups walking in
82 the area would increase.

83
84 With more guided groups causing more
85 impacts, compared to alternative A,
86 alternative D would result in long-term,
87 minor to moderate, adverse impacts on
88 ethnographic resources and cultural
89 practices.

90
91 **Cumulative Impacts.** As described under
92 alternative A, cumulative impacts from all
93 past, present, and reasonably foreseeable
94 actions would be short and long term, major,
95 and adverse.

96
97 **Conclusion.** Under alternative D, impacts to
98 ethnographic resources and cultural
99 practices would be long-term, moderate,

1 adverse, impact on ethnographic resources
2 and cultural practices compared to
3 alternative A.
4
5 Overall, impacts of alternative D on
6 ethnographic resources, in conjunction with
7 the impacts from other past, present, and
8 reasonably foreseeable future actions would
9 be short- and long-term, major, and adverse.
18

10
11 **Section 106 Summary.** After applying
12 ACHP criteria of adverse effect (36 CFR Part
13 800.5, Assessment of Adverse Effects), the
14 National Park Service concludes that
15 implementation of alternative D would
16 result in a determination of adverse effects
17 to ethnographic resources.

IMPACTS TO VISITOR EXPERIENCE

ALTERNATIVE A (NO ACTION ALTERNATIVE)

Analysis

Number and Diversity of Commercial

Activities. Under alternative A, there would be no changes in the current number and diversity of commercial activities provided. Road-based tours, horseback riding, guided hiking, and astronomy tours would continue with an unlimited number of providers, and bicycle tours would not be allowed inside of the park. As described in chapter 1, the bicycle safety stand down has been in effect for over three years. Therefore, visitors seeking commercially led bicycle tours within the park boundaries would continue to be adversely affected by the loss of what was once a popular activity in the park.

There would be no limits on the number of commercial use authorizations or use levels for all permitted commercial groups, with parking capacity being a constraint. Under this alternative, motor coaches would continue to be prohibited from driving to the summit at sunrise, which would have beneficial effects on crowding and congestions on the roads and in parking areas during busy times. However, crowding would continue to occur at the summit and Kīpahulu areas. Congestion on the roadways and in the parking lots near the summit would be especially apparent to those visiting the park for the sunrise experience. Impacts to visitors would vary depending on the time and season of the visit. Because the number of tours could keep increasing under this alternative, further crowding would occur and continue to cause long-term, moderate, adverse impacts to the visitor experience.

Access and Quality of Experience. Under alternative A, access and the quality of the

visitor experience would remain the same with commercial access being provided seven days a week. Additionally, all tour operators with commercial use authorizations would be permitted access to the summit at sunrise. Because some visitors to Haleakalā have limited time to spend in the area, unlimited access seven days a week would ensure that most visitors are able to participate in commercially guided tours and would have a beneficial impact for visitors on tight schedules. However, crowding and congestion would continue to affect the quality of some visitor experiences in the Kīpahulu area and at the summit, especially during the sunrise. Unlimited access to commercial tours would allow few opportunities for Native Hawaiians to practice cultural activities at the summit. Because some Native Hawaiians wish to practice cultural activities without the presence of outside visitors, continued commercial access seven days a week would have adverse impacts on Native Hawaiians. Unlimited access would also affect noncommercial visitors who would like to experience the park with less crowding. Overall, unlimited access would continue to cause long-term, moderate, adverse impacts for most visitors.

Opportunities for Solitude and Quiet. For the purpose of the visitor use and experience impact analysis only, *solitude* refers to perceived experiences of solitude. This is different than *solitude* as defined under the Some visitors may perceive a sense of solitude even when they are surrounded by other visitors. For example, visitors to the summit may experience freedom from modern reminders of society as they watch the sunrise. They may even have a sense of isolation while enjoying the view from this busy frontcountry area. However, as crowding, noise, and other distractions increase, perceived solitude may decrease. For the visitor use impact analysis only,

1 soundscapes refer to the human perception
 2 of the acoustical environment. Similarly,
 3 quiet has been defined as the absence of
 4 human caused noise. By stating that an area
 5 is quiet does not necessarily mean that there
 6 is no sound. It means there is no human
 7 caused noise interfering with appropriate
 8 natural, cultural, or historical sounds, or the
 9 type of visitor experiences desired for
 10 particular areas of the park. It is important to
 11 note these distinctions to prevent confusion
 12 with similar definitions in the soundscape
 13 sections of this document.

14
 15 Under alternative A, opportunities for
 16 solitude and quiet in frontcountry areas
 17 where commercial tours operate would
 18 continue to be limited, especially at the
 19 summit area during sunrise. Quiet natural
 20 and cultural soundscapes and opportunities
 21 for solitude at the summit would continue to
 22 be adversely impacted due to the unlimited
 23 number of commercial visitors, and
 24 unlimited access for commercial tours seven
 25 days a week. It should be noted that “the
 26 natural ambient sound level—that is, the
 27 environment of sound that exists in the
 28 absence of human-caused noise—is the
 29 baseline condition, and the standard against
 30 which current conditions in a soundscape
 31 [acoustic resource] will be measured and
 32 evaluated” (NPS 2006b). However, the
 33 desired acoustic condition may also depend
 34 upon the resources and the values of the
 35 park, the land use, and the kinds of activities
 36 and developments that are appropriate for
 37 the purposes of the park. For instance,
 38 culturally appropriate sounds are an
 39 important element of the Haleakalā National
 40 Park experience, especially for Native
 41 Hawaiians practicing cultural activities
 42 within the park. Because opportunities for
 43 solitude would be minimal and the natural
 44 ambient sound levels would continue to be
 45 affected by unlimited commercial use; this
 46 alternative would cause long-term,
 47 moderate, adverse impacts on the visitor
 48 experience in relation to opportunities for
 49 solitude and quiet.

50
 51 **Interpretation and Education.** Under
 52 alternative A, the overall quality of

53 interpretation and education provided by
 54 commercially guided tours would continue
 55 to be basic with some inconsistent
 56 interpretive and educational messages
 57 provided, no formal training of guides, and
 58 no interpretive booklets required. Without
 59 consistent educational messages, training, or
 60 interpretive materials; many visitors would
 61 continue to be unaware of that they are
 62 traveling in national park, would not have
 63 consistent messaging on interesting and
 64 intriguing information related to resources
 65 and cultural practices, and may be
 66 uninformed on important safety messages.
 67 Therefore, this alternative would have long-
 68 term, moderate adverse impacts to
 69 commercial visitor experiences in relation to
 70 interpretive and educational opportunities.

71
 72 Alternative A would result in long-term,
 73 moderate, adverse impacts to the overall
 74 visitor experience due to unlimited
 75 commercial tours and use levels all year long,
 76 limited opportunities to experience solitude
 77 and quiet, and no requirements for
 78 interpretive and educational materials.

80 Cumulative Impacts

81 Several past, present, or reasonably
 82 foreseeable actions may affect the visitor
 83 experience at Haleakalā National Park. Past
 84 actions such as the development of the NPS
 85 commercial use authorization system have
 86 allowed visitors from around the country
 87 and the world to experience Haleakalā
 88 National Park on guided tours. This has had
 89 a beneficial effect on visitors by allowing
 90 them to experience the park in ways that
 91 may not otherwise be accessible via private
 92 trip. In addition to companies operating
 93 under commercial services use
 94 authorizations, seven helicopters and three
 95 fixed wing operators presently have interim
 96 operating authority to fly over the park,
 97 thereby providing visitors with the
 98 opportunity to view the park from the air.
 99 This has beneficially affected a small
 100 percentage of visitors using this service, but
 101 has adversely affected many visitors
 102 experiencing the park during the flyovers.

1 Examples of adverse impacts can include
2 noise and detractions to the visual scenery
3 and sense of solitude during flyovers. There
4 are currently 12,796 helicopter flights per
5 year, but 26,325 flights are authorized under
6 the interim operating authority. Although
7 the number of air tours flying over or
8 adjacent to the park could increase to the
9 IOA level, in recent years the number of
10 tours has been declining. Thus, for purposes
11 of analysis it is assumed the number of air
12 tours flying over or adjacent to the park stays
13 at current levels. According to the VPI study
14 (2007b), helicopters are rated as slightly
15 unacceptable by visitors. Therefore, adverse
16 effects on visitors in the park would
17 continue in localized zones where air tours
18 occur. For example, helicopter noise would
19 likely cause a moderate to major, adverse
20 impact on visitors near the crater, and a
21 moderate adverse impact in the Kīpahulu
22 area.

23
24 In addition to air tours, other foreseeable
25 future actions include the construction and
26 operations of a new solar telescope outside
27 of the park at the summit, road rehabilitation
28 between the park headquarters/visitor
29 center and the Halemau‘u trailhead,
30 rehabilitation and expansion of the Kīpahulu
31 visitor center / ranger station, and
32 implementation of the Kīpahulu District
33 comprehensive site plan and design
34 program. While some of the proposed future
35 actions may have short-term, adverse
36 impacts during implementation
37 (construction) stages, the purpose of the
38 aforementioned NPS projects is to improve
39 the quality of visitor experiences, natural
40 and cultural resource protection, and park
41 operations. The road rehabilitation would
42 cause short term, moderate, adverse effects
43 to traffic flow during construction.
44 However, the completed improvements to
45 the road between the park headquarters
46 visitor center and the Halemau‘u trailhead
47 would provide long-term, beneficial effects
48 on traffic flow, viewsheds, and road safety.
49 The Kīpahulu District comprehensive site
50 plan would have a long-term, beneficial
51 effect on the visitor experience with
52 improved overflow parking and

53 campgrounds, an emergency landing zone,
54 bridge improvements over the pools for
55 better flow of visitors, and trail
56 improvements for better accessibility, way
57 finding, and circulation of visitors.

58
59 There would be beneficial impacts from past
60 and future projects to improve visitor
61 experience / facilities, and minor to major,
62 adverse impacts from air tours. Overall,
63 there would be long-term, beneficial
64 cumulative effects to visitor experience
65 when the effects of alternative A are added
66 to other foreseeable actions (e.g., improved
67 visitor facilities, roads, and trails) and
68 moderate to major adverse cumulative
69 impacts when the effects of alternative A are
70 added to the effects resulting from air tour
71 overflights.

72 73 **Conclusion**

74 Alternative A would result in long-term,
75 moderate, adverse impacts to the overall
76 visitor experience due to unlimited
77 commercial tours and use levels all year long,
78 limited opportunities to experience solitude
79 and quiet, and the lack of a requirement for
80 interpretive and educational materials.

81
82 Overall, there would be long-term, beneficial
83 cumulative effects to visitor experience
84 when the effects of alternative A are added
85 to other foreseeable actions (e.g., improved
86 visitor facilities, roads, and trails) and
87 moderate to major, adverse cumulative
88 impacts when the effects of alternative A are
89 added to the effects resulting from air tour
90 overflights. The impact of alternative A
91 would contribute a relatively small
92 increment to the overall cumulative impact.

93 94 95 **ALTERNATIVE B**

96 **Analysis**

97 **Number and Diversity of Commercial**
98 **Activities.** Under alternative B, there would
99 be no changes in the current type of

1 commercial activities offered, but
 2 commercial services would not have access
 3 to the park on three to five days per year.
 4 The number of CUA / concession trips per
 5 day would be limited all year. Road-based
 6 tours, horseback riding, guided hiking, and
 7 astronomy tours would continue with a
 8 limited number of providers; and bicycle
 9 tours would not be allowed inside of the
 10 park. As described in chapter 1, the bicycle
 11 safety stand down has been in effect for over
 12 three years. Visitors seeking commercially
 13 led bicycle tours within the park boundaries
 14 would continue to be adversely affected by
 15 the loss of what was once a popular activity
 16 in the park. Under this alternative, there
 17 would be some limitations on group size and
 18 on the number of CUAs / concessions issued
 19 to all four commercial user groups.
 20 Additionally, parking capacity for road
 21 based commercial groups would be slightly
 22 reduced at the summit area. The reduction
 23 in commercial parking spaces would reduce
 24 the number of commercial groups in the
 25 park, and provide additional parking for
 26 other park visitors. Therefore, crowding due
 27 to commercial tours would be reduced at the
 28 summit and Kīpahulu areas. Under this
 29 alternative, motor coaches would not be
 30 permitted in the park, which would have
 31 beneficial effects on crowding and
 32 congestions on the roads and in parking
 33 areas, but would cause adverse effects by
 34 reducing the capacity for visitors to enter the
 35 park via commercial tours. Congestion on
 36 the roadways and in the parking lots near the
 37 summit would be slightly reduced for those
 38 visiting the park for the sunrise experience.
 39 Adverse impacts to visitors would continue
 40 to vary depending on the time and season of
 41 the visit. Because the number of tours could
 42 not keep increasing under this alternative,
 43 further crowding would not be expected to
 44 occur. Compared to alternative A, this
 45 alternative would have long-term, beneficial
 46 impacts to the visitor experience.

47
 48 **Access and Quality of Experience.** Under
 49 alternative B, commercial tours would not
 50 have access to the park three to five days per
 51 year. This alternative would have a small
 52 beneficial impact on those visitors that

53 indicated their personal park experiences
 54 were diminished by commercial services.
 55 Limiting commercial access on three to five
 56 days per year would prevent a few visitors
 57 from participating in commercially guided
 58 tours and would have an adverse impact for
 59 a very small percentage of visitors. However,
 60 reduced crowding and congestion on those
 61 days would improve the quality of other
 62 visitor experience in the Kīpahulu area and
 63 at the summit, especially during the sunrise.
 64 Limiting access to commercial tours on
 65 certain days would allow more opportunities
 66 for Native Hawaiians to practice cultural
 67 activities at the summit. Because some
 68 Native Hawaiians wish to practice cultural
 69 activities without the presence of outside
 70 visitors, limiting commercial access three to
 71 five days per year would have beneficial
 72 impacts on Native Hawaiians. Limited
 73 access on these days would have minor
 74 beneficial effects on noncommercial visitors
 75 who would like to experience the park with
 76 less crowding. Additionally, only road-based
 77 tours would be permitted at the summit
 78 during sunrise, having a beneficial effect on
 79 visitors at the summit during these hours.
 80 Finally, no horse tour groups would be
 81 permitted at the backcountry campsites for
 82 overnight stays. Overall, limiting access
 83 would cause long-term, beneficial impacts
 84 on most visitor experience.

85
 86 **Opportunities for Solitude and Quiet.** For
 87 the purpose of the visitor use and experience
 88 impact analysis only, *solitude* refers to
 89 perceived experiences of solitude. Some
 90 visitors may perceive a sense of solitude even
 91 when they are surrounded by other visitors.
 92 For example, visitors to the summit may
 93 experience freedom from modern reminders
 94 of society as they watch the sunrise. They
 95 may even have a sense of isolation while
 96 enjoying the view from this busy
 97 frontcountry area. However, as crowding,
 98 noise, and other distractions increase,
 99 perceived solitude may decrease. For the
 100 visitor use impact analysis only, soundscapes
 101 refer to the human perception of the
 102 acoustical environment. Similarly, quiet has
 103 been defined as the absence of human
 104 caused noise. By stating that an area is quiet

1 does not necessarily mean that there is no
2 sound. It means there is no human caused
3 noise interfering with appropriate natural,
4 cultural, or historical sounds, or with the
5 type of visitor experiences desired for
6 particular areas of the park. It is important to
7 note these distinctions to prevent confusion
8 with similar definitions in the soundscape
9 sections of this document.

10
11 Under alternative B, opportunities for
12 solitude and quiet in frontcountry areas
13 where commercial tours operate would be
14 intermittently improved, especially at the
15 summit area on the three to five days when
16 commercial tours would not have access to
17 the park. Quiet natural and cultural
18 soundscapes and opportunities for solitude
19 at the summit would be more apparent due
20 to the limited number of commercial
21 visitors, limited access for CUA/concession
22 operators at sunrise, and the ban on
23 commercial access three to five days per
24 year. It should be noted that “the natural
25 ambient sound level—that is, the
26 environment of sound that exists in the
27 absence of human-caused noise—is the
28 baseline condition, and the standard against
29 which current conditions in a soundscape
30 [acoustic resource] will be measured and
31 evaluated” (NPS 2006b). However, the
32 desired acoustic condition may also depend
33 upon the resources and the values of the
34 park, the land use, and the kinds of activities
35 and developments that are appropriate for
36 the purposes of the park. For instance,
37 culturally appropriate sounds are an
38 important element of the Haleakalā National
39 Park experience, especially for Native
40 Hawaiians practicing cultural activities
41 within the park. Under this alternative,
42 opportunities for solitude would be slightly
43 improved and natural ambient sound levels
44 would be less impacted by human caused
45 noise on noncommercial days. Therefore,
46 this alternative would cause a long-term,
47 beneficial impact on the visitor experience in
48 terms of opportunities for solitude and
49 quiet.

50
51 **Interpretation and Education.** Under
52 alternative B, the overall quality of

53 interpretation and education provided by
54 commercially guided tours would be
55 improved by requiring formal training of
56 guides and the use of interpretive and
57 educational booklets on tours. With
58 consistent educational messages, training,
59 and interpretive materials provided; many
60 visitors would become aware that they are
61 traveling in a national park and would also
62 have improved opportunities to learn about
63 park features, resources, cultural practices,
64 and important safety messages. Therefore,
65 compared to alternative A, this alternative
66 would have a long-term, beneficial impact
67 on commercial visitor experiences in
68 relation to interpretive and educational
69 opportunities.

70 Alternative B would result in long-term,
71 beneficial impacts to the overall visitor
72 experience due to some limits on
73 commercial use authorization / concessions
74 and use levels, some limits on access by
75 commercial tours during the year,
76 intermittent improvements in opportunities
77 to experience solitude and quiet, and
78 requirements for interpretive and
79 educational materials.

81 **Cumulative Impacts**

82 Several past, present, or reasonably
83 foreseeable actions may affect the visitor
84 experience at Haleakalā National Park. Past
85 actions such as the development of the NPS
86 commercial services program have allowed
87 visitors from around the country and the
88 world to experience Haleakalā National
89 Park on guided tours. This has had a
90 beneficial effect on visitors by allowing them
91 to experience the park in ways that may not
92 otherwise be accessible via private trip. In
93 addition to companies operating under
94 commercial use authorizations and
95 concession contracts in the park in
96 alternative B, seven helicopters and three
97 fixed-wing operators presently have interim
98 operating authority to fly over the park,
99 thereby providing visitors with the
100 opportunity to view the park from the air.
101 This has beneficially affected a small
102 percentage of visitors using this service, but

1 has adversely affected many visitors
 2 experiencing the park during the flyovers.
 3 Examples of adverse impacts can include
 4 noise and detractions to the visual scenery
 5 and sense of solitude during flyovers. There
 6 are currently 12,796 helicopter flights per
 7 year, but 26,325 flights are authorized under
 8 the interim operating authority. Although
 9 the number of air tours flying over or
 10 adjacent to the park could increase to the
 11 IOA level, in recent years the number of
 12 tours has been declining. Thus, for purposes
 13 of analysis it is assumed the number of air
 14 tours flying over or adjacent to the park stays
 15 at current levels. According to the VPI study
 16 (VPI 2007b), helicopters are rated as slightly
 17 unacceptable by visitors. More than a fourth
 18 of visitors noticed helicopter noise on the
 19 Waimoku Falls Trail (VPI 2007b). Therefore,
 20 adverse effects on visitors in the park would
 21 continue in localized zones where air tours
 22 occur. For example, helicopter noise would
 23 likely cause a moderate to major adverse
 24 impact on visitors near the crater, and a
 25 moderate adverse impact in the Kīpahulu
 26 area.

27
 28 In addition to air tours, other foreseeable
 29 future actions include the construction and
 30 operations of a new solar telescope outside
 31 of the park at the summit, road rehabilitation
 32 between the park headquarters/visitor
 33 center and the Halemau‘u trailhead,
 34 rehabilitation and expansion of the Kīpahulu
 35 visitor center/ranger station, and
 36 implementation of the Kīpahulu District
 37 comprehensive site plan, and design
 38 program. While some of the proposed future
 39 actions may have short-term adverse impacts
 40 during implementation (construction)
 41 stages, the purpose of the aforementioned
 42 NPS projects is to improve the quality of
 43 visitor experiences, natural and cultural
 44 resource protection, and park operations.
 45 The road rehabilitation would cause short-
 46 term, moderate, adverse effects to traffic
 47 flow during construction. However, the
 48 completed improvements to the road
 49 between the park headquarters/visitor
 50 center and the Halemau‘u trailhead would
 51 provide long-term, moderate, beneficial

52 effects on traffic flow, view sheds, and road
 53 safety. The Kīpahulu District comprehensive
 54 site plan would have a long-term, beneficial
 55 effect on the visitor experience with
 56 improved overflow parking and
 57 campgrounds, an emergency landing zone,
 58 bridge improvements over the pools for
 59 better flow of visitors, and trail
 60 improvements for better accessibility, way
 61 finding, and circulation of visitors.

62
 63 Overall, there would be beneficial impacts
 64 from past and future projects to improve
 65 visitor experiences/facilities, and moderate
 66 to major adverse impacts from air tours.
 67 There would be long-term, beneficial
 68 cumulative effects to visitor experience
 69 when the effects of alternative B are added
 70 to other foreseeable actions (e.g., improved
 71 visitor facilities, roads, and trails) and
 72 moderate adverse cumulative impacts when
 73 the effects of alternative B are added to the
 74 effects resulting from air tour overflights.

