



United States
Department of
Agriculture

Forest Service

Tongass
National Forest
R10-MB-737b

January 2012



Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Final Environmental Impact Statement

Tongass National Forest
Ketchikan-Misty Fiords Ranger District
Ketchikan, Alaska



Ketchikan-Misty Fiords Outfitter and Guide Management Plan EIS - Key Acronyms and Other Terms

ACMP	Alaska Coastal Management Plan	LUD	Land Use Designation
ADF&G	Alaska Department of Fish and Game	NAGPRA	Native American Graves Protection and Repatriation Act
AIRFA	American Indian Religious Freedom Act	NEPA	National Environmental Policy Act
ANCSA	Alaska Native Claims Settlement Act	NFS	National Forest System
ANILCA	Alaska National Interest Lands Conservation Act	NHPA	National Historic Preservation Act
BMP	Best Management Practices	NMFS	National Marine Fisheries Service
CEQ	Council on Environmental Quality	NOAA	National Oceanic and Atmospheric Administration
CFR	Code of Federal Regulations	ROS	Recreation Opportunity Spectrum
CZMA	Coastal Zone Management Act	RSNT	Remote Setting Nature Tours
DN	Decision Notice	SD	Service Day
EA	Environmental Assessment	SHPO	State Historic Preservation Officer
EIS	Environmental Impact Statement	SOPA	Schedule of Proposed Actions
ESA	Endangered Species Act	SUA	Special Use Authorization
FONSI	Finding of No Significant Impact	T&E	Threatened and Endangered
FSH	Forest Service Handbook	Forest Plan	Tongass Land and Resource Management Plan
FSM	Forest Service Manual	TTRA	Tongass Timber Reform Act
IDT	Interdisciplinary Team	USFWS	United States Fish and Wildlife Service
KMRD	Ketchikan-Misty Fiords Ranger District	VCU	Value Comparison Unit
LAC	Limits of Acceptable Change (process)	WA	Wilderness Area
LNT	Leave No Trace		

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Front Cover: Margaret Creek bear viewing site.

Printed on Recycled Paper





United States
Department of
Agriculture

Forest
Service

Alaska Region
Tongass National Forest
Ketchikan-Misty Fiords
Ranger District

3031 Tongass Avenue
Ketchikan, AK 99901-5743
Phone: (907) 225-2148
Fax: (907) 225-8738

File Code: 1950

Date: January 26, 2012

Dear Planning Participant:

Enclosed is your copy of the Final Environmental Impact Statement (FEIS) for the Ketchikan-Misty Fiords Outfitter and Guide Management Plan project on the Ketchikan-Misty Fiords Ranger District (KMRD), Tongass National Forest.

The FEIS proposes four alternatives for allocating (distributing) outfitter and guide permits on KMRD including the "no-action" alternative. The action alternatives (Alternatives B, C, and D) would allocate between 34,900 and 74,000 service days annually to outfitters and guides for recreational use on National Forest System Lands within KMRD. The no-action alternative (Alternative A) would allocate about 24,200 service days to outfitters and guides based on the highest use by area between 2005 and 2009. My preferred alternative is Alternative B, the Proposed Action developed through the Limits of Acceptable Change public involvement process. However, any of the alternatives or parts of them may be selected in the Record of Decision (ROD) for the FEIS.

The ROD will document my decision on the Selected Alternative and the facts considered in reaching the decision. The effective date of implementation for the decision and the notice of rights of appeal will also be specified in the ROD.

Additional copies of the FEIS are available for review in several formats including electronic and hard copy. The EIS can be found on the internet at:

http://www.fs.fed.us/r10/tongass/projects/nepa_project.shtml?project=32817 or, if you prefer more history of the project, at:

<http://www.fs.fed.us/r10/tongass/districts/ketchikan/recreationplanning.shtml> and look for the link to the FEIS. For more information, contact Sue Jennings, the project team leader, at the Petersburg Forest Service office at 907-772-5864 during regular business hours, Monday to Friday, 8:00 am to 4:30 pm.

Your continuing interest in the management of the Tongass National Forest is appreciated.

Sincerely,



JEFFREY DEFREEST
District Ranger



Final Environmental Impact Statement

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

**Forest Service, U.S. Department of Agriculture
Alaska Region, Tongass National Forest, Ketchikan-Misty Fiords Ranger District**

Lead Agency: USDA Forest Service, Tongass National Forest
Ketchikan-Misty Fiords Ranger District
3031 Tongass Ave.
Ketchikan, AK 99901

Responsible Official: Jeffrey DeFreest, District Ranger
Ketchikan-Misty Fiords Ranger District

For Further Information Contact: Susan Jennings, Team Leader, Petersburg Office
P.O. Box 309
Petersburg, AK 99833
907-772-5864

Abstract

The USDA Forest Service proposes to authorize outfitter and guide operations and allocate 53,997 service days annually to guided use in the Ketchikan-Misty Fiords Ranger District, Tongass National Forest. This proposed action authorizes outfitter and guide operations through the issuance of special use permits. Adaptive management is being considered which could raise, reduce, or adjust the allocation dependent on resource conditions. The actions analyzed in this Final Environmental Impact Statement (FEIS) are designed to implement direction contained in the 2008 Tongass Land and Resource Management Plan (Forest Plan). The FEIS describes four alternatives that provide different combinations of outfitter and guide allocations in different spatial locations. The alternatives would allow for or allocate between 24,245 and 74,005 service days annually to outfitters and guides within the project area. The significant issues addressed by the alternatives and this EIS include: 1) outfitter and guide economics; 2) areas popular with unguided users; 3) historic and cultural properties; 4) wilderness; and 5) wildlife, subsistence, and cultural and traditional uses.

This page intentionally left blank

Summary



SUMMARY

Introduction ---

The Ketchikan-Misty Fiords Ranger District (KMRD), U.S. Forest Service, has prepared this Final Environmental Impact Statement (FEIS), in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations, to analyze how to allocate (or distribute) visitor capacity on KMRD. The allocation will set use levels for outfitter and guide permits but will not set use levels for unguided visitors. Unguided visitors (those people visiting the Tongass National Forest without an outfitter or a guide) can continue to enjoy KMRD recreation and subsistence opportunities in the same way they do now. Guided visitors, in this FEIS, are those people visiting the Tongass who use the services of an outfitter or a guide; as used throughout this FEIS, guided use also includes use of an outfitter. Unguided visitors accessing the Tongass through a transporter (essentially, point to point charter transportation by boat, plane, or other vehicle-see Chapter 4 for definitions) would be unaffected by this plan. This EIS discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives.

Project Area Description ---

The project area consists of the National Forest System (NFS) lands encompassing the Ketchikan-Misty Fiords Ranger District (KMRD) of the Tongass National Forest (Figure 1-1). KMRD encompasses over 3.2 million acres of temperate rainforest, mountain peaks, glaciers, alpine tundra, muskegs, lakes, rivers, and streams. Approximately two-thirds of these acres are in Misty Fiords National Monument Wilderness. While the communities of Ketchikan, Hyder, Metlakatla, Meyers Chuck, Saxman, and Loring fall within the KMRD boundary, the project area excludes state and privately owned land, including all areas below mean high tide. Figure 1-2 displays the project area. For the purpose of this project, KMRD is divided into 28 recreation use areas¹ (see Figure 1-2 and Table 2-1 in Chapter 2). Maps of each recreation use area are in Appendix B of the Draft Environmental Impact Statement (DEIS).

Purpose and Need for Action ---

Need

Since there is a demonstrated need for commercial service(s) and these services are deemed appropriate (Appendix A of the DEIS), the Forest Service may issue Special Use Authorizations (SUAs) to individual(s) or organization(s) to provide the services (USDA

¹ Recreation use area boundaries were determined at public meetings in Ketchikan, AK. These use areas were used to analyze seasonal visitor capacities and will be used to administer recreation special use permits for the KMRD. The use areas only aid in analysis and administration and will not be permanently assigned through the Forest Plan or any other planning document.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

2008b, p. 4-46). This project proposal also responds to Forest Service Manual and Handbook direction (FSM 2720 and FSH 2709.14), which allows for issuance of priority use permits after a needs assessment and visitor capacity analysis have been completed to identify the public or agency need for outfitting and guiding activities and assess the amount of use that may be conducted without detrimental social and environmental impacts. Multi-year priority use permits allow outfitters and guides to make financial commitments necessary to continue providing service to the public.

A District-wide outfitter and guide plan is needed because the current permitting process:

- Does not satisfy Forest Service direction for issuing long-term priority use permits,
- Does not provide the District Ranger with a District-wide strategy for reducing conflicts between guided and unguided visitors and ensuring a range of recreational opportunities are offered across KMRD,
- Does not allow the Forest Service to respond to special use permit applications in a timely manner because, without a comprehensive analysis, each application involves a separate analysis and scoping process consistent with the NEPA, and
- Does not fully address cumulative impacts of outfitter and guide use on forest resources, including wilderness character.

Purpose

The purpose of this project is to:

- Determine the amount of outfitter and guide use to allocate for each of the 28 recreation use areas on the Ketchikan-Misty Fiords Ranger District,
- Satisfy Forest Service direction for issuance of long-term, priority use permits,
- Provide opportunities for guided use while minimizing resource impacts and conflicts between guided and unguided visitors,
- Provide standards and indicators for monitoring social conditions across KMRD,
- Develop an adaptive management strategy for adjusting guided use allocations based on monitoring information collected during the life of this plan,
- Improve the Forest Service's ability to process permits in a timely manner, and
- Address cumulative impacts of outfitter and guide use on forest resources, including wilderness character.

Proposed Action

The action proposed by the Forest Service to meet the purpose and need is to authorize outfitter and guide operations through the issuance of special use permits based on the Determination of Need for Commercial Uses on the Ketchikan-Misty Fiords Ranger District (Appendix A of the DEIS, USDA Forest Service 2008a), visitor capacity estimates, and guided use allocations for KMRD's 28 recreation use areas (Figure 1-2).

The Proposed Action would authorize the issuance of outfitter and guide permits for KMRD. Of the estimated annual visitor capacity of approximately 148,000 service days, the Proposed

Action would allocate 53,997 service days annually for outfitter and guide use on the KMRD (5,126 service days in the spring, 44,416 service days in the summer, and 4,455 service days in the fall). The Proposed Action allocates 10 to 75 percent of the visitor capacity in 26 of the recreation use areas to outfitters and guides during the summer season and 10 to 50 percent during the spring and fall seasons. Outfitting and guiding would not be allowed in two of the 28 recreation use areas.

Due to low actual and anticipated use by outfitters and guides in the winter season (October 21- April 19) no allocation of use in the winter is being proposed at this time. See Chapter 2, Elements Common to All Action Alternatives for a full description.

All outfitter and guide operations will be subject to area-wide and site-specific management elements and mitigation measures to protect natural and historic resources and minimize crowding and conflicts between guided and unguided visitors. These management elements and mitigations are described in Chapter 2 of the FEIS and Appendix B of the DEIS.

The Proposed Action includes the ability to use adaptive management to maintain a range of quality recreation experiences across KMRD and a balance between guided and unguided use. Adaptive management may result in increased or decreased allocations or other adjustments for specific recreation use areas based on standards and the level of effects. See Chapter 2 for a complete description of the Proposed Action and further information on the adaptive management being proposed.

Issues

The following five issues were determined to be significant and within the scope of the project decision. The IDT developed alternatives to the Proposed Action to address these issues. Additional issues were considered but did not form the basis for an alternative; they are discussed under Other Issues and Concerns in Chapter 1.

Units of measure were defined to identify how each alternative responds to a significant issue. Measures are shown in Chapter 1 and discussed in Chapter 3.

Significant Issues

Issues for the Ketchikan-Misty Fiords Ranger District Outfitter and Guide Management Plan project were identified through public and internal scoping.

Issue 1:

Limiting the amount and location of outfitter and guide use may not adequately provide for industry stability and growth.

Issue 2:

Outfitter and guide use may cause crowding, noise, and disturbance, particularly in locations popular with unguided users.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Issue 3:

Allowing outfitter and guide use in 04 Duke and 21 Percy Hotspur Mary use areas may affect historic properties, sacred sites and traditional cultural properties.

Issue 4:

Noise associated with floatplanes and boats in and around Misty Fiords National Monument Wilderness may negatively impact wilderness character.

Issue 5:

Outfitter and guide use may negatively affect wildlife, subsistence uses, and cultural and traditional uses.

Alternative Descriptions

Alternative A (the No Action Alternative), the Proposed Action (Alternative B), and two other action alternatives are considered in detail. The other action alternatives represent different options of satisfying the Purpose and Need by responding with different emphases to the significant issues discussed in Chapter 1. Elements Common to all the Action Alternatives and Design Elements and Mitigation required by all the action alternatives are included in separate sections below and discussed further in Appendix B of the DEIS. Maps of all alternatives considered in detail are provided at the end of Chapter 2.

As described in Public Involvement in Chapter 1 and Appendix E of the DEIS, the Ketchikan-Misty Fiords Ranger District used a Limits of Acceptable Change (LAC) public planning process prior to NEPA to determine public perceptions, desires, and needs regarding outfitter and guide use on the KMRD. This collaborative planning process was used to develop the visitor capacity and the Proposed Action alternative; it also formed the basis for the other action alternatives.

KMRD used public input to learn, define, and adjust the many components used to determine visitor capacity and to develop the Proposed Action for this analysis.

The other action alternatives in this EIS were designed to address resource issues brought forward by the Interdisciplinary Team (IDT) and Tribal entities as well as issues brought up during scoping, the KMRD open house, and during previous collaborative processes. To see full descriptions of the alternatives, see the “Alternative Descriptions” section of the FEIS.

Alternative A (No Action)

For this analysis, the No Action alternative is the current actual use by outfitters and guides on the KMRD. Under this alternative, outfitter and guide special use permits could be issued up to the highest actual use, by recreation use area, that occurred between 2005 and 2009. See Figure 1-2 for recreation use area locations. District-wide, that highest actual use level is 24,245 service days per year (calculated by taking the highest use between 2005 and 2009 per use area per season and adding these highest uses together to get a District total for the 182-day combined spring/summer/fall seasons). The highest guided use levels have been

741 service days in the spring, 23,424 service days in the summer, and 80 service days in the fall (Table 2-2). Under Alternative A use would not be issued by season. The highest actual use, by recreation use area, could be issued at any time spring, summer or fall.

A decision for Alternative A would only allow permitting up to the highest use level shown in Table 2-2; new environmental analysis would be required for higher use levels in any recreation use area. In Alternative A, use levels are used for comparison and no use is allocated to outfitters and guides. Alternative A recognizes that changes in permits (through new environmental analysis) could increase or decrease the use.

Management of the outfitter and guide special uses program would continue to authorize outfitter and guide use on a case by case basis. New permit requests or requests from existing permit holders to increase use above the highest actual use shown under column “Alt. A” in Table 2-2 and 2-6 would require new environmental analysis. New permits can take a few weeks or several years depending on the amount of analysis needed and the availability of specialists to do the analysis. Alternative A does not meet current Forest Service Handbook direction for outfitter and guide management (FSH 2709.14, Chapter 50, Section 53).

Existing permit stipulations would continue to be implemented. Forest Plan ROS standards and guidelines would apply; the four recreation zones and associated social indicators and standards proposed in the action alternatives would not be implemented. New design criteria, mitigation measures, and stipulations brought forward in Appendix B of the DEIS would not apply in this alternative.

Alternative B

Using the LAC process, KMRD developed the Proposed Action (Alternative B – see Proposed Action above). The Proposed Action would allocate 53,997 service days annually for outfitter and guide use on the KMRD (see Table 2-3, and Figures 2-3 and 2-4 at the end of Chapter 2). The Proposed Action allocates 5,126 service days in the spring, 44,416 service days in the summer, and 4,455 service days in the fall for outfitter and guide use.

Alternative C

Using the estimated visitor capacity, this alternative allocates half of the total visitor capacity to outfitters and guides in all recreation use areas. This equates to an allocation of 74,005 service days annually for outfitter and guide use on the KMRD (Table 2-4 and Figure 2-5 at the end of Chapter 2). Alternative C allocates 9,360 service days in the spring, 56,514 service days in the summer, and 8,131 service days in the fall for outfitter and guide use.

Alternative D

Alternative D would allocate 34,904 service days annually for outfitter and guide use on the KMRD (see Table 2-5 and Figures 2-6 and 2-7 at the end of Chapter 2). Alternative D allocates 3,341 service days in the spring, 28,655 service days in the summer, and 2,908 service days in the fall for outfitter and guide use.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Adaptive Management

Adaptive management would be implemented in all the action alternatives:

Adaptive management is a process of monitoring results and adjusting the chosen action to meet desired outcomes while staying within established criteria. In the future, if a recreation use area nears or exceeds the indicators and standards, or if unforeseen and unknown or substantial resource impacts occur as a result of implementing the selected alternative, the KMRD will use adaptive management and take administrative steps to address the areas of concern. The steps that cause the least impact to recreational visitors would be implemented first if there was no immediate threat to resources or facilities. Adaptive management may also be used to raise or lower allocation; see Chapter 2 of the FEIS for details.

Table S-1) Annual Outfitter and Guide Allocation in Service Days by Alternative and Use Area (for Alternative A, highest use is displayed for comparison)

Recreation Use Area	Service Days Authorized (in 2009)	Carrying Capacity in Service Days	Annual Service Days Allocated			
			Alt. A (2005-2009 Highest Use)	Alt. B	Alt. C	Alt. D
01 West Misty	77	2,366	96	355	1,184	355
02 Northeast Misty	170	7,425	211	1,114	3,713	372
03 South Misty	229	6,989	220	1,048	3,495	699
04 Duke Island	0	2,839	22	0	1,420	0
05 South Misty Lakes	34	2,075	100	311	1,038	208
06 Misty Core Lakes	11,268	12,777	9,539	7,922	6,389	1,917
07 Walker Chickamin	60	1,747	37	262	873	174
08 Burroughs Unuk	45	1,965	11	294	983	98
09 Alava Princess Manzanita	45	3,550	29	710	1,776	533
10 Rudyerd Winstanley	247	3,931	155	393	1,966	197
11 Gravina Island	0	4,259	0	853	2,130	0
12 Bell Island	370	9,173	275	1,835	4,587	918
13 East Cleveland	93	4,969	230	994	2,485	248
14 West Cleveland	100	2,839	13	853	1,420	426
15 Wilson / Bakewell	183	2,020	54	404	1,010	302
16 Ketchikan Core SPNW	0	1,419	12	426	710	142
17 George Carroll Thorne	1,599	5,679	813	3,655	2,841	2,571
18 Central Revilla SPNW	32	5,023	19	1,507	2,512	1,507
19 North Revilla	65	4,259	37	1,277	2,130	1,277
20 Hyder SPNW	20	2,129	4	639	1,065	639
21 Percy Hotspur Mary Islands	0	2,129	0	639	1,065	0
22 Hyder NA	5	1,419	27	710	710	710
23 Betton Island	8,315	15,288	8,431	10,202	7,644	9,841
24 Ketchikan Core NA	2,189	28,392	1,572	11,357	14,196	7,098
25 South Revilla NA	20	2,839	2	1,895	1,420	1,252
26 Central Revilla NA	28	2,839	0	1,136	1,420	751
27 Margaret Bay	2,574	4,805	2,322	3,206	2,403	2,670
28 Naha Bay	0	2,839	14	0	1,420	0
Total	27,768	147,983	24,245	53,997	74,005	34,904

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative.

Table S-2) Comparison of Alternatives

Issues and Resources	Alternative A Effects	Alternative B Effects	Alternative C Effects	Alternative D Effects
Issue 1: Limiting the amount and location of outfitter and guide use may not adequately provide for industry stability and growth.				
<p>Number of service days allocated to outfitters and guides by recreation use area and number of service days allocated to outfitters and guides in 06 Misty Core Lakes, 11 Gravina Island, 17 George Carroll Thorne, and 27 Margaret Bay Use Areas (Recreation Use Areas identified by outfitters and guides as desired locations)</p>	<p>Service days available to outfitters and guides will remain the same as highest use, 24,245 SD/yr. When an outfitter or guide applies for a special use permit the appropriate level of environmental analysis must be completed to evaluate the proposed use and its effect upon the land and resources. The time this takes is dependent on the proposed use and availability of resource specialists, which may mean missed opportunities for business growth. There is no room for outfitters and guides to expand their businesses above their currently authorized amount without new environmental analysis. In areas of concern to outfitters and guides, current highest use is 12,372 SDs in the summer season including 9,258 SDs in 06 Misty Core Lakes. Alternative A does not meet current Forest Service Handbook direction for outfitter and guide management (FSH 2709.14, Chapter 50, Section 53).</p>	<p>Service days allocated to outfitters and guides increase to 53,997 SDs annually (all seasons for the entire district). The service days available for outfitter and guide use increases by 29,752 SDs, a 123 percent increase, over Alternative A. In areas of concern to outfitters and guides, Alternative B allocates 13,974 SDs in the summer season—an overall increase. In 06 Misty Core Lakes, there would be a decrease to 7,318 SDs per summer.</p>	<p>Service days allocated to outfitters and guides increase with this alternative to 74,005 SDs annually (all seasons for the entire district). The service days available for outfitter and guide use increases by 49,760 SDs, a 205 percent increase, over Alternative A. In areas of concern to outfitters and guides, Alternative C allocates 10,510 SDs in the summer season. This includes an increase in two recreation use areas, and a decrease in two areas. In 06 Misty Core Lakes, there would be a decrease to 4,879 SDs per summer.</p>	<p>Service days allocated to outfitters and guides increase with Alternative D to 34,905 SDs annually (all seasons for the entire district). The service days available for outfitter and guide use increases by 10,660 SDs, a 44 percent increase, over Alternative A. In areas of concern to outfitters and guides, Alternative D allocates 6,019 SDs in the summer season. This includes an increase in two recreation use areas, and a decrease in one area. In 06 Misty Core Lakes, there would be a decrease to 1,464 SDs per summer.</p>

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Issues and Resources	Alternative A Effects	Alternative B Effects	Alternative C Effects	Alternative D Effects
Issue 2: Outfitter and guide use may cause crowding, noise, and disturbance, particularly in locations popular with unguided users (areas identified by unguided users as locations of interest or concern: 04 Duke Island, 08 Burroughs Unuk, 11 Gravina Island, 12 Bell Island, 13 East Cleveland, 17 George Carroll Thorne, 23 Betton Island, 24 Ketchikan Core NA, 27 Margaret Bay, and 28 Naha Bay Use Areas).				
Number of service days on KMRD allocated to outfitters and guides - overall (see Tables 2-6 and 2-7 for individual recreation use areas)	24,245 SDs*	53,997 SDs	74,005 SDs	34,904 SDs
Number of service days allocated during the summer to outfitters and guides in unguided users' areas of interest or concern	13,260 SDs*	26,472 SDs	30,631 SDs	19,699 SDs

Final Environmental Impact Statement

Issues and Resources	Alternative A Effects	Alternative B Effects	Alternative C Effects	Alternative D Effects
<p>Effects to crowding, noise, and disturbance in unguided users' areas of interest or concern</p>	<p>Crowding and conflict are likely under Alternative A because design criteria including new standards for social encounter rates and adaptive management (for Alternatives B, C, and D) would not be implemented. New environmental analyses for increased use requests would consider the Forest Plan ROS guidelines which allow for five- to ten-fold increases in the number of social encounters per day in most Recreation Use Areas. Of the alternatives, Alternative A is the least likely to disperse outfitter and guide use into less popular areas on the wilderness and nonwilderness portions of the KMRD and is most likely to result in negative indirect social effects in those areas identified as high local concern to unguided users.</p>	<p>Moderate impacts to unguided visitors' experiences in some areas identified as highly-valued local areas could occur because of increased allocations in these areas (a 99% increase over the highest summer use from 2005-2009). Design criteria and mitigation measures would ensure that crowding and impacts from outfitter and guide use are minimized in popular locations and attractions within these use areas.</p>	<p>Of the action alternatives, Alternative C is most likely to affect unguided visitors' experiences because it allows for the most guided use (a 131% increase over the highest summer use). However, design criteria and mitigation measures would ensure that crowding and impacts from outfitter and guide use are minimized in popular locations and attractions within these use areas. By limiting the amount of outfitter and guide use in the 06 Misty Core Lakes Use Area, Alternative C has the potential to disperse flightseeing traffic and cause indirect effects to social conditions (e.g. crowding and additional floatplane landings) on adjacent waterways, particularly in Rudyerd Bay and Walker Cove.</p>	<p>Alternative D has the least likelihood of having a negative impact on unguided visitors' experiences in areas identified as highly-valued local areas because a low (49% increase over the highest summer use) allocation increase is offset by implementation of design criteria and social encounter standards.. Alternative D has the highest potential to disperse flightseeing traffic and cause indirect effects to social conditions (e.g. crowding and additional floatplane landings) on waterways adjacent to NFS lands in Misty Fiords, particularly in Rudyerd Bay and Walker Cove.</p>

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Issue 3: Allowing outfitter and guide use in 04 Duke and 21 Percy Hotspur Mary use areas (the Duke Island area) may affect historic properties, sacred sites and traditional cultural properties.				
Number of service days allocated to outfitters and guides in 04 Duke and 21 Percy Hotspur Mary use areas	22 SDs**	639 SDs	2,485 SDs	0 SDs
Effect to historic properties, sacred sites and traditional cultural properties	The activities in all four alternatives of this EIS will have No Effect on historic properties eligible to the National Register of Historic Places. However, the potential for commercial use of the “Duke Island area” may affect cultural and traditional uses of one of its two use area and has the potential to negatively affect the spiritual qualities or sacredness of the Duke Island area.	No Effect on historic properties; an increase in the number of service days allocated to outfitters and guides would allow additional commercial use of one of its two use areas which may affect cultural and traditional uses and the potential to negatively affect the spiritual qualities or sacredness of the Duke Island area.	No Effect on historic properties; an increase in the number of service days allocated to outfitters and guides would allow additional commercial use of both of these two use areas which may affect cultural and traditional uses and the potential to negatively affect the spiritual qualities or sacredness of the Duke Island area.	No Effect on historic properties; Alternative D has the least potential for effects and keeps the current status of management.

Issue 4: Noise associated with floatplanes and boats in and around Misty Fiords National Monument Wilderness may negatively impact wilderness character.				
Number of service days allocated in Misty Fiords National Monument Wilderness	10,398 SDs*	12,409 SDs	21,417 SDs	4,553 SDs
Number of service days allocated in 06 Misty Core Lakes	9,539 SDs*	7,922 SDs	6,389 SDs	1,917 SDs
Number of service days allocated to Misty Fiords Wilderness outside 06 Misty Core Lakes	859 SDs*	4,487 SDs	15,028 SDs	2,636 SDs
Effects on opportunities for solitude due to noise	<p>Alternative A allows for the highest amount of outfitter and guide use in 06 Misty Core Lakes. Guided floatplane tours in this Use Area have, and would continue to have, a major effect (as defined in Table 3-4) on opportunities for solitude in the core area of Misty Fiords. Under Alternative A, outfitter and guide use is the least likely to be dispersed to areas that currently offer a high level of opportunities for solitude. Opportunities for solitude on the saltwater bays adjacent to the 07 Walker Chickamin and 10 Rudyerd Winstanley Use Areas is expected to remain similar to existing conditions.</p>	<p>Alternative B would improve opportunities for solitude in the 06 Misty Core Lakes Use Area because it allocates less use to outfitters and guides in this Use Area. Alternative B would have a minor negative effect on opportunities for solitude in the 01 West Misty, 02 Northeast Misty, and 05 South Misty Lakes Use Areas, by displacing floatplane traffic to these areas. Cumulatively, floatplane traffic could also be displaced to the saltwater areas adjacent to the 07 Walker Chickamin and 10 Rudyerd Winstanley Use Areas, reducing the opportunity for solitude in those areas.</p>	<p>Alternative C would improve opportunities for solitude in the 06 Misty Core Lakes Use Area but would allow for a significant increase in motorized traffic associated with outfitter and guide floatplane landings in the 01 West Misty and 02 Northeast Misty Use Areas. An increase in floatplane traffic in these areas is inconsistent with Forest Plan direction to not disperse use in wilderness. Effects to wilderness character would be moderate to major. Adjacent saltwater areas could see a minor effect to opportunities for solitude from floatplane traffic displaced from the 06 Misty Core Lakes Use Area.</p>	<p>Alternative D would significantly reduce the effects from guided floatplane landings in 06 Misty Core Lakes. Alternative D would allow for a small increase in motorized traffic associated with outfitter and guide floatplane landings in the 01 West Misty, 02 Northeast Misty, and 05 South Misty Lakes Use Areas. Effects on opportunities for solitude on NFS lands would be minor. Cumulatively, Alternative D could have a major effect on opportunities for solitude on the adjacent saltwater areas of 07 Walker Chickamin and 10 Rudyerd Winstanley Use Areas.</p>

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Issue 5: Outfitter and guide use may negatively affect wildlife, subsistence uses, and cultural and traditional uses.				
Effects on Wildlife	Potential effects to wildlife occur when disturbance from outfitter and guide activities overlap with crucial life phases. Generally high relative risk to wildlife, because design elements and adaptive management do not apply to this alternative and because low initial use does not limit future allocations. New environmental analysis could consider use up to visitor capacity.	Potential effects to wildlife may occur when disturbance from outfitter and guide activities overlap with crucial life phases; generally moderate relative risk to wildlife because of the moderate allocation and inclusion of design elements.	Potential effects to wildlife may occur when disturbance from outfitter and guide activities overlap with crucial life phases; generally high relative risk to wildlife because of the high allocation.	Potential effects to wildlife may occur when disturbance from outfitter and guide activities overlap with crucial life phases; generally low or lowest relative risk to wildlife because of the low allocation and inclusion of design elements.
Effects on Subsistence Use	<p>This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources because it will not affect overall abundance or distribution of any subsistence resource at the Community Use, WAA, or GMU level, nor will it change access to or competition for those resources.</p> <p>Established modes of access (by foot, boat, vehicle, and ATV) would remain available under all the alternatives since this project does not close roads, trails, or eliminate docks or buoys.</p>	<p>This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources because it will not affect overall abundance or distribution of any subsistence resource at the Community Use, WAA, or GMU level, nor will it change access to or competition for those resources.</p> <p>Established modes of access (by foot, boat, vehicle, and ATV) would remain available under all the alternatives since this project does not close roads, trails, or eliminate docks or buoys.</p>	<p>This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources because it will not affect overall abundance or distribution of any subsistence resource at the Community Use, WAA, or GMU level, nor will it change access to or competition for those resources.</p> <p>Established modes of access (by foot, boat, vehicle, and ATV) would remain available under all the alternatives since this project does not close roads, trails, or eliminate docks or buoys.</p>	<p>This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources because it will not affect overall abundance or distribution of any subsistence resource at the Community Use, WAA, or GMU level, nor will it change access to or competition for those resources.</p> <p>Established modes of access (by foot, boat, vehicle, and ATV) would remain available under all the alternatives since this project does not close roads, trails, or eliminate docks or buoys.</p>

Effect to cultural and traditional uses	The potential for commercial use of the Duke Island area may affect cultural and traditional uses of one of its two use areas.	An increase in the number of service days allocated to outfitters and guides would allow additional commercial use of the Duke Island area which may affect cultural and traditional uses of one of its two use areas.	An increase in the number of service days allocated to outfitters and guides would allow additional commercial use of the Duke Island area which may affect cultural and traditional uses of both of its two use areas.	Alternative D has the least potential for effects to cultural and traditional uses; it keeps the current status of management.
---	--	--	---	--

* In Alternative A, no use will be allocated to outfitters and guides. Highest use numbers are shown here for comparison.

** Use in this area has not been permitted since 1999. However, unplanned use occurred in one year by a guide who had formerly been permitted in the area and did not realize it was closed. That use was stopped upon discovery and has not occurred again. Alternative 1 is described as actual use, not permitted use. Thus actual use is shown and considered for comparison's sake.

(Source: Ketchikan-Misty Fiords Outfitter and Guided Recreation project Chapter 3 and Resource Reports)

This page left blank intentionally.

Table of Contents



TABLE OF CONTENTS

Chapter 1, Purpose and Need	1
Introduction.....	1
Project Area Description	1
Background.....	5
Purpose and Need for Action.....	8
Need	8
Purpose.....	8
Summary of the Proposed Action	9
Decision Framework.....	10
Public Involvement	11
Limits of Acceptable Change (LAC).....	11
NEPA Public Involvement.....	12
Issues.....	15
Significant Issues	16
Other Issues and Concerns.....	17
Other Agency Permits, Licenses, and Certifications	21
Planning Record	22
Other Related Efforts	22
Chapter 2, Alternatives, including the Proposed Action	25
Introduction.....	25
Alternatives Considered but Eliminated from Detailed Analysis.....	25
Alternative Development Process	26
No Action (Alternative A)	30
Proposed Action (Alternative B)	30
Alternative C.....	31
Alternative D.....	32
Alternative Descriptions	32
Elements and Assumptions Common to All Alternatives	32
Alternative A (No Action)	33
Alternative B (Proposed Action)	36
Alternative C.....	38
Elements Common to All Action Alternatives	40
Project Design and Mitigation Measure	43
Project Monitoring	43
Identification of the Preferred Alternative	46
Comparison of Alternatives	46

Chapter 3, Affected Environment and Environmental Consequences 67

- Introduction..... 67
- Analyzing Effects..... 67
 - Direct, Indirect, and Cumulative Effects68
 - Short-term Uses and Long-term Productivity68
 - Unavoidable Adverse Effects69
 - Irreversible and Irrecoverable Commitments of Resources69
 - Adaptive Management and Effects.....70
 - Analysis of the Alternatives by Issue.....71
- Socioeconomics..... 71
 - Affected Environment.....71
 - Environmental Consequences72
- Wilderness..... 77
 - Affected Environment.....78
 - Environmental Consequences87
- Recreation 92
 - Affected Environment.....94
 - Environmental Consequences101
- Heritage 110
 - Affected Environment.....110
 - Environmental Consequences112
- Wildlife..... 114
 - Affected Environment.....115
 - Environmental Consequences125
- Subsistence Uses 143
 - Affected Environment.....143
 - Environmental Consequences145
- Botany 148
 - Affected Environment.....148
 - Environmental Consequences154
- Hydrology and Fisheries..... 159
 - Affected Environment.....159
 - Environmental Consequences161
 - Essential Fish Habitat167
- Soils, Wetlands, Geology, and Karst..... 168
 - Affected Environment.....168
 - Environmental Consequences169
- Other Required Disclosures 170

Chapter 4, lists 173
List of Preparers and Contributors..... 173
Distribution of the EIS 174
References Cited..... 178
Glossary..... 186
Index 191

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

This page left blank intentionally

Chapter 1

Purpose and Need

Changes Between DEIS and FEIS

- Minor corrections, additions, or revisions were made to correct spelling or clarify meaning and to respond to public comments and questions.
- Maps were revised or color was added to make differences between areas easier to distinguish.
- References were corrected to match the most recent Forest Service Handbook direction.
- A short summary of current guided uses was added to the Background section.
- Information was added to the public involvement section including information on subsistence hearings, publication of the FEIS, and public comments. We added an appendix (Appendix A) to the FEIS to show the comments we received on the DEIS and our responses to those comments.
- The section on outfitter and guide use of cabins was revised to reflect the possibility that a decision on this project could modify which cabins can be used by outfitters or guides.

CHAPTER 1, PURPOSE AND NEED

Introduction

The Ketchikan-Misty Fiords Ranger District (KMRD), U.S. Forest Service, has prepared this Final Environmental Impact Statement (FEIS), in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations, to analyze how to allocate (or distribute) visitor capacity on KMRD. The allocation will set use levels for outfitter and guide permits but will not set use levels for unguided visitors. Unguided visitors (those people visiting the Tongass National Forest without an outfitter or a guide) can continue to enjoy KMRD recreation and subsistence opportunities in the same way they do now. Guided visitors, in this FEIS, are those people visiting the Tongass who use the services of an outfitter or a guide; as used throughout this FEIS, guided use also includes use of an outfitter. Unguided visitors accessing the Tongass through a transporter (essentially, point to point charter transportation by boat, plane, or other vehicle-see Chapter 4 for definitions) would be unaffected by this plan.

This FEIS discloses the direct, indirect, and cumulative environmental impacts that would result from the Proposed Action and alternatives. The document is organized into four parts:

Chapter 1 - Purpose and Need: This section includes information on the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and public responses.

Chapter 2 - Alternatives: This section provides a more detailed description of the agency's Proposed Action and compares it to the no-action alternative and alternatives to the Proposed Action. This discussion also includes project management measures. Finally, this section provides a summary table of the environmental consequences associated with the alternatives.

Chapter 3 - Affected Environment and Environmental Consequences: This section describes the existing conditions and the environmental effects of implementing the action alternatives and no action. This analysis is organized by resource area.

Chapter 4 - Lists: This section provides a list of document preparers and agencies consulted during the development of the environmental analysis, as well as a list of references used to prepare this FEIS.

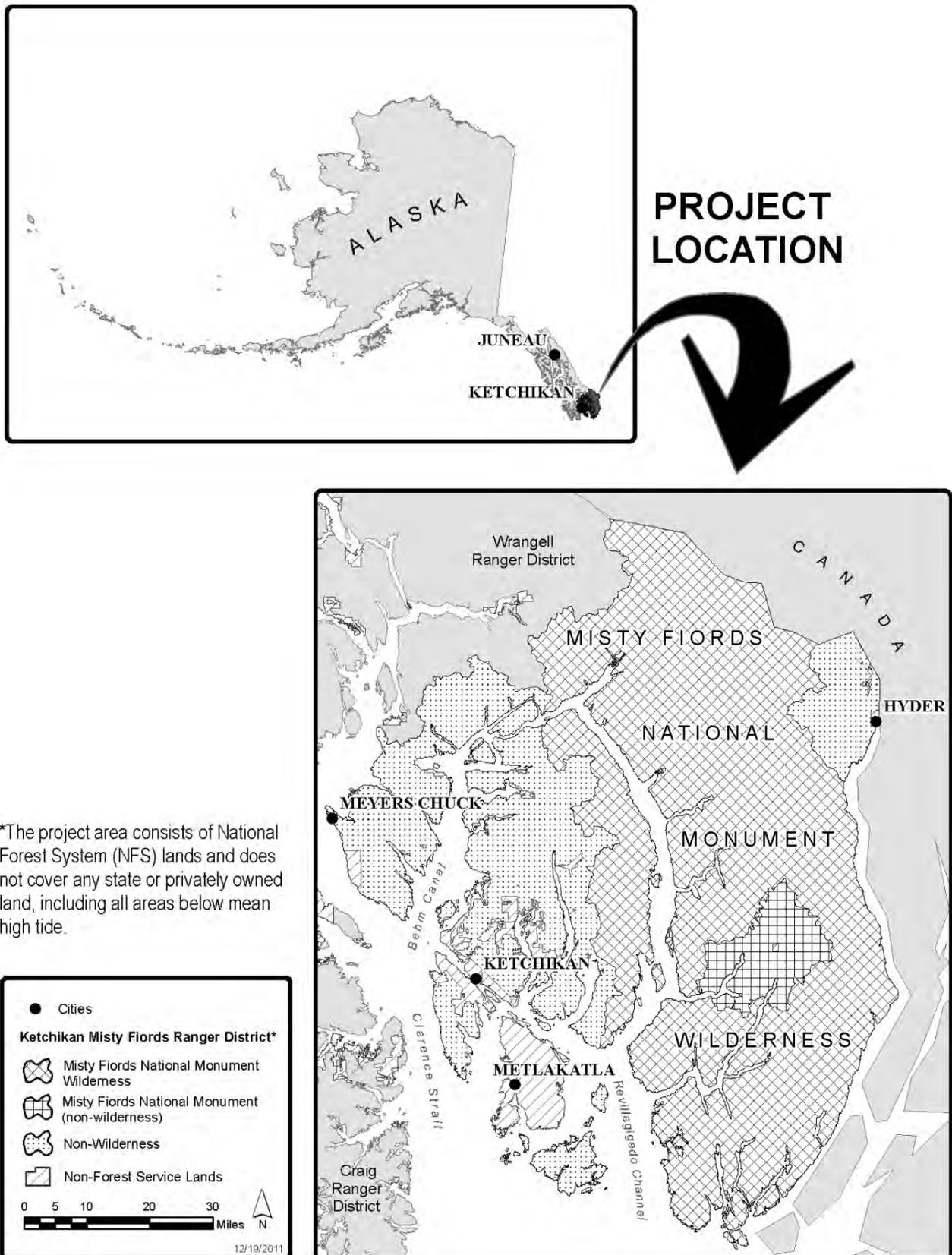
Additional documentation, including detailed resource-specific descriptions of the project area and analyses of the project effects, may be found in the project planning record located at the KMRD Office in Ketchikan, Alaska.

Project Area Description

The project area consists of the National Forest System (NFS) lands encompassing the Ketchikan-Misty Fiords Ranger District (KMRD) of the Tongass National Forest (Figure 1-1). KMRD encompasses over 3.2 million acres of temperate rainforest, mountain peaks,

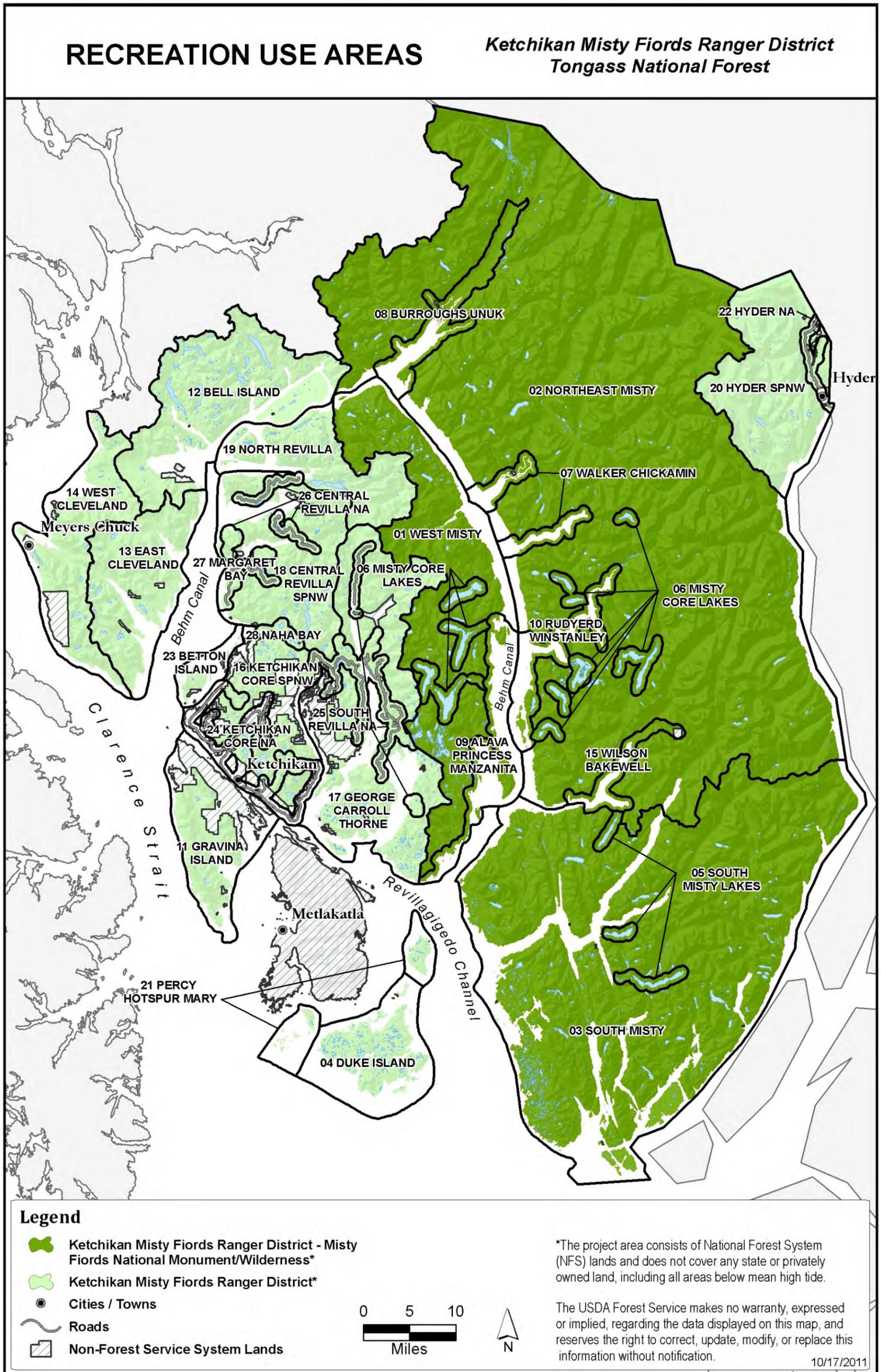
Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Figure 1-1) Ketchikan-Misty Fiords Ranger District (KMRD) Vicinity Map



*The project area consists of National Forest System (NFS) lands and does not cover any state or privately owned land, including all areas below mean high tide.

Figure 1-2) Ketchikan-Misty Fiords Outfitter and Guide Management Plan Project Area including Recreation Use Areas



Back of Figure 1-2

glaciers, alpine tundra, muskegs, lakes, rivers, and streams. Approximately two-thirds of these acres are in Misty Fiords National Monument Wilderness. While the communities of Ketchikan, Hyder, Metlakatla, Meyers Chuck, Saxman, and Loring fall within the KMRD boundary, the project area excludes state and privately owned land, including all areas below mean high tide. Figure 1-2 displays the project area. For the purpose of this project, KMRD is divided into 28 recreation use areas¹ (see Figure 1-2 and Table 2-1 in Chapter 2). Maps of each recreation use area are in Appendix B of the Draft Environmental Impact Statement (DEIS).

Background

Visitor capacity, for this project, is the estimated number of users, both guided and unguided, that can be accommodated in a given area without a loss in the quality of the recreation experience.

In 2007, the Forest Supervisor determined a need existed for outfitter and guide services within Wilderness Areas on the Tongass. The amount, type and extent of services needed are determined by the District Ranger prior to issuing outfitter and guide permits in Wilderness Areas (Wilderness Act, FSH 2709.14 50.53f, USDA 2007).

In 2008, a Determination of Need for Commercial Uses on the KMRD (Appendix A of the DEIS, USDA Forest Service 2008a) was completed that demonstrated the need for commercially guided opportunities on the wilderness and non-wilderness portions of KMRD. The District Ranger determined there was a need for the following commercially-guided activities:

- brown bear, black bear, and mountain goat hunting,
- floatplane landing tours,
- freshwater fishing,
- remote setting nature tours (e.g. hiking, beach activities, sightseeing, wildlife viewing),
- wildlife viewing at developed sites,
- camping,
- road-based nature tours, and
- institutional use (e.g. youth and education groups).

Only these guided uses would be permitted through a decision on this analysis. Other types of uses would have to be considered on a case-by-case basis with a separate NEPA analysis.

In September 2008, the Forest Service revised our directives governing special use permits for outfitting and guiding conducted on NFS lands (Forest Service Handbook 2709.11 Chapter 40, Section 41.53). Another revision occurred in 2011 (Forest Service Handbook 2709.14 Chapter 50, Section 53). The handbook provides direction that clarified policy on

¹ Recreation use area boundaries were determined at public meetings in Ketchikan, AK. These use areas were used to analyze seasonal visitor capacities and will be used to administer recreation special use permits for the KMRD. The use areas only aid in analysis and administration and will not be permanently assigned through the Forest Plan or any other planning document.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

issuing and administering temporary and priority use permits. The 2008 and 2011 revisions did not affect the allocation of use but might change how use is distributed.

Before this NEPA process began, the KMRD conducted a public process to determine public perceptions, desires, and needs regarding outfitter and guide use on KMRD. This process was based on the Limits of Acceptable Change (LAC) process described in the Public Involvement section of this chapter. KMRD wanted to provide an opportunity to residents and visitors, outfitters, guides, and other interested parties to be involved. The overall goal of the LAC process was to provide opportunities for enjoyment of NFS lands through guided and unguided use while minimizing conflicts and protecting forest resources. The LAC process resulted in development of the Proposed Action (summarized below and described fully in Chapter 2 of this FEIS).

In 2009/2010, it was estimated that the total visitor capacity for Ketchikan-Misty Fiords Ranger District is approximately 148,000 service days annually (Visitor Capacity Analysis for KMRD, Appendix C of the DEIS). This capacity number estimates how many people can annually use a given area during the spring, summer, and fall seasons, and was used in developing the Proposed Action and alternatives to the Proposed Action for this analysis (see Chapter 2 for alternatives). The visitor capacities are designed as the maximum amount of recreation use allowed in order to maintain the standards and guidelines identified during the LAC process, however, they are at a “reasonable use level” compared to Forest Plan standards and guidelines. For a detailed explanation of how the visitor capacity was generated, see the Visitor Capacity Analysis in Appendix C of the DEIS. Due to very low outfitter and guide use in the winter, winter capacity was not determined and winter use by outfitters and guides will not be considered or allocated through this analysis and decision. Winter outfitter and guide use will be considered through other analyses on a case-by-case basis.

Through this National Environmental Policy Act (NEPA) process, the Ketchikan-Misty Fiords District Ranger will decide how much use will be allocated (or distributed) to outfitters and guides through special use permits. In allocating use, the District Ranger will consider uses that serve the public need for outfitter and guide services in ways that protect the natural and cultural resources of the area, and the more primitive social setting desired for an “Alaskan experience²”. The allocation will only set use levels for outfitter and guide permits. The action alternatives (Alternatives B, C, and D – described in Chapter 2 under “Alternative Descriptions”) allow for growth of outfitters and guides in most recreation use areas.

Unguided visitors can continue to enjoy KMRD recreation and subsistence opportunities as they do now. No known subsistence occurs via outfitters and guides. This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources because it will not affect abundance or distribution of any subsistence resource, nor will it change access to or competition for those resources (see Chapter 3).

² During the LAC process, the participants felt that most visitors came to Alaska to experience remote areas, with vast vistas, clean air, few encounters with others, and abundant wildlife and fish. They described this as the Alaskan experience. The Alaskan experience attributes could also be defined as ranging from the Primitive to Semi-primitive Motorized ROS Classes (USDA Forest Service 2008b, Appendix I, pages I-1 to I-3).

The actions proposed in this FEIS respond to the goals and objectives outlined in the Tongass Land and Resource Management Plan (Forest Plan, p. 2-1³). The Forest Plan provides standards and guidelines for authorizing the services of qualified outfitters and guides to the public, where the need for the service has been identified and the use is compatible with the objectives and management direction of the affected Land Use Designation (LUD). The Forest Plan Forest-wide Standard and Guidelines for Recreation and Tourism state in part:

“Generally allocate no more than one-half the appropriate capacity of the LUD to outfitter/guide operations. For specific locations, consider different allocations based on historical use, changing demand, spatial zoning, or temporal zoning.” (USDA Forest Service 2008b, p. 4-46).

Congress passed a variety of laws that allow outfitting and guiding services on NFS lands. National policy allows the Forest Service to issue either temporary or priority special use permits to qualified outfitters and guides.

Temporary special use permits may be issued for minor, non-recurring outfitting and guiding activities in amounts of up to 200 service days in a 180-day period. They are not subject to renewal. They may be offered on a first-come, first-served or lottery basis and are issued only for intermittent or transient outfitting and guiding conducted on NFS lands (FSH 2709.14, Chapter 50, Section 53.1k).

Priority special use permits may be issued for up to 10 years with a probationary 2-year permit term for new priority use permit holders that may be extended for up to 8 years based upon satisfactory performance (FSH 2709.14, Chapter 50, Section 53.1m).

Priority use permit allocation is based on the highest amount of actual use in 1 calendar year during a 5-year period. Permit holders with 1,000 service days or less can acquire an additional 25 percent of their highest actual use year and permit holders with more than 1,000 service days can acquire an additional 15 percent, provided that the total does not exceed the allocation when the permit was issued (FSH 2709.14, Chapter 50, Section 53.1n). This approach to reviewing use allocations takes into account market fluctuations, availability of state hunting licenses, and natural phenomena.

Current guided uses across KMRD are as follows:

- Just over half of the guided use on KMRD is nature tours, including hiking, photography, sightseeing, and kayaking or camping tours.
- Floatplane (flightseeing) landing tours are about one-third of the total guided use on KMRD.
- Nearly ten percent of the guided use is wildlife viewing (primarily at the Margaret bear viewing area).
- Less than five percent of the use is guided fishing; and
- Less than one percent of the guided use on the district includes hunting for mountain goat, black bear, and brown bear.

³ A range of recreation opportunities is maintained on the Forest from primitive to more urban settings. Recreation opportunities will allow for a different type of experience in visual quality, access, remoteness, visitor management, on-site recreation development, social encounters, and visitor impacts.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

This NEPA process does not designate which permitted activities will take place or designate who will get outfitter and guide permits. Thus, the proportion of various types of guided uses may change. More information on current uses is presented in Chapter 3 and Appendix B of the DEIS.

This NEPA process does not change the way outfitters and guides are permitted at any location, only sets allocation of visitor capacity in service days. The issuance of permits will continue to follow the variety of laws that allow outfitting and guiding services on NFS lands, as stated above. The permit administrators will continue to issue permits, approved by the District Ranger, in the same way they are currently issuing them.

Purpose and Need for Action

Need

Since there is a demonstrated need for commercial service(s) and these services are deemed appropriate (Appendix A of the DEIS), the Forest Service may issue Special Use Authorizations (SUAs) to individual(s) or organization(s) to provide the services (USDA 2008b, p. 4-46). This project proposal also responds to Forest Service Manual and Handbook direction (FSM 2720 and FSH 2709.14), which allows for issuance of priority use permits after a needs assessment and visitor capacity analysis have been completed to identify the public or agency need for outfitting and guiding activities and assess the amount of use that may be conducted without detrimental social and environmental impacts. Multi-year priority use permits allow outfitters and guides to make financial commitments necessary to continue providing service to the public.

A District-wide outfitter and guide plan is needed because the current permitting process:

- Does not satisfy Forest Service direction for issuing long-term priority use permits,
- Does not provide the District Ranger with a District-wide strategy for reducing conflicts between guided and unguided visitors and ensuring a range of recreational opportunities are offered across KMRD,
- Does not allow the Forest Service to respond to special use permit applications in a timely manner because, without a comprehensive analysis, each application involves a separate analysis and scoping process consistent with the NEPA, and
- Does not fully address cumulative impacts of outfitter and guide use on forest resources, including wilderness character.

Purpose

The purpose of this project is to:

- Determine the amount of outfitter and guide use to allocate for each of the 28 recreation use areas on the Ketchikan-Misty Fiords Ranger District,
- Satisfy Forest Service direction for issuance of long-term, priority use permits,
- Provide opportunities for guided use while minimizing resource impacts and conflicts between guided and unguided visitors,

- Provide standards and indicators for monitoring social conditions across KMRD,
- Develop an adaptive management strategy for adjusting guided use allocations based on monitoring information collected during the life of this plan,
- Improve the Forest Service's ability to process permits in a timely manner, and
- Address cumulative impacts of outfitter and guide use on forest resources, including wilderness character.

Summary of the Proposed Action

The action proposed by the Forest Service to meet the purpose and need is to authorize outfitter and guide operations through the issuance of special use permits based on the Determination of Need for Commercial Uses on the Ketchikan-Misty Fiords Ranger District (Appendix A of the DEIS, USDA Forest Service 2008a), visitor capacity estimates, and guided use allocations for KMRD's 28 recreation use areas (Figure 1-2).

The Proposed Action would authorize the issuance of outfitter and guide permits for KMRD. Of the estimated annual visitor capacity of approximately 148,000 service days, the Proposed Action would allocate 53,997 service days annually for outfitter and guide use on the KMRD (5,126 service days in the spring, 44,416 service days in the summer, and 4,455 service days in the fall). The Proposed Action allocates 10 to 75 percent of the visitor capacity in 26 of the recreation use areas to outfitters and guides during the summer season and 10 to 50 percent during the spring and fall seasons. Outfitting and guiding would not be allowed in two of the 28 recreation use areas.