76 Conclusion

77 Alternative B would result in long-term,
 78 beneficial impacts to the overall visitor
 79 experience due to some limits on CUA /
 80 concessions and use levels, some limits on
 81 access by commercial tours during the year,
 82 intermittent improvements in opportunities
 83 to experience solitude and quiet, and
 84 requirements for interpretive and
 85 educational materials.

86
 87 Overall, there would be long-term, beneficial
 88 cumulative effects to visitor experience
 89 when the effects of alternative B are added
 90 to other foreseeable actions (e.g., improved
 91 visitor facilities, roads, and trails) and long-
 92 term, moderate, adverse cumulative impacts
 93 when the effects of alternative B are added
 94 to the effects resulting from air tour
 95 overflights. The beneficial impact of
 96 alternative B would contribute a
 97 considerable increment to the overall
 98 cumulative impact.

1 ALTERNATIVE C

2 Analysis

3 Number and Diversity of Commercial

4 **Activities.** Under alternative C, no changes
5 in the type of commercial activities would
6 occur, but levels of commercial use would be
7 reduced. Alternative C would require the
8 most restrictive limits on the number of
9 commercial providers and trips, on parking
10 spaces, and on group size. These reductions
11 would have a beneficial effect by reducing
12 crowding and congestion, but an adverse
13 effect on visitors that are unable to book a
14 tour due to use reductions. Road-based
15 tours, horseback riding, guided hiking, and
16 astronomy tours would continue; and
17 bicycle tours would not be allowed inside
18 the park. As described in chapter 1, the
19 bicycle safety stand down has been in effect
20 for over three years. Visitors seeking
21 commercially led bicycle tours within the
22 park boundaries would continue to be
23 adversely affected by the loss of what was
24 once a popular activity in the park. A strict
25 reduction in commercial parking spaces at
26 the Haleakalā Visitor Center and elimination
27 of road-based tour parking at Red Hill
28 would also reduce the number of
29 commercial groups in the area, thereby
30 creating more parking for general visitors.
31 Under this alternative, motor coaches would
32 continue to be prohibited from driving to
33 the summit at sunrise, which would have
34 beneficial effects on crowding and
35 congestions on the roads and in parking
36 areas during busy times. Overall, crowding
37 would be reduced at the summit and
38 Kīpahulu areas. Reduced congestion on the
39 roadways and in the parking lots near the
40 summit would be especially apparent to
41 those visiting the park for the sunrise
42 experience. Adverse impacts to visitors
43 would vary depending on location, time, and
44 season of the visit. Because the number and
45 size of tours would be reduced under this
46 alternative, perceptions of crowding would
47 likely be improved, thereby causing long-
48 term, beneficial impacts to the visitor
49 experience.

50 **Access and Quality of Experience.** Under
51 alternative C, access to all areas of the park
52 via commercial services would be provided
53 to a limited number of commercial visitors.
54 Strict limitations on tours and group size
55 may prevent some visitors from accessing
56 the park, causing an adverse effect on those
57 visitors. However, a reduction in crowding
58 and congestion would have a beneficial
59 effect on the quality of the visitor experience
60 in the Kīpahulu area and at the summit,
61 especially during the sunrise. Because some
62 Native Hawaiians wish to practice cultural
63 activities without the presence of outside
64 visitors, continued commercial access all
65 year long and seven days a week would have
66 adverse impacts on this group, and on
67 general visitors. Only road-based tours
68 would be permitted at the summit during
69 sunrise, having a beneficial effect on
70 crowding and many visitor experience. No
71 guided hiking tours would be permitted on
72 the summit during sunrise and this user
73 group would be adversely affected by this
74 limitation. Overall, this alternative would
75 have a long-term, beneficial impact on
76 visitors that enjoy reduced crowding and a
77 long-term, minor to moderate, adverse
78 impacts on the visitors that may be
79 prevented from accessing the park via
80 commercial tours.

81
82 **Opportunities for Solitude and Quiet.** For
83 the purpose of the visitor use and experience
84 impact analysis only, *solitude* refers to
85 perceived experiences of solitude. Some
86 visitors may perceive a sense of solitude even
87 when they are surrounded by other visitors.
88 For example, visitors to the summit may
89 experience freedom from modern reminders
90 of society as they watch the sunrise. They
91 may even have a sense of isolation while
92 enjoying the view from this busy
93 frontcountry area. However, as crowding,
94 noise, and other distractions increase,
95 perceived solitude may decrease. For the
96 visitor use impact analysis only, soundscapes
97 refer to the human perception of the
98 acoustical environment. Similarly, quiet has
99 been defined as the absence of human
100 caused noise. By stating that an area is quiet
101 does not necessarily mean that there is no

1 sound. It means there is no human caused
2 noise interfering with appropriate natural,
3 cultural, or historical sounds, or the type of
4 visitor experiences desired for particular
5 areas of the park. It is important to note
6 these distinctions to prevent confusion with
7 similar definitions in the “Natural
8 Resources” sections of this document.

9
10 Under alternative C, opportunities for
11 solitude and quiet in frontcountry areas
12 where commercial tours operate would be
13 improved, especially at the summit area
14 where a strict reduction in commercial
15 parking and in the number and size of
16 commercial tours would occur. Quiet
17 natural and cultural soundscapes and
18 opportunities for solitude at the summit
19 would be more apparent and accessible due
20 to the limited number of commercial
21 visitors. It should be noted that “the natural
22 ambient sound level—that is, the
23 environment of sound that exists in the
24 absence of human-caused noise—is the
25 baseline condition, and the standard against
26 which current conditions in a soundscape
27 [acoustic resource] will be measured and
28 evaluated” (NPS 2006b). However, the
29 desired acoustic condition may also depend
30 upon the resources and the values of the
31 park, the land use, and the kinds of activities
32 and developments that are appropriate for
33 the purposes of the park. For instance,
34 culturally appropriate sounds are an
35 important element of the Haleakalā National
36 Park experience, especially for Native
37 Hawaiians practicing cultural activities
38 within the park. Overall, this alternative
39 would cause a long-term, beneficial impact
40 on the visitor experience in relation to
41 opportunities for solitude and quiet.

42
43 **Interpretation and Education.** Under
44 alternative C, the overall quality of
45 interpretation and education provided by
46 commercially guided tours would be
47 improved by requiring formal training of
48 guides and the use of interpretive and
49 educational booklets on tours. With
50 consistent educational messages, training,
51 and interpretive materials provided, many
52 visitors would become aware that they are

53 traveling in a national park and would also
54 have improved opportunities to learn about
55 park features, resources, cultural practices,
56 and important safety messages. Therefore,
57 compared to alternative A this alternative
58 would have a long-term, beneficial impact
59 on the visitor experience in relation to
60 interpretive and educational opportunities.

61
62 Alternative C would generally result in long-
63 term, beneficial impacts to the overall visitor
64 experience due to strict limits on
65 commercial use authorizations/ concessions
66 and use levels (which help reduce crowding
67 and congestion), improved opportunities to
68 experience solitude and quiet, and
69 requirements for interpretive and
70 educational materials.

72 Cumulative Impacts

73 Several past, present, or reasonably
74 foreseeable actions may affect the visitor
75 experience at Haleakalā National Park. Past
76 actions such as the development of the NPS
77 commercial services program have allowed
78 visitors from around the country and the
79 world to experience Haleakalā National
80 Park on guided tours. This has had a
81 beneficial effect on visitors by allowing them
82 to experience the park in ways that may not
83 otherwise be accessible via private trip. In
84 addition to companies operating under
85 commercial use authorizations and
86 concession contracts in the park in
87 alternative C, seven helicopters and three
88 fixed wing operators presently have interim
89 operating authority to fly over the park,
90 thereby providing visitors with the
91 opportunity to view the park from the air.
92 This has beneficially affected a small
93 percentage of visitors using this service, but
94 has adversely affected many visitors
95 experiencing the park during the flyovers.
96 Examples of adverse impacts can include
97 noise and detractions to the visual scenery
98 and sense of solitude during flyovers. There
99 are currently 12,796 helicopter flights per
100 year, but 26,325 flights are authorized under
101 the interim operating authority. Although
102 the number of air tours flying over or

1 adjacent to the park could increase to the
2 IOA level, in recent years the number of
3 tours has been declining. Thus, for purposes
4 of this analysis it is assumed the number of
5 air tours flying over or adjacent to the park
6 stays at current levels. According to the VPI
7 study (2007b), helicopters are rated as
8 slightly unacceptable by visitors.
9 More than a fourth of visitors surveyed
10 noticed helicopter noise on the Waimoku
11 Falls Trail (VPI 2007b). Therefore, adverse
12 effects on visitors in the park would
13 continue in localized zones where air tours
14 occur. For example, helicopter noise would
15 likely cause a moderate to major adverse
16 impact on visitors near the crater, and a
17 moderate adverse impact in the Kīpahulu
18 area.

19
20 In addition to air tours, other foreseeable
21 future actions include the construction and
22 operations of a new solar telescope outside
23 of the park at the summit, road rehabilitation
24 between park headquarters/visitor center
25 and the Halemau‘u trailhead, rehabilitation
26 and expansion of the Kīpahulu visitor center
27 / ranger station, and implementation of the
28 Kīpahulu District comprehensive site plan
29 and design program. While some of the
30 proposed future actions may have short-
31 term, adverse impacts during
32 implementation (construction) stages, the
33 purpose of the aforementioned NPS projects
34 is to improve the quality of visitor
35 experiences, natural and cultural resource
36 protection, and park operations. The road
37 rehabilitation would cause short term,
38 moderate, adverse effects to traffic flow
39 during construction. However, the
40 completed improvements to the road
41 between the park headquarters/ visitor
42 center and the Halemau‘u trailhead would
43 provide long-term, beneficial effects on
44 traffic flow, view sheds, and road safety. The
45 Kīpahulu District comprehensive site plan
46 would have a long-term, beneficial effect on
47 the visitor experience with improved
48 overflow parking and campgrounds, an
49 emergency landing zone, bridge
50 improvements over the pools for better flow
51 of visitors, and trail improvements for better

52 accessibility, way finding, and circulation of
53 visitors.

54
55 Overall, there would be beneficial impacts
56 from past and future projects to improve
57 visitor experience / facilities, and moderate
58 to major, adverse impacts from air tours.
59 Adding these impacts to the mostly
60 beneficial impacts described under
61 alternative C, would result in overall long-
62 term, beneficial, cumulative impacts in
63 localized areas of the park where
64 commercial services are provided.
65

66 **Conclusion**

67 Alternative C would generally result in long-
68 term, beneficial impacts to the overall visitor
69 experience due to strict limits on
70 commercial use authorizations/ concessions
71 and use levels (which help reduce crowding
72 and congestion), improved opportunities to
73 experience solitude and quiet, and
74 requirements for interpretive and
75 educational materials. However, compared
76 to alternative A, the limits on tours and
77 group size would result in a long-term,
78 minor to moderate, adverse effect on some
79 visitor experience.
80

81 Overall, there would be long-term, beneficial
82 cumulative effects to visitor experience
83 when the effects of alternative C are added
84 to other foreseeable actions (e.g., improved
85 visitor facilities, roads, and trails) and long-
86 term, moderate, adverse cumulative impacts
87 when the effects of alternative C are added
88 to the effects resulting from air tour
89 overflights. The beneficial impact of
90 Alternative C would contribute a
91 considerable increment to the overall
92 cumulative impact.
93
94

95 **ALTERNATIVE D**

96 **Analysis**

97 **Number and Diversity of Commercial**
98 **Activities.** Under alternative D, increased

1 levels and diversity of commercial activities
 2 would be provided. Road-based tours,
 3 horseback riding, guided hiking, and
 4 astronomy tours would continue; and two
 5 commercial use authorizations would be
 6 issued for interpretive bicycle tours. As
 7 described in chapter 1, the bicycle safety
 8 stand down has been in effect for over three
 9 years. This alternative would have a
 10 beneficial effect on those visitors seeking
 11 opportunities to participate in commercially
 12 led bicycle tours inside park boundaries.
 13 This alternative would provide few
 14 restrictions on the number of commercial
 15 use authorizations/ concessions, thereby
 16 having a beneficial effect on visitors who
 17 indicated that commercial services should be
 18 increased. However, crowding would
 19 continue to occur at the summit and
 20 Kīpahulu areas. Congestion on the roadways
 21 and in the parking lots near the summit
 22 would adversely affect visitors who came to
 23 watch the sunrise. Adverse impacts to
 24 visitors would vary depending on the time
 25 and season of the visit, and parking capacity
 26 would remain as a constraint. Like
 27 alternative A, motor coaches would be
 28 permitted in the park (except at sunrise) and
 29 would have an adverse effect on crowding
 30 and congestions on the roads and in parking
 31 areas, but would cause beneficial affects by
 32 increasing the capacity for visitors to enter
 33 the park via commercial services. Compared
 34 to alternative A, this alternative would place
 35 a limit on the number of commercial tours
 36 (commercial use authorizations and
 37 concession contracts), and thus would have
 38 a long-term, beneficial impact on the visitor
 39 experience, reducing crowding (although
 40 crowding would still be expected to occur
 41 and have an adverse impact on some
 42 visitors).

43
 44 **Access and Quality of Experience.** Under
 45 alternative D, access to all areas of the park
 46 via commercial tours would be provided all
 47 year long. This alternative requires few
 48 limitations on tours and group size to ensure
 49 that most visitors could access the park via
 50 commercial tours, thereby causing a
 51 beneficial impact on those visitors. Under

52 alternative D, there would still be less
 53 crowding and congestion to the Kīpahulu
 54 area and the summit than under alternative
 55 A. Therefore, there would be a long-term,
 56 minor, beneficial effect on the quality of the
 57 visitor experience, especially at sunrise. Only
 58 road based tours would be allowed at the
 59 summit during sunrise, which would reduce
 60 some crowding and congestion. Commercial
 61 hiking groups would be allowed access to
 62 the summit during sunrise, which would
 63 contribute to crowding and congestion
 64 during this popular time to visit. Hiking
 65 tours would begin after watching the sunrise.
 66 In addition, allowing access by commercial
 67 tours all year long would provide few
 68 opportunities for Native Hawaiians to
 69 practice cultural activities at the summit.
 70 Because some Native Hawaiians wish to
 71 practice cultural activities without the
 72 presence of outside visitors, continued
 73 commercial use all year long and seven days
 74 a week would cause adverse impacts to this
 75 group, and other noncommercial visitors.

76
 77 **Opportunities for Solitude and Quiet.** For
 78 the purpose of the visitor use and experience
 79 impact analysis only, *solitude* refers to
 80 perceived experiences of solitude. Some
 81 visitors may perceive a sense of solitude even
 82 when they are surrounded by other visitors.
 83 For example, visitors to the summit may
 84 experience freedom from modern reminders
 85 of society as they watch the sunrise. They
 86 may even have a sense of isolation while
 87 enjoying the view from this busy
 88 frontcountry area. However, as crowding,
 89 noise, and other distractions increase,
 90 perceived solitude may decrease. For the
 91 visitor use impact analysis only, soundscapes
 92 refer to the human perception of the
 93 acoustical environment. Similarly, quiet has
 94 been defined as the absence of human
 95 caused noise. By stating that an area is quiet
 96 does not necessarily mean that there is no
 97 sound. It means there is no human caused
 98 noise interfering with appropriate natural,
 99 cultural, or historical sounds, or the type of
 100 visitor experiences desired for particular
 101 areas of the park. It is important to note
 102 these distinctions to prevent confusion with

1 similar definitions in the Natural Resource
2 sections of this document.

3
4 Under alternative D, there would be few
5 opportunities for solitude and quiet in
6 frontcountry areas where commercial tours
7 operate, especially at the summit area where
8 high levels and ranges of commercial visitor
9 opportunities would occur. However, there
10 would be more opportunities to experience
11 solitude and quiet under alternative D than
12 in alternative A.. It should be noted that “the
13 natural ambient sound level—that is, the
14 environment of sound that exists in the
15 absence of human-caused noise—is the
16 baseline condition, and the standard against
17 which current conditions in a soundscape
18 [acoustic resource] will be measured and
19 evaluated” (NPS 2006b). However, the
20 desired acoustic condition may also depend
21 upon the resources and the values of the
22 park, the land use, and the kinds of activities
23 and developments that are appropriate for
24 the purposes of the park. For instance,
25 culturally appropriate sounds are an
26 important element of the Haleakalā National
27 Park experience, especially for Native
28 Hawaiians practicing cultural activities
29 within the park. Overall, this alternative
30 would cause a long-term, beneficial impact
31 on the visitor experience in relation to
32 opportunities for solitude and quiet.

33
34 **Interpretation and Education.** Under
35 alternative D, the overall quality of
36 interpretation and education provided by
37 commercially guided tours would be
38 improved by requiring formal training of
39 guides and the use of interpretive and
40 educational booklets on tours. With
41 consistent educational messages, training,
42 and interpretive materials provided, many
43 visitors would become aware that they are
44 traveling in a national park and would have
45 improved opportunities to learn about park
46 features, resources, cultural practices, and
47 important safety messages. Because
48 interpretive bike tours would be offered
49 under this alternative, visitors would also
50 have an additional opportunity experience
51 active recreation while learning about the
52 park. Therefore, this alternative would have

53 a long-term, beneficial impact on the visitor
54 experience in relation to interpretive and
55 educational opportunities.

56
57 Alternative D would generally result in long-
58 term, beneficial impacts to the overall visitor
59 experience due to unlimited commercial use
60 authorizations / concessions and use levels,
61 unlimited access by commercial tours all
62 year long, and few opportunities to
63 experience solitude and quiet. Improved
64 education materials and the addition of an
65 interpretive bike tour would also have
66 beneficial effects on opportunities for
67 interpretation and education.

69 **Cumulative Impacts**

70 Several past, present, or reasonably
71 foreseeable actions may affect the visitor
72 experience at Haleakalā National Park. Past
73 actions such as the development of the NPS
74 commercial services program have allowed
75 visitors from around the country and the
76 world to experience Haleakalā National
77 Park on guided tours. This has had a
78 beneficial effect on visitors by allowing them
79 to experience the park in ways that may not
80 otherwise be accessible via private trip. In
81 addition to companies operating under
82 commercial use authorizations and
83 concession contracts in the park in
84 alternative D, seven helicopters and three
85 fixed wing operators presently have interim
86 operating authority to fly over the park,
87 thereby providing visitors with the
88 opportunity to view the park from the air.
89 This has beneficially affected a small
90 percentage of visitors using this service, but
91 has adversely affected many visitors
92 experiencing the park during the flyovers.
93 Examples of adverse impacts can include
94 noise and detractions to the visual scenery
95 and sense of solitude during flyovers. There
96 are currently 12,796 helicopter flights per
97 year, but 26,325 flights are authorized under
98 the interim operating authority. Although
99 the number of air tours flying over or
100 adjacent to the park could increase to the
101 IOA level, in recent years the number of
102 tours has been declining. Thus, for purposes

1 of analysis, it is assumed the number of air
 2 tours flying over or adjacent to the park stays
 3 at current levels. According to the VPI study
 4 (2007b), helicopters are rated as slightly
 5 unacceptable by visitors. More than a fourth
 6 of visitors surveyed noticed helicopter noise
 7 on the Waimoku Falls Trail (VPI 2007b).
 8 Therefore, adverse effects on visitors in the
 9 park would continue in localized zones
 10 where air tours occur. For example,
 11 helicopter noise would likely cause a
 12 moderate to major adverse impact near the
 13 crater, and a moderate adverse impact in the
 14 Kīpahulu area.

15
 16 In addition to air tours, other foreseeable
 17 future actions include the construction and
 18 operations of a new solar telescope outside
 19 of the park at the summit, road rehabilitation
 20 between Park Headquarters Visitor Center
 21 and the Halemau‘u trailhead, rehabilitation
 22 and expansion of the Kīpahulu visitor
 23 center / ranger station, and implementation
 24 of the Kīpahulu District comprehensive site
 25 plan and design program. While some of the
 26 proposed future actions may have short-
 27 term, adverse impacts during
 28 implementation stages, the purpose of the
 29 aforementioned projects is to improve the
 30 quality of visitor experiences, natural and
 31 cultural resource protection, and park
 32 operations. The road rehabilitation would
 33 cause short term, moderate, adverse effects
 34 to traffic flow during construction.
 35 However, the completed improvements to
 36 the road between the park headquarters
 37 visitor center and the Halemau‘u trailhead
 38 would provide long-term, beneficial effects
 39 on traffic flow, viewsheds, and road safety.
 40 The Kīpahulu District comprehensive site
 41 plan would have a long-term, beneficial
 42 effect on the visitor experience with
 43 improved overflow parking and
 44 campgrounds, an emergency landing zone,
 87

45 bridge improvements over the pools for
 46 better flow of visitors, and trail
 47 improvements for better accessibility, way
 48 finding, and circulation of visitors.

49
 50 Overall, there would be beneficial impacts
 51 from past and future projects to improve
 52 visitor experiences / facilities, and moderate
 53 to major adverse impacts from air tours.
 54 Overall, there would be long-term, beneficial
 55 cumulative effects to visitor experience
 56 when the effects of alternative D are added
 57 to other foreseeable actions (e.g., improved
 58 visitor facilities, roads, and trails) and
 59 moderate adverse cumulative impacts when
 60 the effects of alternative D are added to the
 61 effects resulting from air tour overflights.
 62

63 Conclusion

64 Alternative D would generally result in long-
 65 term, beneficial impacts to the overall visitor
 66 experience due to unlimited commercial use
 67 authorizations / concessions and use levels,
 68 unlimited access by commercial tours all
 69 year long, and few opportunities to
 70 experience solitude and quiet. Improved
 71 education materials and the addition of an
 72 interpretive bike tour would also have
 73 beneficial effects on opportunities for
 74 interpretation and education.
 75

76 Overall, there would be long-term, beneficial
 77 cumulative effects to visitor experience
 78 when the effects of alternative D are added
 79 to other foreseeable actions (e.g., improved
 80 visitor facilities, roads, and trails) and long-
 81 term, moderate, adverse cumulative impacts
 82 when the effects of alternative D are added
 83 to the effects resulting from air tour
 84 overflights. The beneficial impact of
 85 Alternative D would contribute a small
 86 increment to the overall cumulative impact.