Due to low actual and anticipated use by outfitters and guides in the winter season (October 21- April 19) no allocation of use in the winter is being proposed at this time. See Chapter 2, Elements Common to All Action Alternatives for a full description.

The Proposed Action is consistent with the Forest Plan direction for allocating outfitter and guide use. In the Proposed Action, allocations were considered by specific recreation use area. For example, some of the wilderness areas are remote and difficult to access and, therefore, receive very little unguided use. The predominant historical use in these areas is guided use; thus, to allow access to this difficult to reach area, the allocation to outfitters and guides was set higher (75 percent of the visitor capacity) in the Proposed Action.

All outfitter and guide operations will be subject to area-wide and site-specific management elements and mitigation measures to protect natural and historic resources and minimize crowding and conflicts between guided and unguided visitors. These management elements and mitigations are described in Chapter 2 of the FEIS and Appendix B of the DEIS.

For qualified applicants, the District Ranger may issue priority use or temporary use permits based on the guided use allocation.

The Proposed Action includes the ability to use adaptive management to maintain a range of quality recreation experiences across KMRD and a balance between guided and unguided use. Adaptive management may result in increased or decreased allocations or other adjustments for specific recreation use areas based on standards and the level of effects. See Chapter 2 for a complete description of the Proposed Action and further information on the adaptive management being proposed.

Decision Framework

The Ketchikan-Misty Fiords District Ranger is the responsible official for this proposal. The District Ranger will decide how to manage the outfitter and guide special use program based on the total estimated visitor capacity for commercial use. The District Ranger will consider protection of forest resources and balance the needs of guided and unguided visitors while maintaining a range of quality recreation experiences across KMRD. The District Ranger will also decide what activities will trigger additional review. The type of recreation use for any given recreation use area will not be established by this document.

Given the purpose and need, the District Ranger will review the Proposed Action and the other alternatives in order to make the following decisions:

- Determine whether or not to authorize outfitting and guiding within the 28 recreation use areas identified in this document and what types of guided uses would be allowed under this decision.
- The locations, limitations, management, and allocations for outfitter and guide permits and opportunities on the Ketchikan-Misty Fiords Ranger District for the next five to ten years;
- The extent, amount, and location of commercial use to allocate within the Misty Fiords National Monument Wilderness Area;
- How to manage guided use on the KMRD to minimize potential impacts to all resources;
- What, if any, management elements, mitigation measures and monitoring are needed; and
- What proposals will trigger further review by Interdisciplinary Team (IDT) members.
- The District Ranger will also decide what standards will be used for monitoring and whether and how to use adaptive management to potentially increase or decrease allocations or make other adjustments for specific recreation use areas.

The District Ranger will not address proposals for development⁴ in this document. Development proposals, authorized under different Forest Service authorities and policies, are beyond the scope of this analysis.

Mitigation measures will be incorporated into permits and/or operating plans, and administration and program monitoring. Monitoring will occur during the administration of special use permits and as part of the ongoing program of monitoring forest resources (sensitive and invasive plants, wilderness campsites, etc).

When guided use in specific recreation use areas approaches the allocated levels, requests for use may be redirected to other locations. If this measure is not sufficient to accommodate demand, resulting in a competitive interest, use will be allocated among qualified guides through a competitive process, called a prospectus.

⁴ *Development* would include construction of cabins, trails, campgrounds, tent platforms, resorts, or any other structure or facility.

Public Involvement

The Limits of Acceptable Change (LAC) process was used to develop the Proposed Action alternative. Public involvement in this project occurred during the LAC process and public involvement continues through this EIS.

A substantial amount of public involvement occurred prior to and during the LAC process. Prior to the LAC process, the Alaska Department of Fish and Game (ADF&G) and the Alaska National Interest Lands Conservation Act (ANILCA) office were consulted as the Needs Assessment was being developed. As the LAC process got underway, nearly 200 people participated in one or more of the nine public meetings. Participants included individuals, outfitters and guides, agency representatives, tribal representatives, businesses, and Forest Service personnel. Additional phone calls and meetings were held with those interested in or concerned about particular aspects of the project or the LAC process, such as ADF&G, the ANILCA office, and state Representatives. In most cases, concerns were resolved through the development of the Proposed Action or they have been brought forward into the NEPA process and helped determine alternatives.

We are now reaching the final stages of the NEPA process. The NEPA process includes analysis of alternatives in a draft and final environmental impact statement and distribution of a record of decision (ROD). The difference between the LAC and NEPA processes is analysis and decision. Public involvement for both processes is summarized below. The LAC process and results are further described in Appendix E of the DEIS.

Limits of Acceptable Change (LAC)

Public participation for this project began in January 2009 with a public meeting at the Southeast Alaska Discovery Center in Ketchikan, Alaska. At the meeting, we introduced the proposed planning process, discussed project goals, and shared recreation use information.

Following the initial meeting, KMRD started a recreation planning process that followed the multi-step LAC planning process. This process involved the public and Forest Service managers with the intent to consider both recreation use and resource protection needs. Nine additional public meetings occurred that shared information and gathered comments from interested individuals. This process relied on a sustained relationship between the Forest Service and interested citizens. The meetings took place from January 2009 to April 2010. A website was developed and regularly updated to share information about the project and process and inform the public about meetings and meeting discussions. That website continues to be updated with information from this NEPA process:

<http://www.fs.fed.us/r10/tongass/districts/ketchikan/recreationplanning.shtml>.

The goal of the process was to: 1) identify concerns; 2) develop desired future recreation conditions for 28 proposed recreation use areas; 3) identify standards and indicators that can be used to monitor those conditions; and 4) develop acceptable levels of guided use that can be accommodated without exceeding standards related to desired conditions.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

The goals for the process were met (see Appendix E of the DEIS). During the public process, people:

- identified important recreation values and potential impacts to those values,
- developed four Recreation Opportunity Zones - Primitive Wilderness, Semi-Primitive Wilderness, Semi-Primitive Non-Wilderness, and Natural Accessible – based on resource, social, and management conditions, to ensure that the range of desired recreation conditions and opportunities that people want are provided (see Alternative Development Process Table 2-1 and Figure 2-1 in Chapter 2 of this FEIS),
- recommended the indicators and standards that will be used to understand and monitor recreation use conditions (see Table 2-1, Chapter 2 of this FEIS),
- commented on proposed allocations for guided use that were developed based on the above bullets, and
- identified management actions that could bring conditions up to standard if thresholds are approached or met.

The Proposed Action in this FEIS was developed through the LAC process. The other alternatives were developed based on issues raised at the LAC or brought forward by public comments during NEPA public involvement or by KMRD resource specialists.

NEPA Public Involvement

Federal Register/Federal Announcements: For the environmental analysis part of this project, public participation began with publication of the Notice of Intent (NOI) to complete an environmental impact statement in the *Federal Register*, September 27, 2010 (Vol. 75, No. 186, pp. 59206-59208). This NOI briefly described the project, provided estimated timelines and contacts for the project, and started the comment period on the Proposed Action developed during the LAC process.

The Ketchikan-Misty Fiords Outfitter and Guide Management Plan project has been listed on the Tongass National Forest Schedule of Proposed Actions since July 2010; the Schedule of Proposed Actions is available on the Internet:
<http://www.fs.fed.us/r10/tongass/projects/projects.shtml>.

Availability of the DEIS was announced through a Notice of Availability on July 8, 2011 in the *Federal Register* (Vol. 76, No. 131, p. 40354) and through a legal notice published July 14, 2011 in the *Ketchikan Daily News*, the newspaper of record for this project. The Notice of Availability started a 45-day comment period that began July 8, 2011.

Public Mailing and Other Outreach: On September 28 and 29, 2010, a scoping letter providing information and seeking public comment was mailed or emailed to 245 individuals and groups that had previously shown interest in Forest Service outfitter and guide projects in Ketchikan, Alaska. This included federal and state agencies; Alaska Native groups like the Ketchikan Indian Community, Metlakatla Indian Community, Organized Village of Saxman, Tongass Tribe, and Cape Fox Corporation; municipal offices; businesses; interest groups; and individuals. Scoping letters were mailed to several additional individuals and groups after September 29. Sixteen responses to this mailing were received; the comments are filed in the Ketchikan-Misty Fiords Outfitter and Guide Management Plan project record.

Comments were used to determine issues, management alternatives, and to determine what information to discuss in the EIS or specialist reports and when to further explain policies or procedures. In addition, the project website developed during the collaborative process continues to be available with project information and updates:

<http://www.fs.fed.us/r10/tongass/districts/ketchikan/recreationplanning.shtml>.

Availability of Draft Environmental Impact Statement: In June, 2011, over 270 EIS documents or letters providing an internet location for the DEIS were mailed to federal and state agencies, Alaska Native and municipal offices, libraries, and others who had requested them or who expressed interest during this NEPA (and pre-NEPA) process. Comments were received from six different individuals representing themselves, state, or federal agencies (see Public Comments on the DEIS, below, and Appendix A of this FEIS for responses to comments).

Open Houses: As discussed above, 10 collaborative meetings were held with the public to develop the Proposed Action. As NEPA analysis moved forward, an open house meeting was held in Ketchikan on October 26, 2010 to provide information to the public about the Proposed Action and to further discuss local concerns and interests. Fourteen members of the public attended; many attendees provided input (input is documented in the Ketchikan-Misty Fiords Outfitter and Guide Management Plan Project Record).

Subsistence Hearings: Following publication of the Draft EIS, two subsistence hearings were held in Ketchikan, one on August 12, 2011, and the other on August 18, 2011. Five people attended the August 12th meeting and four of them gave oral testimony. Written comments were submitted by one of the attendees. On August 18, three people attended the meeting, but no oral testimony was provided. Written comments were submitted by one person.

Testimony consisted of expressions of concern about sockeye, sea cucumber, and sea otter subsistence regulations, as well as tribal/federal land ownership and management. No comments specific to this EIS, nor to outfitter and guide management on KMRD were brought forward. Though these concerns are outside the scope of this project, the hearing officer forwarded the hearing transcripts to the regulating agencies that address these concerns.

The hearing transcripts are available for review in the project record.

Local News Media: A news article about the Draft EIS project and announcing the open house was printed in the *Ketchikan Daily News* on October 23-24, 2010

Government-to-Government Consultation or Information Sharing: The National Historic Preservation Act (1966 as amended) strengthens the relationship between the Forest Service and Indian Tribes (defined as federally recognized tribes, Alaska Native Corporations and Native Hawaiian Organizations) in consultation regarding site significance and the potential effects on historic and archaeological sites. Executive Orders 13084 and 13175 require that federal agencies consult with tribes during planning activities.

- June 15 and 17, 2010 - The Ketchikan-Misty Fiords Ranger District hand delivered or mailed letters describing the Proposed Action and offering the opportunity for government-to-government consultation to the Ketchikan Indian Community,

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Metlakatla Indian Community, Organized Village of Saxman, and Cape Fox Corporation.

- July 6, 2010 – District Ranger plus staff attended the Organized Village of Saxman Tribal Council Meeting to share information and discussed this project and the letter sent to the Tribal Government.
- July 8, 2010 and February 10, 2011 – District staff attended the Ketchikan Indian Community, “Our Way of Life” committee to discuss a variety of projects that included this project.
- August 3, 2010 and February 7, 2011 - District staff attended the Organized Village of Saxman Tribal Council Meeting to share information on a variety of projects that included this project.
- August 9, October 11, and November 8, 2010, January 13 and February 14, 2011 - District staff attended the Ketchikan Indian Community Tribal Council meeting to discuss a variety of projects that included this project.
- October 14, 2010 - The District Ranger and staff attended the Ketchikan Indian Community Tribal Council meeting to discuss a variety of projects that included this project; the October 2010 Public Open House was emphasized.
- October 26, 2010 - District Ranger plus staff conducted a Public Open House about the Outfitter and Guide Management Plan EIS that was attended by representatives of the Ketchikan Indian Community and the Metlakatla Indian Community.
- November 2, 29, and 30, 2010 - The Ketchikan-Misty Fiords Ranger District delivered or mailed the quarterly information letters describing current District projects to Ketchikan Indian Community, Metlakatla Indian Community, and the Organized Village of Saxman.
- Early June, 2011 - The Ketchikan-Misty Fiords Ranger District provided an early version of the Draft EIS to the Ketchikan Indian Community, Metlakatla Indian Community, and Organized Village of Saxman.
- Late June, 2011 - The Ketchikan-Misty Fiords Ranger District mailed the Draft EIS to the tribes, Cape Fox Corporation and Sealaska Corporation.
- October 3 and 4, 2011 - The Ketchikan Indian Community, Metlakatla Indian Community, and Organized Village of Saxman, were provided a list of active projects (including this one). Meetings with the Ketchikan Indian Community occurred on October 4, 2011.

The above meetings are generally considered information sharing opportunities. Only one Tribal Government has requested and been involved in official Government-to-Government consultation on this project to date:

- February 18, 2011 – The District Ranger and staff attended the Metlakatla Indian Community Tribal Council meeting and consulted on a variety of projects that included the Outfitter and Guide Management Plan EIS. The Tribe was particularly concerned about recreation use areas 04 Duke Island, 21 Percy Hotspur Mary, and 11 Gravina Island. The Tribe requested no outfitter and guide use in those areas. They also asked to have the analysis consider additional reduction or mitigation on aircraft in use area 08 Boroughs/Unuk.

No comments on or responses to the Draft EIS for this project were received.

The tribes and corporations will be sent a copy of this FEIS.

Meetings and Discussions with Agencies: In November and December of 2010, the Ketchikan-Misty Fiords Ranger District fisheries department discussed and obtained fisheries harvest data from ADF&G.

Publication of the Final Environmental Impact Statement: The Notice of Availability of this FEIS will be published in the *Federal Register*. A legal notice will be published in the *Ketchikan Daily News*, the newspaper of record, which initiates a 45-day appeal period (36 CFR 215), during which the project cannot be implemented. Copies of this FEIS and the ROD have been mailed to federal and state agencies, federally recognized tribal governments, municipal offices, and to those who requested them or responded to the DEIS as described in Chapter 4.

Public Comments on the DEIS

Analysis and Incorporation of Public Comments on the DEIS

Six agencies or individuals submitted comments on the Ketchikan-Misty Fiords Outfitter and Guide Management Plan DEIS. All of the comments were received during the comment period. The IDT used these comments to further refine and develop this FEIS (please see the lists of Changes Made between Draft and Final EIS on the backs of the chapter divider pages). The comments and the Forest Service responses to these comments are displayed in Appendix A of this FEIS.

Issues

For the purposes of this analysis, issues identified during the public involvement process are categorized as either significant or non-significant. Significant issues are those directly or indirectly caused by implementing the Proposed Action and represent disputes, disagreements or debate about the effects of the Proposed Action. Significant issues were used to design alternatives.

Non-significant issues are those: 1) outside the scope (not related to the effects) of the Proposed Action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council for Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..."

Sixteen responses to the September 2010 scoping mailing were received. KMRD also had internal scoping discussions. Issues were identified during the LAC process, through internal scoping, and during scoping.

Significant Issues

Issues for the Ketchikan-Misty Fiords Ranger District Outfitter and Guide Management Plan project were identified through public and internal scoping. Each comment received during scoping was considered a potential issue and each comment was evaluated to determine how to address the comment. Similar issues were combined into one statement where appropriate. The following five issues were determined to be significant and within the scope of the project decision. The IDT developed alternatives to the Proposed Action to address these issues; Chapter 2 of this FEIS discusses and compares the alternatives. Additional issues were considered but did not form the basis for an alternative; they are discussed separately below.

Units of measure were defined to identify how each alternative responds to a significant issue. Measures were chosen that were quantitative where possible; predictable; responsive to the issue; and linked to cause and effect relationships. These measures describe how the alternative affects the resource or resources central to the issue.

Issue 1:

Limiting the amount and location of outfitter and guide use may not adequately provide for industry stability and growth.

Measurements:

- Number of service days allocated to outfitters and guides by recreation use area
- Number of service days allocated to outfitters and guides in 06 Misty Core Lakes, 11 Gravina Island, 17 George Carroll Thorne, and 27 Margaret Bay recreation use areas (these areas were identified during the LAC process by outfitters and guides as desirable Recreation Use Areas for guided opportunities).

Issue 2:

Outfitter and guide use may cause crowding, noise, and disturbance, particularly in locations popular with unguided users.

Measurements:

- Number of service days allocated to outfitters and guides by recreation use area
- Number of service days allocated during the summer to outfitters and guides in 04 Duke Island, 08 Burroughs Unuk, 11 Gravina Island, 12 Bell Island, 13 East Cleveland, 17 George Carroll Thorne, 23 Betton Island, 24 Ketchikan Core NA, 27 Margaret Bay, and 28 Naha Bay (areas identified by unguided users as locations of interest or concern)

Issue 3:

Allowing outfitter and guide use in 04 Duke and 21 Percy Hotspur Mary use areas may affect historic properties, sacred sites and traditional cultural properties.

Measurement:

- Number of service days allocated to outfitters and guides in 04 Duke and 21 Percy Hotspur Mary use areas

Issue 4:

Noise associated with floatplanes and boats in and around Misty Fiords National Monument Wilderness may negatively impact wilderness character.

Measurement:

- Number of service days allocated in Misty Fiords National Monument Wilderness
- Effects on opportunities for solitude due to noise

Issue 5:

Outfitter and guide use may negatively affect wildlife, subsistence uses, and cultural and traditional uses.

Measurement:

- Number of service days allocated to outfitters and guides

Other Issues and Concerns

Each comment received during scoping was considered a potential issue. Some concerns and suggestions brought up by the public were considered but determined not to be alternative-driving issues. Some of these issues are already addressed through other processes or through protection provided by Forest Plan Standards and Guidelines (see Elements Common to All Action Alternatives in Chapter 2 and Appendix B of the DEIS), or their resolution is beyond the scope of this project. Where possible, suggestions about the Ketchikan-Misty Fiords Outfitter and Guide Management Plan project were incorporated into the design of the Proposed Action and alternatives (see Chapter 2 of this FEIS). Additionally, some concerns and suggestions for the analysis were considered but eliminated from detailed analysis for the reasons discussed in Chapter 2 of this FEIS (Alternatives Considered but Eliminated from Detailed Analysis).

The following issues were considered but determined not to be alternative-driving issues. The rationale for why these issues were determined to be non-significant is included below. As needed, resource effects related to these concerns are discussed in Chapter 3.

Issue: Outfitters and guides are concerned that the allocations do not allow them to respond to a sudden demand for large-scale activity. Businesses want to be able to respond to arising opportunities quickly – there is a desire to allow for flexibility and adaptive management.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

- The alternatives respond to this concern at different levels by allocating a range of service days to guided use. All of the action alternatives allocate more service days to guided uses than the highest average annual use shown in Alternative A, the no action alternative. This allows for business growth in most recreation use areas. If an action alternative is selected for implementation, when outfitters and guides request increased use, permit administrators will be able to respond more quickly because service days for the uses covered in this EIS will be available for permitting. If adaptive management is selected in the decision it will provide additional flexibility to manage the outfitter and guide program. However, the time it takes for the Forest Service to respond will still be affected if there are multiple requests or staffing levels are low.

Issue: Unguided users want to retain facilities and access to recreational experiences and were concerned about future limitations/regulations.

- A decision on this project would not change facilities or access to recreational experiences; it is the same for all alternatives. Unguided users will still be able to access the Tongass National Forest now and into the future. Nothing in this process establishes regulations.
- This analysis recognizes that an increase in guided visitors may indirectly affect unguided visitors. Chapter 3 analyzes these effects, which could include displacement (the unguided visitor moves to a different site) and crowding. Although this concern did not drive an alternative, it is considered in the EIS through the analysis of a range of alternatives and the analysis of the effects within that range.

Issue: People are concerned about crowding from guided use near cabin sites and buoys (e.g. Fish Creek and Winstanley Island Cabin).

- Issue 2 and the mitigation measures specified within the recreation use area cards address this concern. Management elements on individual recreation use cards specify avoidance by or allowance of outfitter and guide cabin use and if buoys are available to outfitters and guides (ex. 17 George Carroll Thorne). Some cabins will be available for guided use; similar to unguided use, outfitters and guides must reserve cabins ahead of time so there should be no conflict with other users (Tables 1-1 and 1-2). Although this issue did not drive the development of Alternative D, it does respond to this concern.

Issue: Outfitters and guides would like to see the process for reviewing permit applications streamlined in hopes of receiving a permit quicker.

- By establishing a visitor capacity, identifying site-specific resource concerns, and completing this NEPA document, the permit administrators will be able to more quickly respond to requests for new permits and increased use for current permits; a decision on this NEPA will also allow for the issuance of priority use permits. When this NEPA process is complete, KMRD's ability to process requests for permits should be faster.

Issue: People feel that it is important that people know what to expect regarding social conditions when they visit – the Forest Service should improve education and information available about different opportunities on KMRD.

- Increased education regarding the social conditions is not a concern that can drive an alternative because it is not site-specific and does not have specific actions for any recreation use area. However, the Forest Service tries to educate visitors about the types

of recreational opportunities and experiences available across KMRD through articles and interaction with the public. Additionally, education is one of the options that may be used in adaptive management.

Issue: Outfitters and guides requested that allocation be distributed in various ways such as allocating to businesses that are already using an area or specify a certain amount of the allocation go to small businesses.

- The distribution of allocation is not part of this decision and is outside the scope of this decision. Service days are distributed as a part of administering the outfitter and guide program. In cases where there is more interest than days available a decision may be made through a competitive application processes (i.e. prospectus).

Issue: The Forest Service is not developing any indicators and standards related to the physical resources (fisheries, water quality, etc.).

- Standards and guidelines are set at the Forest Planning level in the 2008 Tongass Land and Resource Management Plan (Forest Plan). The IDT is using the Forest Plan standards and guidelines to determine effects to and management of physical resources. Through adaptive management, resource specialists can respond to changes in physical conditions to protect areas with resource concerns. Areas with known resource concerns can be found in Appendix B of the DEIS on the recreation use area cards. These areas are the same for all alternatives.

Issue: Bear hunters would like to see the summer season ending date changed to September 15.

- This analysis used the dates established in the capacity analysis because the majority of outfitters and guides have seasons that end around September 30. Also, it is difficult to determine which hunt dates to use if we base it on hunting. Primary use of outfitters and guides is by cruise ship passengers, so that is basis of the seasons.

Issue: Establishing capacities and allocations will increase competition and cause the entire District to be managed for commercial use.

- In general, the action alternatives allocate more visitor days than the highest average annual use shown in Alternative A, the No Action alternative, which will allow for growth in most areas. If an alternative is selected that increases competition at a specific location, permit administrators will work to resolve those conflicts. This may include suggesting the person applying use another location where capacity exists that would work for the activity, denying their request for use if there is no capacity, or issuing a prospectus to determine who gets the permits.
- The action alternatives include the ability to use adaptive management to maintain a range of quality recreation experiences across the District and a balance between guided and unguided use. Adaptive management may result in increased or decreased allocations for specific recreation use areas based on standards and the level of effects. All outfitter and guide operations will be subject to area-wide and site-specific mitigation measures to protect natural and historic resources and minimize crowding and conflicts between guided and unguided visitors.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Issue: Outfitter and guide use will affect wildlife and fish population numbers.

- ADF&G and the Federal Subsistence Board are the managers of population numbers and licenses; the Forest Service manages habitat and social aspects of recreation. Nonetheless, the effects to fish and wildlife are included in Chapter 3 of this EIS, and effects to wildlife were considered to be part of an issue (Issue 5) and a driver for Alternative D.

The following concerns were not considered to be significant issues because the concern is outside the scope of this decision.

Issue: Recreation Opportunity Zones and indicators and standards established through the LAC process will result in future restrictions on motorized boat access for guided and unguided visitors.

- The Forest Plan established the Recreation Opportunity Spectrum (ROS) classes for the management of the Tongass National Forest (USDA 2008b, Forest Plan Appendix I). This EIS does not change recreation management established in the Forest Plan. The Recreation Opportunity Zones and indicators and standards established by the LAC process made it easier for the group to say how they felt outfitter and guide use should be managed in specific areas and did not add restrictions to unguided users (Appendix C of the DEIS). Nothing in the decision will restrict how people access recreation areas; this analysis only sets allocations for the amount of outfitter and guide use that can occur.

Issue: Certain activities will be given preference over others in areas like 06 Misty Core (floatplane landing tours versus hikers seeking solitude in the wilderness).

- Allocation in this EIS is for all guided visitor days and does not determine what use will be permitted where, but how much use is allowed. Everyone would have the same opportunity to request the use.
- During the LAC process the public stated that a recreation emphasis may be desirable in some areas or locations, for example the current flightseeing use is high in recreation use area 06 Misty Core Lakes. The public suggested this because by concentrating flightseeing use in one location, other locations are then available for other activities like hikers seeking solitude in the wilderness, which may be in conflict with flightseeing. Even though a goal of outfitter and guide management is to provide different types of opportunities while minimizing inter-party conflict to the extent possible, the decision on what activities will occur in which areas will not be made in this document.
- The decisions on what to do where will be based on requests from outfitters and guides, Forest Plan standards and guidelines, resource concerns, outfitter and guide allocations in the record of decision, and, ultimately, site-specific decisions by the District Ranger. This method provides more flexibility and adaptability to the District Ranger at the time of permitting. Who goes where is outside the scope of this document.

Issue: There will be impacts from activities outside Forest Service jurisdiction – airplane traffic in particular.

- We have no control over activities or areas outside Forest Service jurisdiction, however the displacement concern was considered in Alternatives B, C, and D, and the effects are discussed in Chapter 3 of this EIS.

Issue: This process will affect Forest Service response to people interested in applying for state permits for tidelands use.

- Tidelands permitting is outside the scope of this project and would be based on state of Alaska policy.

Issue: The majority of people that visit Misty were not present at the planning meetings and have not had a voice in the planning process.

- While the original public meetings developed one alternative, the NEPA process is designed to give people a voice throughout the planning process. The NEPA Public Involvement section describes the ways that the Forest Service reached out to the public to get comments and suggestions on the previous and current planning processes

Other Agency Permits, Licenses, and Certifications

The Forest Service is not required to obtain permits or licenses to implement this project. However, outfitter and guide permit holders are responsible for obtaining necessary permits and licenses from federal and state agencies prior to commencing outfitting and guiding. Prior to guiding on NFS lands, the federal government may require verification of current business or operating licenses such as Coast Guard License, state of Alaska Sport Fishing License, etc. Outfitter and guide activities involving the taking of fish or game will be implemented under Alaska Board of Game, Alaska Board of Fisheries, and Federal Subsistence Board regulations.

Prior to guiding on NFS lands, state requirements include:

- that commercial big game guides are licensed by the state of Alaska through the Big Game Commercial Services Board (www.commerce.state.ak.us/occ/pgui8.htm), regardless of where they are operating;
- commercial sportfish guides must be licensed through the Alaska Department of Fish and Game (<http://www.adfg.alaska.gov/index.cfm?adfg=prolicenses.sportfishguides>); any operator that uses state lands in the course of their commercial activities must either register with the Alaska Department of Natural Resource, Division of Mining, Land and Water (DMLW) under 11 AAC 96.018, or obtain a permit under AS 38.05.850 or lease under AS 38.05.070. More information on commercial day-use registration and DMLW authorizations may be found at: http://www.dnr.alaska.gov/mlw/permit_lease/index.cfm; and
- the operator must also comply with guide regulations issued by the Alaska Department of Commerce, Community and Economic Development which address operations

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

primarily occurring on state tidelands and related incidental activities occurring on federal uplands. Regulation details can be found at

<http://commerce.alaska.gov/occ/pub/BGCSStatutes.pdf>.

<http://www.dced.state.ak.us/occ/pgui5.htm>.

Project Record

The project record contains supporting material that documents the NEPA process and analysis from the beginning of the project to the publication of the FEIS.

Additional documentation, including more detailed analyses of project area resources, may be found in the project planning record located at the Ketchikan-Misty Fiords Ranger District Office in Ketchikan, Alaska. Other reference documents such as the Forest Plan are available at the Supervisor's Office in Ketchikan, Alaska. The Forest Plan is also available on the Internet and CD-ROM.

Other Related Efforts

The following past decisions relate to guided use on the Ketchikan-Misty Fiords Ranger District. A statement in bold at the end of each effort explains the relationship between the prior effort and the current analysis.