IMPACTS TO PUBLIC HEALTH AND SAFETY

ALTERNATIVE A

Analysis

Under alternative A, there would be no changes to risks associated with public health and safety and commercial use. All tour operators would submit bi-annual safety reports confirming vehicles safety, employee and client safety, equipment safety, and public health. Commercial leaders would continue to discuss required topics with their clients including high elevation issues, weather conditions, roadway conditions, and trail conditions. Although these topics are required to be covered, consistency in safety messaging is currently not being addressed. Under this alternative, the continued inconsistency in interpretive, educational, and safety messages would cause a long-term, minor to moderate, adverse effect for the public health and safety of visitors using commercial services.

This alternative would continue the ban on commercial bicycling inside of the park and would avoid introducing risks associated with bicycles on the roadway. The ban on commercial bike tours inside the park would continue to have a long-term, moderate, beneficial effect on the public health and safety of visitors.

Although commercial bicycle use would not be allowed, there would be unlimited use by other commercial providers increasing risks associated with congestion and user conflicts on narrow winding roads, in parking areas, and on trails. There would be few places for wide, long vehicles to pull over safely on the road to the summit. As a result, motor coaches would continue to be prohibited from the summit area at sunrise, thus preventing risks associated with “close calls” when motor coaches cross the centerline and create high potential for

serious accidents during busy times. User conflicts would also be likely to increase as unlimited commercial use authorizations are issued to horse, hiking, road-based, and astronomy commercial groups. Long-term, minor to moderate adverse effects would include crowding and frustration on the roadways, conflicts with more horse and hiker encounters, confusion due to a lack of consistent safety messaging, and a possible increase in hiker safety issues and rescues.

Cumulative Impacts

Past, present, or reasonably foreseeable actions may affect public health and safety at Haleakalā National Park. Completed improvements to the road between the park headquarters/visitor center and the Halemau’u trailhead would provide long-term, minor beneficial effects on traffic flow and road safety. The implementation of the Kīpahulu District comprehensive site plan would have a long-term, moderate, beneficial effect on public health and safety with a new emergency landing zone and trail improvements for better accessibility, way finding, and safety messaging about the dangers of hiking in specified areas.

Overall, there would be long-term, moderate beneficial impacts to public health and safety due to the possible future actions noted. Adding these impacts to the generally adverse impacts described under alternative A would result in overall long-term, minor to moderate, beneficial cumulative impacts to public health and safety, with alternative A adding a noticeable adverse increment to the overall cumulative impact.

Conclusion

Alternative A would result in long-term, minor to moderate, adverse effects on public health and safety due to crowding and

1 frustration on the roadways, conflicts with
 2 horse and hiker encounters, confusion due
 3 to a lack of consistent safety messaging, and
 4 a possible increase in hiker safety issues and
 5 rescues. When the effects of alternative A are
 6 added to the effects of the park road
 7 rehabilitation and the implementation of the
 8 Kīpahulu District comprehensive site plan
 9 there would likely be a minor to moderate,
 10 beneficial cumulative impacts to public
 11 health and safety (with alternative A adding a
 12 noticeable adverse increment to the overall
 13 cumulative impact).
 14
 15

16 **ALTERNATIVE B**

17 **Analysis**

18 Under alternative B, there would be some
 19 changes to risks associated with public
 20 health and safety and commercial use. All
 21 commercial service tour providers would
 22 submit bi-annual safety reports confirming
 23 vehicles safety, employee and client safety,
 24 equipment safety, and public health.
 25 Commercial leaders would continue to
 26 discuss required topics with their clients
 27 including high elevation issues, weather
 28 conditions, roadway conditions, and trail
 29 conditions. Although these topics are
 30 required to be covered, consistency in safety
 31 messaging is currently not being addressed.
 32 Under this alternative, interpretive booklets
 33 would be provided and would allow for
 34 consistency in interpretive, educational, and
 35 safety messages. Provision of the booklets
 36 would cause a long-term, moderate
 37 beneficial effect on the public health and
 38 safety of visitors using commercial services.
 39
 40 Like alternative A, this alternative would
 41 continue the ban on bicycles inside of the
 42 park and thus would avoid introducing risks
 43 associated with bicycles on the roadway. The
 44 ban on commercial bike tours inside the
 45 park would continue to have a long-term,
 46 moderate, beneficial effect on the public
 47 health and safety of visitors.
 48

49 There would be some limits on use by other
 50 commercial providers decreasing risks
 51 associated with congestion and user
 52 conflicts on narrow winding roads, in
 53 parking areas, and on trails. This would
 54 slightly help by allowing a few more available
 55 places for wide, long vehicles to pull over
 56 safely on the road to the summit. On three to
 57 five days of the year, there would be no
 58 commercial tours allowed in the park. This
 59 change would have a long-term, minor
 60 beneficial effect on risks associated with
 61 commercial use and public health and safety.
 62 Under this alternative motor coaches would
 63 be prohibited at all times, thereby
 64 eliminating risks associated with “close calls”
 65 when these wide vehicles cross the
 66 centerline and create high potential for
 67 serious accidents. User conflicts are also
 68 likely to slightly decrease as limited
 69 commercial use authorizations would be
 70 issued to horse, hiking, and astronomy
 71 commercial groups and limited concession
 72 contracts would be issued to road-based
 73 groups. Long-term, negligible to minor,
 74 beneficial effects would include a slight
 75 reduction in crowding and frustration on the
 76 roadways, in conflicts involving horse and
 77 hiker encounters, and decreased potential
 78 for hiker safety and rescues due to some
 79 limitation on commercial use and consistent
 80 safety messages provided in interpretive
 81 booklets.
 82

83 **Cumulative Impacts**

84 Past, present, or reasonably foreseeable
 85 actions may affect public health and safety at
 86 Haleakalā National Park. Completed
 87 improvements to the road between the park
 88 headquarters/visitor center and the
 89 Halemau’u trailhead would provide long-
 90 term, minor beneficial impacts to public
 91 health and safety due to the possible future
 92 actions noted. Adding these impacts to the
 93 generally beneficial impacts described under
 94 alternative B would result in overall minor to
 95 moderate long-term, beneficial cumulative
 96 impacts to public health and safety, with
 97 alternative B adding a noticeable beneficial
 98 increment to the overall cumulative impact.

1

2 **Conclusion**

3 Alternative B would result in long-term,
4 negligible to minor beneficial effects on
5 public health and safety due to a slight
6 reduction in crowding and visitor frustration
7 on the roadways, in conflicts involving horse
8 and hiker encounters, and decreased
9 potential for hiker safety and rescues
10 because of some limitation on commercial
11 use and consistent safety messages provided
12 in interpretive booklets. When the effects of
13 alternative B are added to the effects of the
14 park road rehabilitation and the
15 implementation of the Kīpahulu District
16 comprehensive site plan there would likely
17 be a minor to moderate, beneficial
18 cumulative impact to public health and
19 safety (with alternative B adding a beneficial
20 increment to the overall cumulative impact).

21

22

23 **ALTERNATIVE C**

24 **Analysis**

25 Under alternative C, there would be some
26 changes to risks associated with public
27 health and safety and commercial use. All
28 commercial service providers would submit
29 bi-annual safety reports confirming vehicles
30 safety, employee and client safety,
31 equipment safety, and public health.
32 Commercial leaders would continue to
33 discuss required topics with their clients
34 including high elevation issues, weather
35 conditions, roadway conditions, and trail
36 conditions. Although these topics are
37 required to be covered, consistency in safety
38 messaging is currently not being addressed.
39 Under this alternative, interpretive booklets
40 would be provided and would allow for
41 consistency in interpretive, educational, and
42 safety messages; and would cause a long-
43 term, moderate, beneficial effect for the
44 public health and safety of visitors using
45 commercial services.

46

47 Like alternative A, this alternative would
48 continue the ban on bicycles inside of the
49 park and would eliminate risks associated
50 with bicycles on the roadway. A
51 continuation of the ban on commercial bike
52 tours inside the park would have a long-
53 term, moderate, beneficial effect on the
54 public health and safety of visitors.

55

56 Strict use limits would be set for other
57 commercial providers considerably
58 decreasing risks associated with congestion
59 and user conflicts on narrow winding roads,
60 in parking areas, and on trails. Under this
61 alternative motor coaches would be
62 prohibited on the road to the summit at
63 sunrise, eliminating risks associated with
64 “close calls” when these wide vehicles cross
65 the centerline and create high potential for
66 serious accidents during busy times. User
67 conflicts would also be likely to considerably
68 decrease as limited commercial use
69 authorizations would be issued to horse,
70 hiking, and astronomy tour groups and
71 limited concession contracts would be
72 issued to road-based groups. This alternative
73 allows commercial horse groups to use the
74 Kīpahulu area. Long-term, moderate,
75 beneficial effects would result from a
76 considerable reduction in crowding and
77 frustration on the roadways, a reduction in
78 conflicts involving horse and hiker
79 encounters especially at the summit area,
80 and decreased potential for hiker safety
81 issues and rescues due to strict limitations on
82 commercial use and consistent safety
83 messages provided in interpretive booklets.

84

85 **Cumulative Impacts**

86 Past, present, or reasonably foreseeable
87 actions may affect public health and safety at
88 Haleakalā National Park. Completed
89 improvements to the road between the park
90 headquarters/visitor center and the
91 Halemau’u trailhead would provide long-
92 term, minor, beneficial effects on traffic flow
93 and road safety. The Kīpahulu master plan
94 would have a long-term, moderate,
95 beneficial effect on public health and safety
96 with a new emergency landing zone and trail

1 improvements for better accessibility, way
2 finding, and safety messaging about the
3 dangers of hiking in specified areas. Overall,
4 there would be moderate beneficial impacts
5 to public health and safety due to the
6 possible future actions noted.-Adding these
7 impacts to the beneficial impacts described
8 under alternative C would result in overall
9 moderate long-term, beneficial cumulative
10 impacts to public health and safety, with
11 alternative C adding a noticeable beneficial
12 increment to the overall cumulative impact.

14 **Conclusion**

15 Alternative C would result in long-term,
16 moderate, beneficial effects on public health
17 and safety due to a considerable reduction in
18 crowding and visitor frustration on the
19 roadways, in conflicts involving horse and
20 hiker encounters especially at the summit
21 area, and decreased potential for hiker safety
22 issues and rescues due to strict limitations on
23 commercial use and consistent safety
24 messages provided in interpretive booklets.
25 When the effects of alternative C are added
26 to the effects of the park road rehabilitation
27 and the implementation of the Kīpahulu
28 District comprehensive site plan there would
29 likely be a minor to moderate, beneficial
30 cumulative impacts to public health and
31 safety (with alternative C adding a noticeable
32 beneficial increment to the overall
33 cumulative impact).

36 **ALTERNATIVE D**

37 **Analysis**

38 Under alternative D, there would be changes
39 to risks associated with public health and
40 safety and commercial use. All commercial
41 service tour providers would submit bi-
42 annual safety reports confirming vehicles
43 safety, employee and client safety,
44 equipment safety, and public health.
45 Commercial leaders would continue to
46 discuss required topics with their clients
47 including high elevation issues, weather

48 conditions, roadway conditions, and trail
49 conditions. Although these topics are
50 required to be covered, consistency in safety
51 messaging is currently not being addressed.
52 Under this alternative, interpretive booklets
53 would be provided and would allow for
54 consistency in interpretive, educational, and
55 safety messages; and would cause a long-
56 term, moderate beneficial effect for the
57 public health and safety of visitors using
58 commercial services.

59
60 This alternative would introduce a new
61 option for interpretive bike tours with up to
62 two commercial use authorizations being
63 issued for this activity. This change would
64 have long-term, moderate adverse effects on
65 the public health and safety of visitors. Even
66 with the various stipulations and conditions
67 for allowing the interpretive bicycle tours,
68 allowing bicycles on the narrow, winding
69 roads, would pose increased safety issues
70 associated with congestion and user
71 conflicts on the roads, in parking areas
72 would occur. Thus, there would likely be
73 long-term, moderate, adverse effects to
74 visitor safety, with the potential for vehicle-
75 bicycle accidents.

76
77 Like alternative A, under alternative D there
78 would also be fewer available places for
79 wide, long vehicles to pull over safely on the
80 road to the summit. Under this alternative,
81 motor coaches would be prohibited on the
82 road to the summit at sunrise, eliminating
83 risks associated with “close calls” when
84 these wide vehicles cross the centerline and
85 create high potential for serious accidents
86 during busy times. User conflicts would also
87 be likely to increase as many commercial use
88 authorizations would be issued for horse,
89 hiking, and astronomy commercial tour
90 groups and up to five concession contracts
91 would be issued to road-based groups.
92 However, unlike alternative A, alternative D
93 would limit the number of commercial use
94 authorizations and concession contracts.
95 Thus, although there would be long-term,
96 adverse effects due to crowding and visitor
97 frustration on the roadways, and conflicts
98 with more horse and hiker encounters, and
99 increased potential for hiker safety issues

1 and rescue concerns; compared to
2 alternative A this alternative would have a
3 long-term, minor, beneficial effect—public
4 health and safety risks would still exist in
5 alternative D due to crowding and user
6 conflicts, but would be less than in
7 alternative A.
8

9 **Cumulative Impacts**

10 Past, present, or reasonably foreseeable
11 actions may affect public health and safety at
12 Haleakalā National Park. Completed
13 improvements to the road between the park
14 headquarters/visitor center and the
15 Halemau'u trailhead would provide long-
16 term, minor, beneficial effects on traffic flow
17 and road safety. The Kīpahulu District
18 comprehensive site plan would have a long-
19 term, moderate, beneficial effect on public
20 health and safety with a new emergency
21 landing zone and trail improvements for
22 better accessibility, way finding, and safety
23 messaging about the dangers of hiking in
24 specified areas. Overall, there would be
25 moderate, beneficial impacts to public health
26 and safety due to the possible future actions
27 noted. Adding these beneficial impacts to the
28 mostly adverse impacts described under
56

29 alternative D would result in overall minor,
30 beneficial, long-term cumulative impacts to
31 public health and safety.
32

33 **Conclusion**

34 Compared to alternative A, alternative D
35 would result in minor to moderate, long-
36 term, beneficial impacts due to the provision
37 of an interpretive booklet, and the
38 institution of limits on the number of
39 commercial use authorizations and
40 concession contracts for tour groups in the
41 park. The alternative also would have a long-
42 term, moderate, adverse effect on public
43 safety due to crowding and frustration on
44 the roadways, conflicts among user groups,
45 increased potential for hiker safety issues
46 and rescue due to few limitations on
47 commercial use, and to increased risks of
48 possible accidents due to bicyclists on the
49 road. When the effects of alternative D are
50 added to the effects of the park road
51 rehabilitation and the implementation of the
52 Kīpahulu District comprehensive site plan
53 there would likely be minor, beneficial
54 cumulative impacts to public health and
55 safety.

IMPACTS TO SOCIOECONOMICS

ALTERNATIVE A

Analysis

Tour Company Employment. Astronomy, hiking, and horseback tours would not be limited by the National Park Service, except by the number of available parking spaces and group size. This would allow for an unlimited number of tour operators, and allow operators to take advantage of changes in demand, perhaps by offering more frequent tours during peak periods. There could be some adverse impact to individual operators due to competition. The number of commercial operations authorized in the park would not necessarily affect the number of employed tour guides. For example, five companies might employ ten each, while ten companies might employ five staff each; in both scenarios, the total employment is 50. Alternative A would allow companies to be flexible with offering a greater number of tours when needed, such as during peak visitation periods. This would result in strengthened employment. Therefore, alternative A would result in long-term, beneficial impacts to astronomy, hiking, and horseback tour employment levels.

Road-based vehicle tours would be unrestricted as to the number of operators, and the number of tours. Tour operators would be limited in use of motor coaches, and limited by the number of parking spaces (13) at the summit. Continuing to prohibit the use of motor coaches to travel to the summit visitor center at sunrise and to the Red Hill parking lot at all times would require companies to continue to have additional drivers, guides, and vehicles to take a similar number of people to the summit. The limitation of 13 designated parking spaces at the summit for road-based vehicle operations would continue to impact tour companies and employment levels,

reducing opportunities to provide tours during sunrise.

Bicycle tour company employment would continue to be adversely affected by the prohibition of bicycle tours in the park. There was a 49% drop in bicycle clients recorded from August 2007 to August 2008 (the safety stand down began in fall 2007) (Maui County, 2010). However, economic recession may have caused some of the drop, as there was also a 21% drop in visitors to Maui County during the same time frame (DBEDT 2010). Bike tour companies have adapted to provide road-based vehicle tours within the park, stopping outside the park to begin bicycle tours.

Alternative A would result in overall moderate long-term, beneficial impacts to tour company employment, due to the lack of limits to number of tours, therefore allowing companies to increase tour frequency during peak visitation periods.

Local Communities—Visitor and Park Operational Spending. Under alternative A, unlimited growth in commercial use authorizations would potentially allow a greater number of commercial visitors to come to the park, especially if demand increases. Visitors likely spend more money if they opt to take a guided tour than they would when visiting the park on their own, due to the added value of a guided tour. Increased visitor spending due to alternative A would result in long-term, beneficial impacts to the economy.

There could also be adverse impacts to local communities. Greater competition from unlimited tour operators could encourage price competition and therefore reduce spending on tour packages. Congestion from bicycle tours groups have been cited as a reason that some communities, such as Makawao, may have lost some resident

1 business (Maui County 2010). Large, slower
2 commercial tour vehicles can also create
3 congestion, inconveniencing community
4 members. On the other hand, commercial
5 road-based tours potentially reduce
6 congestion since vans, minibuses, and motor
7 coaches hold many passengers. The adverse
8 impacts of alternative A on the community
9 would be long-term, but negligible.

10
11 The National Park Service is projected to
12 spend \$767,000 annually for 13 full-time
13 equivalents for the park. This spending
14 impacts the local economy through
15 providing income to residents, who then
16 spend money on lodging, food,
17 entertainment, transportation, etc. Park
18 operational spending contributes a long-
19 term, beneficial impact to local economy.

20
21 While some negligible adverse impacts to the
22 community economy could occur, overall,
23 alternative A is expected to result in
24 continued long-term, minor beneficial
25 impacts to the community economy, due to
26 potential increased visitor spending, and
27 increased park operational spending.

29 Cumulative Impacts

30 Spending by the National Park Service and
31 other entities on other projects, including
32 the park road resurfacing project, telescope
33 construction, and Kīpahulu District
34 comprehensive site plan proposals, would
35 benefit the economy. Spending on planning,
36 design, and construction employs workers,
37 and contributes money into the local
38 economy. In combination with the beneficial
39 impacts to the economy from these other
40 projects, alternative A would result in short-
41 and long-term, minor beneficial cumulative
42 impacts to the economy.

44 Conclusion

45 Alternative A would result in overall long-
46 term, moderate beneficial impacts to
47 employment in astronomy, hiking,
48 horseback, or road-based tours, due to the
49 unlimited number of tours per day allowed,

50 yet continued minor adverse impacts to
51 employment at bicycle tour companies.
52 While some adverse impacts to the local
53 communities could occur, such as potential
54 increased congestion, overall, alternative A is
55 expected to result in continued long-term,
56 minor beneficial impacts to the community
57 economy, due to potential increased visitor
58 spending for tours, and increased park
59 operational spending. In combination with
60 other projects, alternative A would result in
61 long-term, minor beneficial cumulative
62 impacts to the economy.

65 ALTERNATIVE B

66 Analysis

67 **Tour Company Employment.** Astronomy,
68 hiking, and horseback tours in the park
69 would be limited in number of companies,
70 number of tours, and group size. Limitations
71 on the number of providers would have a
72 beneficial effect on the selected operators,
73 and adverse effect on operators not selected.
74 Some employment opportunities would
75 likely shift to selected companies, but would
76 not necessarily increase or decrease much
77 throughout the island, due to this
78 alternative.

79
80 The selected firms would be able to achieve
81 some economies of scale regarding labor and
82 administrative costs if they were to attract
83 more visitors. Limits to tour size may
84 increase employment or wages, since there
85 would be a greater number of employees per
86 client.

87
88 In comparison with the total commercial
89 visitors reported in 2009, astronomy, hiking,
90 and horseback tours all would have room for
91 much larger numbers of commercial visitors.
92 This shows that while limitations on
93 operators would be increased, employment
94 would not be restricted by this alternative, as
95 there is ample room for a greater number of
96 visitors to participate in tours. However, this
97 figure does not address seasonal changes in

1 business; including the busier summer,
 2 winter holiday, and spring break time
 3 periods. Higher commercial tour visitation
 4 during peak times could be limited given
 5 daily limits, and this would reduce
 6 employment or wages if demand for tours
 7 would exceed the allowed amount. Of
 8 course, operators could offer tours outside
 9 of park boundaries during peak periods, to
 10 absorb additional demand, if that scenario
 11 were to occur. The number of astronomy,
 12 hiking, and horseback tour companies
 13 would be limited to 2009 levels; therefore,
 14 the existing in-park tour companies would
 15 have a chance to continue to provide
 16 services within the park. Many of the
 17 companies are dependent on visiting the
 18 park. The horseback company, three of the
 19 astronomy companies, and one hiking
 20 company make most of their revenue from
 21 in-park tours. Were these companies to lose
 22 their commercial use authorizations, they
 23 would be negatively affected and. Other
 24 companies make a smaller percentage of
 25 revenues from in-park tours, and while those
 26 companies would no doubt still be hurt from
 27 losing their commercial use authorizations,
 28 they may be better able to adapt by
 29 providing more tours outside the park.
 30 While Maui is an island with limited public
 31 space, there are many hiking and horseback
 32 riding opportunities outside of the park.
 33 Astronomy tours may also be available at
 34 locations outside of the park.