Existing guided uses have been considered, generally under categorical exclusion. **The Ketchikan-Misty Fiords Outfitter and Guide Management Plan decision would supersede these past decisions.**

Commercial Uses on Ketchikan Trails Environmental Assessment (EA): A July 1, 2005 Decision Notice and Finding of No Significant Impact (DN/FONSI) for this analysis authorized guided use of three trails (Lunch Creek, Connell Lake, and Ward Creek Trails). The decision included restrictions on dates, hours of operation, maximum number of clients per group, and number of clients per day. Motorized use of trails, guided camping or biking, and guided floatplane landings on trail-accessible lakes were also not permitted. The decision also considered guided use on Deer Mountain, Dude Mountain, Frog Pond, Perseverance Lake, Pipeline, Minerva Mountain, Salvage Road, Silvis Lakes, and Ward Lake trails, but determined that no guided use would be permitted on these trails. **A decision on the Ketchikan-Misty Fiords Outfitter and Guide Management Plan would incorporate this EA, FONSI, and DN, and continue to implement this 2005 decision.**

Non-consumptive Commercial Guiding in the Naha Recreation Area: This EA considered whether to allow guiding for non-consumptive uses (such as hiking, photography, kayaking, camping, and sightseeing) within the Naha Recreation Area. The analysis area encompassed the entire Naha River drainage. The April 9, 1997 decision was to leave the area closed to commercial use because of overwhelming response from the public that outfitter and guide use would compromise the experience of current users of the area. The decision stated that the moratorium on guided use for the Naha Recreation Area would remain in place until such time that another NEPA decision modified that decision. **A decision on the Ketchikan-Misty Fiords Outfitter and Guide Management Plan**

would supersede this 1997 decision, though two of the alternatives analyzed (B and D) essentially propose to continue the closure.

Ketchikan-Misty Fiords Outfitter and Guide Cabin Use: As part of a facilities master planning effort in 2006, the Ketchikan-Misty Fiords Ranger District determined which public recreation cabins would allow guided use. At that time, guided use of cabins within Wilderness was reviewed but not authorized, pending a commercial use needs assessment. A needs assessment was completed in 2008 that showed a need for guided camping within the Wilderness. This allows KMRD to designate Wilderness cabins for outfitter and guide use.

The following tables display the proposals from that 2006 planning effort.

Table 1- 1) Non-Wilderness cabins and maximum amount of use currently available for outfitter and guide use

Anchor Pass	10 days/month; no weekends/holidays
Blind Pass	10 days/month; no weekends/holidays
Helm Bay	20 days/month; Sept. 15 – May 1 only
Helm Creek	20 days/month; Sept. 15 – May 1 only
Phocena Bay	10 days/month; no weekends/holidays
Plenty Cutthroat	20 days/month
Reflection Lake	10 days/month; no weekends/holidays

Table 1- 2) Wilderness cabins designated for outfitter and guide use

Alava Bay	10 days/month; no weekends/holidays
Checats	20 days/month
Ella Narrows	10 days/month; no weekends/holidays
Hugh Smith Lake	20 days/month
Humpback Lake	10 days/month; no weekends/holidays
Wilson Narrows	20 days/month
Winstanley Lake	20 days/month

A decision on the Ketchikan-Misty Fiords Outfitter and Guide Management Plan may modify the 2006 determinations.

Revision to the EA for the Determination of Issuing Special Use Permits for Sportfishing Outfitter and Guide Services Throughout the Ketchikan Area, Tongass National Forest: In March 1998, a Decision Notice was signed by the Craig, Thorne Bay, and Ketchikan-Misty Fiords District Rangers to limit commercial guiding on streams with moderate concern for steelhead from December 1 – May 31. **A decision on the Ketchikan-Misty Fiords Outfitter and Guide Management Plan would supersede this 1998 decision for KMRD.**

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Margaret Creek Wildlife Site: In 2004 a prospectus was completed for use of the Margaret bear viewing platform. **A decision on the Ketchikan-Misty Fiords Outfitter and Guide Management Plan would change the use in Margaret Creek area. Thus, depending on the alternative, another prospectus may be necessary.**

Fish Creek Wildlife Viewing Site: Hyder Bear Viewing Platform has a capacity of 200 people-at-one-time based on the design of the bear viewing platform. KMRD allows no more than half of that people-at-one-time capacity for guided use. **A decision on the Ketchikan-Misty Fiords Outfitter and Guide Management Plan would leave current management unchanged.**

Access and Travel Management Plan: A decision was made in 2008 about what roads would remain open and those that would be closed through the public process for the access and travel management plan for KMRD. The subsequent annual version of the KMRD Motor Vehicle Use Map is used to display and implement that decision. Outfitters and guides may use open roads and open trails (if authorized on their permit), but we are not changing the status on any roads and therefore not changing access opportunities for subsistence users, unguided, or guided visitors. **A decision on the Ketchikan-Misty Fiords Outfitter and Guide Management Plan would continue to implement this access and travel management decision.**

Chapter 2

Alternatives

Changes Between DEIS and FEIS

- Minor corrections, additions, or revisions were made to correct spelling or clarify the meaning of sentences or paragraphs.
- The introduction to the Alternative Development Process was revised to better explain the reasons for identifying proposed Recreation Opportunity Zones and monitoring indicators and standards, and how these are different than but still within the existing Forest Plan Recreation Opportunity Spectrum (ROS) classes.
- Additional information was added to the Adaptive Management section to clarify and further explain how adaptive management would be implemented.
- One mitigation measure was added to one use area to respond to a resource concern that currently exists.
- Effects information in Table 2-8 (Comparison of Alternatives) was corrected to match analysis shown in Chapter 3.
- Maps were revised and color was added to make differences between the areas and the allocations easier to distinguish.

CHAPTER 2, ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Introduction

This chapter describes and compares the alternatives considered for the Ketchikan-Misty Fiords Outfitter and Guide Management Plan analysis. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the responsible official. Some of the information used to compare the alternatives is based upon the design of the alternative and some of the information is based upon the environmental, social, and economic effects of implementing each alternative.

Alternatives Considered but Eliminated from Detailed Analysis

Several alternatives were considered during the planning process, but were not analyzed in detail in this EIS. These alternatives are described briefly below, along with the reasons for not considering them further.

Allocate 100 percent of the recreation capacity to outfitters and guides in some or all areas.

This alternative was not considered in detail because this alternative does not follow agency policy or Forest Plan direction. A guided user allocation of 100 percent would leave no recreation capacity for the unguided public. It is unrealistic to assume there are any locations on Ketchikan-Misty Fiords Ranger District (KMRD) where unguided visitors do not go. Even remote or difficult to access areas may be visited by hunters or adventure seekers who like to go where few people have gone. Generally, guided visitors are attracted to the same areas as unguided visitors. In all alternatives that were considered in detail, part of the visitor capacity is available for unguided users.

Allocate the maximum amount of recreation capacity available to guided use in all areas.

Three alternatives are being considered in detail that provide for a range of guided allocations. Alternative C proposes 50 percent guided allocation, which is generally the maximum allocation available for outfitters and guides according to the Forest Plan. And, Alternatives B and D propose higher allocations in some areas for specific reasons. Allocating the maximum to guided use in all areas was eliminated from detailed analysis because it is similar enough to Alternatives B and C that another alternative was not needed to provide a range of alternatives. In addition, adaptive management would allow the Responsible Official to provide higher allocations in some areas with total allocation no higher than Alternative C, as described in the Adaptive Management section below.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Maximize outfitter and guide allocations in wilderness.

This alternative was considered but eliminated for reasons similar to those described under maximize guided us in all locations; between Alternatives B, C, and D, another alternative that provides for a range of allocations in wilderness was not needed.

Alternative Development Process

As described in Public Involvement in Chapter 1 and Appendix E of the DEIS, the Ketchikan-Misty Fiords Ranger District used a Limits of Acceptable Change (LAC) public planning process prior to NEPA to determine public perceptions, desires, and needs regarding outfitter and guide use on the KMRD. This collaborative planning process was used to develop the visitor capacity and the Proposed Action alternative; it also formed the basis for the other action alternatives.

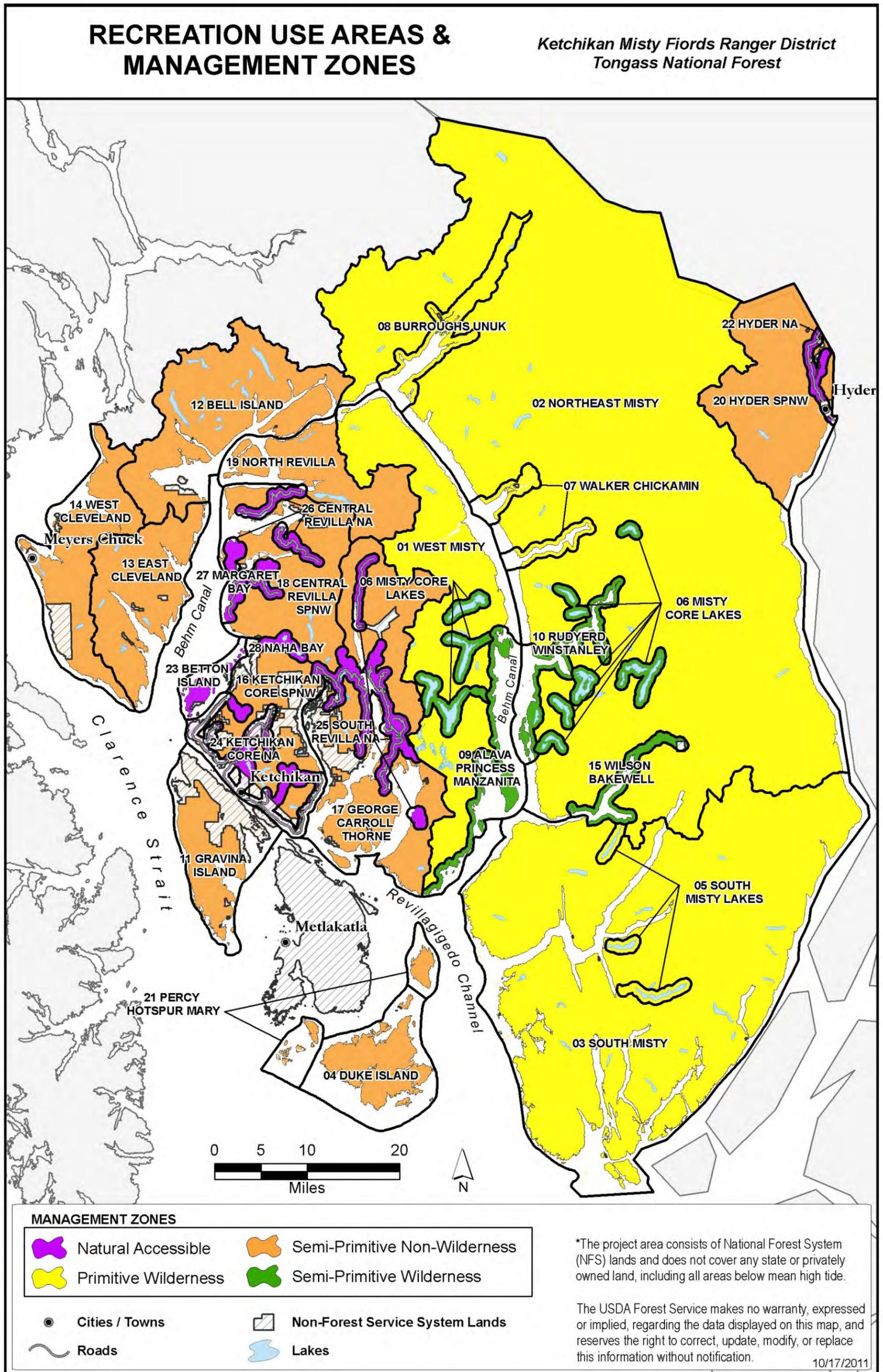
KMRD used public input to learn, define, and adjust the many components used to determine visitor capacity and to develop the Proposed Action for this analysis.

As described in Appendix E, ten public meetings were held in 2009 and 2010. Meetings built on one another. Participants helped identify:

- 28 recreation use areas (shown in Figure 1-2 and Appendix B of the DEIS),
- four recreation opportunity zones (used to help identify the range of desired recreation conditions and opportunities that will be provided across the KMRD based on social conditions; see Figure 2-1),
- indicators and standards (Table 2-1) that will be used to measure and monitor those conditions, and
- seasonal visitor capacities for the 28 recreation use areas on the KMRD.

Four recreation opportunity zones were identified during the LAC process: 1) Primitive Wilderness, 2) Semi-Primitive Wilderness, 3) Semi-Primitive Non-Wilderness, and 4) Natural Accessible (Table 2-1). Indicators are elements of the social setting that change in response to human activities. Standards are thresholds that, if exceeded, would constitute unacceptable impact to visitor experiences. Two social indicators, and four zone-related standards, were selected that Forest Service staff will continue to monitor as indications of the visitor experiences offered on KMRD in all of the action alternatives; these monitoring indicators and the standards within each of the four recreation management zones can be seen in Table 2-1. Appendix E of the DEIS provides an explanation of the public process used to establish monitoring standards for each of the Recreation Opportunity Zones. Monitoring data indicate that existing encounter and guided lake landing levels are far below proposed standards in 27 of 28 of the Recreation Use Areas. In the 06 Misty Core Lakes Use Area monitoring determined that lake landings already exceed the proposed standards. Forest Plan Recreation Opportunity Spectrum (ROS) standards and guidelines could allow for a five- to ten-fold increase in encounter levels in many of the recreation use areas. Key values expressed by the public during the LAC process included access to and ability to experience remote, wild, pristine places along with solitude and quiet; that same group identified crowding, noise, and congestion as threats to those values. Based on public input, professional judgment, knowledge of existing use patterns, and monitoring data, an increase

Figure 2-1) Recreation Use Areas and Recreation Opportunity Zones



Back of Figure 2-1

Table 2- 1) Indicators and Standards for the four KMRD Recreation Opportunity Zones (used in Alternatives B, C, and D)

Indicator	Recreation Opportunity Zone			
	Primitive Wilderness	Semi-Primitive Wilderness	Semi-Primitive Non-Wilderness	Natural Accessible
	Standard			
Number of encounters ¹ per day during trip	No encounters per day during trip 90 percent of the time.	No more than two encounters per day during trip 90 percent of the time.	No more than two encounters per day 80 percent of the time.	No more than eight encounters per day 80 percent of the time.
Number of guided floatplane landings per day per lake ²	No more than one guided floatplane landing per day per lake 90 percent of the time.	No more than two guided floatplane landings per day per lake 90 percent of the time on lakes with public recreation cabins OR No more than five guided floatplane landings per day per lake 90 percent of the time on lakes without public recreation cabins.	No more than two guided floatplane landings per day per lake 80 percent of the time on lakes with public recreation cabins OR No more than five guided floatplane landings per day per lake 80 percent of the time on lakes without public recreation cabins.	No more than eight guided floatplane landings per day per lake 80 percent of the time during the primary use season. Note: this standard does not apply in the Ketchikan Core NA Use Area, where guided floatplane landings are prohibited.

to the magnitude that would be allowed under Forest Plan ROS standards may not maintain opportunities for solitude and may not provide the type of recreation experience expected by visitors coming to Southeast Alaska.

The four proposed Recreation Opportunity Zones, desired conditions, and monitoring indicators and standards identified during the KMRD Recreation Planning Process (Appendix E of the DEIS) would be adopted under all action alternatives. Use of these proposed zones, conditions, and standards is in compliance with the ROS for the coinciding land use designations within the Forest Plan because the proposed standards for monitoring

¹ An encounter is defined for this analysis and planning process as “an individual or group met while on National Forest System (NFS) lands or freshwater lakes.” An encounter may occur at a Forest Service cabin, on a trail, or along a shoreline, among other places. It is only a considered an “encounter” when BOTH PARTIES are on National Forest System lands. For example, a group in a boat on saltwater passing a group walking on a beach would not be considered an encounter, however, a group in a boat on freshwater passing a group walking on a lake shore would be considered an encounter. We recognize the need for ongoing administration of public lands, thus “encounters” does not include meetings with any federal, state, local or contracted individuals who are working at any of these sites.

² Information is based on actual use reports submitted annually by outfitters/guides operating on the KMRD under special use permit. If the guided activity requires a drop off and pick up (e.g. a tour where clients are left at a location with a guide and later picked up by the pilot), this use will only be counted as one landing for the purposes of this monitoring. Guided use reports include information about locations used, number of individuals and group visiting each area, method of transportation, and the amount of time spent on National Forest System lands.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

and adjustment are more limiting than the guidelines set by ROS for the number of social encounters per day; other guidelines in Appendix I of the Forest Plan for determining ROS class will not change. The proposed standards are for monitoring desired social outcomes identified during the LAC process and are for this EIS only. They will not be used to change the Forest Plan. ROS classes will still be used to describe recreation opportunities and to analyze effects of future projects. Proposed outfitter and guide operations and activities are appropriate for the specific Forest Plan ROS settings described for each LUD as required by Forest Plan standards and guidelines (page 4-46).

A key concern of the public was maintaining opportunities for a remote and quiet experience and they were concerned about the potential for crowding. The more restrictive nature of the proposed number of social encounters per day is also consistent with the wilderness management principle of nondegradation. A primary objective of wilderness management is to prevent degradation of current opportunities for solitude in each wilderness area and restore substandard settings to minimum levels, rather than letting all areas deteriorate to a minimum standard (Hendee et al. 1990). ROS Class Standards identified in the Forest Plan could allow for considerable degradation of opportunities for solitude on both the wilderness and non-wilderness portions of KMRD, with potential for a five- to ten-fold increase in the number of social encounters allowed. In the 06 Misty Core Lakes Use Area monitoring determined that conditions already exceed Forest Plan Standards for the Semi-Primitive Motorized ROS Class; all action alternatives would reduce degradation in this area. Further work went into developing an adaptive management proposal using the indicators and standards developed during the public process. Monitoring of the selected indicators as well as resource concerns would be used to determine if conditions are nearing or exceeding standards and where, when, and what type of management actions may be needed or what management flexibility is available.

The other action alternatives in this EIS were designed to address resource issues brought forward by the Interdisciplinary Team (IDT) and Tribal entities as well as issues brought up during scoping, the KMRD open house, and during previous collaborative processes. The following section describes how the alternatives were developed. To see full descriptions of the alternatives, see the “Alternative Descriptions” section of this chapter.

No Action (Alternative A)

Alternative A (No Action) represents the current condition of the project area in terms of guided use. Since outfitters and guides are currently permitted to use KMRD, this alternative allows for the high end of recent (2005 through 2009) guided use levels (see Alternative A under Alternative Descriptions). Current monitoring indicators and standards for ROS Zones in the Forest Plan would be used rather than those described in Table 2-1. A “no action” alternative is required in the EIS and serves as the baseline for comparing the action alternatives.

Proposed Action (Alternative B)

Using the LAC planning process described in Appendix E of the DEIS, Forest Service staff worked with the participants to develop a Proposed Action that considered guided and

unguided recreational opportunities, minimized the potential for visitor conflicts, maintained quality recreation experiences, and responded to many issues.

With visitor capacity set, KMRD worked with the public, public input, and input from Forest Service recreation planners and specialists to propose guided allocations that fit within those capacities. Forest Service staff considered the recreation opportunity zone, types of activities taking place in each area and the type of setting desired for those activities, the amount of infrastructure available to provide access and protect resources, the amount of unguided and subsistence use occurring in each area, and the presence of sensitive cultural resources when developing proposed guided use allocations. Three public meetings were held between January and March of 2010 that involved participants in discussions about guided allocations for each of the 28 use areas. Participants reviewed information about existing and historical use levels. Proposed allocations were adjusted upward or downward based on perceived demand for additional use and availability of opportunities (upward) or concerns about impacts to resources or unguided visitor experience (downward). The outcome of these meetings was development of a "proposed action" (Alternative B of this EIS) cooperatively developed by Forest Service staff and meeting participants.

Within the Proposed Action, areas proposed for no guided use were related to resource (heritage and wildlife) or recreation/competition concerns. Areas proposed for lower guided use (10 to 20 percent allocation) were those areas where the public had concerns about conflicts between users or where there was concern that the standards set through the public process could not be met without lower allocations. Areas proposed for 75 percent guided use were those areas where the public felt that unguided use was relatively low due to distance from town, difficulty in accessing the area, or current guided use was high so unguided users avoided the area. During the public meetings, the group discussed how areas are used now and how areas may be used in the future. Instead of dispersing guided uses, like flightseeing, to other areas, the group felt that having a higher allocation in a few recreation areas and lower allocation in others would allow for fewer conflicts with unguided users by keeping the guided users in their current use areas.

Alternative C

During the public process, the public asked the Forest Service to look at an alternative that allocated one-half of the visitor capacity to outfitters and guides as stated in the Forest Plan (p. 4-46).

“Generally allocate no more than one-half the appropriate capacity of the LUD to outfitter/guide operations. For specific locations, consider different allocations based on historical use, changing demand, spatial zoning, or temporal zoning.” (USDA Forest Service 2008b, p. 4-46)

In Alternative C, the use allocation is 50 percent of the capacity for all recreation use areas. This alternative satisfies the request and addresses some concerns about limiting the amount and location of guided use and effects to local businesses. This alternative was designed to meet the general allocation as stated in Forest Plan but does not take into consideration historical use, changing demand, spatial zoning or temporal zoning, nor does it consider resource concerns such as wilderness character or historic properties. Effects to these

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

resources are analyzed in Chapter 3 of this EIS. Alternative C provides the District Ranger with options and an opportunity to look at a range of effects.

Alternative D

Alternative D responds to several issues. It was designed to minimize effects to wilderness character qualities, historic properties, sacred sites and traditional cultural uses. Alternative D also responds to IDT member site-specific resource concerns by lowering allocations in specific locations.

In some wilderness recreation use areas, Alternative D reduces allocations to reduce impacts on wilderness. It also provides areas with no or reduced allocation to outfitters and guides in places popular with unguided users, and maintains the quality of some local areas for unguided users, by allocating outfitter and guide use to areas with fewer users, to limit conflict between user groups. Alternative D provides higher guided use allocations in some areas to provide economic opportunities. This alternative also responds to concerns about wildlife, subsistence, and cultural and traditional uses.

Alternative D was developed by looking at current outfitter and guide use, facilities available to outfitters and guides (trails, buoys, platforms, shelters) and site-specific resource concerns.

In Alternative D, the allocations are as high as 75 percent of the recreation use area's capacity to outfitters and guides. In 23 Betton Island, the 75 percent allocation is based on historical use, demand for sightseeing tours in the area, and allowing business growth opportunities close to town. In use area 27 Margaret Bay, the 65 percent allocation was to allow for business growth close to town, where facilities are available.



Figure 2-2 Fishing Manzoni Lake

Alternative Descriptions

Alternative A (the No Action Alternative), the Proposed Action (Alternative B), and two other action alternatives are considered in detail. The other action alternatives represent different options of satisfying the Purpose and Need by responding with different emphases to the significant issues discussed in Chapter 1. Elements Common to all the Action Alternatives and Design Elements and Mitigation required by all the action alternatives are included in separate sections below and discussed further in Appendix B of the DEIS. Maps of all alternatives considered in detail are provided at the end of Chapter 2.

Elements and Assumptions Common to All Alternatives

Many potential effects can be negated by explaining what will or will not be allowed or included in outfitter and guides' special use permits. Under all alternatives, permitted activities will be consistent with federal, state and local laws, regulations and orders and with

the Forest Plan. In addition, the following project assumptions would be a part of any decision that was made and were used by all IDT members in their analysis:

- The unguided public would not be regulated by this decision. Unguided use and use levels are expected to continue at existing levels and locations and, therefore, do not change between alternatives.
- All alternatives authorize outfitter and guide operations through the issuance of special use permits using current permitting direction.
- In all alternatives, for qualified applicants, the District Ranger may issue priority use permits based on guided use allocation, for a period of up to 10 years.
- There will be continued and increased demand for special use permits to conduct outfitter and guide activities.
- Guided visitor activities will be similar to those that are occurring now. Only those activities identified in the 2008 Determination of Need for Commercial Uses on the Ketchikan-Misty Fjords Ranger District (Appendix A of the DEIS) could be authorized as a result of this decision (see “Background” in Chapter 1 of this EIS for the list of permitted activities).
- Ground disturbance would not be authorized under special use permits issued as a result of a decision on this analysis. Ground-disturbance assumed to occur with outfitting and guiding activities would be limited to trampling from feet, the footprint of tents, driving on open roads or designated OHV trails, and human waste disposal.
- Any road use associated with access to a permit holder’s authorized locations will be in accordance with the most recent Motor Vehicle Use Map in effect at the time the activity occurs.
- Any dock use associated with boat-based access to a permit holder’s authorized locations will be restricted to the side/back of a dock to minimize interference with other users of the area.
- Removal/collection of objects or plants would not be authorized, except for hunting and fishing as described in this document and the associated resource reports.
- Any use of firewood would be limited to dead material on the ground and would follow Leave No Trace principles. No removal or cutting of live vegetation would occur.
- Consumptive uses of water (i.e., diversions, dams, etc.) are not allowed. Limited collection of drinking water for individual or group use is acceptable.
- Use higher than the visitor capacity (shown in Table 2-2) would not be allowed in any alternative. If higher use (unguided plus guided use) is identified through monitoring in any recreation use area, administrative action may be taken to limit outfitter and guide use. Unguided visitors would not be limited, unless resource damage is occurring. If resource damage is occurring (ex. trail erosion), visitors may be detoured away from the affected area until the concern can be resolved.

Alternative A (No Action)

For this analysis, the No Action alternative is the current actual use by outfitters and guides on the KMRD. Under this alternative, outfitter and guide special use permits could be issued

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

up to the highest actual use, by recreation use area, that occurred between 2005 and 2009. See Figure 1-2 for recreation use area locations. District-wide, that highest actual use level is 24,245 service days per year (calculated by taking the highest use between 2005 and 2009 per use area per season and adding these highest uses together to get a District total for the 182-day combined spring/summer/fall seasons). The highest guided use levels have been 741 service days in the spring, 23,424 service days in the summer, and 80 service days in the fall (Table 2-2). Under Alternative A use would not be issued by season. The highest actual use, by recreation use area, could be issued at any time spring, summer or fall.

A decision for Alternative A would only allow permitting up to the highest use level shown in Table 2-2; new environmental analysis would be required for higher use levels in any recreation use area. In Alternative A, use levels are used for comparison and no use is allocated to outfitters and guides. Alternative A recognizes that changes in permits (through new environmental analysis) could increase or decrease the use.

Management of the outfitter and guide special uses program would continue to authorize outfitter and guide use on a case by case basis. New permit requests or requests from existing permit holders to increase use above the highest actual use shown under column "Alt. A" in Table 2-2 and 2-6 would require new environmental analysis. New permits can take a few weeks or several years depending on the amount of analysis needed and the availability of specialists to do the analysis. Alternative A does not meet current Forest Service Handbook direction for outfitter and guide management (FSH 2709.14, Chapter 50, Section 53).

Existing permit stipulations would continue to be implemented. Forest Plan ROS standards and guidelines would apply; the four recreation zones and associated social indicators and standards proposed in the action alternatives would not be implemented. New design criteria, mitigation measures, and stipulations brought forward in Appendix B of the DEIS would not apply in this alternative.