35 Employment may shift from one company to
 36 another, based on each business' ability to
 37 attract clients; however, total tour company
 38 employment would be unlikely to change
 39 much due to the alternative, except where
 40 peak demand periods might exceed
 41 maximum allowable commercial visitor
 42 numbers. Alternative B would allow for a
 43 large amount of growth in commercial
 44 clients, as compared with 2009 actual client
 45 numbers.

46
 47 Road-based vehicle tours would be limited
 48 to not more than four concession

49 contractors. While the selected operators
 50 would benefit from reduced competition for
 51 tours within the park, the operators not
 52 selected would be adversely affected. The
 53 four companies would be able to improve
 54 fleet occupancy, and therefore improve the
 55 profitability of each tour. Historically, fleet
 56 occupancy for the summit at sunrise has
 57 been approximately 60% of available seating.
 58 The selected firms would be better able to
 59 provide steady seasonal employment and
 60 reliable wages for their employees. Those
 61 firms (and their employees) that were
 62 awarded contracts would experience long-
 63 term, benefits for the duration of the
 64 contract or the length of employment.
 65 Alternative B proposes that eight assigned
 66 parking stalls be made available for road-
 67 based tours. This would be an increase of
 68 stalls per company.

69
 70 The consistently busiest time is sunrise at the
 71 summit. Figure 18 depicts the maximum
 72 number of commercial visitors at sunrise at
 73 the summit each day. While the number is
 74 reduced from Alternative A to Alternative B,
 75 there would also be fewer companies
 76 providing this service, which would allow
 77 commercial providers to capture a greater
 78 market share. Alternative B would result in
 79 up to 384 road-based tour visitors per day,
 80 seven days per week going to the summit for
 81 sunrise (except for three to five days per
 82 year), which is 240 fewer than in
 83 alternative A. Sixty percent (the historical
 84 sunrise fleet occupancy) of 624 is 374-which
 85 means that alternative B still allows for
 86 visitation within the historical totals.
 87 However, if commercial visitor demand
 88 would change based on the season or future
 89 increased interest, tour companies would
 90 not be able to meet additional demand
 91 (above 384 visitors). Employment supported
 92 by road-based tours in the park would be
 93 adversely impacted, as fewer visitors would
 94 be able to visit during sunrise hours than in
 95 alternative A.

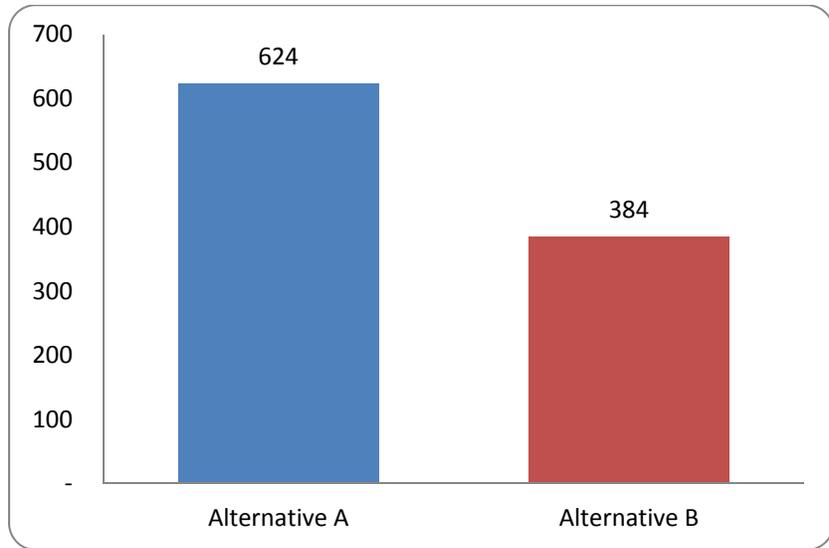


FIGURE 18. COMPARISON OF MAXIMUM DAILY SUNRISE COMMERCIAL VISITORS AT THE SUMMIT FOR ROAD-BASED COMMERCIAL TOURS, ALTERNATIVES A AND B

1
2
3

4 The road-tour operators that did not win
 5 one of the four contracts would lose out on
 6 the ability to offer tours within the park.
 7 Most road-based tour companies on Maui
 8 visit a number of sites, and many tours do
 9 not visit the park. The companies would
 10 likely be hurt by the loss of access to the
 11 park; however, opportunities would remain
 12 to offer tours to other parts of Maui. While it
 13 is possible that some operators could go out
 14 of business due to no longer having access to
 15 the park, it is not the only option, as there
 16 are other possibilities for marketing to
 17 visitors. The majority of road tour
 18 companies (except those with the bicycle
 19 option outside the park) generated revenues
 20 of less than 30% from tours that visited the
 21 park. One company generated nearly all
 22 revenue from tours that visited the park.
 23 Road-based vehicle tour companies with the
 24 bicycle option; however, may be more
 25 dependent on visiting Haleakalā—on
 26 average; they earned nearly 70% of their
 27 revenue from in-park trips. Each of these
 28 companies now visits the park for sunrise,
 29 and then takes clients outside the park to
 30 begin the downhill bike tour. Only one
 31 bicycle tour company generated less than
 32 half its revenue from in-park tours. While
 33 these companies all visit the summit

34 currently, it is likely that if they did not, they
 35 would still be able to attract clients to the
 36 bike ride experience without a visit to the
 37 park. However, a company that did not win
 38 a contract would likely lose some visitors
 39 that chose to also visit the park and may have
 40 to reduce prices to compete with in-park
 41 tours.
 42
 43 Until a competitive process is undertaken
 44 for the concessions contracts and
 45 commercial use authorizations, it is
 46 unknown, which operators would be
 47 selected, and therefore it is impossible to
 48 determine how particular operators would
 49 be affected. Some companies are more
 50 diversified, while others may rely mostly on
 51 tours given within the park. The degree to
 52 which operators would be affected by the
 53 alternative depends on their business model,
 54 and how they adapt to the decisions made.
 55 Some companies could be affected slightly,
 56 while others could be affected to a much
 57 greater extent.
 58
 59 Tour guides for all types of tours would be
 60 required to attend training from the park
 61 staff. While this would cost companies some
 62 staff time, they would also be capable of
 63 providing more informative tours.

1 Employment for astronomy, hiking, and
 2 horseback tours would not change due to
 3 this alternative, as employees could move
 4 from one company to another, if needed.
 5 However, road-based tour employees may
 6 be affected by limits on visitation, especially
 7 at peak sunrise hours. This alternative would
 8 result in minor long-term, adverse impacts
 9 to tour company employment.

10

11 **Local Communities—Visitor and Park**
 12 **Operational Spending.** Alternative B may
 13 result in reduced visitor spending in local
 14 communities if the limitations on
 15 commercial services providers result in a
 16 reduced number of visitors to Haleakalā. If
 17 visitor numbers to the park were reduced
 18 through alternative B (due to reduced
 19 parking, tours, and commercial providers),
 20 the communities around the park may see
 21 reductions in visitors and visitor spending.
 22 Some visitors may find their own
 23 transportation if a tour is not available, and
 24 in that case, the change in spending patterns
 25 would be minimal. Some visitors may not
 26 visit the park at all if no tour were available,
 27 and the visitors would do something else
 28 with their time and money, perhaps take a
 29 different tour outside of the park.

30

31 Alternative B would also provide some
 32 benefit to the socioeconomic environment.
 33 The encouragement of employment of
 34 Native Hawaiian guides for tour operators
 35 would be a benefit to native residents.
 36 Prohibiting motor coaches in the park may
 37 result in reduced congestion in communities
 38 such as Paia, Makawao, and Hana.

39

40 This alternative would result in long-term,
 41 negligible to minor adverse impacts to local
 42 communities economically due to decreased
 43 visitor spending; but also long-term,
 44 negligible beneficial impacts to communities
 45 due to potentially reduced congestion and
 46 increased employment of Native Hawaiian
 47 guides.

48

49 Under alternative B, the National Park
 50 Service would be projected to spend
 51 \$603,000 annually for 9.25 FTE in the park.
 52 This spending would impact the local

53 economy through providing income to
 54 residents who then spend money on lodging,
 55 food, entertainment, transportation, etc.
 56 Park operational spending contributes a
 57 long-term, beneficial impact to local
 58 economy. However, NPS expenditures in
 59 alternative B would be less than in
 60 alternative A.

61

62 Overall, alternative B is thus expected to
 63 result in negligible long-term, adverse
 64 impacts to the community economy, due to
 65 potential decreased visitor spending, and
 66 decreased park operational spending as
 67 compared with alternative A.

68

69 Cumulative Impacts

70 Spending by the National Park Service and
 71 other entities on other projects, including
 72 the park road resurfacing project, telescope
 73 construction, and Kīpahulu District
 74 comprehensive site plan proposals, would
 75 benefit the economy. Spending on planning,
 76 design, and construction employs workers,
 77 and contributes money into the local
 78 economy. In combination with the beneficial
 79 impacts to the economy from these other
 80 projects; alternative B would result in short
 81 and long-term, minor beneficial cumulative
 82 impacts to the economy, as these other
 83 projects outweigh the reduction of NPS
 84 spending and visitor spending due to
 85 alternative B.

86

87 Conclusion

88 Alternative B would result in overall long-
 89 term, minor adverse impacts to tour
 90 company employment. Alternative B may
 91 result in negligible long-term, adverse effects
 92 to the local economies, if visitor demand
 93 exceeds maximum capacity for commercial
 94 tours of the park; and due to reduced park
 95 operational spending. In combination with
 96 other projects, alternative B would result in
 97 short and long-term, minor beneficial
 98 cumulative impacts to the economy (as
 99 reductions in park spending and visitor
 100 spending would be outweighed by the other
 101 project increases).

1

2 **ALTERNATIVE C**

3 **Analysis**

4 **Tour Company Employment.** Alternative C is
5 the most restrictive of the alternatives
6 towards commercial tours. The alternative
7 would allow the fewest number of
8 commercial providers of all the alternatives.
9 Limitations on the number of providers
10 would have a beneficial effect on the
11 selected operators, and an adverse effect on
12 operators not selected. The selected firms
13 would be able to achieve some economies of
14 scale regarding labor and administrative
15 costs if they were to attract more visitors.
16 Employment would be affected by limits to
17 tour size, requiring greater numbers of
18 employees per client. Summit sunrise tours
19 would be restricted to road-based tours only
20
21 Under alternative C, horseback tours have
22 room for visitation levels similar to 2009
23 actual visitor numbers. Astronomy and
24 hiking tours have greater room for growth in
25 clients. This shows that while limitations on
26 operators would be increased, employment
27 would not be affected unless demand
28 exceeded allowable tour numbers
29 However, this figure does not address
30 seasonal changes in business; including the
31 busier summer, winter holiday, and spring
32 break time periods. Visitation during peak
33 times could be restricted given daily limits.
34 Employment and wages would generally be
35 able to grow if needed, and would not be
36 constrained by the alternative. Only if
37 demand were to exceed maximum allowable
38 visitors, would employment and wages be
39 impacted. This is unlikely to occur given
40 assumptions for future visitation, except
41 possibly during peak periods and
42 Companies not selected for a commercial
43 use authorization would be adversely
44 affected, through a potential loss of visitors.
45 For astronomy, the same number of
46 operators as were operating in 2009 would
47 be authorized to provide services within the
48 park. Many of the companies rely on touring

49 the park—a the horseback company, three of
50 the astronomy companies, and one hiking
51 company make most of their revenue from
52 in-park tours. However, the other
53 companies make a lower percentage of
54 revenues from in-park tours, and while they
55 would be affected from losing their
56 commercial use authorizations, they may be
57 better able to adapt by providing tours
58 outside of park boundaries.

59
60 Road-based vehicle tours would be limited
61 to not more than three concession
62 contractors. While the selected operators
63 would benefit from reduced competition for
64 tours within the park, the operators not
65 selected would be adversely affected. The
66 three contracted companies would likely be
67 able to improve vehicle occupancy, and
68 therefore increase the profitability of each
69 tour. Historically, fleet occupancy for
70 sunrise has been approximately 60% of
71 available seating. The selected firms would
72 be better able to provide steady seasonal
73 employment and reliable wages for their
74 employees. Those firms (and their
75 employees) that were awarded contracts
76 would experience long-term, benefits for the
77 duration of the contract or the length of
78 employment.

79
80 Alternative C proposes that six assigned
81 parking stalls be made available for road-
82 based tours. This would be an increase of
83 stalls for each company. The most
84 consistently busy time is sunrise at the
85 summit. Figure 19 depicts the maximum
86 number of commercial visitors at sunrise at
87 the summit each day. While the number is
88 reduced from alternative A to alternative C,
89 there would also be fewer companies
90 providing this service, which would allow
91 commercial providers to capture a greater
92 percentage of potential clients. Alternative C
93 would allow for up to 288 road-based tour
94 visitors per day, 7 days per week going to the
95 summit for sunrise, which is 336 number
96 fewer than in alternative A. Sixty percent
97 (the historical sunrise fleet occupancy) of
98 624 is 374-which means that alternative C
99 would not allow for commercial visitation at
100 historical levels. Employment supported by

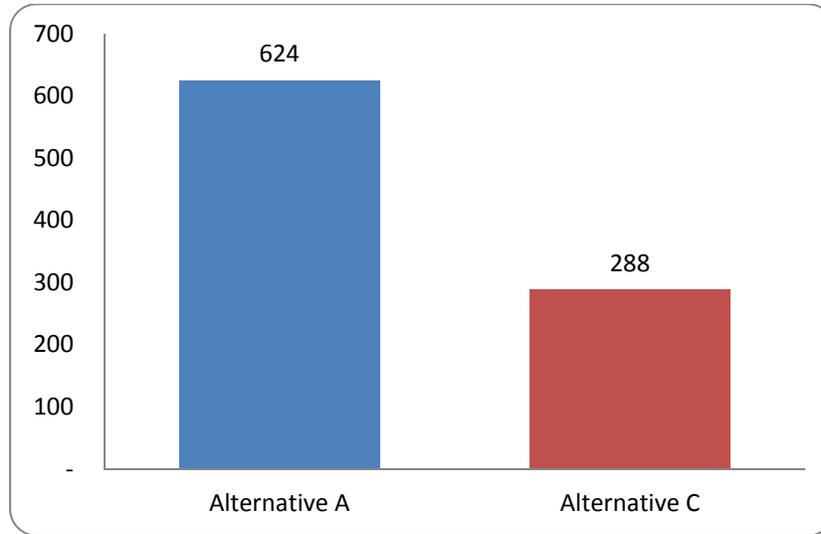
1 road-based tours in the park would be
 2 adversely impacted, as fewer visitors would

3 be able to visit during sunrise hours,
 4 especially during peak periods.

5

6

7



8

FIGURE 19. COMPARISON OF MAXIMUM DAILY SUNRISE COMMERCIAL VISITORS AT THE SUMMIT FOR ROAD-BASED COMMERCIAL TOURS, ALTERNATIVES A AND C

9

10

11 The operators that did not win one of the
 12 four contracts would lose out on the ability
 13 to offer tours within the park. Most road-
 14 based tour companies visit a number of sites,
 15 and many tours do not visit the park. The
 16 companies would likely be hurt by the loss of
 17 access to the park; however, opportunities
 18 would remain to offer tours to other parts of
 19 Maui. It is possible that some operators
 20 could go out of business due to no longer
 21 having access to the park. The majority of
 22 road-based vehicle tour companies (except
 23 those with the bicycle option) generated
 24 revenues of less than 30% from tours that
 25 visited the park. One company generated
 26 nearly all revenue from tours that visited the
 27 park.

28
 29 Road-based vehicle tour companies with the
 30 bicycle option; however, may be more
 31 dependent on visiting the park; nearly 70%
 32 of their revenues were earned through in-
 33 park tours. Each of these companies now
 34 visits the park for sunrise, and then takes
 35 clients outside the park to begin the
 36 downhill bike tour. Only one firm generated

37 less than half its revenue from in-park tours.
 38 While these companies all visit the summit
 39 currently, it is likely that if they did not, they
 40 would still be able to attract clients to the
 41 bike ride experience without a visit to the
 42 park. However, a company that did not win
 43 the contract would likely lose some visitors
 44 that chose to also visit the park and they may
 45 have to reduce prices to compete with in-
 46 park tours.

47
 48 Until a competitive process is undertaken
 49 for the concessions contracts and
 50 commercial use authorizations, it is
 51 unknown, which operators would be
 52 selected, and therefore it is impossible to
 53 determine how particular operators would
 54 be affected. Some companies are more
 55 diversified, while others may rely mostly on
 56 tours given within the park. Some companies
 57 could be affected slightly, while others could
 58 be affected to a much greater extent.

59
 60 All tour guides would be required to attend
 61 training from the park. While this would cost
 62 companies some staff time, they would also

1 be capable of providing a more informative
 2 tour, which may enhance the reputation of
 3 the company and result in more clients.
 4
 5 Alternative C is most restrictive toward
 6 commercial service providers, and the
 7 fewest number of commercial visitors would
 8 be permitted, compared with the other
 9 alternatives. Employment for astronomy,
 10 hiking, and horseback tours would not
 11 change due to this alternative, as employees
 12 could move from one company to another, if
 13 needed. Visitation demand is unlikely to
 14 reach limits set by the alternative. However,
 15 road-based tour employees would be
 16 affected by limits on visitation, especially at
 17 peak sunrise hours. This alternative would
 18 result in minor to moderate long-term,
 19 adverse impacts to tour company
 20 employment.

21
 22 **Local Communities—Visitor and Park**
 23 **Operational Spending.** Alternative C may
 24 result in reduced visitor spending in local
 25 communities, if the limitations on
 26 commercial services providers reduce the
 27 number of visitors to Haleakalā. If visitor
 28 numbers to the park were reduced through
 29 alternative C (through limitations on
 30 commercial providers, tour size, and number
 31 of tours), the communities around the park
 32 may see reductions in visitors and associated
 33 visitor spending. Some visitors may contract
 34 for their own transportation if a tour is not
 35 available, and in that case, the change in
 36 spending patterns would be minimal. Some
 37 visitors may not visit the park at all if no tour
 38 were available, and the visitor would do
 39 something else with their time and money,
 40 perhaps take a different tour outside of the
 41 park.

42
 43 Alternative C would also provide some
 44 benefit to the socioeconomic environment.
 45 The encouragement of employment of
 46 Native Hawaiian guides for tour operators
 47 would be a benefit to native residents.
 48 Under alternative C, the National Park
 49 Service would be projected to spend
 50 \$516,000,000 annually for 8.75 FTE in the
 51 park. This spending would impact the local
 52 economy through providing income to

53 residents who then spend on lodging, food,
 54 entertainment, transportation, etc. Park
 55 operational spending contributes a long-
 56 term, beneficial impact to local economy.
 57 However, NPS expenditures in alternative C
 58 would be less than spent in alternative A.
 59 Alternative C is thus expected to result in
 60 minor long-term, adverse impacts to the
 61 community economy, due decreased park
 62 operational spending and decreased visitor
 63 spending in comparison with alternative A;
 64 but also negligible long-term, beneficial
 65 impacts to communities due to potentially
 66 increased employment of Native Hawaiian
 67 guides.
 68

69 **Cumulative Impacts**

70 Spending by the National Park Service and
 71 other entities on other projects, including
 72 the park road resurfacing project, telescope
 73 construction, and Kīpahulu District
 74 comprehensive site plan proposals, would
 75 benefit the economy. Spending on planning,
 76 design, and construction employs workers,
 77 and contributes money into the local
 78 economy. In combination with the beneficial
 79 impacts to the economy from these other
 80 projects; alternative C would result in short
 81 and long-term, negligible to minor beneficial
 82 cumulative impacts to the economy, as these
 83 other projects likely outweigh the reduction
 84 of NPS spending and visitor spending due to
 85 alternative C.
 86

87 **Conclusion**

88 Alternative C would result in overall long-
 89 term, minor to moderate adverse impacts to
 90 commercial tour employment and wages.
 91 And result in minor long-term, adverse
 92 effects to local economies, if visitor demand
 93 exceeds maximum capacity for commercial
 94 tours of the park, and due to reduced park
 95 operational spending. In combination with
 96 other projects, alternative C would result in
 97 long-term, negligible to minor beneficial
 98 cumulative impacts to the economy (as
 99 reductions in park spending and visitor
 100 spending would be outweighed by the other
 101 projects' increases).