Final Environmental Impact Statement

Table 2- 2) Visitor Capacity, Average Annual Guided Use, and Highest Guided Annual Use (Alternative A) in Service Days (SD)

Recreation Use Area	In Wilderness	Spring Season			Summer Season			Fall Season		
		Visitor Capacity Estimate (SDs)	Average Guided Use Annually (2005-2009)	Alt. A Highest Guided Use Annually (2005-2009)	Visitor Capacity Estimate (SDs)	Average Guided Use Annually (2005-2009)	Alt.A Highest Guided Use Annually (2005-2009)	Visitor Capacity Estimate (SDs)	Average Guided Use Annually (2005-2009)	Alt. A Highest Guided Use Annually (2005-2009)
01 West Misty	Yes	299	<1	2	1,807	48	67	260	11	27
02 Northeast Misty	Yes	938	1	3	5,671	138	190	816	4	18
03 South Misty	Yes	883	7	21	5,338	117	186	768	8	13
04 Duke Island ¹	No	359	0	0	2,168	4 ¹	22 ¹	312	0	0
05 South Misty Lakes	Yes	262	0	0	1,585	52	96	228	<1	4
06 Misty Core Lakes	Yes	1,615	63	275	9,758	7,676	9,258	1,404	3	6
07 Walker Chickamin	Yes	221	<1	1	1,334	25	36	192	0	0
08 Burroughs Unuk	Yes	248	<1	1	1,501	5	10	216	0	0
09 Alava Princess Manzanita	Yes	449	0	0	2,711	18	29	390	0	0
10 Rudyerd Winstanley	Yes	497	2	8	3,002	91	147	432	0	0
11 Gravina Island	No	538	0	0	3,253	0	0	468	0	0
12 Bell Island	No	1,159	11	51	7,006	149	224	1,008	0	0
13 East Cleveland	No	628	3	9	3,795	54	221	546	0	0
14 West Cleveland	No	359	2	4	2,168	5	9	312	0	0
15 Wilson / Bakewell	No	255	0	0	1,543	35	54	222	0	0
16 Ketchikan Core SPNW	No	179	0	0	1,084	1	6	156	1	6
17 George Carroll Thorne	No	718	4	19	4,337	166	792	624	<1	2
18 Central Revilla SPNW	No	635	0	0	3,836	9	18	552	<1	1
19 North Revilla	No	538	<1	2	3,253	17	35	468	0	0

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Recreation Use Area	In Wilderness	Spring Season			Summer Season			Fall Season		
		Visitor Capacity Estimate (SDs)	Average Guided Use Annually (2005-2009)	Alt. A Highest Guided Use Annually (2005-2009)	Visitor Capacity Estimate (SDs)	Average Guided Use Annually (2005-2009)	Alt.A Highest Guided Use Annually (2005-2009)	Visitor Capacity Estimate (SDs)	Average Guided Use Annually (2005-2009)	Alt. A Highest Guided Use Annually (2005-2009)
20 Hyder SPNW	No	269	0	0	1,626	1	4	234	0	0
21 Percy Hotspur Mary Islands	No	269	0	0	1,626	0	0	234	0	0
22 Hyder NA*	No	179	0	0	1,084	7*	27*	156	0	0
23 Betton Island	No	1,932	181	278	11,676	6,921	8,153	1,680	0	0
24 Ketchikan Core NA*	No	3,588	47	67	21,684	1,249*	1,502*	3,120	2	3
25 South Revilla NA	No	359	0	0	2,168	<1	2	312	0	0
26 Central Revilla NA	No	359	0	0	2,168	0	0	312	0	0
27 Margaret Bay	No	607	0	0	3,670	1,547	2,322	528	0	0
28 Naha Bay	No	359	0	0	2,168	4	14	312	0	0
Total		18,701	325	741	113,020	18,340	23,424	16,262	32	80
Highest Use for All Seasons and All Recreation Use Areas TOTAL = 24,245 Service Days										

¹ Use in this area has not been permitted since 1999. However, unplanned use occurred in one year by a guide who had formerly been permitted in the area and did not realize it was closed. That use was stopped upon discovery and has not occurred again. Alternative 1 is described as actual use, not permitted use. Thus actual use is shown and considered for comparison's sake.

* Additional use occurs at developed sites in these areas (Hyder bear viewing platform and the Southeast Alaska Discovery Center). This use is not reported here nor was capacity or allocation determined for these sites. Current management of these sites is expected to continue unchanged.

Alternative B (Proposed Action)

Using the LAC process, KMRD developed the Proposed Action (Alternative B) that considered guided and unguided recreational opportunities, minimized the potential for visitor conflicts, maintained quality recreation experiences, and responded to many issues as discussed in Chapter 1 under Public Involvement and as described above under Alternative Development Process. Alternative B authorizes outfitter and guide operations through the issuance of special use permits based on the public process and input.

The Proposed Action would allocate 53,997 service days annually for outfitter and guide use on the KMRD (see Table 2-3, and Figures 2-3 and 2-4 at the end of this chapter). The Proposed Action allocates 5,126 service days in the spring, 44,416 service days in the summer, and 4,455 service days in the fall for outfitter and guide use.

Final Environmental Impact Statement

Table 2- 3) Proposed Action, Alternative B – Outfitter and Guide Allocations in Service Days (SD)

Recreation Use Area	Spring Season			Summer Season			Fall Season		
	Visitor Capacity Estimate	Guided Use Allocation		Visitor Capacity Estimate	Guided Use Allocation		Visitor Capacity Estimate	Guided Use Allocation	
	# SDs	%	# SDs	# SDs	%	# SDs	# SDs	%	# SDs
01 West Misty	299	15	45	1,807	15	271	260	15	39
02 Northeast Misty	938	15	141	5,671	15	851	816	15	122
03 South Misty	883	15	132	5,338	15	801	768	15	115
04 Duke Island	359	0	0	2,168	0	0	312	0	0
05 South Misty Lakes	262	15	39	1,585	15	238	228	15	34
06 Misty Core Lakes	1,615	20	323	9,758	75	7,318	1,404	20	281
07 Walker Chickamin	221	15	33	1,334	15	200	192	15	29
08 Burroughs Unuk	248	15	37	1,501	15	225	216	15	32
09 Alava Princess Manzanita	449	20	90	2,711	20	542	390	20	78
10 Rudyerd Winstanley	497	10	50	3,002	10	300	432	10	43
11 Gravina Island	538	20	108	3,253	20	651	468	20	94
12 Bell Island	1,159	20	232	7,006	20	1,401	1,008	20	202
13 East Cleveland	628	20	126	3,795	20	759	546	20	109
14 West Cleveland	359	30	108	2,168	30	651	312	30	94
15 Wilson / Bakewell	255	20	51	1,543	20	309	222	20	44
16 Ketchikan Core SPNW	179	30	54	1,084	30	325	156	30	47
17 George Carroll Thorne	718	30	215	4,337	75	3,253	624	30	187
18 Central Revilla SPNW	635	30	190	3,836	30	1,151	552	30	166
19 North Revilla	538	30	161	3,253	30	976	468	30	140
20 Hyder SPNW	269	30	81	1,626	30	488	234	30	70
21 Percy Hotspur Mary Islands	269	30	81	1,626	30	488	234	30	70
22 Hyder NA	179	50	90	1,084	50	542	156	50	78
23 Betton Island	1,932	40	773	11,676	75	8,757	1,680	40	672
24 Ketchikan Core NA	3,588	40	1,435	21,684	40	8,674	3,120	40	1,248
25 South Revilla NA	359	40	144	2,168	75	1,626	312	40	125
26 Central Revilla NA	359	40	144	2,168	40	867	312	40	125
27 Margaret Bay	607	40	243	3,670	75	2,752	528	40	211
28 Naha Bay	359	0	0	2,168	0	0	312	0	0
Total	18,701		5,126	113,020		44,416	16,262		4,455
Guided Use Allocation for All Seasons and All Recreation Use Areas TOTAL = 53,997 Service Days									

* Percent is the portion of the Visitor Capacity Estimate allocated to guided use.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Alternative C

Using the estimated visitor capacity, this alternative allocates half of the total visitor capacity to outfitters and guides in all recreation use areas. This equates to an allocation of 74,005 service days annually for outfitter and guide use on the KMRD (Table 2-4 and Figure 2-5 at the end of this chapter). Alternative C allocates 9,360 service days in the spring, 56,514 service days in the summer, and 8,131 service days in the fall for outfitter and guide use.

Table 2- 4) Alternative C – Outfitter and Guide Allocated 50 percent of Visitor Capacity Estimate

Recreation Use Area	Spring Season			Summer Season			Fall Season		
	Visitor Capacity Estimate	Guided Use Allocation		Visitor Capacity Estimate	Guided Use Allocation		Visitor Capacity Estimate	Guided Use Allocation	
	# SDs	%	# SDs	# SDs	%	# SDs	# SDs	%	# SDs
01 West Misty	299	50	150	1,807	50	904	260	50	130
02 Northeast Misty	938	50	469	5,671	50	2,836	816	50	408
03 South Misty	883	50	442	5,338	50	2,669	768	50	384
04 Duke Island	359	50	180	2,168	50	1,084	312	50	156
05 South Misty Lakes	262	50	131	1,585	50	793	228	50	114
06 Misty Core Lakes	1,615	50	808	9,758	50	4,879	1404	50	702
07 Walker Chickamin	221	50	110	1,334	50	667	192	50	96
08 Burroughs Unuk	248	50	124	1,501	50	751	216	50	108
09 Alava Princess Manzanita	449	50	225	2,711	50	1,356	390	50	195
10 Rudyerd Winstanley	497	50	249	3,002	50	1,501	432	50	216
11 Gravina Island	538	50	269	3,253	50	1,627	468	50	234
12 Bell Island	1,159	50	580	7,006	50	3,503	1,008	50	504
13 East Cleveland	628	50	314	3,795	50	1,898	546	50	273
14 West Cleveland	359	50	180	2,168	50	1,084	312	50	156
15 Wilson / Bakewell	255	50	128	1,543	50	771	222	50	111
16 Ketchikan Core SPNW	179	50	90	1,084	50	542	156	50	78
17 George Carroll Thorne	718	50	360	4,337	50	2,169	624	50	312
18 Central Revilla SPNW	635	50	318	3,836	50	1,918	552	50	276
19 North Revilla	538	50	269	3,253	50	1,627	468	50	234
20 Hyder SPNW	269	50	135	1,626	50	813	234	50	117
21 Percy Hotspur Mary Islands	269	50	135	1,626	50	813	234	50	117
22 Hyder NA	179	50	90	1,084	50	542	156	50	78
23 Betton Island	1,932	50	966	11,676	50	5,838	1,680	50	840
24 Ketchikan Core NA	3,588	50	1,794	21,684	50	10,842	3,120	50	1,560
25 South Revilla NA	359	50	180	2,168	50	1,084	312	50	156
26 Central Revilla NA	359	50	180	2,168	50	1,084	312	50	156
27 Margaret Bay	607	50	304	3,670	50	1,835	528	50	264
28 Naha Bay	359	50	180	2,168	50	1,084	312	50	156
			9,360			56,514			8,131
Guided Use Allocation for All Seasons and All Recreation Use Areas TOTAL = 74,005 Service Days									

* Percent is the portion of the Visitor Capacity Estimate allocated to guided use.

Alternative D

Alternative D would allocate 34,904 service days annually for outfitter and guide use on the KMRD (see Table 2-5 and Figures 2-6 and 2-7 at the end of this chapter). Alternative D allocates 3,341 service days in the spring, 28,655 service days in the summer, and 2,908 service days in the fall for outfitter and guide use.

Table 2- 5) Alternative D – Outfitter and Guide Allocated Visitor Capacity Estimate

Recreation Use Area	Spring Season			Summer Season			Fall Season		
	Visitor Capacity Estimate	Guided Use Allocation		Visitor Capacity Estimate	Guided Use Allocation		Visitor Capacity Estimate	Guided Use Allocation	
	# SDs	%	# SDs	# SDs	%	# SDs	# SDs	%	# SDs
01 West Misty	299	15	45	1,807	15	271	260	15	39
02 Northeast Misty	938	5	47	5,671	5	283	816	5	41
03 South Misty	883	10	88	5,338	10	534	768	10	77
04 Duke Island	359	0	0	2,168	0	0	312	0	0
05 South Misty Lakes	262	10	26	1,585	10	159	228	10	23
06 Misty Core Lakes	1,615	15	242	9,758	15	1,464	1,404	15	211
07 Walker Chickamin	221	10	22	1,334	10	133	192	10	19
08 Burroughs Unuk	248	5	12	1,501	5	75	216	5	11
09 Alava Princess Manzanita	449	15	67	2,711	15	407	390	15	59
10 Rudyerd Winstanley	497	5	25	3,002	5	150	432	5	22
11 Gravina Island	538	0	0	3,253	0	0	468	0	0
12 Bell Island	1,159	10	116	7,006	10	701	1,008	10	101
13 East Cleveland	628	5	31	3,795	5	190	546	5	27
14 West Cleveland	359	15	54	2,168	15	325	312	15	47
15 Wilson / Bakewell	255	15	38	1,543	15	231	222	15	33
16 Ketchikan Core SPNW	179	10	18	1,084	10	108	156	10	16
17 George Carroll Thorne	718	30	215	4,337	50	2,169	624	30	187
18 Central Revilla SPNW	635	30	190	3,836	30	1,151	552	30	166
19 North Revilla	538	30	161	3,253	30	976	468	30	140
20 Hyder SPNW	269	30	81	1,626	30	488	234	30	70
21 Percy Hotspur Mary Islands	269	0	0	1,626	0	0	234	0	0
22 Hyder NA	179	50	90	1,084	50	542	156	50	78
23 Betton Island	1,932	30	580	11,676	75	8,757	1,680	30	504
24 Ketchikan Core NA	3,588	25	897	21,684	25	5,421	3,120	25	780
25 South Revilla NA	359	25	90	2,168	50	1,084	312	25	78
26 Central Revilla NA	359	15	54	2,168	30	650	312	15	47
27 Margaret Bay	607	25	152	3,670	65	2,386	528	25	132
28 Naha Bay	359	0	0	2,168	0	0	312	0	0
			3,341			28,655			2,908
Guided Use Allocation for All Seasons and All Recreation Use Areas TOTAL = 34,904 Service Days									

Elements Common to All Action Alternatives

The following elements would be implemented in all of the action alternatives (Alternatives B, C, and D):

All action alternatives allocate outfitter and guide use for the spring, summer, and fall seasons. Season dates are spring: April 20 through May 14 (23 days), summer: May 15 through September 30 (139 days), and fall: October 1 through October 20 (20 days). No allocations are specified for winter use because current and anticipated outfitter and guide use levels in the winter are so low that allocations for the winter season were unneeded.

While analysis of effects was completed for the entire KMRD, under the action alternatives some permit actions would require additional review by the IDT to assure that effects remain within expectations. If the actions are within expectation, no further documentation would be required before permits are issued. Proposals requiring additional review in Alternatives B, C, and D are displayed in Appendix B of the DEIS in Table B-1.

All action alternatives would use the recreation use areas shown in Figure 1-2, recreation opportunity zones shown in Figure 2-2, and the indicators and standards shown in Table 2-1 for implementation.

Adaptive management would be implemented in all the action alternatives.

Adaptive Management

A Council on Environmental Quality (CEQ) study found that because conditions can change over the life of a project, whether as a result of nature or human action, it is beneficial to account for these changes mid-course to maintain desired outcomes (CEQ 1997, p. 32). Adaptive management recognizes the limits of knowledge and experience and allows for project management to be re-evaluated as new information becomes available and the development of criteria to define when such actions may be needed. In other words, adaptive management is a process of monitoring results and adjusting the chosen action to meet desired outcomes while staying within established criteria.

Under the action alternatives, if a recreation use area nears or exceeds the indicators and standards, or if unforeseen and unknown or substantial resource impacts occur as a result of implementing the selected alternative, the KMRD will use adaptive management and take administrative steps to address the areas of concern. The steps that cause the least impact to recreational visitors would be implemented first if there was no immediate threat to resources or facilities. These **potential administrative steps** include:

- Provide information for unguided visitors about the recreation settings that can be expected in different use areas and locations,
- Encourage guided and unguided use in less crowded areas with similar recreation opportunities and during the spring and fall when use levels are lower,
- Identify additional sites for guided and unguided groups,
- Encourage outfitters and guides to voluntarily coordinate their schedules,
- Limit guided users' length of stay,

- Require guided groups to use designated sites,
- Limit guided use on weekends and holidays,
- Reduce guide use allocation, and/or
- Implement resource-specific measures to mitigate impacts to resources (see Appendix D of the DEIS).

Under the action alternatives, the District Ranger may also use adaptive management to consider increasing guided use allocations for a recreation use area if certain criteria are met.

If there is competitive interest in a limited number of service days, the Forest Service may issue a prospectus to determine the most qualified applicants to provide services for the allowable allocation amounts. In other words, if demand for service days exceeds the allocation amount available (supply), a competitive process may be necessary to determine which guides will be authorized for that recreation use area. Other administrative actions may occur prior to or in addition to a prospectus; see “potential administrative steps” above for examples.

Criteria for Adjusting Guided Use

The following criteria would be used to adjust guided use during the implementation of the EIS, rather than having to wait for new environmental analysis and a new decision.

Allocation Upper Limit: Upper limits on allocation were established in this adaptive management strategy so that environmental effects could be determined and addressed. This analysis only considers and allows allocations at or below the highest allocation per use area shown in Tables 2-3 through 2-5 above, and the highest guided use allocation for all recreation use areas total. Thus, adaptive management would only allow a total guided allocation on KMRD at or below 74,005 service days (the maximum total allocation allowed from analysis of Alternative C) and no individual recreation use area would go higher than the highest allocation analyzed for that use area in this EIS. In most recreation use areas this would limit the allocation to no more than 50 percent of the recreation capacity for guided uses. 06 Misty Core Lakes, 17 George Carroll Thorne, 23 Betton Island, 25 South Revilla NA, and 27 Margaret Bay use areas could be considered for up to a 75 percent guided allocation as long as the District total allocation did not exceed 74,005 service days.

Timing of Adaptive Management Adjustments: The timing of adjustments is also important in this adaptive management strategy. Time is needed to monitor results and adjust the chosen actions. Monitoring results at guided use levels close to those chosen are needed to assure that environmental and social effects are as, or less than, expected. No increases to the guided use allocations selected in the Record of Decision will be made for a minimum of two years after implementation occurs. In addition, a recreation use area would need to be near the selected guided use allocation for a minimum of two years prior to considering an increase in that allocation. This will allow time to monitor the selected allocations before implementing adaptive management strategies. On the other hand, if negative effects of implementation are discovered they would be dealt with swiftly to minimize harmful environmental and social impacts.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Increase the Guided Use Allocation: Using the timing and upper limit parameters above, if a recreation use area is near the allocation set by the selected alternative in the Record of Decision and application is made for additional service days, the District Ranger may use adaptive management to grant the additional use. The guided use allocation set by the selected alternative for a recreation use area may be **increased** to accommodate additional guided use on a temporary, trial basis (at the discretion of the District Ranger after a review by KMRD resource specialists) if **ALL** of the following occur:

1. Encounter rates do not exceed standards displayed in Table 2-1,
2. Number of guided lake landings do not exceed standards in Table 2-1,
3. No substantial³ resource issues are identified during the resource specialist review,
4. Evaluation of the number/content of complaints indicates that additional use can be accommodated while meeting management objectives, and
5. For additional use proposed in Wilderness, the proposed use cannot be accommodated on non-wilderness portions of KMRD.

If items 1 through 5 are met for two years after the temporary allocation increase, the Recreation Use Area's guided use allocation **may** be increased to include the additional use on a priority use permit at the discretion of the District Ranger. The temporary increase in use could be authorized through issuance of either a temporary or two-year priority special use permit and would follow Forest Service direction for outfitter and guide permits in FSH 2709.14, Chapter 50.

Decrease the Guided Use Allocation or Implement Other Adaptive Management Options: Guided use allocation for a recreation use area may be **decreased** or other **adaptive management options may be implemented** if **ANY** of the following occur:

1. Encounter rates exceed a standard displayed in Table 2-1,
2. Number of guided lake landings exceed a standard shown in Table 2-1,
3. Substantial resource issue(s) is/are identified during the resource specialist monitoring, or
4. Evaluation of the number/content of complaints indicates that a decrease in guided use allocation is needed to meet management objectives.

At the discretion of the District Ranger, management actions such as education, voluntary outfitter and guide scheduling, other items in the potential administrative steps list (above under Adaptive Management), and mandatory outfitter and guide permit stipulations may be used prior to decreasing the guided use allocation.

Increases and decreases in use and other adaptive management adjustments will be at the District Ranger's discretion, after consultation with the affected resource specialists and within the criteria above. New environmental analysis would be needed for outfitter and guide use if the District Ranger desired to go outside of the parameters described here.

³ Substantial is defined differently for each resource, that is why a resource specialist review is included in the adaptive management criteria. More information is available on the resource analysis in the resource reports in the project record.

Project Design and Mitigation Measure

The action alternatives are designed to minimize environmental effects and meet Forest Plan Standards and Guidelines. Some measures are required in all areas. The design elements and mitigation measures required within outfitter and guide special use permits are located in Appendix B of the DEIS, Recreation Use Area Cards. These design elements and mitigation measures will be implemented through outfitter and guide permit conditions and administration of the permits.

One element of the adaptive management appendix (Appendix D of the EIS) was removed from adaptive management and is now proposed as mitigation in Use Area 27 Margaret Bay for all action alternatives:

- Outfitter and guide use would be limited to the Viewing Platform and upper bridge only (#8000000 or “80 Road” between dock and lake). Guided use would not be allowed on the lower road system (#8040000 road), including the lower bridge, to provide refuge for foraging bears.

Project Monitoring

Monitoring and evaluation provide the public and the Forest Service with information on the progress and results of implementing National Forest management decisions. Monitoring and evaluation comprise an essential feedback mechanism to help be responsive to changing conditions. There are two distinct types of monitoring: implementation and effectiveness. Implementation monitoring determines if the permitted activities comply with adopted standards and guidelines: “*Did we do what we said we would?*” Effectiveness monitoring determines whether the standards and guidelines achieve desired results: “*Were the results what we expected?*”

Implementation and effectiveness monitoring will be accomplished through the administration of the special use permits issued as a result of this decision. These measures include:

1. Special use permits authorized for outfitting and guiding will be monitored as described in Forest Service Handbook 2709.14, section 53.1r. This monitoring will consist of routine inspections for permit compliance and compliance with state and federal regulations.
2. Field inspections of a permit holder's operations or approved use will be necessary to ensure compliance with permit provisions. Inspections of approved use areas would provide information regarding site conditions and whether or not additional administrative actions are required.
3. Permit holders are required to provide actual use reports⁴ to the Forest Service within 30 days of the end of their operating season.

⁴ *Actual use reports* A form completed by outfitter and guide permit holders and submitted to the District Office at the end of the holder's operating season. The form includes the following information: date(s) of use, number of clients, location(s), and a description of the activity(s) at each location.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

4. Information provided by the yearly use reports will be compiled and available to all resource disciplines or other areas as requested.
5. KMRD permit administrators will monitor outfitter and guide use annually based on information provided by permit holders in the actual use report.
6. KMRD staff conducts wilderness solitude monitoring to assess opportunities for solitude and to document effects to wilderness character in Misty Fiords National Monument Wilderness (MFNMW). Annual monitoring includes; social encounter monitoring, guided aircraft landings, outfitter and guide use, sound monitoring, trail and cabin use monitoring and dispersed campsite monitoring. This monitoring is completed using the protocol established in the MFNMW Solitude Monitoring Protocol (2011 – an appendix of the Wilderness specialist report). Monitoring information supports the KMRD Outfitter and Guide EIS, Wilderness 10 Year Stewardship Challenge, Tongass Forest Plan wilderness character monitoring, and KMRD outfitter and guide administration.
7. While conducting the wilderness solitude monitoring, the recreation staff also looks for invasive plant species and notes any wildlife species or areas of interest, like goshawk, osprey, oystercatchers, sea lions haulouts, and bald eagle nests. Wildlife-related sightings are reported to the KMRD wildlife biologist. If any invasive plant species are seen, the staff reports these to the KMRD botanist. The district botanist works closely with the recreation staff to identify all plants of interest.
8. Starting in 2011, the soils and fisheries resource specialists requested that the recreation staff look at trampling, soil compaction, soil puddling, or soil mineral exposure that results in the degradation of the site such that it results in an undesired recreation condition as defined by the recreation staff and any disturbance of over 100 square feet, resulting in soil erosion that reaches a drainage channel or other water body.
9. Social encounter monitoring will ensure that standards established for the Primitive Wilderness and Semi-Primitive Wilderness Recreation Opportunity zones are not exceeded in specific locations or Recreation Use Areas. KMRD staff will also continue monitoring trail and cabin use.

Adaptive Management requires clearly identified intended outcomes and monitoring to determine if management actions are meeting those outcomes.

Implementation and monitoring of special use permits is a part of the ongoing management of resources at the district level. The programs and strategies used to manage resources include education and awareness, field visits, site inspections, and visitor feedback. Methods may vary depending upon resources that are impacted.

Resource-specific monitoring is also required, as discussed below.

Botany

All outfitter and guide recreation use will be periodically monitored by Forest Service personnel. Impacts to vegetation will be recorded during site visits. If a sensitive plant or lichen or rare plant is found, the KMRD botanist will be notified. The botanist will assess the population health and extent. If impacts are determined to negatively affect the viability of the population, mitigation measures will be implemented. If an invasive plant is found,

the KMRD botanist will be notified. The botanist will assess the population density and extent of the infestation. Mitigation recommendations will be made if the population is determined to be a threat to natural, cultural, or recreational resources. Permits may be modified to implement mitigations or closures, or to address increases or decreases in allocations as proposed in adaptive management.

Fish/Hydrology

No formal or scheduled monitoring by the KMRD fish biologist or hydrologist is required. Monitoring conducted as part of permit administration, random site visits by district personnel and site condition reports from the public are sufficient to notice impacts to other resources, especially botany and soils, which indirectly affect water resources. If impacts are noted, the KMRD fish biologist or hydrologist will be consulted. The fish biologist or hydrologist will work with the permit administrator to assess and prescribe mitigation measures.

If mitigation measures are implemented, a monitoring plan would be developed at that time.

Heritage

To verify affect assumptions KMRD archeologists will continue to periodically visit a sample of guided use areas and follow standard monitoring protocols. This periodic monitoring will ensure that conducting such activities do not adversely affect cultural resources through soil disturbance, rutting, compaction, and erosion. Monitoring will also address issues of future commercial use that may increase the potential for looting or inadvertent disturbance of heritage resources. District archeologists will conduct a visual inspection of the guided use area, focusing particular attention on areas with known heritage resources or that are located in high sensitivity areas for potential heritage resources. Soil probes and other subsurface tests may be used to determine the integrity of buried sites. Photographic reference and GPS waypoints may be established at each monitored location to serve as a visual baseline as future visits are made. Information gathered during monitoring will be recorded in our Ketchikan-Misty Fiord Sites database. Maps, drawings, photos, and other references will also be collected to gauge future site conditions. Guide use report information will help us to continue to monitor known guide use areas more effectively.

Wildlife

The KMRD wildlife biologist will accompany permit administrators on some routine field inspections to check compliance, general effectiveness of mitigations, and analytical assumptions. Information from guide use reports, site condition reports, and other sources may help focus field visits on potential problem areas. If impacts are noted, the KMRD wildlife biologist will be consulted and work with the permit administrator to assess and prescribe mitigation measures.

Identification of the Preferred Alternative _____

Alternative B, the Proposed Action, is the Agency preferred alternative. However, please review all alternatives since any alternative, combination of alternatives, or a new alternative within the range of these alternatives may be selected in the final decision.

Comparison of Alternatives _____

This section provides a summary of the effects of implementing each alternative. Tables 2-6 and 2-7 compare alternative allocations quantitatively. Table 2-8 is focused on the different alternative effects that can be distinguished quantitatively or qualitatively.