1 **ALTERNATIVE D**2 **Analysis**

3 **Tour Company Employment.** Alternative D
 4 places limits on the numbers of commercial
 5 providers, tour sizes, and some limits on the
 6 number of tours per day. However, the limits
 7 greatly exceed the demand in 2009. Other
 8 than alternative A, alternative D is the least
 9 restrictive to commercial providers.
 10 Limitations on the number of providers
 11 would have a beneficial effect on the
 12 selected operators, and adverse effect on
 13 operators not selected. Alternative D, like
 14 alternative A, would allow for many
 15 operators, thus encouraging competition
 16 that could potentially reduce profitability for
 17 each company. Summit sunrise tours would
 18 be restricted to road-based tours and horse
 19 tours, also a reduction in tour options
 20 available to astronomy and hiking tours.
 21 Limits to the number of tours would likely
 22 not adversely impact operators or
 23 employment, because the capacity for tours
 24 would be much greater than the demand.
 25 Astronomy, hiking, and the horseback tour
 26 all have room for tour levels much greater
 27 than 2009 actual numbers. This shows that
 28 while limitations on operators would be
 29 increased, employment would not be
 30 affected by the alternative. Peak demand
 31 during busy seasons would likely be
 32 accommodated through this alternative.
 33
 34 Companies not selected for a commercial
 35 use authorization would be adversely
 36 affected, through a potential loss of visitors.
 37 Commercial visitor demand would not likely
 38 exceed allowable tours, therefore
 39 astronomy, hiking, and horseback tour
 40 employment and wages would not be
 41 affected by the alternative.
 42
 43 Two commercial use authorizations would
 44 be available to companies offering an
 45 interpretive bicycle tour, a new opportunity
 46 not present in alternative A. Although tour

47 group sizes would be small, the operators
 48 would have the opportunity to provide the
 49 only in-park bicycle tours. A new clientele
 50 may be attracted by this safe and educational
 51 tour. Employment through tour companies
 52 would have an opportunity to increase as a
 53 result of this new visitor opportunity.

54
 55 Road-based vehicle tours would be limited
 56 to not more than five concession
 57 contractors. While the selected operators
 58 would benefit from reduced competition for
 59 tours within the park, the operators not
 60 selected would be adversely affected. The
 61 five contracted companies would be able to
 62 improve fleet occupancy, and therefore
 63 increase the profitability of each tour.
 64 Historically, fleet occupancy for sunrise has
 65 been approximately 60% of available seating.
 66 The selected firms would be better able to
 67 provide steady seasonal employment and
 68 reliable wages for their employees. Those
 69 firms (and their employees) that were
 70 awarded contracts would experience long-
 71 term, benefits for the duration of the
 72 contract or the length of employment.
 73 Alternative D proposes that 15 assigned
 74 parking stalls be made available for road-
 75 based tours. This would be an increase to
 76 three stalls for each company.

77
 78 Sunrise at the summit is the busiest time for
 79 commercial tours. Figure 20 depicts the
 80 maximum number of visitors possible to
 81 view sunrise at the summit each day.
 82 Alternative D would allow up to 720 road-
 83 based tour visitors per day, 7 days per week
 84 going to the summit for sunrise, which is 96
 85 people more than in alternative A, as
 86 alternative A only allows for 13 parking
 87 stalls. There would also be fewer companies
 88 providing this service, which would allow
 89 commercial providers to capture a greater
 90 percentage of potential clients. Employment
 91 and wages in road-based vehicle tour
 92 companies could increase based on the
 93 additional visitors that could be
 94 accommodated.

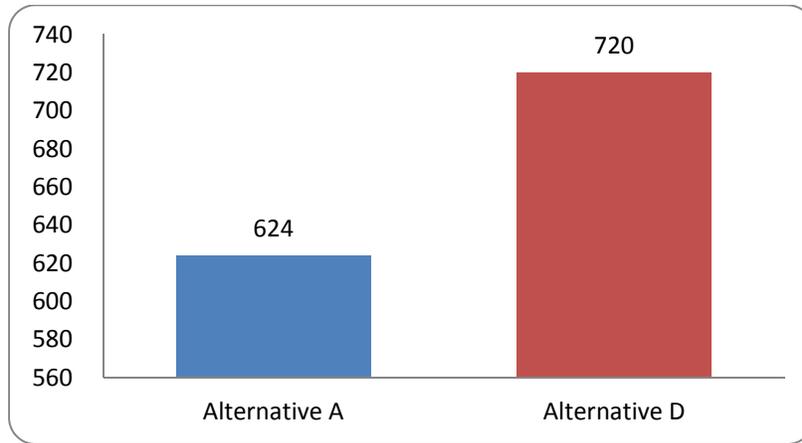


FIGURE 20. COMPARISON OF MAXIMUM DAILY SUNRISE COMMERCIAL VISITORS AT THE SUMMIT FOR ROAD-BASED COMMERCIAL TOURS, ALTERNATIVES A AND D

1

2

3

4 The road-tour operators that did not win
 5 one of the five contracts would lose out on
 6 the ability to offer tours within the park.
 7 Most road-based tour companies visit a
 8 number of sites, and many tours do not visit
 9 the park. The companies would likely be
 10 hurt by the loss of access to the park;
 11 however, opportunities would remain to
 12 offer tours to other parts of Maui. It is
 13 possible that some operators could go out of
 14 business due to loss of in-park authorization.
 15 The majority of road-based vehicle tour
 16 companies (except those with the bicycle
 17 option) generated revenues of less than 30%
 18 from tours that visited the park. One
 19 company generated nearly all revenue from
 20 tours that visited the park.

21

22 While two interpretive bicycle tour
 23 companies would be permitted within this
 24 alternative, other bicycle tour companies
 25 could compete for the five road-based
 26 vehicle tour concession contracts. Road-
 27 based vehicle tour companies with the
 28 bicycle option; however, may be more
 29 dependent on visiting the park, as, on
 30 average, 70% of revenues are earned
 31 through in-park tours. Each of these
 32 companies now visits the summit during
 33 sunrise, and then takes clients outside the
 34 park to begin the downhill bike tour. Only
 35 one firm generated less than half its revenue
 36 from in park tours. While these companies
 37 all visit the summit currently, it is likely that

38 if they did not, they would still be able to
 39 attract clients to the bike ride experience
 40 without a visit to the park. However, a
 41 company that did not win the contract
 42 would likely lose some visitors that chose to
 43 also visit the park and they may have to
 44 reduce prices to compete with in-park tours.

45

46 Until a competitive process is undertaken
 47 for the concessions contracts and
 48 commercial use authorizations, it is
 49 unknown, which operators would be
 50 selected, and therefore it is impossible to
 51 determine how particular operators would
 52 be affected. Some companies are more
 53 diversified, while others may rely mostly on
 54 tours given within the park. The degree to
 55 which operators would be affected by the
 56 alternative depends on their business model,
 57 and how they adapt to the decisions made.
 58 Some companies could be affected slightly,
 59 while others could be affected to a much
 60 greater extent.

61

62 All tour guides would be required to attend
 63 training from the park. While this would cost
 64 companies some staff time, they would also
 65 be capable of providing a more informative
 66 tour, which may enhance the reputation of
 67 the company and result in more clients.
 68 This alternative would adversely affect the
 69 fewest number of current tour providers
 70 compared with alternatives B and C. The
 71 number of nonroad-based operators would

1 be permitted to increase from the current
 2 number. While 19 road-based tour providers
 3 provided tours in the park in 2009, only 5
 4 road-based plus 2 interpretive bicycle tour
 5 companies would be permitted under this
 6 alternative. Employment in tour companies
 7 would likely not change under this
 8 alternative for astronomy, hiking, and
 9 horseback tours. However, employment or
 10 wage increases could occur in interpretive
 11 bicycle tours and road-based tours due to
 12 the alternative. Alternative D would result in
 13 minor long-term, beneficial impacts to tour
 14 employment and wages.

15
 16 **Local Communities—Visitor and Park**
 17 **Operational Spending.** Alternative D may
 18 result in visitor spending similar to
 19 alternative A, although if commercial tour
 20 demand reached levels above what
 21 alternative D allows, visitor spending would
 22 be less in this alternative. An increase in
 23 commercial parking stalls would allow a
 24 greater number of visitors to come to the
 25 summit; especially at sunrise, when peak
 26 visitors occur. Alternative D may result in a
 27 greater number of commercial visitors to the
 28 park, and therefore affect local communities
 29 with small increases in visitor spending in
 30 surrounding areas. However, as for
 31 increased bicycle tours (interpretive tours),
 32 according to community meetings held for
 33 the Maui County Bicycle Tour Study, bicycle
 34 tour exposure lead to very little visitor
 35 spending in the toured communities (Maui
 36 County 2010).

37
 38 Alternative D would also provide other
 39 effects to the socioeconomic environment.
 40 The encouragement of employment of
 41 Native Hawaiian guides for tour operators
 42 would be a benefit to native residents. There
 43 is a potential for minor adverse impacts of
 44 greater bicycle tour congestion in
 45 communities and roads outside the park.
 46 Under alternative D, the National Park
 47 Service would be projected to spend
 48 \$841,000 annually for 14.25 FTE in the park.
 49 This spending would impact the local
 50 economy through providing income to
 51 residents who then spend on lodging, food,
 52 entertainment, transportation, etc. Park

53 operational spending contributes a long-
 54 term, minor beneficial impact to local
 55 economy, greater than in alternative A.

56
 57 While some adverse impacts to the
 58 community economy could occur, overall,
 59 alternative D is expected to result in minor
 60 long-term, beneficial impacts to the
 61 community economy, due to increased park
 62 operational spending. This alternative would
 63 result in the same beneficial impacts as
 64 alternative A to the economy, although if
 65 demand increased beyond the limits of this
 66 alternative, the impacts would be long-term,
 67 negligible, and adverse in comparison with
 68 the no action alternative. Minor long-term,
 69 beneficial impacts to communities due to
 70 potentially increased employment of Native
 71 Hawaiian guides would also occur.

72
 73 **Cumulative Impacts**

74 Spending by the National Park Service and
 75 other entities on other projects, including
 76 the park road resurfacing project, telescope
 77 construction, and Kīpahulu District
 78 comprehensive site plan proposals, would
 79 benefit the economy. Spending on planning,
 80 design, and construction employs workers,
 81 and contributes money into the local
 82 economy. In combination with the beneficial
 83 impacts to the economy from these other
 84 projects; alternative D would result in long-
 85 term, minor beneficial cumulative impacts to
 86 the economy.

87
 88 **Conclusion**

89 Alternative D would result in overall long-
 90 term, minor beneficial impacts to tour
 91 company employment and wages.
 92 Alternative D is expected to result in
 93 continued long-term, minor beneficial
 94 impacts to the community economy (as in
 95 alternative A), with additional park
 96 operational spending adding a small benefit
 97 over alternative A. In combination with
 98 other projects, alternative D would result in
 99 short and long-term, minor beneficial
 100 cumulative impacts to the economy.

IMPACTS TO PARK OPERATIONS

ALTERNATIVE A

Analysis

Under alternative A, the number of commercial use authorizations would not be limited. Administration of the commercial services program includes authorizing and monitoring companies, providing information, and issuing citations. With unlimited growth in the number of commercial use authorizations there would be a need for increased oversight by the park staff, and the program would become increasingly complex to manage. While commercial use authorizations would be unlimited, that does not mean that they would increase indefinitely. Instead, the number of commercial use authorizations issued would increase or decrease based on the demands of the marketplace, the business climate, and other factors.

Currently, one FTE position is devoted to managing commercial services. However, the park staff estimates that additional FTE are needed to adequately manage the program. With an uncapped number of commercial use authorizations, management of the program would likely require more staff time.

Under alternative A, two GS-5 staff are needed at the summit at sunrise to answer questions for commercial visitors. Commercial service guides are not required to be trained on the park, and therefore, visitors ask park staff questions that possibly could be answered by tour guides. Maintenance would require 2.5 FTE to maintain facilities used by commercial visitors. Overall, 2 additional FTE over the existing staff levels would be needed to implement alternative A. The FTE presented in this plan are the full FTE needed to manage the concessions programs under

each alternative; they do not represent the full staff of the park.

If the National Park Service hired additional staff, additional office space would be required, and would carry associated costs.

Costs to manage the commercial services program would increase under alternative A. However, the National Park Service would be able to recover much of its costs through fees. Alternatively, if staff positions were not funded, it is likely that other staff would be taken away from their normal duties to assist the commercial services program.

Alternative A would reduce operational efficiency. Increased oversight required to manage a potentially greater number of commercial service providers would take staff away from normal park operations, or require greater funding for staff—and would result in long-term, minor to moderate, adverse impact to park operations.

Cumulative Impacts

In addition to operational effort required due to alternative A, the National Park Service is undertaking some projects in the park that would require additional time from staff already working at full capacity. The road resurfacing project may require increased coordination with commercial operators as well as dedicated time from maintenance and law enforcement staff. Projects proposed through the Kīpahulu District comprehensive site plan and the telescope construction would also require staff attention and time during planning, construction, and ongoing operation. Combined with the effects of alternative A, these projects would result in short and long-term, moderate adverse cumulative impacts to NPS operations, due to the additional staff time required.

1 **Conclusion**

2 With increased numbers of commercial use
 3 authorizations, alternative A would reduce
 4 operational efficiency and result in long-
 5 term, minor to moderate, adverse impacts to
 6 park operations. Alternative A, combined
 7 with other projects occurring at the park,
 8 would result in increased demands on staff
 9 time, and increased funding needs for staff
 10 wages, resulting in short- and long-term,
 11 moderate, adverse cumulative impact to NPS
 12 operations.

15 **ALTERNATIVE B**

16 **Analysis**

17 Under alternative B, commercial services
 18 would be limited for astronomy, hiking, and
 19 horseback tours in comparison with
 20 alternative A, through a reduced number of
 21 tours per day and a reduced number of
 22 providers (except astronomy). Road-based
 23 vehicle tours would be managed through
 24 four concession contracts. While
 25 contracting for a concession operation
 26 would take more effort during initial
 27 implementation, as the contracts are
 28 generally for ten years, park staff would only
 29 go through the contracting process once
 30 every ten years, as opposed to every year
 31 under alternative A. Compared with
 32 alternative A, park staff would need to spend
 33 less time on commercial service issues,
 34 including program management,
 35 interpretation, law enforcement, and
 36 maintenance. While development of
 37 required training would take some time by
 38 staff, it is anticipated that the overall
 39 interpretation staff level would be reduced
 40 through guides being able to provide quality
 41 information to clients. With fewer
 42 commercial providers, the management of
 43 the program would be more efficient—a
 44 limited number of commercial providers is
 45 an advantage from a park management
 46 standpoint. The cost to operate the program
 47 would also be less than in alternative A.

48

49 By limiting tours, commercial visitors would
 50 be concentrated within available tours. This
 51 would also be operationally beneficial,
 52 because associated law enforcement, and
 53 maintenance needs would likely be reduced
 54 with fewer commercial vehicles. However, if
 55 demand for commercial tours were to
 56 exceed available tours, the result could be an
 57 increase in noncommercial visitors, as some
 58 visitors unable to participate in a commercial
 59 tour might rent vehicles to visit the park on
 60 their own. Noncommercial visitors may
 61 place greater demands on law enforcement
 62 and maintenance, given they would travel in
 63 smaller group sizes, therefore requiring
 64 more vehicles, thus increasing traffic and
 65 maintenance demands.

66

67 Franchise fees paid to the National Park
 68 Service would likely amount to more than
 69 the road-based vehicle tour companies pay
 70 currently for permit and entrance fees. This
 71 would benefit park operations, through
 72 additional funds available for park uses.

73

74 Alternative B would result in reduced staff
 75 time required to manage the program and
 76 therefore reduced funding needs, compared
 77 with alternative A. The alternative would
 78 result in long-term, minor, beneficial
 79 impacts to park operations.

80

81 **Cumulative Impacts**

82 In addition to operational effort required
 83 due to alternative B, the park staff is
 84 undertaking some projects that would
 85 require additional time from staff already
 86 working at full capacity. The road
 87 resurfacing project may require increased
 88 coordination with commercial operators as
 89 well as dedicated time from maintenance
 90 and law enforcement staff. Projects
 91 proposed through the Kipahulu District
 92 comprehensive site plan would also require
 93 staff attention and time during planning,
 94 construction, and ongoing operation. The
 95 construction of a new telescope at the
 96 summit would require monitoring and
 97 coordination by park staff. However, given

1 the more efficient operations due to
2 alternative B, combined with these other
3 projects, would result in overall long-term,
4 negligible, beneficial impacts to NPS
5 operations.
6

7 **Conclusion**

8 Alternative B would result in reduced staff
9 time required to manage the commercial
10 services program and therefore reduced
11 funding needs, compared with alternative A.
12 The alternative would result in long-term,
13 minor, beneficial impacts to park operations.
14 Alternative B, combined with other projects
15 occurring at the park, would result in more
16 efficient operations and reduced funding
17 requirements, resulting in long-term,
18 negligible, beneficial cumulative impacts to
19 NPS operations.
20
21

22 **ALTERNATIVE C**

23 **Analysis**

24 Under alternative C, commercial services
25 would be limited for astronomy, hiking, and
26 horseback tours in comparison with
27 alternative A, through a reduced number of
28 tours per day, a reduced number of
29 providers), and reduced group size Road-
30 based vehicle tours would be managed
31 through three concession contracts. While
32 contracting for a concession operation
33 would take more effort during initial
34 implementation, as the contracts are
35 generally for ten years, park staff would only
36 go through the contracting process once
37 every ten years, as opposed to every year
38 under alternative A. With the fewest
39 commercial tour providers of the
40 alternatives, alternative C would be easier to
41 manage, and would require the fewest
42 number of park staff. However, if demand
43 for commercial tours were to exceed
44 available tours, the result could be an
45 increase in noncommercial visitors, as some
46 visitors unable to participate in a commercial
47 tour might rent vehicles to visit the park on

48 their own. Fewer people at sunrise would
49 also reduce the interpretive staff needed and
50 associated cost.
51

52 Franchise fees paid to the National Park
53 Service would likely amount to more than
54 the road-based vehicle tour companies pay
55 currently for permit and entrance fees. This
56 would benefit the park operations, through
57 additional funds available for park uses.
58

59 Alternative C would require less funding
60 than alternative A. The reduced commercial
61 service management would result in greater
62 operational efficiency, and therefore, long-
63 term, minor to moderate, beneficial impacts
64 to operations.
65

66 **Cumulative Impacts**

67 In addition to operational effort required
68 due to alternative C, the park staff is
69 undertaking some projects that would
70 require additional time from staff already
71 working at full capacity. The road
72 resurfacing project may require increased
73 coordination with commercial operators as
74 well as dedicated time from maintenance
75 and law enforcement staff. Projects
76 proposed through the Kīpahulu District
77 comprehensive site plan would also require
78 staff attention and time during planning,
79 construction, and ongoing operation. The
80 construction of a new telescope at the
81 summit would require monitoring and
82 coordination by park staff. These projects,
83 because of the additional staff time required,
84 would result in negligible short-term adverse
85 impacts. However, given the more efficient
86 operations due to alternative C, combined
87 together these projects would result in
88 overall long-term, negligible to minor,
89 beneficial impacts to NPS operations.
90

91 **Conclusion**

92 Alternative C would require less funding
93 than alternative A. The reduced commercial
94 service management would result in greater
95 operational efficiency, and therefore, long-
96 term, minor to moderate beneficial impacts

1 to operations. Alternative C, combined with
 2 other projects occurring at the park, would
 3 result more efficient operations, and
 4 reduced funding requirements, resulting in
 5 long-term, negligible to minor, beneficial
 6 cumulative impacts to NPS operations.

9 **ALTERNATIVE D**

10 **Analysis**

11 Under alternative D, while limits would be
 12 placed on the number of authorizations and
 13 tours per day for astronomy, hiking, and
 14 horseback tours, the limits are equal to or
 15 greater than 2009 levels, and the limits
 16 proposed in alternatives B and C. Road-
 17 based vehicle tours would be managed
 18 through five concession contracts. While
 19 contracting for a concession operation
 20 would take more effort, as the contracts are
 21 generally for ten years, park staff would at
 22 most go through the contracting process
 23 once every ten years, as opposed to every
 24 year under alternative A. Allowing
 25 interpretive bicycle tours would increase the
 26 demands on staff time related to commercial
 27 services. A greater number of law
 28 enforcement staff, to organize routes and
 29 minimize potential conflicts between
 30 bicyclists and other visitors, would be
 31 required for bicycle tours to operate safely in
 32 the park.

34 While unlike alternative A, there would be
 35 limits to the number of commercial
 36 providers; the staff needs would be greater
 37 because of bicycle tours, while the staff
 38 needs to manage the reduced number of
 39 road-based tour operators would likely be
 40 reduced. There would be more certainty
 41 with alternative D compared to alternative
 42 A, knowing that there would be limits to the
 43 numbers of commercial providers.

45 Franchise fees paid to the National Park
 46 Service would likely amount to more than

93

47 the road-based vehicle tour companies pay
 48 currently for permit and entrance fees. This
 49 would benefit the park operations, through
 50 additional funds available for park uses.

51
 52 The increased demands on staff time,
 53 increased number of staff, and associated
 54 additional costs would result in long-term,
 55 moderate, adverse impact to operations.

57 **Cumulative Impacts**

58 In addition to operational effort required
 59 due to alternative D, the park staff is
 60 undertaking some projects that would
 61 require additional time from staff already
 62 working at full capacity. The road
 63 resurfacing project may require increased
 64 coordination with commercial operators as
 65 well as dedicated time from maintenance
 66 and law enforcement staff. Projects
 67 proposed through the Kīpahulu District
 68 comprehensive site plan would also require
 69 staff attention and time during planning,
 70 construction, and ongoing operation. The
 71 construction of a new telescope at the
 72 summit would require monitoring and
 73 coordination by park staff. These projects,
 74 because of the additional staff time required,
 75 would result in negligible, short-term,
 76 adverse impacts. Combined with the
 77 proposals of alternative D, these projects
 78 would result in short- and long-term,
 79 moderate, adverse impacts to NPS
 80 operations.