Final Environmental Impact Statement

Table 2- 6) Annual Outfitter and Guide Allocation in Service Days by Alternative and Use Area (for Alternative A, highest use is displayed for comparison)

Recreation Use Area	Service Days Authorized (in 2009)	Carrying Capacity in Service Days	Annual Service Days Allocated			
			Alt. A (2005-2009 Highest Use)	Alt. B	Alt. C	Alt. D
01 West Misty	77	2,366	96	355	1,184	355
02 Northeast Misty	170	7,425	211	1,114	3,713	372
03 South Misty	229	6,989	220	1,048	3,495	699
04 Duke Island	0	2,839	22	0	1,420	0
05 South Misty Lakes	34	2,075	100	311	1,038	208
06 Misty Core Lakes	11,268	12,777	9,539	7,922	6,389	1,917
07 Walker Chickamin	60	1,747	37	262	873	174
08 Burroughs Unuk	45	1,965	11	294	983	98
09 Alava Princess Manzanita	45	3,550	29	710	1,776	533
10 Rudyerd Winstanley	247	3,931	155	393	1,966	197
11 Gravina Island	0	4,259	0	853	2,130	0
12 Bell Island	370	9,173	275	1,835	4,587	918
13 East Cleveland	93	4,969	230	994	2,485	248
14 West Cleveland	100	2,839	13	853	1,420	426
15 Wilson / Bakewell	183	2,020	54	404	1,010	302
16 Ketchikan Core SPNW	0	1,419	12	426	710	142
17 George Carroll Thorne	1,599	5,679	813	3,655	2,841	2,571
18 Central Revilla SPNW	32	5,023	19	1,507	2,512	1,507
19 North Revilla	65	4,259	37	1,277	2,130	1,277
20 Hyder SPNW	20	2,129	4	639	1,065	639
21 Percy Hotspur Mary Islands	0	2,129	0	639	1,065	0
22 Hyder NA	5	1,419	27	710	710	710
23 Betton Island	8,315	15,288	8,431	10,202	7,644	9,841
24 Ketchikan Core NA	2,189	28,392	1,572	11,357	14,196	7,098
25 South Revilla NA	20	2,839	2	1,895	1,420	1,252
26 Central Revilla NA	28	2,839	0	1,136	1,420	751
27 Margaret Bay	2,574	4,805	2,322	3,206	2,403	2,670
28 Naha Bay	0	2,839	14	0	1,420	0
Total	27,768	147,983	24,245	53,997	74,005	34,904

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Table 2- 7) Annual Outfitter and Guide Allocation in Service Days by Alternative, Use Area, and Season (for Alternative A, highest use is displayed for comparison)

Recreation Use Area	Spring				Summer				Fall			
	Alt. A	Alt. B	Alt. C	Alt. D	Alt. A	Alt. B	Alt. C	Alt. D	Alt. A	Alt. B	Alt. C	Alt. D
	# SDs*	# SDs	# SDs	# SDs	# SDs*	# SDs	# SDs	# SDs	# SDs*	# SDs	# SDs	# SDs
01 West Misty	2	45	150	45	67	271	904	271	27	39	130	39
02 Northeast Misty	3	141	469	47	190	851	2,836	283	18	122	408	41
03 South Misty	21	132	442	88	186	801	2,669	534	13	115	384	77
04 Duke Island	0	0	180	0	22	0	1,084	0	0	0	156	0
05 South Misty Lakes	0	39	131	26	96	238	793	159	4	34	114	23
06 Misty Core Lakes	275	323	808	242	9,258	7,318	4,879	1,464	6	281	702	211
07 Walker Chickamin	1	33	110	22	36	200	667	133	0	29	96	19
08 Burroughs Unuk	1	37	124	12	10	225	751	75	0	32	108	11
09 Alava Princess Manzanita	0	90	225	67	29	542	1,356	407	0	78	195	59
10 Rudyerd Winstanley	8	50	249	25	147	300	1,501	150	0	43	216	22
11 Gravina Island	0	108	269	0	0	651	1,627	0	0	94	234	0
12 Bell Island	51	232	580	116	224	1,401	3,503	701	0	202	504	101
13 East Cleveland	9	126	314	31	221	759	1,898	190	0	109	273	27
14 West Cleveland	4	108	180	54	9	651	1,084	325	0	94	156	47
15 Wilson / Bakewell	0	51	128	38	54	309	771	231	0	44	111	33
16 Ketchikan Core SPNW	0	54	90	18	6	325	542	108	6	47	78	16
17 George Carroll Thorne	19	215	360	215	792	3,253	2,169	2,169	2	187	312	187
18 Central Revilla SPNW	0	190	318	190	18	1,151	1,918	1,151	1	166	276	166
19 North Revilla	2	161	269	161	35	976	1,627	976	0	140	234	140
20 Hyder SPNW	0	81	135	81	4	488	813	488	0	70	117	70
21 Percy Hotspur Mary Islands	0	81	135	0	0	488	813	0	0	70	117	0

Final Environmental Impact Statement

Recreation Use Area	Spring				Summer				Fall			
	Alt. A	Alt. B	Alt. C	Alt. D	Alt. A	Alt. B	Alt. C	Alt. D	Alt. A	Alt. B	Alt. C	Alt. D
	# SDs*	# SDs	# SDs	# SDs	# SDs*	# SDs	# SDs	# SDs	# SDs*	# SDs	# SDs	# SDs
22 Hyder NA	0	90	90	90	27*	542	542	542	0	78	78	78
23 Betton Island	278	773	966	580	8,153	8,757	5,838	8,757	0	672	840	504
24 Ketchikan Core NA	67	1,435	1,794	897	1,502*	8,674	10,842	5,421	3	1,248	1,560	780
25 South Revilla NA	0	144	180	90	2	1,626	1,084	1,084	0	125	156	78
26 Central Revilla NA	0	144	180	54	0	867	1,084	650	0	125	156	47
27 Margaret Bay	0	243	304	152	2,322	2,752	1,835	2,386	0	211	264	132
28 Naha Bay	0	0	180	0	14	0	1,084	0	0	0	156	0
Total Allocated by Season	741*	5,126	9,360	3,341	23,424	44,416	56,514	28,655	80	4,455	8,131	2,908

*In Alternative A, no use will be allocated to outfitters and guides. Highest use numbers are shown here for comparison. See description of Alternative A above for the full description of this alternative.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Table 2- 8) Comparison of Alternatives

Issues and Resources	Alternative A Effects	Alternative B Effects	Alternative C Effects	Alternative D Effects
Issue 1: Limiting the amount and location of outfitter and guide use may not adequately provide for industry stability and growth.				
<p>Number of service days allocated to outfitters and guides by recreation use area and number of service days allocated to outfitters and guides in 06 Misty Core Lakes, 11 Gravina Island, 17 George Carroll Thorne, and 27 Margaret Bay Use Areas (Recreation Use Areas identified by outfitters and guides as desired locations)</p>	<p>Service days available to outfitters and guides will remain the same as highest use, 24,245 SD/yr. When an outfitter or guide applies for a special use permit the appropriate level of environmental analysis must be completed to evaluate the proposed use and its effect upon the land and resources. The time this takes is dependent on the proposed use and availability of resource specialists, which may mean missed opportunities for business growth. There is no room for outfitters and guides to expand their businesses above their currently authorized amount without new environmental analysis. In areas of concern to outfitters and guides, current highest use is 12,372 SDs in the summer season including 9,258 SDs in 06 Misty Core Lakes. Alternative A does not meet current Forest Service Handbook direction for outfitter and guide management (FSH 2709.14, Chapter 50, Section 53).</p>	<p>Service days allocated to outfitters and guides increase to 53,997 SDs annually (all seasons for the entire district). The service days available for outfitter and guide use increases by 29,752 SDs, a 123 percent increase, over Alternative A. In areas of concern to outfitters and guides, Alternative B allocates 13,974 SDs in the summer season—an overall increase. In 06 Misty Core Lakes, there would be a decrease to 7,318 SDs per summer.</p>	<p>Service days allocated to outfitters and guides increase with this alternative to 74,005 SDs annually (all seasons for the entire district) . The service days available for outfitter and guide use increases by 49,760 SDs, a 205 percent increase, over Alternative A. In areas of concern to outfitters and guides, Alternative C allocates 10,510 SDs in the summer season. This includes an increase in two recreation use areas, and a decrease in two areas. In 06 Misty Core Lakes, there would be a decrease to 4,879 SDs per summer.</p>	<p>Service days allocated to outfitters and guides increase with Alternative D to 34,905 SDs annually (all seasons for the entire district). The service days available for outfitter and guide use increases by 10,660 SDs, a 44 percent increase, over Alternative A. In areas of concern to outfitters and guides, Alternative D allocates 6,019 SDs in the summer season. This includes an increase in two recreation use areas, and a decrease in one area. In 06 Misty Core Lakes, there would be a decrease to 1,464 SDs per summer.</p>

Issues and Resources	Alternative A Effects	Alternative B Effects	Alternative C Effects	Alternative D Effects
Issue 2: Outfitter and guide use may cause crowding, noise, and disturbance, particularly in locations popular with unguided users (areas identified by unguided users as locations of interest or concern: 04 Duke Island, 08 Burroughs Unuk, 11 Gravina Island, 12 Bell Island, 13 East Cleveland, 17 George Carroll Thorne, 23 Betton Island, 24 Ketchikan Core NA, 27 Margaret Bay, and 28 Naha Bay Use Areas).				
Number of service days on KMRD allocated to outfitters and guides - overall (see Tables 2-6 and 2-7 for individual recreation use areas)	24,245 SDs*	53,997 SDs	74,005 SDs	34,904 SDs
Number of service days allocated during the summer to outfitters and guides in unguided users' areas of interest or concern	13,260 SDs*	26,472 SDs	30,631 SDs	19,699 SDs

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Issues and Resources	Alternative A Effects	Alternative B Effects	Alternative C Effects	Alternative D Effects
Effects to crowding, noise, and disturbance in unguided users' areas of interest or concern	Crowding and conflict are likely under Alternative A because design criteria including new standards for social encounter rates and adaptive management (for Alternatives B, C, and D) would not be implemented. New environmental analyses for increased use requests would consider the Forest Plan ROS guidelines which allow for five- to ten-fold increases in the number of social encounters per day in most Recreation Use Areas. Of the alternatives, Alternative A is the least likely to disperse outfitter and guide use into less popular areas on the wilderness and nonwilderness portions of the KMRD and is most likely to result in negative indirect social effects in those areas identified as high local concern to unguided users.	Moderate impacts to unguided visitors' experiences in some areas identified as highly-valued local areas could occur because of increased allocations in these areas (a 99% increase over the highest summer use from 2005-2009). Design criteria and mitigation measures would ensure that crowding and impacts from outfitter and guide use are minimized in popular locations and attractions within these use areas.	Of the action alternatives, Alternative C is most likely to affect unguided visitors' experiences because it allows for the most guided use (a 131% increase over the highest summer use). However, design criteria and mitigation measures would ensure that crowding and impacts from outfitter and guide use are minimized in popular locations and attractions within these use areas. By limiting the amount of outfitter and guide use in the 06 Misty Core Lakes Use Area, Alternative C has the potential to disperse flightseeing traffic and cause indirect effects to social conditions (e.g. crowding and additional floatplane landings) on adjacent waterways, particularly in Rudyerd Bay and Walker Cove.	Alternative D has the least likelihood of having a negative impact on unguided visitors' experiences in areas identified as highly-valued local areas because a low (49% increase over the highest summer use) allocation increase is offset by implementation of design criteria and social encounter standards.. Alternative D has the highest potential to disperse flightseeing traffic and cause indirect effects to social conditions (e.g. crowding and additional floatplane landings) on waterways adjacent to NFS lands in Misty Fiords, particularly in Rudyerd Bay and Walker Cove.

Issue 3: Allowing outfitter and guide use in 04 Duke and 21 Percy Hotspur Mary use areas (the Duke Island area) may affect historic properties, sacred sites and traditional cultural properties.				
Number of service days allocated to outfitters and guides in 04 Duke and 21 Percy Hotspur Mary use areas	22 SDs**	639 SDs	2,485 SDs	0 SDs
Effect to historic properties, sacred sites and traditional cultural properties	The activities in all four alternatives of this EIS will have No Effect on historic properties eligible to the National Register of Historic Places. However, the potential for commercial use of the “Duke Island area” may affect cultural and traditional uses of one of its two use area and has the potential to negatively affect the spiritual qualities or sacredness of the Duke Island area.	No Effect on historic properties; an increase in the number of service days allocated to outfitters and guides would allow additional commercial use of one of its two use areas which may affect cultural and traditional uses and the potential to negatively affect the spiritual qualities or sacredness of the Duke Island area.	No Effect on historic properties; an increase in the number of service days allocated to outfitters and guides would allow additional commercial use of both of these two use areas which may affect cultural and traditional uses and the potential to negatively affect the spiritual qualities or sacredness of the Duke Island area.	No Effect on historic properties; Alternative D has the least potential for effects and keeps the current status of management.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Issue 4: Noise associated with floatplanes and boats in and around Misty Fiords National Monument Wilderness may negatively impact wilderness character.				
Number of service days allocated in Misty Fiords National Monument Wilderness	10,398 SDs*	12,409 SDs	21,417 SDs	4,553 SDs
Number of service days allocated in 06 Misty Core Lakes	9,539 SDs*	7,922 SDs	6,389 SDs	1,917 SDs
Number of service days allocated to Misty Fiords Wilderness outside 06 Misty Core Lakes	859 SDs*	4,487 SDs	15,028 SDs	2,636 SDs
Effects on opportunities for solitude due to noise	<p>Alternative A allows for the highest amount of outfitter and guide use in 06 Misty Core Lakes. Guided floatplane tours in this Use Area have, and would continue to have, a major effect (as defined in Table 3-4) on opportunities for solitude in the core area of Misty Fiords. Under Alternative A, outfitter and guide use is the least likely to be dispersed to areas that currently offer a high level of opportunities for solitude. Opportunities for solitude on the saltwater bays adjacent to the 07 Walker Chickamin and 10 Rudyerd Winstanley Use Areas is expected to remain similar to existing conditions.</p>	<p>Alternative B would improve opportunities for solitude in the 06 Misty Core Lakes Use Area because it allocates less use to outfitters and guides in this Use Area. Alternative B would have a minor negative effect on opportunities for solitude in the 01 West Misty, 02 Northeast Misty, and 05 South Misty Lakes Use Areas, by displacing floatplane traffic to these areas. Cumulatively, floatplane traffic could also be displaced to the saltwater areas adjacent to the 07 Walker Chickamin and 10 Rudyerd Winstanley Use Areas, reducing the opportunity for solitude in those areas.</p>	<p>Alternative C would improve opportunities for solitude in the 06 Misty Core Lakes Use Area but would allow for a significant increase in motorized traffic associated with outfitter and guide floatplane landings in the 01 West Misty and 02 Northeast Misty Use Areas. An increase in floatplane traffic in these areas is inconsistent with Forest Plan direction to not disperse use in wilderness. Effects to wilderness character would be moderate to major. Adjacent saltwater areas could see a minor effect to opportunities for solitude from floatplane traffic displaced from the 06 Misty Core Lakes Use Area.</p>	<p>Alternative D would significantly reduce the effects from guided floatplane landings in 06 Misty Core Lakes. Alternative D would allow for a small increase in motorized traffic associated with outfitter and guide floatplane landings in the 01 West Misty, 02 Northeast Misty, and 05 South Misty Lakes Use Areas. Effects on opportunities for solitude on NFS lands would be minor. Cumulatively, Alternative D could have a major effect on opportunities for solitude on the adjacent saltwater areas of 07 Walker Chickamin and 10 Rudyerd Winstanley Use Areas.</p>

Issue 5: Outfitter and guide use may negatively affect wildlife, subsistence uses, and cultural and traditional uses.				
Effects on Wildlife	Potential effects to wildlife occur when disturbance from outfitter and guide activities overlap with crucial life phases. Generally high relative risk to wildlife, because design elements and adaptive management do not apply to this alternative and because low initial use does not limit future allocations. New environmental analysis could consider use up to visitor capacity .	Potential effects to wildlife may occur when disturbance from outfitter and guide activities overlap with crucial life phases; generally moderate relative risk to wildlife because of the moderate allocation and inclusion of design elements.	Potential effects to wildlife may occur when disturbance from outfitter and guide activities overlap with crucial life phases; generally high relative risk to wildlife because of the high allocation	Potential effects to wildlife may occur when disturbance from outfitter and guide activities overlap with crucial life phases; generally low or lowest relative risk to wildlife because of the low allocation and inclusion of design elements
Effects on Subsistence Use	This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources because it will not affect overall abundance or distribution of any subsistence resource at the Community Use, WAA, or GMU level, nor will it change access to or competition for those resources. Established modes of access (by foot, boat, vehicle, and ATV) would remain available under all the alternatives since this project does not close roads, trails, or eliminate docks or buoys.	This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources because it will not affect overall abundance or distribution of any subsistence resource at the Community Use, WAA, or GMU level, nor will it change access to or competition for those resources. Established modes of access (by foot, boat, vehicle, and ATV) would remain available under all the alternatives since this project does not close roads, trails, or eliminate docks or buoys.	This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources because it will not affect overall abundance or distribution of any subsistence resource at the Community Use, WAA, or GMU level, nor will it change access to or competition for those resources. Established modes of access (by foot, boat, vehicle, and ATV) would remain available under all the alternatives since this project does not close roads, trails, or eliminate docks or buoys.	This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources because it will not affect overall abundance or distribution of any subsistence resource at the Community Use, WAA, or GMU level, nor will it change access to or competition for those resources. Established modes of access (by foot, boat, vehicle, and ATV) would remain available under all the alternatives since this project does not close roads, trails, or eliminate docks or buoys.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

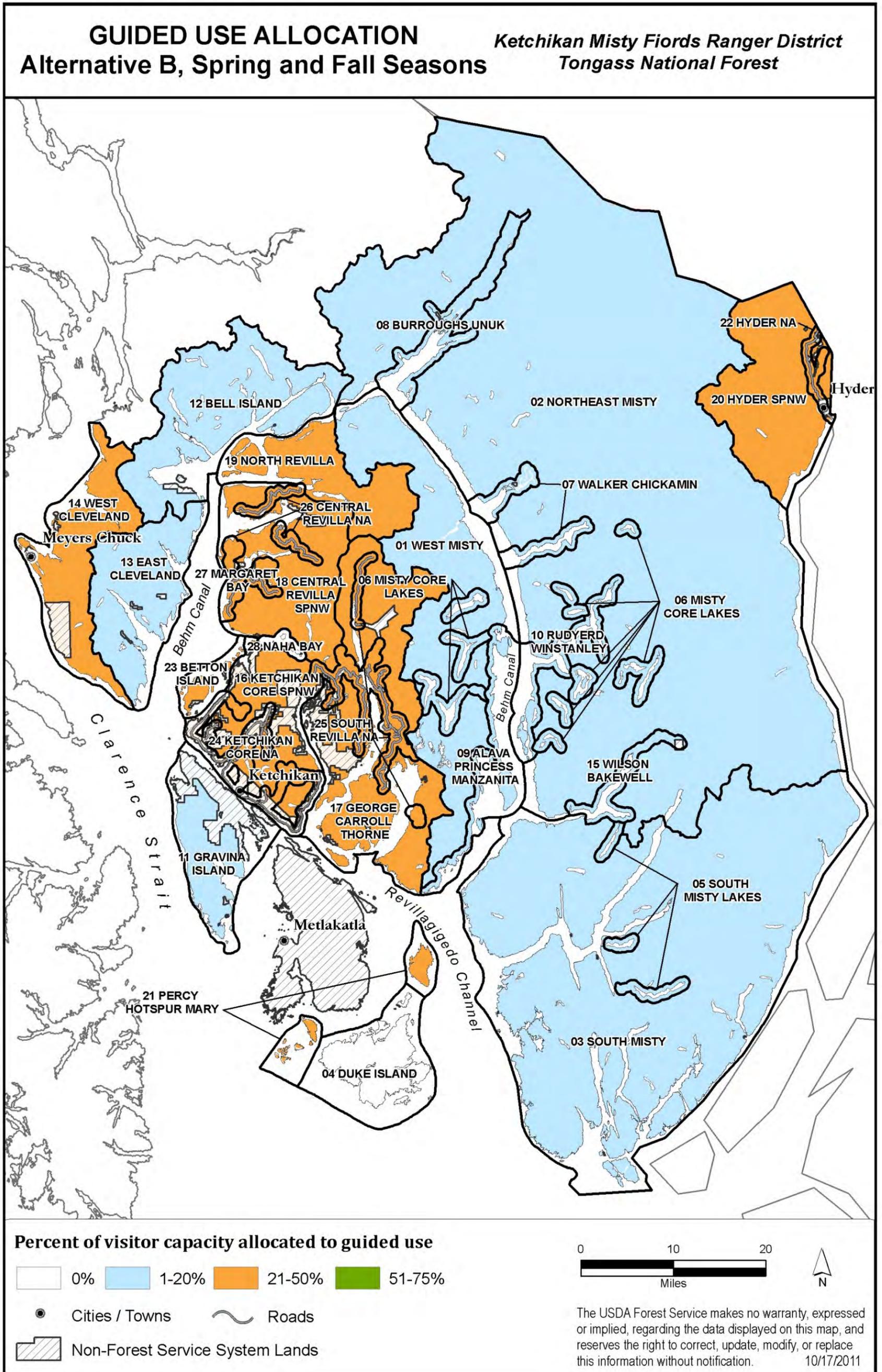
Effect to cultural and traditional uses	The potential for commercial use of the Duke Island area may affect cultural and traditional uses of one of its two use areas.	An increase in the number of service days allocated to outfitters and guides would allow additional commercial use of the Duke Island area which may affect cultural and traditional uses of one of its two use areas.	An increase in the number of service days allocated to outfitters and guides would allow additional commercial use of the Duke Island area which may affect cultural and traditional uses of both of its two use areas.	Alternative D has the least potential for effects to cultural and traditional uses; it keeps the current status of management.
---	--	--	---	--

* In Alternative A, no use will be allocated to outfitters and guides. Highest use numbers are shown here for comparison.

** Use in this area has not been permitted since 1999. However, unplanned use occurred in one year by a guide who had formerly been permitted in the area and did not realize it was closed. That use was stopped upon discovery and has not occurred again.

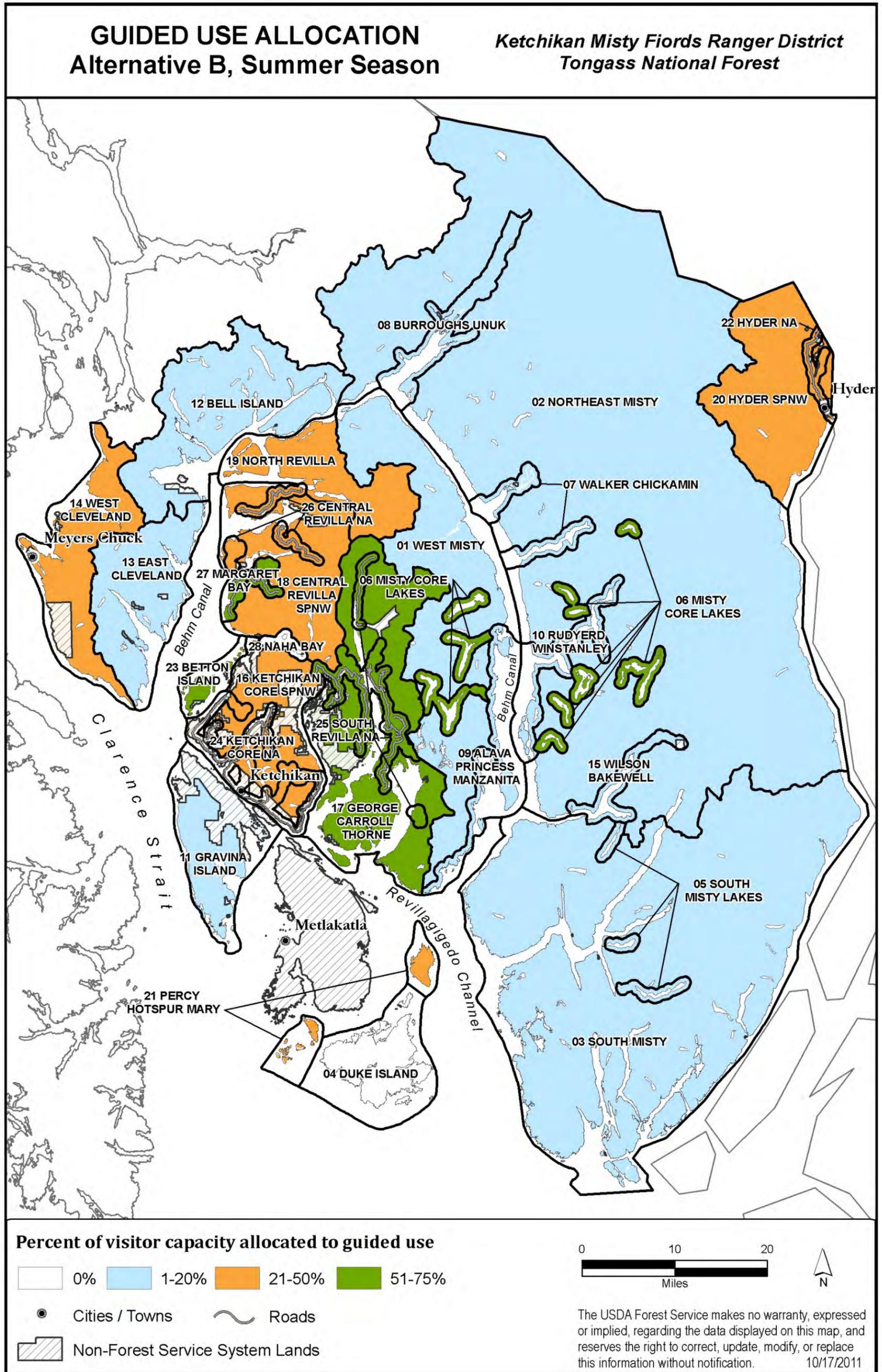
(Source: Ketchikan-Misty Fiords Outfitter and Guided Recreation project Chapter 3 and Resource Reports)

Figure 2-3 – Alternative B, Proposed Action, Spring and Fall Outfitter and Guide Allocations



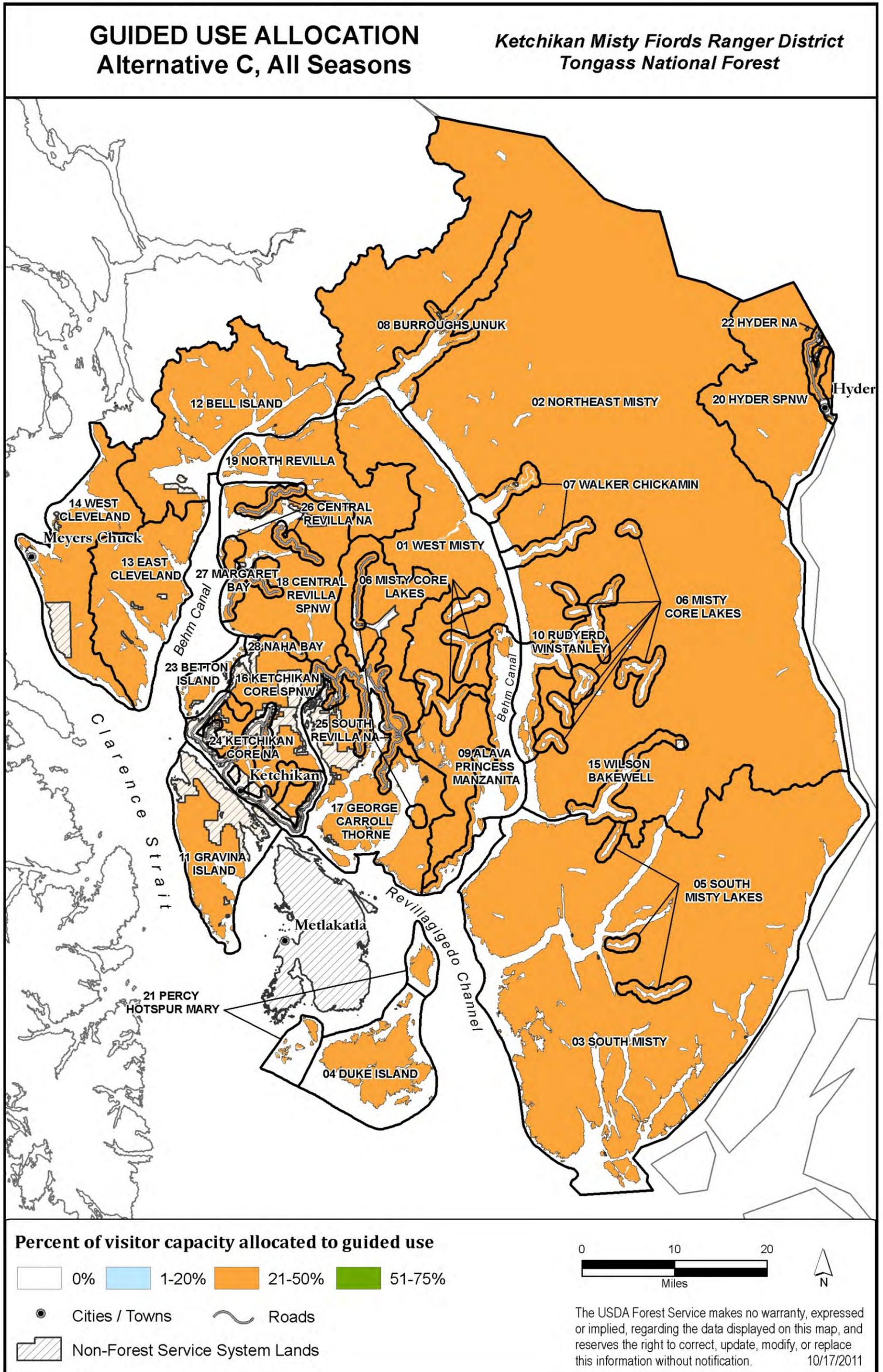
Back of Fig. 2-3

Figure 2-4 – Alternative B, Proposed Action, Summer Outfitter and Guide Allocations



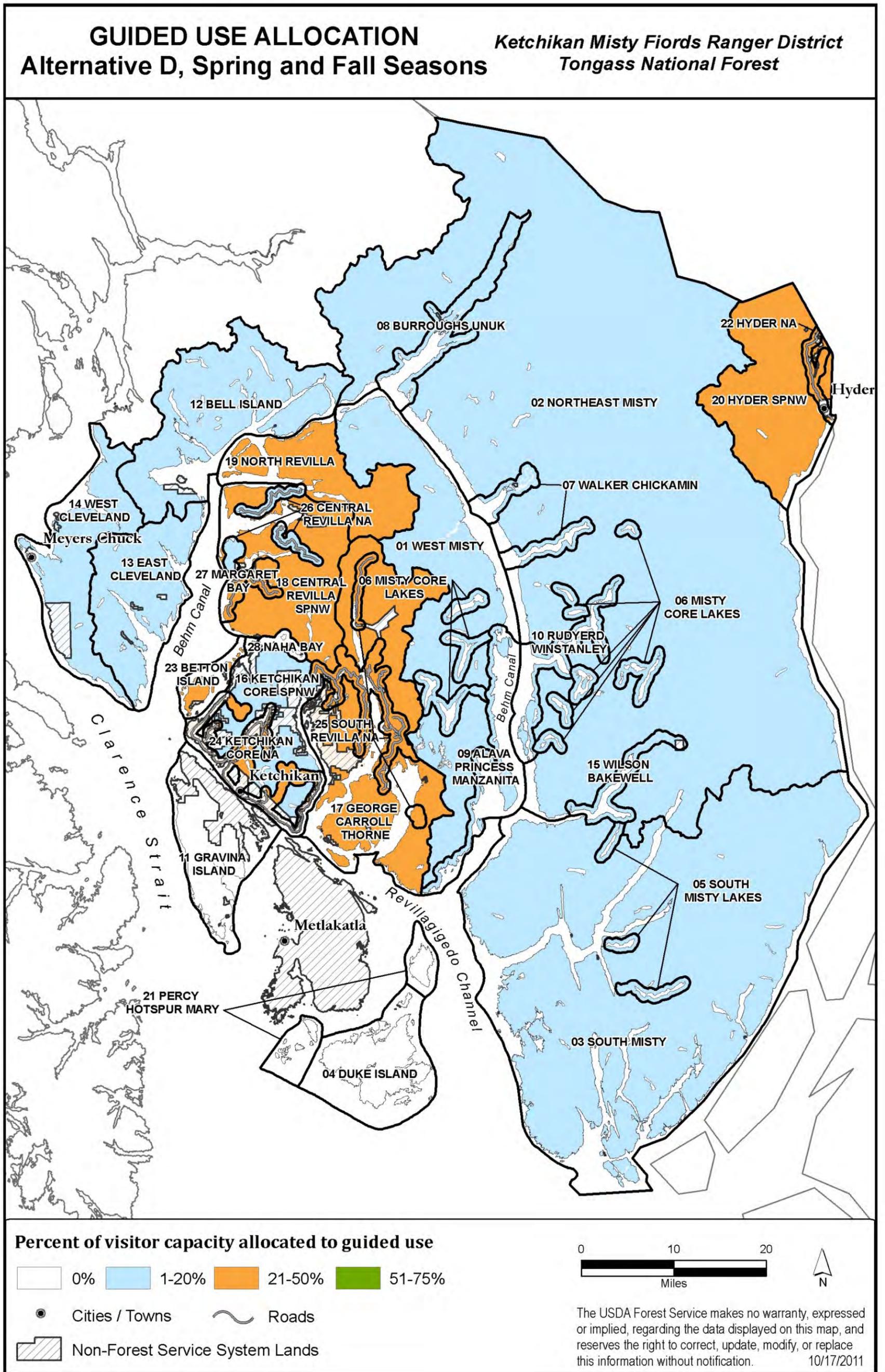
Back of Fig. 2-4

Figure 2-5 – Alternative C, Spring, Summer, and Fall Outfitter and Guide Allocations



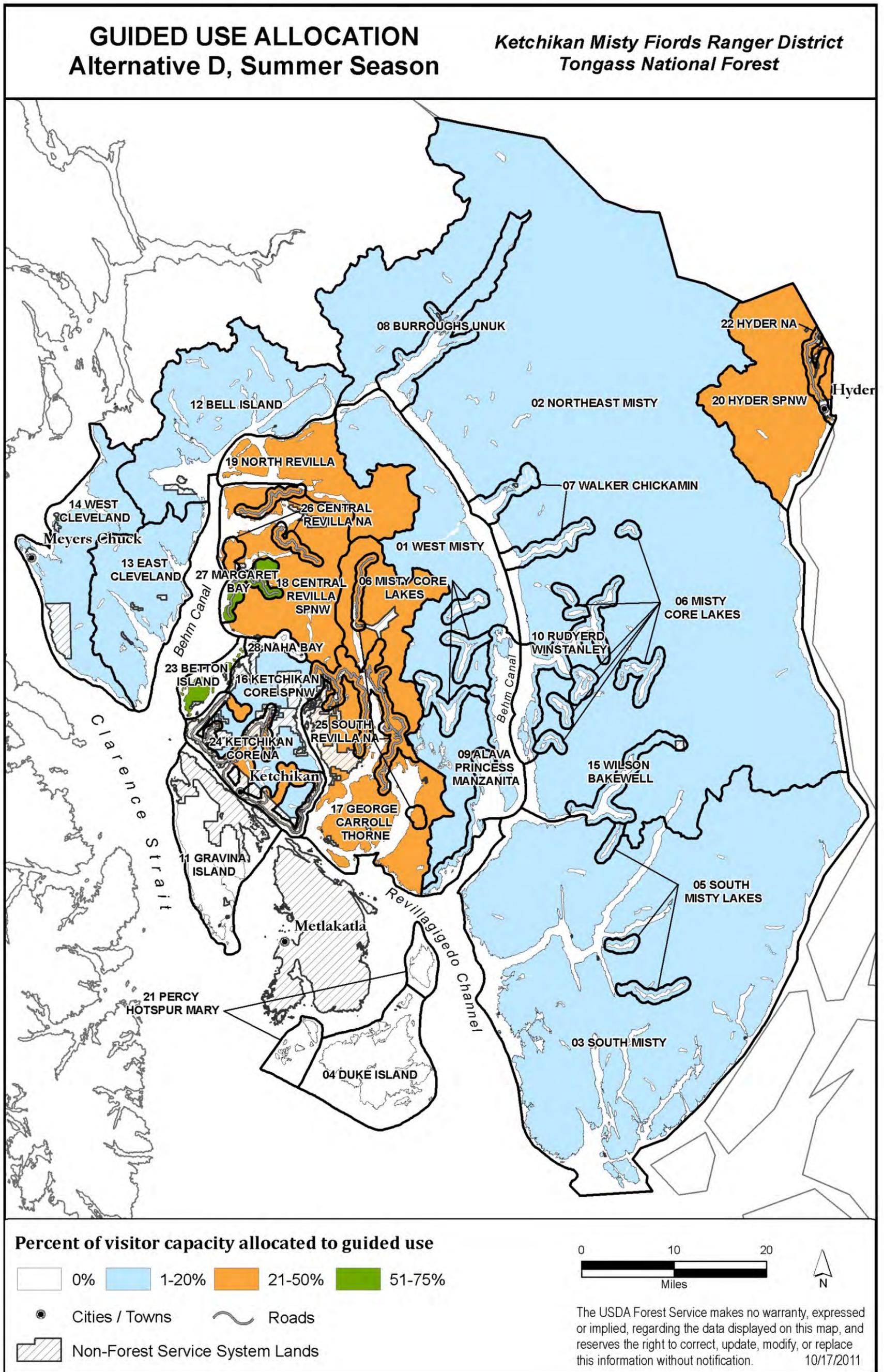
Back of fig. 2-5

Figure 2-6 – Alternative D, Spring and Fall Outfitter and Guide Allocations



Back of fig. 2-6

Figure 2-7 – Alternative D, Summer Outfitter and Guide Allocations



Back of Fig. 2-7

Chapter 3

Environment and Effects

Changes Between DEIS and FEIS

- Minor corrections, additions, or revisions were made to correct spelling or clarify the meaning of sentences or paragraphs throughout the chapter.
- In the Socioeconomics section, the effects of Alternative A were expanded and the percentage increase in outfitter and guide days available was adjusted to match the data. Additionally, an Environmental Justice/Civil Rights section was added at the end of the Socioeconomics section.
- In the Wilderness section, minor corrections to some alternative comparisons were made to match the data presented in the DEIS. The Recreation Opportunity Spectrum (ROS) section was expanded to provide more information. The cumulative effects section was also revised (and data corrected) to make this section more clear.
- In the Recreation section, information was added and analysis revised to respond to comments and make the effects clearer. Information on the Wild and Scenic River System was added. The Recreation Opportunity Spectrum (ROS) section was expanded to provide more information. Additionally, some numbers and totals in the analysis were corrected to match the data presented in the tables.
- References were added to or updated in the Wildlife section. Additional information was added to the wildlife section to make it clearer.
- The Subsistence Uses section was substantially revised. Additional information was added, minor mistakes were found and corrected, and information in the section was adjusted to make the section clearer and to respond to comments.
- The Botany section was rearranged and a few sentences were adjusted to make this section clearer. Common names of rare plants were added to Table 3-15.
- In the Hydrology and Fisheries section, we added information and analysis related to Pacific herring (a candidate for listing as threatened or endangered) and threatened or endangered migratory salmon and steelhead stocks.

CHAPTER 3, AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Introduction

This chapter briefly describes the affected environment of the project area and the potential changes to the environment due to implementation of the alternatives. It also presents the scientific and analytical basis for the comparison of alternatives presented in Table 2-2 in Chapter 2. Direct, indirect, and cumulative effects are disclosed. Effects are quantified where possible, but qualitative discussions are also included.

The following discussion of resources and potential effects associated with each of the alternatives uses existing information included in the Forest Plan Final Environmental Impact Statement (USDA Forest Service 2008c); other project Environmental Assessments (EAs); project-specific resource reports and related information; roads analyses; and other sources as indicated. Where applicable, such information is briefly summarized and referenced to minimize duplication.

This EIS hereby incorporates, by reference, the project planning record and resource reports contained in the planning record (40 CFR 1502.21). The planning record for this project includes all project-specific information, including resource reports and other results of field investigations used to support the analysis and conclusions in this EIS. Reports such as Water and Fisheries Resources, Botany Resource Report, Invasive Plant Species Risk Assessment, Heritage Resources, and Recreation, as well as Biological Evaluations for Threatened, Endangered, and Sensitive Species were prepared for the Ketchikan-Misty Fjords Outfitter and Guide Management Plan project. Resource reports contain the detailed data, methodologies, analyses, conclusions, maps, references, and technical documentation that the resource specialists relied upon to reach the conclusions in this EIS. The planning record also contains information resulting from public involvement efforts. In addition, the 2008 Determination of Need for the Ketchikan-Misty Fjords Ranger District (Appendix A of this EIS) and KMRD Visitor Capacity Analysis (Appendix C of this EIS) provide additional background for this analysis. The planning record is located at the Ketchikan-Misty Fjords Ranger District Office in Ketchikan, Alaska, and is available for review during regular business hours. Information from the record is available upon request.

Analyzing Effects

Environmental consequences are the effects of implementing an alternative on the physical, biological, social, and economic environment. The Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) include a number of specific categories to use for the analysis of environmental consequences. Several of these categories are applicable to the analysis of the proposed

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

project and alternatives. They form the basis of much of the analysis that follows and are explained briefly below.

Direct, Indirect, and Cumulative Effects

Effects disclosed in this document are organized into three categories: direct, indirect, and cumulative effects. Direct environmental effects occur at the same time and place as the initial cause or action. Indirect effects occur later in time or are spatially removed from the action. Cumulative effects result from the incremental effects of actions, when added to other past, present, and reasonably foreseeable future actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time. Effects are disclosed below by resource.

The interdisciplinary team (IDT) developed a list of activities to consider when analyzing the cumulative effects of this project. The project list included but was not limited to:

- timber sales (Traitors Cove TS, Spit Point, and Free use),
- hydroelectric (Soule River, Shelokum, and Whitman Lake)
- mining exploration (Duke Island),
- impacts from activities adjacent to National Forest System (NFS) lands (e.g. motorized boat traffic, commercial fishing, overflights, etc),
- unintended effects on saltwater conditions (may be an indirect effect of limiting flights on lakes),
- Board of Game, Federal Subsistence Board, and Board of Fisheries decisions,
- land exchanges,
- Sealaska selections: the 1971 Alaska Native Claims Settlement Act and potential for passage of a new Sealaska Lands Bill, and
- other activities on KMRD.

The list of cumulative effects considerations is available in the project record.

Short-term Uses and Long-term Productivity

NEPA requires consideration of “the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity” (40 CFR 1502.16). As declared by the Congress, this includes using all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101).

Short-term uses, and their effects, are those activities that occur annually or within the first few years of project implementation. Long-term productivity refers to the capability of the land and resources to continue producing goods and services long after the project has been implemented. Under the Multiple-Use Sustained-Yield Act and the National

Forest Management Act, all renewable resources are to be managed so that they are available for future generations.

Guided use is expected to have minimal effect on trees and tree growth, but could affect plants, the spread of invasive plants, and wildlife. Long-term productivity of resources is expected to be maintained through the application of resource protection measures (project design elements and mitigation measures) and adaptive management as described in Chapter 2 and Appendix B.

Unavoidable Adverse Effects

Implementation of an action alternative may cause some adverse environmental effects that cannot be effectively mitigated or avoided. Unavoidable adverse effects often result from managing the land for one resource at the expense of the use or condition of one or several other resources. Many adverse effects can be reduced, mitigated, or avoided by limiting the extent or duration of effects. The interdisciplinary procedure used to identify specific management activities was designed to eliminate or minimize adverse consequences. The application of Forest Plan Standards and Guidelines, Best Management Practices (BMPs), project-specific project design and mitigation measures, and monitoring are all intended to further limit the extent, severity, and duration of potential effects. Such measures are discussed throughout this chapter. Regardless of the use of these measures, some adverse effects will occur. The purpose of this chapter is to fully disclose these effects.

Irreversible and Irretrievable Commitments of Resources

Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. Irretrievable commitments are those that are lost for a period of time such as the temporary loss of timber productivity in forested areas that are kept clear for use as a power line rights-of-way or road.

Generally, the use of rock for construction or the loss of the only known population of a plant would be an irreversible commitment of that resource since the rock is no longer in the ground or the plant no longer exists. A lower allocation of service days to outfitters and guides is a loss of business productivity, which is an irretrievable commitment of resources.

No irreversible commitments are expected if items in Appendix B and adaptive management (Chapter 2) are implemented. The action alternatives would reduce the amount of potential guided use in one recreation use area (06 Misty Core Lakes) but substantially increase potential guided use in most other areas. There would be an irretrievable loss of business productivity in one location; it may be offset by the gains in other locations. The loss of solitude and primitive experience in wilderness may be irretrievable to individuals who are visiting while floatplanes and other users use the area. This loss is currently occurring but is reduced to some degree in Alternatives B and D, and increased in many places in Alternative C.

Adaptive Management and Effects

Adaptive management is defined in the code of federal regulations (CFR) as:

A system of management practices based on clearly identified intended outcomes and monitoring to determine if management actions are meeting those outcomes; and, if not, to facilitate management changes that will best ensure that those outcomes are met or re-evaluated. Adaptive management stems from the recognition that knowledge about natural resource systems is sometimes uncertain. (36 CFR 220.3)

There is some level of uncertainty in describing and analyzing recreational use. Due to conditions varying from weather to wildlife sightings to the state of financial markets, the location, type, and amount of recreational use in any area changes irregularly. Because recreational use is a combination of guided and unguided use, recreation use can be highly regulated and tracked or minimally regulated or tracked. Additionally, no peer reviewed studies in Southeast Alaska are available to equate recreational use levels to levels of effects on resources. The permit administrators monitor guided use through annual reports and on-the-ground surveys during the highest use season, summer. However, this monitoring does not include all unguided use. While monitoring and other studies have been used here to determine and estimate the effect of various levels of recreation use, there remains uncertainty about the effect that various levels of use will have on biological and socioeconomic conditions.

Uncertainty creates a need for a mechanism through which the Forest Service can make incremental adjustments to outfitter and guide management over time, as information is gained about how area resources are reacting to current management. That mechanism is adaptive management.

In this analysis, adaptive management could be used to increase the guided allocation, decrease the allocation, or maintain allocation with adjustments to outfitter and guide management. For example, if monitoring shows that all resources have no concerns and are not being negatively affected, adaptive management may be used to increase allocation (as described in Chapter 2). If monitoring shows that a resource is being negatively affected, the guided allocation may be reduced at that site, or, for example, guided use may be eliminated from that site or other management measures may be used to correct resource issues (see Chapter 2, Adaptive Management and Appendix D for potential adaptive management measures).

For this analysis, adaptive management has the potential negative or positive effects of the highest potential guided use by area or by alternative and the effect of making adjustments to guided use to meet resource concerns. All specialists analyzed the potential effects of the highest guided use levels through analysis of individual areas and allocation totals in Alternatives A, B, C, and D. Additionally, specialists analyzed the effect of making adjustments to guided use in their individual resource analyses. IDT members recognize that increasing allocations would increase the risk or the potential for negative effects from overuse. However, IDT members plan to use adaptive management to maintain or improve resource conditions. Thus, while guided use may increase,

negative and positive effects are not expected to go beyond what was analyzed in this EIS.

As described in Chapter 2 the adaptive management process would allow for changes in management of guided use without further NEPA analysis, unless designated thresholds are reached.

Analysis of the Alternatives by Issue

In the following sections we describe the environmental effects of each of our alternatives as they relate to the significant issues for this project. Thus, the analysis of effects has been organized with socioeconomics first, followed by wilderness, recreation, heritage, wildlife, and subsistence. The other resources, on which effects may occur, are discussed in this chapter; these resources are organized in alphabetical order.

Concerns, suggestions, and design recommendations are discussed as they relate to the project's affected environment and potential effects of the alternatives on resources.

Socioeconomics

Affected Environment

This analysis considers the economic effects of the alternatives. Social effects are considered in the Recreation, Wilderness, and Heritage sections of this EIS. The Forest Plan Final Environmental Impact Statement (USDA Forest Service 2008c) states that outfitter and guide activity will probably increase in the next few years. The Forest Plan FEIS also states that, '*shore excursions have become an integral part of the cruise ship experience... and approximately 83 percent of cruise visitors participated in at least one tour... .*' (p. 3-378). The Forest Plan FEIS does not estimate how the outfitter and guide activity will increase in the next few years, so we cannot estimate changes in the number of permits requested; although, we do think that "...*shore excursions will remain an integral part of the cruise ship experience*". For this analysis, we looked at the number of service days allocated and assumed any increase in outfitter and guide activity would fall within the number of days allocated for at least one of the action alternatives.

This analysis considers both total allocation by alternative and effects to economics related to:

Issue 1: Limiting the amount and location of outfitter and guide use may not adequately provide for industry stability and growth.

Issue 1 was developed by the public during the LAC process. In addition to concerns about limiting the amount of outfitter and guide use related to providing adequate industry stability and growth, the public was concerned about four specific areas where economics were a concern. Participants identified four areas of concern. These areas provide commercial opportunities close to town (e.g. Gravina and George Carroll Thorne), unique scenic opportunities (e.g. Misty Core Lakes Use Area), and unique

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

recreation opportunities (e.g. bear viewing at Margaret). The measurements listed in Chapter 1 for this issue are:

- *Number of service days allocated to outfitters and guides by recreation use area*
- *Number of service days allocated to outfitters and guides in 06 Misty Core Lakes, 11 Gravina Island, 17 George Carroll Thorne, and 27 Margaret Bay Recreation Use Areas (areas identified by outfitters and guides as desired locations)*

District-wide, the highest actual use by outfitters and guides, by recreation use area, that occurred between 2005 and 2009 is 24,245 service days per year (calculated by taking the highest use between 2005 and 2009 per use area per season and adding these highest uses together to get a District total for the 182-day combined spring/summer/fall seasons).

The value of outfitter and guide services is different for various permit holders. For example, in 2002 per-client per-hunt fees for brown bear hunts ranged from \$850 to \$17,900 (Alexander 2008, pg 4) and the 2002 mean client-day charge for freshwater fishing and small game and waterfowl hunting was about \$294 (Ibid, pg 8), and sightseeing tours can average about \$337 per person per day (Dugan, Fay, and Colt, 2007, pg 13). Additionally, we cannot accurately predict the number or type of permits that will be authorized in the future. Thus, dollar amounts were not used for the comparison. Comparison is limited to the number of service days.

Environmental Consequences

Direct and Indirect Effects

The analysis is based on the comparison table in Chapter 2, Table 2-7 of this FEIS, which compares the number of service days per recreation use area by alternative and season. The direct and indirect effects are not easily separated so will be discussed together here. Direct and indirect effects are listed for each alternative and include:

- the number of service days allocated to outfitters and guides in all recreation use areas,
- a comparison of the summer season (the season of concern) for the four concern areas listed in the Issue 1 measurements (Table 3-1),
- a list of other areas within the alternative where allocations are below Alternative A (highest use), and
- a conclusion on economic effects.

Overall, Alternative C allocates the most service days to outfitters and guides (Table 2-6) thus, would be the most economically advantageous for all outfitters and guides across KMRD. However, Alternative B allocates the most service days in the areas of concern (Table 3-1) listed in Issue 1 measurements, which would be most advantageous to outfitters and guides using the areas of concern. Alternative A would allow for the most growth over time because there is no limit on the number of service days that can be allocated under Alternative A. However, any new permit allocations would require an

individual environmental analysis, which can take a short time or several years to issue dependent on the type of application and the availability of resource specialists.

Table 3- 1) Number of Service Days Allocated to Outfitters and Guides during the Summer in Areas of Concern in Issue 1

Recreation Use Area	Summer			
	Alt A	Alt B	Alt C	Alt D
	# SDs	# SDs	# SDs	# SDs
06 Misty Core Lakes	9,258	7,318	4,879	1,464
11 Gravina Island	0	651	1,627	0
17 George Carroll Thorne	792	3,253	2,169	2,169
27 Margaret Bay	2,322	2,752	1,835	2,386
Total for concern areas	12,372	13,974	10,510	6,019

Alternative A - No Action

Alternative A does not meet Forest Service Handbook (FSH) direction to determine the allocation of use between guided and unguided visitors (FSH 2709.14 50.53f).

Direct and indirect effects on the economic opportunities for outfitters and guides will remain the same. When an outfitter or guide applies for a new special use permit on the national forest, the permit administrators will complete an individual environmental analysis, which can take a short time or several years to issue dependent on the type of application and the availability of resource specialists to do resource analysis. The level of use that would be authorized, if Alternative A is selected, is 24,245 service days per year (calculated by taking the highest use between 2005 and 2009 per use area per season and adding these highest uses together to get a District total for the 182-day combined spring/summer/fall seasons). Use would be limited to this level unless site specific NEPA is completed. For this analysis, 24,245 service days was used for comparison since this is the known use and would not require further NEPA or review.

Outfitter and guide use in the areas of concern will remain the same until new NEPA is completed. All of the other recreation use area service days will remain the same.

It would be more difficult for the outfitter and guide industry to expand under these conditions since each new request for special use permits will require individual NEPA analysis. However, expansion would not be limited to a number of allocated service days as in the action alternatives. The Forest Service Handbook 2709.14 50.53n requires a review of permitted use every five years to compare the permit holder’s highest actual use from that five-year period to what is authorized; the permit may be adjusted to a maximum of 25 percent above the highest amount of actual use from the five-year review period, not to exceed the amount of use authorized by the permit. Under Alternative A, any increase above the authorized amount would require additional NEPA, which could make it difficult for outfitter and guides to respond quickly to changes in demand,

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

weather, and market conditions. Thus, increased use is not guaranteed and not considered in the socioeconomic analysis.

Action Alternatives (Alternatives B, C, and D)

For all of the action alternatives, the outfitter and guide industry can expand since there are more allocated service days than the highest use, in most recreation use areas. With the action alternatives, if an outfitter or guide requests a new special use permit and there are service days still available, an individual NEPA analysis would not be required unless the activity type or location are new (i.e. the activity does not currently occur on KMRD or the site has not been used for outfitter or guide activities).

In Alternatives B and D, the allocation for 04 Duke Island and 28 Naha are 0, which is lower than the high use in Alternative A. 04 Duke Island shows a high summer use of 22 service days and Naha shows a high summer use of 14 service days from 2005 to 2009.

- Outfitter and guide use has not been permitted by the KMRD on 04 Duke Island since 2000. The high use that shows up in Alternative A was from a long term permit holder that was authorized use in several areas including 04 Duke Island and had not been told about the closure to outfitters and guides; the permit has since been changed to reflect the closed status of Duke Island. Alternatives B and D continue the policy of not permitting outfitter and guide use on 04 Duke Island, so there should be no new impact on outfitters and guides.
- Outfitter and guide use is also not permitted in the 28 Naha area due to high local use. The high use of 14 days in Alternative A occurred in the upper lakes, out of the high local use areas. Alternatives B and D continue the policy of not permitting outfitter and guide use at Naha, so there should be no new impact on outfitters and guides.

The allocation of guided use in 04 Duke Island and 28 Naha in Alternative C was used to show effects in these areas, to respond to public requests, and to get feedback from the public on whether or not to continue to exclude these areas from outfitter and guide permitted activities.

Alternative B

With Alternative B the economic opportunities for outfitters and guides increase to 53,997 service days annually from the 24,245 service days in Alternative A. The service days available for outfitter and guide use increases by 29,752 service days, a 123 percent increase, over the highest use from 2005 to 2009.

In each of the areas of concern listed in Issue 1, there is room for growth, except summer use in 06 Misty Core Lakes (Table 3-1), which has a high use of 9,258 service days in Alternative A compared to the allocated 7,318 summer service days in Alternative B. Since there is room for growth in other locations on KMRD, outfitters and guides may be able to move their operations to other areas and not lose business. If outfitter and guide use cannot move, then outfitters and guides would lose 1,940 summer service days annually in the areas of concern. The value of the service days is dependent on the type of permitted activity.

In areas that are not a concern listed in Issue 1, 04 Duke Island and 28 Naha allocate lower summer use than the highest use shown in Alternative A, as explained above.

In Alternative B, there are opportunities for outfitters and guides to expand their businesses compared to Alternative A. Of the three areas with lower use allocated in Alternative B than Alternative A, only 06 Misty Core Lakes is a concern area with a total decrease of 1,940 summer service days annually.

Alternative C

With Alternative C, the direct and indirect effects on the economic opportunities of outfitters and guides increases with to 74,005 service days annually from the 24,245 service days per year in Alternative A. The service days available for outfitter and guide use increases by 49,760 service days, a 205 percent increase, over the highest use from 2005 to 2009.

In two of the areas of concern listed in Issue 1, there is room for growth. Summer use in 06 Misty Core Lakes and 27 Margaret Bay is lower than Alternative A. In Alternative A, 06 Misty Core Lakes, has a high use of 9,258 summer service days compared to 4,879 allocated summer service days in Alternative C, a difference of 4,379 service days. (Table 3-1) For 27 Margaret Bay, Alternative A has a high use of 2,322 summer service days compared to 1,835 summer service days allocated in Alternative C, a difference of 487 service days.