81

82 **Conclusion**

83 Alternative D would require increased
 84 demands on staff time, increased number of
 85 staff, and associated additional costs, which
 86 would result in long-term, moderate,
 87 adverse impact to operations. Alternative D,
 88 combined with other projects occurring at
 89 the park, would result in increased demands
 90 on staff time and funding requirements,
 91 resulting in long-term, moderate, adverse
 92 cumulative impact to NPS operation.

CONSULTATION AND COORDINATION

5



PUBLIC AND AGENCY INVOLVEMENT

The National Park Service consulted with various agencies, organizations, and interested persons in preparing this environmental assessment. The process of consultation and coordination is an important part of this project. The public had three primary avenues by which it participated during the development of the commercial services plan: participation in public meetings; responses to newsletters; and comments submitted by regular mail and electronically through the NPS planning website.

PUBLIC MEETINGS AND NEWSLETTERS

Public meetings and newsletters were used to keep the public informed on the planning process. A mailing list was compiled of members of governmental agencies, organizations, businesses, legislators, local governments, and interested citizens.

Scoping within the National Park Service

Internal scoping meetings were held at Haleakalā National Park, Maui, Hawai'i from July 31 through August 3, 2006. The internal team for the development of the commercial services plan consisted of park staff, NPS Pacific West regional staff, NPS Denver Service Center staff, and consultants. The team worked collectively to

- identify the purpose and need for action regarding commercial services and concession use in Haleakalā National Park
- define the issues and concerns associated with commercial services, concessions, operations, and management

- describe the objectives of the commercial services plan
- identify the potential tools available to manage commercial services and concessions

Public Scoping Meetings

The public scoping process for this plan began on August 4, 2006, when the park staff issued a news release announcing the need and commencement of the commercial services planning process for Haleakalā National Park. Therein, the public, agencies, and organizations were invited to participate in two meetings with the planning team on October 17 and 18, 2006, at Hana and Pukalani on Maui, Hawai'i, respectively. Thirty-seven people attended the public meetings and provided comments. Fifty-four written comment letters were also received from individuals and organizations.

Comments from the meetings and a preceding newsletter fell into four topical groups: natural resources; public health and safety; visitor use and experience; and park management activities and funding/money. Natural resource issues focused on the degradation of trails, erosion, and trampling of vegetation especially through horse trailing, hiking, and informal trailing. Similarly, many took issue with the effects of bike and bus tours on public health and safety. These comments were countered by comments supporting hike, horse, bike, and bus tours, citing their record of service, safety, and stewardship of the environment.

Commenters also suggested specific actions to address issues regarding commercial services. These suggestions focused on providing more visitor facilities and services, limiting or eliminating certain commercial services, imposing additional fees, and rearranging tour schedules.

1 Newsletters

2 Four newsletters were published during the
3 development of the commercial services
4 plan. The first newsletter, kicking off the
5 planning project, was published in
6 September 2006. One hundred and twelve
7 copies of the newsletter were mailed. The
8 newsletter described the background of the
9 planning effort, what a commercial services
10 plan is, why it is needed, provided a schedule
11 for completing the plan, and announced the
12 two public meetings in October 2006. The
13 public also was requested to provide their
14 views on future commercial services in the
15 park.

16
17 Newsletter #2 was published in February
18 2007. This newsletter summarized the
19 scoping comments from the public meetings
20 and the first newsletter.

21
22 Newsletter #3 was published in May 2008
23 after the safety stand-down on guided
24 bicycle tours was initiated. The planning
25 process had been delayed during the safety
26 stand-down. This newsletter reinitiated the
27 scoping process. The newsletter again
28 described what a commercial service plan is,
29 noted why the plan is needed, and provided
30 a new schedule for completing the plan. The
31 public was again requested to provide
32 feedback on future commercial services in
33 the park.

34
35 Newsletter #4 was published in March 2010.
36 Ninety-five copies of the newsletter were
37 mailed to individuals and organizations. This
38 newsletter again noted why the plan was
39 needed and summarized issues and concerns
40 the planning team had received in 2006 and
41 2008. Four preliminary alternatives,
42 including a “no action” alternative, were also
43 outlined for managing commercial services
44 at Haleakalā National Park. Several actions
45 common to all of the alternatives were also
46 identified. The public was asked to provide
47 their views on the preliminary alternatives.
48 In addition, the newsletter provided an
49 updated planning schedule and announced
50 two public meetings that would be held to
51 discuss the preliminary alternatives.

52 Alternatives Public Meetings

53 Two public meetings were held on March 17
54 and 18, 2010, to allow the public to comment
55 on the preliminary alternatives as shown in
56 newsletter #4. Fourteen people showed up
57 to the first meeting in Pukalani, and three
58 people showed up to the meeting in Hana.
59 The meetings were organized using
60 interactive stations where commenters could
61 discuss the different commercial uses and
62 how they believed they should be managed.
63 The community members who showed up
64 overall had a positive reaction to the process.
65 All ideas and suggestions were recorded on
66 flip charts and are in appendix E.

67
68 No single viewpoint stood out, and no one
69 alternative drew much support at the public
70 meetings. Based on the oral comments and
71 the written comments in response to
72 newsletter #4, the primary issues and
73 concerns people raised with the alternatives
74 were the following:

- 75
76 ▪ whether or not commercial guided
77 trips should be provided in the park,
78 with some people opposed to all
79 guided trips and others supporting
80 this use
- 81 ▪ commercial service providers were
82 concerned about the limits being
83 proposed in the alternatives and
84 whether they could successfully
85 operate under the limits
- 86 ▪ some were concerned about whether
87 the alternatives would address the
88 resource impacts they believe tour
89 groups are having on the park’s
90 resources
- 91 ▪ whether or not to permit bicycle
92 tours in the park again, with some
93 people opposed and others
94 supporting this use
- 95 ▪ there is a need for more cultural
96 education of visitors and training of
97 commercial service providers

1 **CONSULTATION WITH OTHER**
2 **AGENCIES/OFFICIALS AND**
3 **ORGANIZATIONS**

4 **U.S. Fish and Wildlife Service**

5 The National Park Service initiated
6 Endangered Species Act programmatic
7 section 7 consultation with the U.S. Fish and
8 Wildlife Service in 2011 for all NPS
9 management activities at Haleakalā National
10 Park. The U.S. Fish and Wildlife Service
11 agreed that work can continue on the
12 *Commercial Services Plan* while this
13 programmatic consultation proceeds.
14 Although it is not anticipated, depending on
15 the results of the programmatic
16 consultation, additional mitigation measures
17 may be incorporated into the plan to ensure
18 protection of the listed species.
19

20 **Section 106 Consultation**

21 The park staff conducted multiple informal,
22 face-to-face, Section 106 consultations with
23 the Hawai'i state historic preservation
24 officer (SHPO) and other interested parties
25 from the start of the commercial services
26 planning process:
27

56

- 28 ▪ August 3, 2006—joint park Kūpuna
29 group meeting with staff from the
30 Hawai'i SHPO office present
31 (consultation on the commercial
32 services plan initiated)
- 33 ▪ January 29, 2008—joint park Kūpuna
34 group meeting with staff from the
35 Hawai'i SHPO office present (status
36 update on the plan)
- 37 ▪ January 21, 2009—joint park Kūpuna
38 group meeting (status update on the
39 plan)
- 40 ▪ November 16, 2009—joint park
41 Kūpuna group meeting (consultation
42 on draft plan alternatives)

43
44 Formal written consultation with the
45 Hawai'i state historic preservation officer
46 will occur during the public comment period
47 for this environmental assessment.
48

49
50 **CONSULTATIONS WITH NATIVE**
51 **HAWAIIANS**

52 As noted above, four consultation meetings
53 were held with the park Kūpuna groups
54 (traditional elders) during the course of the
55 planning process.

1 **AGENCIES, ORGANIZATIONS, BUSINESSES, AND PUBLIC OFFICIALS**
2 **RECEIVING A COPY OF THIS DOCUMENT**

3
4
5 **FEDERAL AGENCIES**

6 Air Force Research Laboratory
7 U.S. Fish and Wildlife Service, Pacific
8 Islands Fish and Wildlife Office

9
10
11 **CONGRESSIONAL DELEGATION**

12 Representative Mazie Hirono
13 Senator Daniel Akaka
14 Senator Daniel Inouye

15
16
17 **STATE OF HAWAII' I AGENCIES**

18 Department of Hawaiian Home Lands
19 Department of Land and Natural Resources
20 Division of Forestry and Wildlife
21 Na Ala Hele
22 Division of State Parks
23 State Historic Preservation Division
24 Department of Transportation, Highways
25 Division
26 Office of Hawaiian Affairs
27 University of Hawaii, Institute for
28 Astronomy, Haleakalā

29
30
31 **STATE AND LOCAL ELECTED**
32 **OFFICIALS**

33 Maui County Mayor
34 Maui County Council
35 East Maui Member
36 Upcountry Member
37 Makawao-Haiku-Paia Member
38 Representative Kyle Yamashita
39 Representative Mele Carroll

40 Senator J. Kalani English

41 **LOCAL AND REGIONAL**
42 **GOVERNMENTAL AGENCIES**

43 County of Maui
44 Department of Parks and Recreation
45 Planning Department

46 Maui County Cultural Resources
47 Commission

48 Maui Police Department

49
50
51 **ORGANIZATIONS AND BUSINESSES**

52 The Boeing Company, Maui Space
53 Surveillance System Complex
54 Central Maui Hawaiian Civic Club
55 East Maui Watershed Partnership
56 Friends of Haleakalā National Park, Inc.
57 Haiku Community Association
58 Haleakalā Ranch Company
59 Hana Community Association
60 Hana Ranch
61 Hawaii Natural History Association
62 Hawaii Visitors & Convention Bureau
63 Historic Hawaii Foundation
64 Hotel Hana-Maui
65 Kaupō Community Association
66 Kaupō Ranch Limited
67 Kīpahulu Community Association
68 Kīpahulu Ohana
69 Kimura International
70 Kula Community Association
71 Kula Lodge and Restaurant
72 Kula Market Place
73 Kula Sandalwoods
74 Maui Invasive Species Committee
75 Maui Land & Pineapple Company

- 1 Maui Outdoor Circle
- 2 Maui Tomorrow
- 3 Maui Visitors Bureau
- 4 Royal Order of Kamehameha I, Heiau O
- 5 Kahekili IV
- 6 Sierra Club
- 7 Sunrise Country Market
- 8 The Nature Conservancy
- 9 Tri Isle RC&D
- 10 Ulupalakua Ranch
- 11
- 12

13 **LIBRARIES**

- 14 Hana Public School and Library
- 15 Kahului Public Library
- 16 Kihei Public Library
- 17 Lahaina Public Library
- 18 Makawao Public Library
- 19 Wailuku Public Library

40

20 **MEDIA**

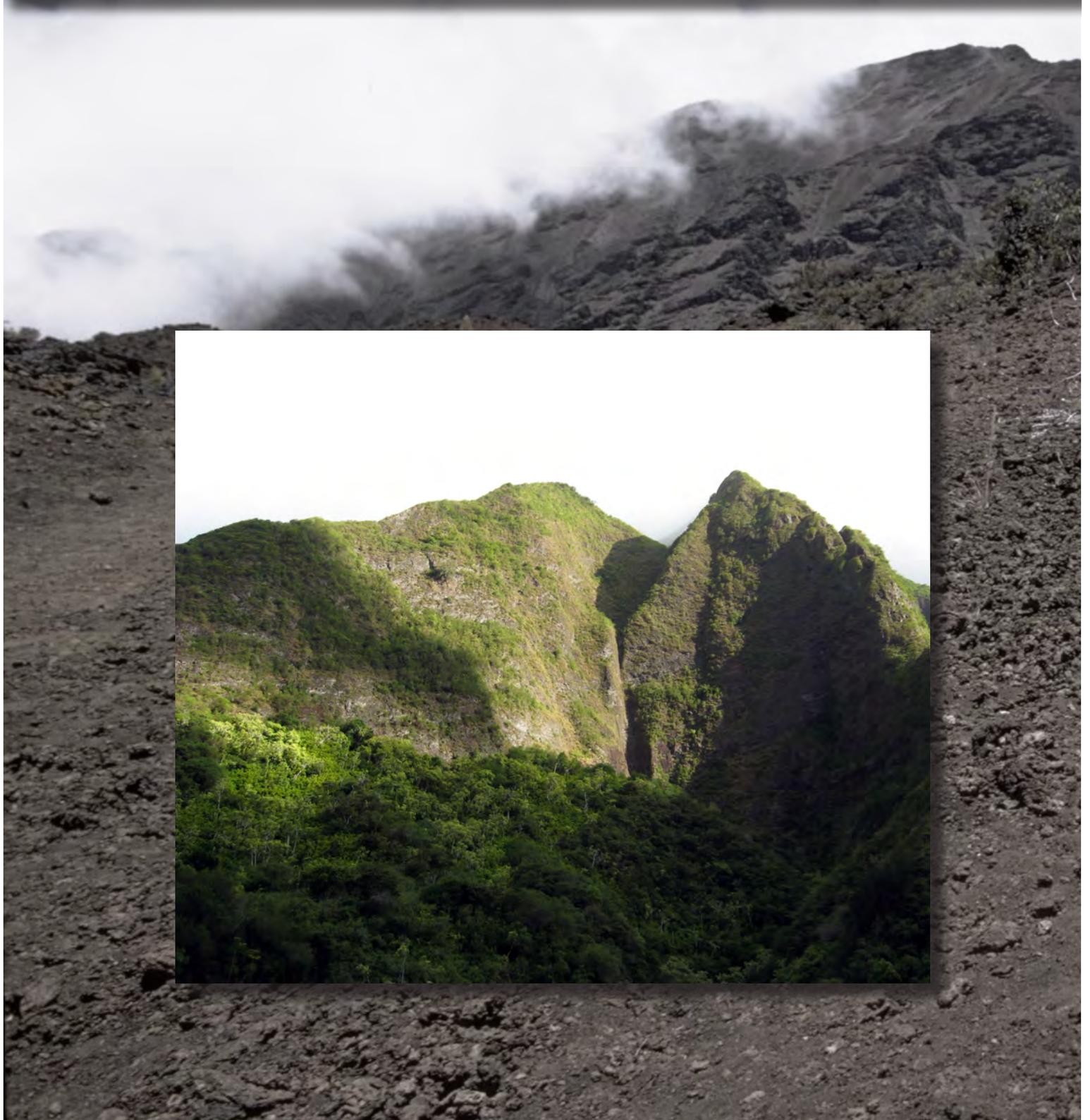
- 21 This Week Maui
- 22 Honolulu Advertiser
- 23 Honolulu Star Bulletin
- 24 Maui News
- 25 Maui Bulletin, Inc
- 26 Maui Time
- 27 Maui Weekly
- 28 Haleakalā Times
- 29 Lahaina News
- 30 KAOI Radio Group
- 31 Pacific Radio Group
- 32 Hawai'i Public Radio
- 33 Mana'o Radio KEAO 91.5
- 34 KITV 4 (ABC)
- 35 KFVE 5
- 36 KGMB 9 (CBS)
- 37 KHNL 8 (NBC)
- 38 Akaku Maui Community Public TV
- 39 KHON 2 (Fox)

1

2

3

APPENDIXES,
SELECTED REFERENCES,
PREPARERS AND CONSULTANTS, AND INDEX



1 **APPENDIX A: INTERIM OPERATIONS PLAN FOR SUNRISE**



National Park Service
U.S. Department of the Interior

Haleakalā National Park
Office of the Superintendent

PO Box 369
Makawao, Hawaii 96768
808-572-4400 phone
808-5721304 fax

4 **October 5, 2005**

5

6 **Commercial Use at Sunrise: Interim Operations Plan**

7

8 **Background**

9 Haleakalā National Park has received an unprecedented increase this summer in visitors and
10 congestion at the summit of the park for the Sunrise. More visitors are arriving via commercial
11 companies with Incidental Business Permits as well as in non-commercial use vehicles. This
12 increase in vehicles has raised significant public health and safety concerns at Pu'u'ula'ula (Red
13 Hill/summit Observatory), Haleakalā Visitor Center (HVC) and Kalahaku Overlook parking areas
14 in the summit area. There is limited space at these parking areas and Haleakalā Visitor Center is
15 the only parking area with designated commercial vehicle stalls. Each day at Sunrise, about 35
16 non-commercial vehicles have been parking illegally outside of marked stalls and an additional 20
17 that are turned away for lack of space at HVC. At Pu'u'ula'ula, both commercial and non-
18 commercial vehicles have been parking outside of stalls, in the traffic lanes or against the center
19 median of the loop impeding traffic flow. The parking problem is often so severe that traffic has
20 become gridlocked preventing access by ambulance, law enforcement and fire vehicles. Not only
21 is this hazardous, it also violates laws requiring a clear route for emergency vehicles to and
22 through parking areas to buildings and visitor use areas. The large number of vehicles translates
23 into excessive crowds at viewing areas causing them to overflow into critical habitat areas, off-
24 trail areas, and potential unsafe cliff areas.

25

26 The lack of emergency vehicle access problem is applicable at all three parking areas, and is
27 especially critical to the Haleakalā Visitor Center parking area. More than one million people per
28 year visit the 10,000 ft summit area of Haleakalā. Park Rangers respond to a variety of incidents
29 including medical emergencies (cardiac arrest, heart attacks, seizures, respiratory emergencies,
30 altitude illness, minor trauma, etc.) and law enforcement incidents. It is vital that unobstructed
31 access, egress and emergency vehicle parking areas are maintained in these heavily used areas.

32

1 An Interim Operations Plan (IOP) is being implemented by the Park to accommodate the safe use
 2 of the limited parking available in the three parking areas at the summit area during the hours
 3 from pre-Sunrise through two hours after Sunrise (“Sunrise Use Period”). That accommodation
 4 will be accomplished by allocating the use of these limited spaces between commercial and non-
 5 commercial users as discussed below. The IOP will be in effect until a more permanent solution is
 6 identified through development of the Park’s Commercial Services Plan (CSP). The CSP is
 7 anticipated to start mid-late 2006 with a completion date of two years later. This IOP may be
 8 subject to amendment should existing conditions change.

10 **Decision**

11 Based on the past five years commercial activity, Incidental Business Permit holders for bicycles
 12 have typically filled during the Sunrise Use Period ten of the thirteen available commercial stalls
 13 with the remaining three going to all other permit holders (astronomy and vehicle tours). This
 14 ratio will remain in effect during the term of this IOP. Commercial use vehicles that can fit in a
 15 standard-sized vehicle stall will also be able to park at Pu'u'ula'ula summit Observatory and
 16 Kalahaku Overlook parking areas as space is available. As vehicles are restricted to marked
 17 parking stalls, and if crowding at summit and Kalahaku lots continue to increase, the park may
 18 look at ways to ensure that space continues to be available for non-commercial use users.

19
 20 Commercial operators with Incidental Business Permits for vehicle tours are currently limited to
 21 two vans or small buses. No large passenger or school buses (26 passengers and over) will be
 22 permitted until two hours after Sunrise.

23
 24 Commercial operators with Incidental Business Permits for bicycle tours are limited to a total of
 25 ten commercial stalls. By manipulating vehicles and trailers, nineteen vans with trailers can be
 26 accommodated in these ten stalls without impeding traffic. These nineteen tours will be
 27 distributed among the current five companies authorized for Sunrise tours—Bike It Maui, Cruiser
 28 Phil’s, Maui Downhill, Maui Mountain Cruisers, and Mountain Riders, as follows:

29 These will be distributed each calendar year based on market share of the previous year. The
 30 three companies with the largest market share of tours will receive five tours each with the fourth
 31 company receiving three tours and the fifth company receiving one tour.

32 Bike tours will continue to use the ten stalls closest to the exit of Haleakalā Visitor Center parking
 33 area with the first ten pulling into each stall and the remaining nine parking perpendicular to the
 34 first ten in three lines of three vans and trailers.

35 Parking Vehicles/Vans on the Spur Road, dropping trailers on Spur Road, or parking vehicles,
 36 vans, or trailers in any area other than a marked parking stall is not allowed.

37 For up to two hours after Sunrise, the nine perpendicular parked vans/trailers may park and/or
 38 drop their trailer in the private vehicle parking area as space permits until such time their
 39 designated commercial stall becomes available.

40 This allowance to park in non-commercial use vehicle stalls for two hours after Sunrise is for this
 41 interim period only.

43 **Incidental Business Permits / Commercial Use Authorizations**

44 Commercial Sunrise tours/activities originating and terminating outside of the Park currently are
 45 authorized only if an Incidental Business Permit (IBP) has been issued to the commercial operator
 46 by the Park. That system of authorization may be replaced during the operation of the IOP with a
 47 system of Commercial Use Authorizations (CUAs) issued under the statutory authority of the
 48 1998 Concessions Management Improvement Act.

1 Use of the limited parking available during the Sunrise Use Period was allocated to accommodate
2 safe use by all users prior to this IOP by freezing at 2003 levels the number of IBPs authorizing
3 bicycle tours during the Sunrise Use Period. That allocation also will continue through limitations
4 on the issuance of IBPs and CUAs while this IOP is in effect.

5
6 **Implementation**

7 August 21, 2005: Commercial operators with Vehicle IBPs

8
9 Exception # 1: Haleakalā Bike Company is allowed 2 vans & 1 small bus

10
11 November 1, 2005: Commercial operators with Bicycle IBPs

12
13 Interim Operations Plan may be revised based on circumstances and experiences.

14
15 For example, if small buses (16-25 passengers) can no longer be accommodated at Kalahaku
16 Parking area and/or vans (15 passenger) at Pu'u'ula'ula /Summit Observatory or Kalahaku parking
17 areas, the IOP may be revised to change the ratio at Haleakalā Visitor Center to nine stalls for
18 bicycle permit holders and four stalls for all other commercial vehicles. This would then change
19 the number of Sunrise bicycle tours from 19 to 15. These will be distributed based on market
20 share of the previous year. The three companies with the largest market share of tours will receive
21 four tours each with the fourth company receiving two tours and the fifth company receiving one
22 tour.

23
24 **Point of Contact**

25 Additional information or comments about the commercial use operations should be directed to
26 Commercial Use Manager at 808-572-4440.

27
28 Marilyn H. Parris
29 Superintendent

1
2

APPENDIX B: FINDINGS OF SAFETY BOARD OF REVIEW



Board of Review Management Report and Action Plan

Commercially Guided Bicycle Tours NPS Safety Analysis Report Haleakala National Park

Recommended: Patricia L. Neubacher Date: 2/22/08
Patricia L. Neubacher
Deputy Regional Director, Pacific West Region
Board of Review Chair

Approved: Jonathan B. Jarvis Date: 3/10/2008
Jonathan B. Jarvis
Regional Director, Pacific West Region

February 22, 2008

NATIONAL PARK SERVICE

UNITED STATES DEPARTMENT OF THE INTERIOR



Board of Review Members

Patricia L. Neubacher, Deputy Regional Director/Chief of Staff
Pacific West Region, National Park Service
Board of Review Chair

Cicely Muldoon, Deputy Regional Director
Pacific West Region, National Park Service
Safety Analysis Team Lead

Scott Wanek, Chief Ranger
Pacific West Region, National Park Service
Safety Analysis Team, Lead Investigator

Anne Dubinsky Altman, Chief of Concessions
Pacific West Region, National Park Service

Marilyn Parris, Superintendent
Haleakala National Park

C. Mahina Martin, Community Relations & Communications Director
Maui County, Office of the Mayor (ex officio)



Background & Findings

The Board of Review for the *NPS Safety Analysis Report: Commercially Guided Bicycle Tours, Haleakala National Park* convened on February 4-5, 2008, in the Pacific West Regional Office in Oakland, California.

The Board reviewed the report from the Safety Analysis Team and developed recommendations and an action plan to address the future management of commercial bicycle tours at Haleakala National Park.

BACKGROUND

On September 26, 2007, a bicyclist on a commercial bicycle tour lost control of her bicycle on the downhill run from the crater parking area and was struck and killed by a vehicle operated by another commercial bicycle tour. This was the second fatality of a commercial bicycle tour client in the park within a 12-month period. Three other serious injuries occurred within this same 12-month period, one a near fatality.

The National Park Service places a high priority on public injury prevention. While the National Park Service does not guarantee visitor safety nor is it responsible for acts and decisions made by visitors that may result in injury or illness, it does have a responsibility to identify public safety hazards and risks, and to determine how, and to what extent, these risks can be mitigated.

In keeping with that responsibility and consistent with applicable legal authorities, Superintendent Marilyn Parris ordered an emergency safety stand down of all commercially guided bicycle tours following this recent fatality, and requested that Regional Director Jonathan B. Jarvis appoint a team to conduct a safety analysis of these tours.

On December 10, 2007, a Safety Analysis Team convened at the park to conduct a risk-based assessment of this activity. The team interviewed park staff, bicycle tour company personnel, bicycle tour clients, and local hospital and EMS workers. The team reviewed historical information including tour company permits, accident reports, and safety information provided by the commercial bicycle tour companies. The team also reviewed a 1999 NPS root cause analysis, a 2007 Department of Transportation safety report on this activity at the park, and other information provided by the park. Finally, the team compared this commercial activity to a number of potentially high-risk commercial activities on other public lands to provide context. Based on this information, the Safety Analysis Team conducted a risk assessment of the activity.

The Safety Analysis Team concluded that commercial bicycle tours at Haleakala National Park, as operated and managed prior to the safety stand-down and as measured by the “Green-Amber-Red” risk model process, posed moderately high risks to the tour participants. In evaluating the risk categories, the team identified a range of operational and managerial actions that the team believed could reduce the risk of this activity. The Board of Review evaluated the Safety Analysis Team’s draft report and came to the following findings:

BOARD OF REVIEW FINDINGS

- 1. Commercially guided bicycle tours at Haleakala National Park, as operated and managed prior to the safety stand-down, pose an unacceptably high risk to park visitors.** Although the accident rate for this activity decreased significantly between 2000 and 2001, when the park mandated additional controls for the activity, and has remained stable ever since, commercially guided bicycle operations consistently result in 60 participant injuries within the park annually. This number of injuries exceeds injury rates in other comparable commercially guided recreational activities.
- 2. Additional management and operational changes to this activity may mitigate this risk to an acceptable level.** Management controls instituted in 2001 following the NPS Root Cause Analysis in 1999 appear to correlate directly to a significant decline in accident rates that has been sustained, even as the numbers of tour participants have increased. Additional controls instituted in 2005 reduced the number of tours, which reduced participant numbers from a high of 105,000 to a steady 90,000 participants annually. Finally, different bicycle companies have different accident rates, indicating that specific management practices influence the safety of the activity. The Board directed that a number of bicycle tour operational changes (see below under “Minimum Operating Conditions”) be further developed by Haleakala National Park staff with the assistance of regional concessions staff for consideration by the superintendent and regional director. These operational changes would be designed to reduce participant risk in each of the risk categories identified by the safety analysis team.

Actions



1. **Final Safety Analysis Report:** The Board reviewed the Safety Analysis Team's draft report in depth and concurred with the team's findings. The Board requested that a number of clarifications and technical corrections be incorporated into the final report. The team will incorporate the Board's comments into the draft report, add data where requested, and provide a final report to the Board no later than February 28, 2008.
2. **Commercial Services Plan:** The Board concurred that the long term future of commercial bicycle operations would be evaluated in the ongoing Commercial Services Plan process for Haleakala National Park. The Commercial Services Plan process is underway, includes public participation, and is estimated to be complete in 2009.
3. **Minimum Operating Conditions:** The Board directed the park and regional concessions staff to develop a specific set of operating conditions identified in the Safety Analysis Report for commercial bicycle tours that could result in a safer tour at Haleakala National Park. The park and regional team will develop these specific conditions over the next month. It was noted that some of these proposed standards may require additional NPS oversight, so would require cost recovery from the permittees. Next steps in this process are as follows:
 - **Minimum Standards Proposal:** Based on the risk assessment model, the Board identified a series of specific factors that would constitute the minimum standards for a safer commercial bicycle operation, and identified for each the responsible party (NPS or Company). Those that are identified as an NPS responsibility refer to Haleakala National Park staff as the lead with regional concessions staff assisting, and will be developed into a proposed operating model by March 10, 2008.

Those identified as a company responsibility would be posed to the bicycle companies to develop operational procedures that meet these minimum standards.

1. Evaluate total group size and guide/client ratio, develop standard that limits group size and increases the guide to client ratio to improve supervision and communications. (NPS)

2. Evaluate the number of trips per day. Prior to the safety stand-down there were 40 trips/day, 19 of which were at sunrise (the 2005 Interim Operations Plan has already reduced the number of sunrise trips from 36 to 19). Evaluate the spread of trips throughout the day, particularly the number at sunrise, to reduce congestion and slow the pace of the trips. (NPS)
3. Establish a standard that all guides leading trips must have ready access to a supervisor. Each company would propose the method, whether on site supervision or some other form of supervisory oversight.
4. Establish a minimum standard for go/no go decision, which should be made by individual companies at an appropriate supervisory level (above the guide level). Each company would propose how they will make the go/no go decision for both individual participants in the trip, and for the trip itself based on weather or other factors. NPS would develop a checklist for evaluating weather conditions, set thresholds for wind speed/temperature, and consider tools that would assist in this decision, such as visible wind sock/temperature gage at the crater parking area.
5. Establish permit condition prohibiting third party bookings. This provides the opportunity for clients to get accurate, consistent information directly from the companies about the trip, and determine if the trip is a good fit for their abilities. (NPS)
6. Require companies to develop and the NPS to approve material provided to clients; the NPS would set minimum standards for content; this may include a self screening questionnaire to assist both clients and companies in identifying client suitability for the activity.
7. Require companies to establish and the NPS to review minimum training standards for guides. Each company would propose safety training material to the NPS for review.
8. Require companies to have transportation available with a pre-determined response time to transport clients with minor injuries. This would reduce transport pressure for minor injuries for Maui Emergency Medical Services, and lessen the burden on health care system. Each company would propose how this would work.

9. Improve communication between guides and clients. At a minimum, brake lights would be required on all bikes; companies may consider wireless headsets, or other means to improve communications during the ride. Each company would propose methods to improve communication.
10. Improve test ride as one of the client screening elements, and require that the test ride, equipment check, and equipment fitting occur before the clients arrive at the park. Each company would propose how to accomplish this.
11. Require companies to establish a reasonable refund policy (minimum 50%) for clients who opt out at the summit, reducing the pressure for clients to proceed with the ride even if they feel unprepared/unsuited to initiate or complete the ride. Each company would propose how this would work and would be required to provide refund policy information in the pre-trip packet; NPS would approve refund policy.
12. NPS would paint the curbs to improve visibility. Park will evaluate costs and if this is in the park's cyclic maintenance plan. (NPS)
13. NPS will evaluate holding bicycle launches at the summit until the sunrise surge has cleared out to reduce vehicle/bike interactions during a period of high congestion. NPS will determine launch intervals affiliated with this, and each company would propose how to ensure visitor comfort during this holding period.
14. NPS will evaluate existing information provided to all visitors related to bicycles on the road, and will assess if this information can be improved to increase awareness among all visitors about the presence of bicycles and the rules of the road.
15. Require bicycles to stop at every pullout between the summit and park headquarters to reduce the pace of the trip, provide park information, and check in on how each client is doing. The trips would stop at the following areas, at a minimum: Kalahaku, Leleiwi (park will determine if restroom area or parking area), and park headquarters. Interpretive information provided by company at these stops would be approved by the park. Park will confirm that these are the only pullouts available.



APPENDIX C: IMPLEMENTATION OF BOARD OF REVIEW FINDINGS

National Park Service
U.S. Department of the Interior

Haleakalā National Park

P.O. Box 369
Makawao, HI 96768
808-572-4400 phone
808-572-1304 fax

Superintendent's Decision on
Implementation of Board of Review Findings and Recommendations
Concerning
Safety Analysis of Commercially Guided Downhill Bicycle Tours
at Haleakalā National Park

The Board of Review Management Report and Action Plan (March 10, 2008) ("Board of Review Report") concerning the NPS *Safety Analysis Report: Commercially Guided Bicycle Tours, Haleakalā National Park*, directs Haleakalā National Park ("park") staff to develop certain information for consideration by the park Superintendent and the Regional Director. This information is to consist of specific operating conditions that may mitigate the risk to park visitors posed by commercially guided downhill bicycle tours in the park.

Any such operational changes ultimately must address park-specific conditions and be capable of being implemented by the park through legally permissible authorizations. As such, the park Superintendent has the authority to and will decide whether or not specific operating conditions should be implemented at this time through the issuance of authorizations for commercial activity in the park.

While developing the requested information, park staff identified possible additional impacts to visitor safety that may result from implementation of actual, on the ground conditions for commercial operation of these tours in the park. Park staff also identified other impacts of such implementation that may extend beyond safety to having effects upon resources and values of the park.

Consistent with National Park Service policy and applicable legal authorities, the National Park Service must evaluate these impacts in order to determine whether the impacts are acceptable and legal authority is available for authorizing in-park commercial activity that would cause the identified impacts. A planning and environmental analysis process currently is underway at the park to evaluate commercial services in the park. This on-going commercial services planning process is available to the National Park Service as a means of evaluating the impacts on park resources and values of the possible risk mitigating operating conditions suggested in the Board of Review Report.

Based on the information available at this time to the deciding official regarding this matter, the Park Superintendent makes the following decisions:

1. The National Park Service will use the park's on-going commercial services planning process (which is being conducted in compliance with all National Park Service policies regarding planning and environmental analysis) to evaluate the impacts on park resources and values of the possible risk mitigating operating conditions suggested in the Board of Review report. To assure that this planning process adequately addresses these concerns, scoping of the commercial services plan will be re-

- 1 initiated, to allow more input (including from the commercially guided downhill bicycle tour
2 operators) on the alternatives to be considered.
3
- 4 2. Until such time as the commercial service planning process is completed, no further action will be
5 taken to determine and implement operational changes in-park for the commercially guided downhill
6 bicycle tour operators.
7
- 8 3. The current safety stand down of all commercially guided downhill bicycle tours in the park will
9 continue until such time as a final decision is made, using the commercial services planning process,
10 on whether or not in-park commercially guided downhill bicycle tours will be authorized by the
11 National Park Service.
12
- 13 4. The allocation to commercial users of the limited parking available at the Haleakalā summit during the
14 sunrise use period that is set out in the 2005 Commercial Use at Sunrise: Interim Operations Plan
15 (“IOP”) is modified as follows: the ten commercial stalls formerly used by commercially guided
16 downhill bicycle tour operations are reallocated for use during the remaining term of the IOP to use by
17 those operations solely for in-park vehicle-or road-based tours (*i.e.* with no authorization to provide in-
18 park commercially-guided downhill bicycle tours). Such use will be authorized by CUAs, which must
19 be applied for by the formerly authorized commercially guided downhill bicycle tour operations and
20 will be distributed each calendar year based on market share as previously provided in the IOP for
21 those bicycle tours.
22
23
24
25
26
27

28 Marilyn H. Parris Date _____
29 Superintendent Haleakalā National Park
30
31
32
33

1 **Hana Meeting**

2 No bikes at summit, too dangerous
3 As a driving teacher, Dean Wariner, I feel the Park Service should continue to restrict bicycle use
4 of the park road. Such use is a danger to the riders and motorists unfamiliar with these conditions.
5 Weather often obscures vision and inexperienced riders can be badly injured.
6
7

8 **ROAD-BASED TOURS**

9 **Pukalani**

10 The park should replace all vehicle traffic with a shuttle system
11
12 Bus tours should accurately reflect Native Hawaiian and Leave No Trace Ethics
13
14 Bus tours should greet clients with a chant (ole) to welcome visitors to the park
15
16 Alternative C – Road Based Tours- is too restrictive. This may cause operators to fail.
17

18 **Hana**

19 More cultural education
20
21 Have mandatory training for park and CUA staff that has approved cultural information from the
22 Native Hawaiians (staff and community/kupuna)
23
24 Make training worthwhile for cultural trainers (trainers should be paid)
25
26 Communicate proper cultural messages across the board.
27
28 Have certified cultural trainers for NPS staff and CUAs
29
30 Charge the CUA holders an extra fee for the educational cultural component
31
32 Concern about access for Native Hawaiian gathering rights at the ocean in Kipahulu and Nu`u
33
34

35 **HORSES**

36 **Pukalani**

37 Should concessions be addressed in a CSP?
38
39 Comment card got sent back to sender and not to Denver.
40
41 6 horses is not economically feasible for horse tour operators - the cost per rider would be too
42 high, which would negatively affect visitor experience.
43
44 If tours are priced too high, people cannot use the service then operator will fail and this limits
45 people's ability to use the service.
46
47 The park should assess the economic impact of a commercial operator failing—the commercial
48 revenue stream fails.

1 Commercial operators provide a service to the park because they help supervise visitors and
2 resources.

3 By limiting commercial days, some people who are here for only a few days may not be able to
4 visit the park. This is in conflict with the park’s mission.

5
6 Horse groups limit themselves to 10 horses per group—it’s difficult to get more than 10 horses to
7 the summit at a time (horse transport). Alternative D could easily be changed to summit groups
8 limited to 10 horses.

9
10 **Hana**

11 More cultural education

12
13 There should be an alternative with no horses. People should go on there own steam. The park is
14 a sacred place—Ron Montgomery

15
16 Horse rides should be a cultural tour not just a scenic tour

17
18 Provide training in culture ‘true’ story

19
20
21 **HIKING AND ASTRONOMY STATION**

22 **Hana**

23 Uncle Lyons likes alternative C – hiking

24
25 4 visitors in Hana “cool” with commercial services offered at Haleakalā National Park

26
27
28 **COMMUNITY MEMBERS IN ATTENDANCE:**

29 **Pukalani**

30 Harry Eagar, Ron Montgomery, Phil Feliciano, Clark (can’t read last name), Matt Wordeman,
31 Doug Smith, Mary Evanson, Vickie Goodenough, Richard Goodenough, Bill Evanson, Chad
32 Meyer, Dick Mayer, Dave Campbell, Kathy Campbell

33
34 **Hana**

35 Kahu Lyons Naone, Pomai Konohia, Dean Wariner

1 **APPENDIX E. LIST OF FEDERAL CANDIDATE, ENDANGERED, AND**
2 **THREATENED SPECIES IN HALEAKALĀ NATIONAL PARK 2010**

3
4

Scientific Name	Common Name	Federal Status Classification	Taxon
<i>Oceanodroma castro</i>	band-rumped storm-petrel	Candidate	Birds
<i>Anas wyvilliana</i>	Hawaiian duck	Endangered	Birds
<i>Branta sandvicensis</i>	Hawaiian goose	Endangered	Birds
<i>Palmeria dolei</i>	crested honeycreeper	Endangered	Birds
<i>Pseudonestor xanthophrys</i>	Maui parrotbill	Endangered	Birds
<i>Pterodroma phaeopygia sandwichensis</i>	Hawaiian dark-rumped petrel	Endangered	Birds
<i>Hemignathus lucidus</i>	nukupu`u	Endangered	Birds
<i>Loxops coccineus ochraceus</i>	Maui akepa	Endangered	Birds
<i>Melamprosops phaeosoma</i>	po`ouli	Endangered	Birds
<i>Psittirostra psittacea</i>	`o`u	Endangered	Birds
<i>Megalagrion pacificum</i>	Pacific Hawaiian damselfly	Endangered	Insects
<i>Lasiurus cinereus semotus</i>	Hawaiian hoary bat	Endangered	Mammals
<i>Monachus schauinslandi</i>	Hawaiian monk seal	Endangered	Mammals
<i>Bidens campylotheca pentamera</i>	ko`oko`olau	Candidate	Plants
<i>Bidens campylotheca waihoiensis</i>	ko`oko`olau	Candidate	Plants
<i>Calamagrostis expansa</i>	reedgrass	Candidate	Plants
<i>Cyanea asplenifolia</i>	haha	Candidate	Plants
<i>Cyanea kunthiana</i>	haha	Candidate	Plants
<i>Geranium hanaense</i>	nohoanu	Candidate	Plants
<i>Huperzia stemmermanniae</i>	wawae`iole	Candidate	Plants
<i>Joinvillea ascendens ascendens</i>	`ohe	Candidate	Plants
<i>Microlepia strigosa mauiensis</i>	Maui fern, palapalai	Candidate	Plants
<i>Phyllostegia bracteata</i>	bracted phyllostegia	Candidate	Plants
<i>Schiedea pubescens</i>	ma`oli`oli	Candidate	Plants
<i>Bidens micrantha kalealaha</i>	ko`oko`olau	Endangered	Plants
<i>Clermontia samuelii</i>	`oha wai	Endangered	Plants
<i>Ctenitis squamigera</i>	pauoa	Endangered	Plants
<i>Cyanea copelandii haleakalaensis</i>	haha	Endangered	Plants
<i>Cyanea glabra</i>	haha	Endangered	Plants
<i>Cyanea hamatiflora hamatiflora</i>	haha	Endangered	Plants

APPENDIXES, REFERENCES, PREPARERS, AND CONTRIBUTORS

Scientific Name	Common Name	Federal Status Classification	Taxon
<i>Diplazium molokaiense</i>	Molokai twinsorus fern	Endangered	Plants
<i>Geranium arboreum</i>	Hawaiian red-flowered geranium	Endangered	Plants
<i>Geranium multiflorum</i>	nohoanu	Endangered	Plants
<i>Huperzia mannii</i>	wawae`iole	Endangered	Plants
<i>Ischaemum byrone</i>	Hilo ischaemum	Endangered	Plants
<i>Melicope ovalis</i>	alani	Endangered	Plants
<i>Plantago princeps</i>	kuahiwi laukahi	Endangered	Plants
<i>Schiedea haleakalensis</i>	Haleakala schiedea	Endangered	Plants
<i>Argyroxiphium sandwicense macrocephalum</i>	Haleakala silversword	Threatened	Plants
<i>Ranunculus mauiensis</i>	makou	Candidate	Plants
<i>Asplenium fragile insulare</i>	diamond spleenwort	Endangered	Plants
<i>Clermontia lindseyana</i>	`oha wai	Endangered	Plants
<i>Clermontia oblongifolia mauiensis</i>	`oha wai	Endangered	Plants
<i>Clermontia peleana</i>	`oha wai	Endangered	Plants
<i>Cyanea grimesiana grimesiana</i>	haha	Endangered	Plants
<i>Melicope balloui</i>	alani	Endangered	Plants
<i>Platanthera holochila</i>	Hawai'i bog orchid	Endangered	Plants
<i>Schiedea hookeri</i>	sprawling schiedea	Endangered	Plants
<i>Chelonia mydas</i>	green sea turtle	Threatened	Reptiles
<i>Alectryon macrococcus</i>	mohoe	Endangered	Plants

1

REFERENCES

- 1
2
3
4 Abbott, I.
5 1992 Lā‘au Hawaii: Traditional Hawaiian Uses of Plants. Honolulu: Bishop Museum Press.
6
7 Baldwin, P. H.
8 1945 “The Hawaiian Goose, Its Distribution and Reduction in Numbers.” *Condor* 47:27-37.
9
10 Barber, J., K. Crooks, and K. Fristrup
11 2009 “The Cost of Chronic Noise Exposure on Terrestrial Organisms.” *Trends in Ecology &*
12 *Evolution* 23 (3): 180-189.
13
14 Carson, M.T. and M.A. Mintmier
15 2007 Archeological Survey of Previously Recorded Sites in Front Country Areas in the
16 Summit District of Haleakalā National Park, Maui Island, Hawaii. Prepared for the National Park
17 Service. Honolulu: International Archaeological Research Institute, Inc.
18
19 Carson, M.T., and R. Reeve
20 2008 Archeological Inventory Survey of Portions of the Kīpahulu Unit of Haleakalā National
21 Park, Maui Island, State of Hawai‘i. Prepared for National Park Service. Honolulu: International
22 Archaeological Research Institute, Inc.
23
24 CIIM Government Services
25 2010 “Feasibility Study – Road Based Tours: Preliminary Market Analysis.” Prepared for
26 National Park Service, Haleakalā National Park. NPS Contract number C2410090035. On file at
27 park headquarters
28
29 CKM Cultural Resources
30 1998 *Haleakalā: The Sacred House of the Sun*. Pukalani: CKM Cultural Resources.
31
32 Dagan, C., R. Hill, T.L. Lee-Grieg, and H.H. Hammatt
33 2007 Supplemental Cultural Impact Assessment for the Proposed Advanced Technology
34 Solar Telescope (ATST) at Haleakalā High Altitude Observatories, Papa‘anui Ahupua‘a, Makawao
35 District, Island of Maui. Prepared for KC Environmental and The National Science Foundation.
36 Wailuku: Cultural Surveys Hawai‘i, Inc.
37
38 Ducks Unlimited
39 2007 “Hawaiian "Nene" Goose.” Accessed 4/2/2007 at:
40 <http://www.ducks.org/hunting/waterfowlGallery/83/index.html>.
41
42 Dye, T.S. and M.L.K. Rosendahl
43 1977a *Archaeological Reconnaissance Survey Report: Fencing of the Kuiki Grassland, Haleakala*
44 *National Park*. Prepared for the National Park Service. Honolulu: Department of Anthropology,
45 Bernice P. Bishop Museum.
46
47 1977b *Intensive Archaeological Survey of a Portion of the West Rim of Haleakala Crater,*
48 *Haleakala National Park*. Prepared for the National Park Service. Honolulu: Department of
49 Anthropology, Bernice P. Bishop Museum.
50

- 1 Dye, T.S., M.T. Carson and M. Tomonari-Tuggle
2 2002 Archeological Survey of Sixty Acres of the Kipahulu Historic District within the
3 Kipahulu District of Haleakala National Park, Maui. Honolulu: International Archaeological
4 Research Institute Inc.
5
6 Emory, K.P.
7 1921 *An Archaeological Survey of Haleakala*. Occasional Papers of the Bernice Pauahi Bishop
8 Museum of Polynesian Ethnology and Natural History, Vol. 8, No. 2. Honolulu: Bishop Museum
9 Press.
10
11 Environmental Protection Agency (EPA)
12 1999 "Final Guidance for Consideration of Environmental Justice in Clean Air Act 309
13 Reviews." Office of Federal Activities. Washington, D.C.
14
15 Federal Aviation Administration (FAA)
16 2008 "Hawaii Air Tour Common Procedures Manual". FAA Document Number: AWP13-
17 136A. Honolulu Flights Standards District Office, FSDO-13, Honolulu.
18
19 Fornander, A.
20 1920 Fornander *Collection of Hawaiian Antiquities and Folk-Lore*. Memoirs of the B.P. Bishop
21 Museum, IV-VI. Honolulu: Bishop Museum Press.
22
23 Hodges, Cathleen S. Natividad
24 1994 "Effects of Introduced Predators on the Survival and Fledgling Success of the
25 Endangered Hawaiian Dark-rumped Petrel (*Pterodroma phaeopygia sandwichensis*)." M.S.
26 thesis. University of Washington, Seattle, WA.
27
28 Hodges, Cathleen S. Natividad and R. J. Nagata, Sr.
29 2001 "Effects of Predator Control on the Survival and Breeding Success of the Endangered
30 Hawaiian Dark-rumped Petrel." *Studies in Avian Biology* 22: 308-318.
31
32 Hoerman, R., S.Q. Bassford, and M. Dega
33 2008 An Archaeological Inventory Survey Report of the Kaupō-Kīpahulu Rockfall Project
34 Area, Kālepa and Alelele Slopes, Ahupua`a of Ka`apahu and Kukuīuila, Kīpahulu District, Island of
35 Maui, Hawai`i. Prepared for Sato & Associates, Inc. Honolulu: Scientific Consultant Services, Inc.
36
37 Jourdane, E. and J. Peterson
38 1976 Archeological Survey Report: Fencing of the Kaupo Dry Forest. Prepared for the
39 National Park Service. Honolulu: Department of Anthropology, Bernice P. Bishop
40 Museum.
41
42 Kailihiwa, S.H. and P.L. Cleghorn
43 2003 Identification of Culturally Important Properties on Haleakala, Island of Maui. Prepared
44 for EarthTech, Inc. Kailua: Pacific Legacy, Inc.
45
46
47
48 Knight, R.L and K.J. Gutzwiller
49 1995 *Wildlife and Recreationists. Coexistence Through Management and Research*. Island
50 Press. Washington, D.C.
51
52 Komanoff, C., and H. Shaw

- 1 2000 “Drowning in Noise: Noise Costs of Jet Skis in America: A Report for the Noise
2 Pollution Clearinghouse.” Accessed at
3 <<http://www.nonoise.org/library/drowning/drowning.htm>>.
4
- 5 Komori, E. and N. Oshima
6 1977 Archaeological Reconnaissance Survey Report: Fencing of the West Boundary of
7 Haleakala National *Park*. Prepared for the National Park Service. Honolulu:
8 Department of Anthropology, Bernice P. Bishop Museum.
9
- 10 Kornbacher, K.D.
11 1992 Archaeological Reconnaissance Survey of Ka‘apahu Subdivision Lot 1: Alelele Stream,
12 Kipahulu, Hāna, Maui, Hawai‘i. Prepared for Chris Hart and Partners. Honolulu: International
13 Archaeological Research Institute, Inc.
14
- 15 1993 Archaeological Inventory Survey of Ka‘apahu Subdivision Remnant Lots 5, 6, and 7 and
16 the Hāna Highway Corridor, Kipahulu, Hāna, Maui, Hawai‘i. Prepared for Chris Hart and
17 Partners. Honolulu: International Archaeological Research Institute, Inc.
18
- 19 Kryter, K.D.
20 1994 The Handbook of Hearing and the Effects of Noise: Physiology, Psychology and
21 Public Health. San Diego: Academic Press.
22
- 23 Landres, P., C. Barnes, J.G. Dennis, T. Devine, P. Geissler, C.S. McCasland, L. Merrigiano, J.
24 Seastrand, R. Swain
25 2008 “Keeping it Wild: An Interagency Strategy to Monitor Trends in Wilderness
26 Character Across the National Wilderness Preservation System.” USDA, Forest
27 Service. General Tech Report RMRS-GTR-212. Rocky Mountain Research Station.
28 Fort Collins, CO.
29
- 30 Lee, C. S. Y., Fleming, G. G., Roof, C. J., MacDonald J. M., Scarpone, C. J., Malwitz, A. R., Baker
31 G.
32 2006 “Baseline Ambient Sound Levels in Haleakala National Park.” FAA-AWP-06-xx,
33 DOT-VNTSC-FAA-06-09. Los Angeles: Federal Aviation Administration.
34
- 35 Lynch, E. and V. McCusker
36 2008 “Haleakala National Park Acoustic Monitoring Report.” Natural Resource Report
37 NPS/NRPC/NRTR-2008/1. Fort Collins: National Park Service, Natural Resource Program
38 Center.
39
- 40 Maxwell, C., Sr.
41 2002 Archaeological Cultural Assessment Survey at Haleakala: Traditional Practices
42 Assessment for the summit of Haleakala. Prepared for KC Environmental, Inc. Pukalani: CKM
43 Cultural Resources.
44
- 45 McEldowney, H., J. Petersen, and C. Vernon
46 1977 Archaeological Reconnaissance Survey Report: Fencing of the Haleakala National Park
47 Boundary across Koolau Gap. Honolulu: Department of Anthropology, Bernice P. Bishop
48 Museum.
49
- 50 Medeiros, A.C., L.L. Loope, and C.G. Chimera

- 1 1998 “Flowering Plants and Gymnosperms Of Haleakalā National Park.” Technical Report
2 120. Pacific Cooperative Studies Unit, University Of Hawaii at Manoa, Honolulu, HI. Accessed on
3 the web on June 15, 2010, at <http://www.botany.hawaii.edu/faculty/duffy/techr/120.pdf>.
4
- 5 Morfey, C.L.
6 2001 *Dictionary of Acoustics*. San Diego: Academic Press.
7
- 8 National Park Service
9 1995a General Management Plan/Environmental Impact Statement Haleakalā National Park.
10 FES 95-10.
11
- 12 1995b Report on Effects of Aircraft Overflights on the National Park System. Executive
13 Summary. Report to Congress. Appendixes. Washington, D.C.
14
- 15 1997 Haleakalā National Park Statement for Management. On file at park headquarters.
16
- 17 1998 NPS-28. “Cultural Resource Management Guideline.” Washington, D.C.
18
- 19 1999 National Park Service *Reference Manual 41: Wilderness Preservation and Management*.
20 Washington, D.C.
21
- 22 2006a “Pacific Island Network, Vital Signs Monitoring Plan: Appendix A: Haleakalā National
23 Park Resource Overview” by Sam Aruch. Natural Resource Report NPS/PACN/NRR-2006/003.
24 Accessed at:
25 http://science.nature.nps.gov/im/units/pacn/monitoring/plan/PACN_MP_AppendixA_HALE.pdf
26 f
27
- 28 2006b “Frontcountry Recreation Site and Trail Conditions: Haleakalā National Park.”
29 Prepared by J.L. Marion & K. Hockett. Research/Resources Management Rpt. Virginia Tech
30 Field Station, Blacksburg, VA.
31
- 32 2006c National Park Service *Management Policies 2006*. Washington, D.C.
33
- 34 2007 “Haleakalā Superintendent’s Compendium” Available on the web at
35 <http://www.nps.gov/hale/parkmgmt/compendium.htm>.
36
- 37 2007d Winter Use Plans. Final Environmental Impact Statement. Yellowstone and Grand
38 Tetons National Parks, John D. Rockefeller, Jr. Memorial Parkway. Vol. 1.
39
- 40 2007f ‘Ua’u monitoring program. Haleakalā National Park. Unpublished data.
41
- 42 2008a *Haleakalā Highway, Haleakala National Park: Cultural Landscape Inventory*. Prepared
43 by the Pacific West Regional Office.
44
- 45 2008b Draft “Haleakalā National Park. Acoustic Monitoring Report.” Prepared by E. Lynch.
46 Natural Resource Report NPS.NRPC.NRTR-2008/001. Fort Collins, CO.
47
- 48 2008c “Haleakalā National Park. Park Report in Response to Board of Review Directions
49 Regarding Development (for Further Consideration) of Possible Management and Operational
50 Changes to Commercially Guided Downhill Bicycle Tours in Haleakalā National Park.” Available
51 on the web at <http://www.nps.gov/hale/parkmgmt/bikesafety.htm>
52

- 1 2008d “Superintendent’s Decision on Implementation of Board of Review Findings and
 2 Recommendations Concerning Safety Analysis of Commercially Guided Downhill Bicycle Tours
 3 at Haleakalā National Park.” Available on the web at
 4 <http://www.nps.gov/hale/parkmgmt/bikesafety.htm>
 5
- 6 2008e *An Ethnographic Study of the Cultural Impacts of Commercial Air Tours Over Haleakalā*
 7 *National Park, Island of Maui*. Prepared by U.K. Prasad, M.J. Tomonari-Tuggle. International
 8 Archaeological Research Institute. Contract No. C8298030001. On file at park headquarters.
 9
- 10 2008f “NPS Safety Analysis Report: Commercially Guided Bicycle Tours. Haleakalā National
 11 Park. February 27, 2008.” Prepared by S. Wanek, Pacific West Regional Chief Ranger. On file at
 12 park headquarters.
 13
- 14 2009a “Backcountry Recreation Site and Trail Conditions: Haleakalā National Park.” Prepared
 15 by J.L. Marion & C. Carr. Research/ Resources Management Rpt. Virginia Tech Field Station,
 16 Blacksburg, VA.
 17
- 18 2009b *Civilian Conservation Corps Haleakalā Crater Trails, Haleakalā National Park: Cultural*
 19 *Landscape Inventory*. Prepared by the Pacific West Regional Office.
 20
- 21 2011a E-mail message from Tony Manion, Visitor Use Assistant, to Ericka Pilcher, Visitor Use
 22 Project Specialist, March 8, 2011, regarding visitor use statistics for Haleakalā National Park.
 23
- 24 2011b NPS. 2011. “FY 2011 Haleakala Management Team Charter.” Unpub. doc. on file at
 25 park headquarters.
 26
- 27 National Science Foundation (NSF)
 28 2009 Final Environmental Impact Statement: Advanced Technology Solar Telescope.
 29 Available online at: <http://atst.nso.edu/feis>
 30
- 31 2011a Environmental Assessment. Issuance of an Incidental Take License and Proposed
 32 Conservation Measures Associated with the Advanced Technology Solar Telescope, Haleakalā,
 33 Maui, Hawai‘i. Available online at: <http://atst.nso.edu/nsf-env>.
 34
- 35 2011b Draft Supplemental Environmental Assessment. Advanced Technology Solar Telescope
 36 Project, Haleakalā, Maui, Hawai‘i. Available online at: <http://atst.nso.edu/nsf-env>.
 37
- 38 NatureServe Explorer
 39 2009 Geranium multiflorum. Accessed at <http://www.natureserve.org/explorer>.
 40
- 41 Prasad, U.K. and M.J. Tomonari-Tuggle
 42 2008 An Ethnographic Overview and Study of the Cultural Impacts of Commercial Air Tours
 43 over Haleakalā National Park, Island of Maui. Prepared for National Park Service. Honolulu:
 44 International Archaeological Research Institute, Inc.
 45
- 46 Rosendahl, P.
 47 1975a *Archaeological Reconnaissance Survey of the Proposed Water System Route, Haleakala*
 48 *National Park, Maui*. Prepared for the National Park Service. Honolulu: Department of
 49 Anthropology, Bernice P. Bishop Museum.
 50

- 1 1975b *Archaeological Reconnaissance Survey of the Haleakala Highway Road Realignment*
2 *Corridor, Haleakala National Park, Maui*. Prepared for the National Park Service. Honolulu:
3 Department of Anthropology, Bernice P. Bishop Museum.
4
- 5 1976 *Phase I – Archeological Base Map (105 Sheets) and Preliminary Cultural Resource*
6 *Inventory, Kipahulu Historic District, Kipahulu District – Haleakala National Park, Hana, Maui,*
7 *Hawaii*. Honolulu: U.S. Department of the Interior, National Park Service.
8
- 9 1977 *Archaeological Reconnaissance Survey Report: Fencing of the Haleakala Northern*
10 *Boundary from Hanakauhi Peak to the Vicinity of Wai Anapanapa, and the Adjacent Grassland Bog.*
11 Prepared for the National Park Service. Honolulu: Department of Anthropology, Bernice P.
12 Bishop Museum.
13
- 14 Simons, T. R.
15 1983 *Biology and Conservation of the Endangered Hawaiian Dark-rumped Petrel*
16 *(Pterodroma phaeopygia sandwichensis)*. Ph.D. dissertation. University of Washington, Seattle,
17 WA.
18
- 19 Simons, T. R. and C.N. Hodges
20 1998 “Dark-rumped Petrel (*Pterodroma phaeopygia*)”. In: *The Birds of North America*, No.
21 345. A. Poole and F. Gill, eds. The Birds of North America, Inc. Philadelphia, PA.
22
- 23 Soehren, L.
24 1963 *An Archaeological Survey of Portions of East Maui, Hawaii*. Prepared for the National
25 Park Service. Honolulu: Bernice P. Bishop Museum.
26
- 27 Sterling, E.P.
28 1998 *Sites of Maui*. Honolulu: Bishop Museum Press.
29
- 30 Talken-Spaulding, Jennifer M.
31 2005 *Haleakalā: The Story Behind The Scenery*. KC Publications Inc, 2005.
32
- 33 Tamayose, Joy
34 2006 “Supplemental Feeding Influences Reproductive Success of the Hawaiian Goose
35 (*Branta sandvicensis*) at Haleakalā National Park, Maui, Hawai‘i.” M.S. thesis. Oregon State
36 University, Corvallis, OR.
37
- 38 University of Idaho
39 2000 “Haleakalā National Park Visitor Study, Spring 2000.” University of Idaho Report 118 –
40 Visitor Service Project, Cooperative Park Studies Unit.
41
- 42 University of Vermont
43 2005 “Haleakalā National Park Visitor Study, December 2004.” Park Studies Lab,
44 Burlington VT.
45
- 46 U.S. Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS)
47 2006 “Soil Survey Geographic (SSURGO) Database for Island of Maui, Hawaii, 2006.”
48 Available on the internet at: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>.
49
- 50 U.S. Fish and Wildlife Service (USFWS)

- 1 1979 *Classification of Wetlands and Deepwater Habitats of the United States*. FWSOBS-79/31.
2 Prepared by L.M. Cowardin, V. Carter, F.C. Golet, and E.T. LaRoe. Office of Biological Services.
3 Washington, D.C.
- 4
- 5 2004 “Draft Revised Recovery Plan for the Nēnē or Hawaiian Goose (*Branta sandvicensis*).”
6 Portland, OR. Accessed online at:
7 http://www.fws.gov/pacific/ecoservices/endangered/recovery/pdf/Nene_draft_revised_RP.pdf
8
- 9 1997 “Recovery Plan for the Maui Plant Cluster.” Portland, OR. Accessed online at:
10 http://www.fws.gov/ecos/ajax/docs/recovery_plan/970729.pdf
11
- 12 Virginia Polytechnic Institute & State University.
- 13 2007a “Social Science Research to Support Visitor Experience and Resource Protection
14 (VERP) Planning in Haleakalā National Park.” Final Report. Virginia Polytechnical Institute &
15 State Univ., College of Natural Resources, Dept. of Forestry. Available at the park headquarters,
16 by Lawson, S., B. Kiser, K. Hockett, N. Reigner, J. Howard, and S. Dymond.
17
- 18 2007b “Social Science Research to Inform Soundscape Management in Haleakalā National
19 Park.” Final Report. Dept. of Forestry, Virginia Polytechnic Institute & State University,
20 by Lawson, S., B. Kiser, K. Hockett, N. Reigner, J. Howard, A. Ingram, and S. Dymond.
21
- 22 2008a “Research to Support Backcountry Visitor Use Management and resource Protection in
23 Haleakalā National Park. Final Report. Dept. of Forestry, Virginia Polytechnic Institute & State
24 University, by Lawson, S., B. Kiser, K. Hockett, and A. Ingram.
25
- 26 2008b “Research to Support Visitor Use Management and Resource Protection at the ‘Ohe’o
27 Pools in Haleakalā National Park.” Final Report. Virginia Polytechnical Institute & State Univ.,
28 College of Natural Resources, Dept. of Forestry. Available at the park headquarters, by Lawson,
29 S., K. Hockett, B. Kiser, N. Reigner, A. Ingram, C. Barnes, and S. Dymond.
30

PREPARERS AND CONTRIBUTORS

1

2

3

4 PREPARERS

5 Haleakalā National Park

6 Eric Anderson, Former Management
7 Assistant

8 Sarah Creachbaum, Superintendent

9 Naaman Horn, Former Management
10 Assistant

11 Marianne Karraker, Former Business and
12 Revenue Program Specialist

13 Sharon Ringsven, Former Business and
14 Revenue Program Specialist

15

16

17 DENVER SERVICE CENTER

18 Sarah Bodo, Community Planner

19 Richard Boston, Cultural Resource Specialist

20 Erika Pilcher, Visitor Use Project Specialist

21 Michael Rees, Natural Resource Specialist

22

23

24 ADDITIONAL CONTRIBUTORS

25 Haleakalā National Park

26 Steve Anderson, Natural Resource Program
27 Manager

53

28 Cathleen Bailey, Wildlife Biologist

29 Matt Brown, Chief of Resources
30 Management

31 Elizabeth Gordon, Cultural Resources
32 Program Manager

33 Marilyn H. Parris, Superintendent (retired)

34

35

36 DENVER SERVICE CENTER

37 Kerri Cahill, Visitor Use Management
38 Branch Chief

39 Pat Kenney, Planning Branch Chief (former)

40 Carla McConnell, Project Manager (former)

41 Tom Gibney, Project Manager

42 Michael Pisano, Project Manager Associate

43 Cynthia Nelson, Branch Chief

44 Paul Wharry, Technical Specialist for
45 Natural Resource Compliance

46

47

48 PACIFIC WEST REGION

49 Anne Altman, Concessions Program
50 Manager

51 Trystan Stern, Concessions Management
52 Specialist

National Park Service
U.S. Department of the Interior

Haleakalā National Park

Maui, Hawai'i



U.S. Department of the Interior • National Park Service