Since there is room for growth in other locations on KMRD, outfitters and guides may be able to move their operations to other areas on KMRD. If outfitter and guide use cannot be moved to other locations, then overall the outfitters and guides would have a decrease over the highest use of 2,322 summer service days in the areas of concern. The value of the service days is dependent on the type of permitted activity is in the area.

In areas that are not a concern listed in Issue 1, 23 Betton Island allocates summer use lower than the highest summer use shown in Alternative A. For Betton Island, Alternative A shows a high summer use of 8,153 service days and Alternative C allocates 5,838 summer service days, a difference of 2,315 summer service days.

Alternative C has the highest annual use allocation of all of the alternatives. There is room for outfitter and guide business growth in all but three areas in the summer. The three areas with lower use allocated in Alternative C than Alternative A, 06 Misty Core Lakes and 27 Margaret Bay, and 23 Betton Island, have a total decrease of 7,181 summer service days.

Alternative D

With Alternative D, the direct and indirect effects on the economic opportunities of outfitters and guides increases to 34,905 service days annually over the 24,245 service days per year in Alternative A. The service days available for outfitter and guide use increases by 10,660 service days, a 44 percent increase, over the highest use from 2005 to 2009.

In each of the areas of concern listed in Issue 1, there is room for growth, except for summer 06 Misty Core Lakes. Alternative A has a high use of 9,258 summer service

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

days compared to 1,464 summer service days that would be allocated in Alternative D for 06 Misty Core Lakes a difference of 7,794 service days (Table 3-1).

Since there is room for growth in other locations on KMRD, outfitters and guides may be able to move their operations to other areas on KMRD. However, since most of the use in 06 Misty Core Lakes is flightseeing, it may be difficult to move 7,794 summer service days of flightseeing to other locations on KMRD, because of the special conditions that airplane landings require. The value of the service days is dependent on the type of permitted activity in the area.

In areas that are not a concern listed in Issue 1, 04 Duke Island, 13 East Cleveland, and 28 Naha allocate lower summer use than the highest summer use shown in Alternative A. As stated above, outfitter and guide use has not been permitted by KMRD at 04 Duke Island and 28 Naha. For 13 East Cleveland, Alternative A shows a high summer use of 221 service days and Alternative D allocates 190 summer service days. This is a loss of 31 summer service days.

In Alternative D, there are opportunities for outfitters and guides to expand their businesses compared to Alternative A. Of the four areas with lower use allocated in Alternative D than Alternative A, 06 Misty Core Lakes and 13 East Cleveland have a total decrease 7,825 summer service days annually.

Cumulative Effects

Alternatives A, B, C, and D

The interdisciplinary team (IDT) developed a list of activities to consider when analyzing the cumulative effects of this project. As stated earlier, the projects list included timber sales, hydroelectric and mining exploration, Board of Game and Board of Federal Subsistence decisions, land exchanges, and the Sealaska Selections Bill. With the exception of the Sealaska Selections Bill, none of the activities listed in the items to consider in cumulative effects was considered in the socioeconomics analysis. If a Selection Bill were signed into Law, the IDT would have to look at the areas affected and decide if the carrying capacity is still valid, use locations and allocations may change during this review. Since the content of the Sealaska Selections Bill is unknown, it is not possible to speculate on the affect. The other projects would not cumulatively affect socioeconomics.

The socioeconomic analysis did incorporate past documents and plans including decisions on Guided Use of Cabins, Naha, Margaret Bay, Hyder, the Discovery Center, and Trail use.

Alternative C has the highest overall service day allocation for all of the recreation use areas on KMRD. Alternative B allocates the highest number of summer service days in the areas of concern, although, fewer summer service days in 06 Misty Core Lakes than Alternative A.

Alternative A has the fewest service days and the longest permit procedure for outfitters and guides since, new NEPA would have to be completed for each new permit request.

Alternative D has the lowest number of service days allocated and the fewest summer service days in the areas of concern of any alternative.

Environmental Justice/Civil Rights

As shown through the EIS, there will be limited environmental effect and no high or adverse human health effects from implementing any alternative in this project. With limited or no effect on resources and human health, there is no risk of disproportionate effect on minority or low-income populations.

Additionally, this project does not exclude, deny benefits, or subject people to discrimination. The IDT provided multiple and various opportunities to participate in this project and the development of the Proposed Action, DEIS, and FEIS. Additionally, permit administrators conduct the permitting process following the laws, regulations, and orders that make it illegal to discriminate against a person or people based on race, color, or national origin. Minority or low-income populations should not be disproportionately affected by any alternative.

Wilderness

More than 2/3 of the Ketchikan-Misty Fiords Ranger District's 3,262,549 acres are in the federally-designated Misty Fiords National Monument Wilderness (Misty Fiords). Since wilderness encompasses most of KMRD, the existing condition and effects on wilderness are discussed first in this EIS; the recreation resource section follows the wilderness section.

This analysis addresses Issue 4:

Issue 4: Noise associated with floatplanes and boats in and around Misty Fiords National Monument Wilderness may negatively impact wilderness character.

The measurements listed in Chapter 1 for this issue are:

- *Number of service days allocated in Misty Fiords National Monument Wilderness*
- *Effects on opportunities for solitude due to noise*

Access was a key factor in determining the need for commercial outfitter and guide services on the wilderness and non-wilderness portions of the KMRD. Due to distance, weather, terrain, and the type of recreational opportunities pursued on KMRD, outfitting and guiding service are often needed to provide safe access for the general public. Unguided access is also limited by the need to acquire, maintain, and operate expensive, specialized equipment, such as boats and floatplanes. The needs assessment for KMRD was completed in 2008 (USDA Forest Service) and is attached to this EIS as Appendix A.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

One challenge of wilderness stewardship is that decisions or actions taken to protect one aspect of wilderness character may diminish another aspect (Landres et al. 2008). For example, a management decision to restrict guided use in a location or require the use of designated campsites may protect opportunities for solitude, but also reduce opportunities for primitive or unconfined recreation. All effects are described here.

Affected Environment

This analysis assumes that:

- future use patterns, including the type of activities occurring, the method of transport used, and the spatial and temporal distribution of use, will be similar to existing patterns of use. (The actual number of service days available will change by alternative but the use patterns, activities occurring, and the method of transport should remain the same.)
- group sizes and average length of stay on NFS lands will be similar to existing patterns of use based on recreation opportunities available in an area and mode of transport used.

Comprised of 2,142,907 acres, Misty Fiords National Monument Wilderness (Misty Fiords) is a vast, largely intact ecosystem offering a unique combination of features, including steep, granite walls rising from protected fjords, forested mountains, glaciers, numerous alpine and subalpine lakes, and an abundance of fish and wildlife. Misty Fiords was designated a National Monument in 1978 by President Jimmy Carter. In 1980, with passage of the Alaska National Interest Lands Conservation Act (ANILCA), Misty Fiords became a federally-designated wilderness area.

The large amount of land available in Misty Fiords provides a diversity of recreation attractions and opportunities. Most recreation activities take place in, and depend on, settings that are primarily undeveloped and widely dispersed. The entire area is wild and remote, with no road access available. Recreation facilities, primarily public recreation cabins, shelters, trails, and buoys, are limited. People visiting Misty Fiords generally expect a wilderness experience characterized by opportunities to experience solitude or primitive and unconfined recreation.

Recreation activities in the analysis area cover a broad spectrum of uses, including sightseeing, wildlife viewing, fishing, hunting, kayaking, camping, and hiking. Marine waterways are also used for boating, crabbing, shrimping, and personal and commercial fishing. Marine and terrestrial wildlife is abundant in Misty Fiords and visitors often have the opportunity to see bald eagles, brown and black bear, mountain goats, and whales, among other species. Visitors also come to view the dramatic scenery, particularly in the area surrounding Punchbowl Cove in the 10 Rudyerd Winstanley Use Area.

Marine waterways serve as the ‘roads’ to and around Misty Fiords. Recreation access is primarily via boats and floatplanes. A unique and challenging aspect of wilderness management in Misty Fiords is that the adjacent waterways allow for motorized boat traffic and floatplane access along many sections of the shoreline boundary. Others

access the area using floatplanes that land on subalpine and alpine lakes. A large percentage of the floatplane use in Misty Fiords is associated with commercial flightseeing tours. Unguided visitors access Misty Fiords using small kayaks (often first transported to remote locations using motorized boats), or personal motor or sailboats. Charter planes are also hired by unguided visitors to access public recreation cabins.

Much of Misty Fiords is either inaccessible or not suitable for recreation because of difficult and steep terrain, wetlands, and icefields. Recreation use is unevenly distributed spatially and temporally due to the access and weather limitations. Guided and unguided use tends to be concentrated in accessible areas with particularly attractive features or recreation opportunities. Use is concentrated along accessible shorelines, river and stream bottoms, and around subalpine and alpine lakes and neighboring areas (USDA Forest Service 2008c). Use patterns are also associated with protected boat anchorages, boat landings, and aircraft landing sites. Access is primarily via floatplane and motorized boat. Guided and unguided use is concentrated during the summer months.

Recreation Opportunity Spectrum (ROS)

The Forest Plan (Appendix I) uses the Recreation Opportunity Spectrum (ROS) to help identify, quantify, and describe the types of recreation settings that the Tongass National Forest provides. The ROS is an inventory tool used to describe existing conditions of recreation opportunities and may be updated during project planning. Seven different indicators are used to determine the ROS class of an area, and are used to guide management activities to provide a range of recreation opportunities. The guidelines presented in Appendix I of the Forest Plan for each of the seven ROS classes include physical, social, and managerial indicators. ROS allocations are descriptive and will not change with implementation of any alternative or component of a decision on this EIS.

During the LAC process (see Chapter 2 and Appendix E of the DEIS), participants were asked to provide input on measurable indicators related to key values. Key values expressed by the public included access to and ability to experience remote, wild, pristine places along with solitude and quiet; that same group identified crowding, noise, and congestion as threats to those values. Two indicators based on social conditions were chosen for monitoring: number of encounters per day and number of guided floatplane landings per day per lake. A simplified system of four recreation management zones was also established during the LAC process. Standards related to the four management zones and the chosen indicators were also proposed; these standards and management zones will be considered for adoption in all action alternatives in this EIS.

The proposed standards set for monitoring and adjustment are more limiting than the guidelines set by ROS for the number of social encounters per day; other guidelines in Appendix I of the Forest Plan for determining ROS class will not change. See “Adaptive Management” in Chapter 2 for possible management actions should these proposed social standards be exceeded. These proposed standards are for monitoring desired social outcomes identified during the LAC process and are for this EIS only. They will not be used to change the Forest Plan. ROS classes will still be used to describe recreation opportunities and to analyze effects of future projects. Proposed outfitter and guide

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

operations and activities are appropriate for the specific Forest Plan ROS settings described for each LUD as required by Forest Plan standards and guidelines (p. 4-46).

Wilderness Character

The Forest Service has applied the legal definition provided in the Wilderness Act to identify and define these four qualities of wilderness character (Landres et al. 2008):

- Untrammeled - the wilderness is free from modern human control or manipulation;
- Natural – the wilderness ecological systems are substantially free from the effects of modern civilization.
- Undeveloped – the wilderness is undeveloped and without permanent improvements or human habitation;
- Solitude or a primitive or unconfined type of recreation- this quality is about the opportunity for people to experience wilderness.

These qualities comprise an approximation of wilderness character for wilderness planning, stewardship, and monitoring (Landres et al. 2008). They apply to all designated wilderness areas regardless of unique place-specific attributes. While individual wilderness laws (e.g. ANILCA) may include specific exceptions or provisions that apply to the use of a particular area, federal law requires that managers preserve the wilderness character of each designated area.

The Wilderness Act states that wilderness has “outstanding opportunities for solitude or a primitive and unconfined type of recreation.” This quality of wilderness character is about the opportunity for people to experience wilderness and is degraded by settings that reduce these opportunities, such as visitor encounters, signs of modern civilization, recreation facilities, and management restrictions on visitor behavior (Landres et al. 2008).

The qualities of wilderness character likely to be affected by outfitter and guide use are the natural quality and the opportunity to experience solitude or a primitive and unconfined type of recreation. This analysis will focus on the effects of the alternatives on opportunities for solitude or primitive and unconfined recreation. Effects to the natural quality of wilderness character are addressed in the natural resources reports and sections of this EIS. No additional structures, installations, or habitations are proposed under any of the alternatives. Wilderness resource effects related to the use of motorized equipment will be addressed under opportunities for solitude.

Many factors contribute to the experience of solitude or primitive and unconfined recreation (Landres et al. 2008). Some of these factors are beyond the control or influence of managers (e.g. attributes of the physical landscape). However, managers can influence relevant factors such as use levels, types and patterns of use, and types of restrictions imposed. Indicators that can be used to understand the affected environment and potential direct and indirect effects are amount of visitor use, encounter rates, extent and magnitude of impacts on the natural soundscape from motorized boat and airplane traffic, and the type and extent of management restrictions on guided users (Landres et al. 2008).

One of the measurements used to compare effects on wilderness is service days in all of Misty Fiords. Much of the analysis focuses on the 06 Misty Core Lakes Recreation Use Area because 95 percent of the guided use is occurring in that use area and the use is flightseeing. Flightseeing has a negative effect on wilderness character and opportunities for solitude. The effects are described below.

Recreation Use and Use Levels

Local residents infrequently use outfitters and guides (USDA Forest Service 2008c) and tend to use their own boats and equipment to reach the Forest. Personal boats are often smaller than charter boats used by nonresidents, resulting in visiting groups of residents generally being smaller than nonresident groups (USDA Forest Service 2008c). Residents who traditionally use an area may be discouraged by the presence of guided groups in the same area (USDA Forest Service 2008c). Resident recreation demand is influenced by local population levels (USDA Forest Service 2008c). The population of the Ketchikan Gateway Borough decreased by 8 percent between 2000 and 2009 (State of Alaska Community Database Online).

Guided and unguided visitors tend to use similar locations based on access and the types of scenery and recreation experiences available. One exception is in the 06 Misty Core Lake Use Area. Because unguided visitors use motorized boats as a means of transport more commonly than floatplanes, remote lakes in this Use Area (those that can only be accessed via floatplane) are used predominantly by guided visitors.

The average annual guided use in Misty Fiords between 2005 and 2009 was 8,273 service days, and the highest annual guided use during this time period was 10,398 service days (Table 3-2). Both residents and nonresidents may use the services of outfitters and guides, but nonresidents tend to use them more often because they do not have the local knowledge or necessary equipment (USDA Forest Service 2008c).

Table 3- 2) Average guided use and highest guided use in service days for Misty Fiords, 2005-2009

Recreation Use Area	Highest Annual Guided Use in Service Days	Average Annual Guided Use in Service Days
01 West Misty	96	60
02 Northeast Misty	211	143
03 South Misty	220	132
05 South Misty Lakes	100	53
06 Misty Core Lakes	9,539	7,742
07 Walker Chickamin	37	26
08 Burroughs Unuk	11	6
09 Alava Princess Ella Manzanita	29	18
10 Rudyerd Winstanley	155	93
TOTAL	10,398	8,273

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Ninety-four percent of the total guided use in Misty Fiords is for floatplane landing tours, which occur primarily during the summer season. Nine commercial operations are authorized to conduct this activity in Misty Fiords. The Forest Service recognizes that floatplane operators provide a service to visitors in terms of sightseeing and access.

Floatplane landing tours primarily occur in the 06 Misty Core Lakes Use Area, although they also occur in the 01 West Misty, 02 Northeast Misty, 03 South Misty, and 05 South Misty Lakes Use Areas. Nooya Lake is the most popular destination for floatplane landing tours (Table 3-3); between 2005 and 2009 an average of 546 landings annually were reported at Nooya Lake by outfitters and guides. Big Goat and Manzoni Lakes receive the second and third highest use, respectively. There was a downward trend in the number of floatplane landing tours occurring between 2005 and 2009. In 2005, 1,586 landings occurred in the 06 Misty Core Lakes Use Area, and in 2009, 1,076 landings occurred (almost a one-third reduction in the number of guided landings).

Some floatplane operators have increased their use of saltwater landings in Rudyerd Bay and Walker Cover during this time period. Landing on saltwater does not require a Forest Service permit and there are no fees charged for the activity. In addition, there are excellent wildlife viewing opportunities on saltwater. The public has expressed concerns about the increase in use along these waterways, along with concerns that management attempts to limit or reduce outfitter and guide use in the 06 Misty Core Lakes Use Area, will cause these bays to become increasingly crowded and impacted by noise associated with floatplane traffic.

Outfitters and guides are generally limited to two landings per day on lakes without public recreation cabins. Lakes with public recreation cabins are authorized for use only as alternate landing locations in poor weather and emergency situations and outfitters and guides are limited to one landing per day on lakes with cabins. Based on current permit stipulations, if all operators decided to use the same lake on the same day, up to 18 landings could occur on lakes without public recreation cabins and up to nine landings could occur on lakes with public recreation cabins. Table 3-3 provides information about the average and highest number of guided floatplane landings occurring daily on each lake in the 06 Misty Core Lakes Use Area during the summer season, between 2005 and 2009. The Forest Plan does not provide standards related to guided floatplane landings in wilderness.

Table 3- 3) Average number and highest number of guided floatplane landings per day per lake¹ during the summer season in the 06 Misty Core Lakes Use Area, 2005-2009

Lake	Cabin² (Y/N)	Shelter (Y/N)	Trail (Y/N)	Daily Average³ (# of landings)	Highest Daily (# of landings)
Nooya Lake	N	Y	Y	3.8	20
Big Goat Lake	N	N	N	1.9	11
Manzoni Lake	N	N	N	1.25	14
Ella Lake	Y	N	N	.03	1
Grace Lake	N	N	N	.21	2
Little Goat Lake	N	N	N	.06	2
Manzanita Lake	Y	N	Y	.10	2
Mirror Lake	N	N	N	.05	2
Punchbowl Lake	N	Y	Y	.70	10
Walker Lake	N	N	N	.60	7
Wilson Lake	Y	N	N	.18	4
Winstanley Lake	Y	Y	Y	0.0	1

¹ Only the lakes where floatplane landings occurred between 2005 and 2009 are included in this list.

² Includes only public recreation cabins that are available on the National Recreation Reservation Service

³ Its important to note that weather conditions result in floatplane landings being concentrated on good weather days; averages may not provide an accurate picture of conditions on the lakes since they are not evenly distributed throughout the summer season.

Guided floatplane landings are scheduled to accommodate cruise ship passengers and are limited by weather and visibility factors many days of the summer season. Use is concentrated in the morning, on lower elevation lakes, and on good weather days. Opportunities to experience solitude are greater during the afternoon (and evening for overnight visitors) and on bad weather days. Landings are also dependent on having ice-free conditions on the lakes, which results in less use on high-elevation lakes during the early part of the summer season.

Many of the permit holders are single plane operators and although they are permitted to land on each of the lakes up to once or twice per day, they can only provide two or three guided tours daily. Most of the operators also provide other types of guided services around KMRD (e.g. guided fishing, wildlife viewing) and on neighboring areas of the Tongass (e.g. Anan Creek on the Wrangell Ranger District). The amount of use authorized for guided floatplane tours therefore consistently exceeds the amount of actual guided use reported (by anywhere from 3,300 to 6,700 service days per year since 2005).

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Outfitter and guides have requested shoreline use on lakes outside of the 06 Misty Core Lakes Use Area, but these requests have not been authorized due to management concerns about dispersing use and impacts from floatplane landing tours in Misty Fiords.

The public has expressed concern about the impacts of floatplane traffic (overflights and guided landing tours) on visitor experiences in Misty Fiords, particularly on lakes with public recreation cabins and/or shelters and on lakes that are accessible via trail from saltwater. Unguided visitors are less likely to access lakes via floatplane because of cost and equipment needs. However, some resident and unguided visitors access the lakes via trails from saltwater or hire floatplane transport services to stay at public recreation cabins. KMRD staff has received complaints from unguided visitors about crowding and airplane traffic on Nooya and Punchbowl Lakes. Both of these lakes are accessible via trails and have public use shelters available.

The number of big game guides and guided hunts authorized on the KMRD varies annually, but is lower than many areas of Southeast Alaska. District personnel coordinate with the local Alaska Department of Fish and Game (ADF&G) Biologist when requests for big game hunting are received. Average guided hunting group size is small (one to two clients). Hunters are dispersed across large areas, have low tolerance for encounters, and may spend multiple (typically five to ten) days on NFS lands.

Guided black and brown bear hunting are popular in the 02 Northeast Misty, 03 South Misty, 07 Walker Chickamin, and 08 Burroughs Unuk Use Areas. Most guided bear hunting occurs in May, so there is about a two week overlap with the beginning of the summer season. Most of the guided bear hunting is boat-based and thus takes place along the shorelines. Conflicts have been reported between guides engaged in bear hunting and bear viewing activities in the Misty Fiords, although these conflicts are minimized by the timing of activities.

Mountain goat hunting typically occurs in September and October, with limited overlap at the end of the summer season. Guided goat hunting occurs in the alpine environments in the 01 West Misty, 02 Northeast Misty, 03 South Misty, and 06 Misty Core Lakes. Alpine areas are accessed via floatplane and use is concentrated in areas around subalpine and alpine lakes.

Guided fishing occurs in all Use Areas within Misty Fiords. Between 2005 and 2009, approximately 328 service days were reported for this activity annually. During that time period, 24 percent of the total guided fishing occurring on the KMRD occurred in the 06 Misty Core Lakes Use Area (approximately 149 service days reported annually in this Use Area).

Motorized transport associated with guided fishing activities can impact opportunities for solitude in Misty Fiords. There is also the potential for guided floatplane landing activities to negatively impact guided fishing groups' experiences, particularly in the 06 Misty Core Lakes Use Area, given the overlap in their areas and season of use.

Remote setting nature tours in Misty Fiords include guided hiking on remote trails, beach use, and wildlife viewing at undeveloped locations. Access is primarily by motorized boat. Many businesses that provide boat access for wildlife viewing have a low tolerance for the presence of other groups in the same area (USDA Forest Service 2008c).

Guided use is authorized on all of the remote trails in Misty Fiords. These activities are accessed primarily via motorized or non-motorized boat (sea kayak), and occasionally via floatplane. Beach use on New Eddystone Rock in the 09 Alava Princess Manzanita Use Area has also been reported with an average guided group size of 8.7; this is generally higher than guided group sizes for other activities occurring in Misty Fiords.

Guided camping in Misty Fiords is primarily associated with groups on multi-day sea kayaking trips and is concentrated in the 10 Rudyerd Winstanley and 07 Walker Chickamin Use Areas. Due to the limited number of campsites and anchoring locations in the Use Areas, crowding occurs at popular sites such as Punchbowl Cove, Hut Point (at the entrance to Walker Cove), and in the area surrounding the Winstanley Island public recreation cabin. Guided and unguided groups often use these locations to base camp for multiple nights and access trails and recreation opportunities in the vicinity.

Guided use of cabins in wilderness is consistent with the KMRD Determination of Need for Commercial Services and is authorized on a limited basis. Table 1-2, Chapter 1 provides information about the public use cabins in Misty Fiords that are available for guided use. With the exception of Alava Bay Cabin, all of the cabins available for outfitter and guide use receive a low amount of use. Alava Bay cabin receives a medium amount of use and was reserved an average of 35 nights per year during the same time period. The public has expressed concern about outfitter and guide use near the Alava Bay cabin diminishing the recreational experience for unguided visitors staying at the cabin.

A privately-owned float in Rudyerd Bay (authorized by the state of Alaska) is also used by campers in this area, although floatplane traffic and congestion around the float can be heavy during the morning hours and visitors have had conflicts with pilots using the float.

Monitoring and Monitoring Results

It is difficult to monitor resident and unguided visitor use in Misty Fiords due to the large number of dispersed and undeveloped recreation resources available across KMRD (USDA Forest Service 2008c). Unguided visitors use boats and planes to access dispersed recreation opportunities along extensive coastlines and backcountry areas, which presents a challenge to managers trying to quantify visitor use or understand temporal and spatial use patterns. Much of the information regarding unguided use has historically been based on long-term observations, anecdotal information, and professional estimates (USDA Forest Service 2008c). Monitoring information about social encounters, trail use, and public recreation cabin use also provides valuable information about resident and unguided use.

Encounter monitoring efforts are focused in areas where the public has expressed concerns about crowding or noise impacts from motorized transport (primarily floatplanes). Encounter monitoring information provides an idea of the number of social encounters a visitor can expect to experience in an area and can be used to monitor social conditions as well as educate visitors about the types of opportunities available across KMRD.

Encounter monitoring data collected in Misty Fiords indicates that encounter rates are generally far below standards and guidelines established in the Forest Plan as well as the

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

standards determined through the LAC process described in Chapter 2, with the exception of encounter rates in the 06 Misty Core Lakes Use Area (which averaged 2.01 groups per day). The average number of encounters per day during the summer season ranges from zero to 0.7 groups per day in the remaining six Use Areas in Misty Fiords where encounter monitoring has occurred. Conditions at two locations in the 06 Misty Core Lakes Use Area, Nooya Lake and Big Goat Lake, exceeded Forest Plan Standards 44 percent and 8 percent of the days monitored between 2005 and 2009, respectively. Encounters documented for the 06 Misty Core Lakes Use Area are primarily encounters with landing floatplanes at lakes being used for guided lake landing tours.

For the purposes of this monitoring, an encounter is defined as “an individual or group met while on National Forest System (NFS) lands or freshwater lakes.” An encounter may occur at a Forest Service cabin, on a trail, or along a shoreline, among other places. It is only considered an “encounter” when both groups are on NFS lands. When groups or individuals meet employees doing administrative work (such as staffing a fish weir or monitoring a campsite), this is not and would not be counted as an encounter.

KMRD staff implemented a sound monitoring program using a digital audio recorder, external batteries, and a small microphone. In 2008 and 2009, 120 days of continuous audio data were recorded at nine lakes in Misty Fiords. The goal of the program was to evaluate the impacts from motorized transport and use in Misty Fiords. This information helps determine if the wilderness is being managed to provide outstanding opportunities for solitude. The information was used as one source of information during the LAC process.

No guided floatplane landing tours were reported on Ella Lake in 2008 and 2009; all sounds events recorded were associated with overflight traffic in the Ella Lake drainage. An average of 60 guided floatplane landings were reported annually on Punchbowl Lake in 2008 and 2009 (versus 423 landings on Nooya Lake), but the area is heavily impacted by noise from overhead flights.

Lakes within the 06 Misty Core Lakes Use Area were more heavily impacted by the high-intensity sound events associated with floatplane landings and take-offs, although the total percent of time when motorized sound was audible was similar to lakes monitored in other Use Areas. Data indicate an average of eight landings per day on Nooya Lake, which is higher than estimates based on outfitter and guide reports. This discrepancy may be a result of the sampling methodology or it may indicate that guided use is being under-reported. On a typical summer day at Nooya Lake, for example, a visitor can expect to experience 16 high-intensity sound events (defined as events that make it difficult to have conversational speech) between morning and early afternoon and each of these sound events will last approximately 6 seconds. At Punchbowl Lake, where opportunities for solitude are impacted by overflights and landings, a visitor can expect to hear approximately 33 lower-intensity sound events (defined as clearly audible events that do not interrupt speech at five feet distance) between the morning and afternoon.

Lakes monitored outside of the Misty Core Lakes Use Area were far less impacted by sounds associated with motorized travel, indicating a higher opportunity to experience solitude in these areas. While some motorized activities occur in the air and on saltwater, and are outside of Forest Service jurisdiction, other activities such as flightseeing landing

tours on lakes are authorized by the Forest Service. Noise from these activities result in a decrease of opportunities for solitude.

Environmental Consequences

Direct and Indirect Effects

The following definitions are used to describe relative levels of effects on wilderness character (Table 3-4).

Table 3- 4) Definitions for Levels of Effects to Wilderness Character

Quality of Wilderness Character	Negligible	Minor	Moderate	Major
Opportunities for Solitude	Impact would be imperceptible/immeasurable, limited in extent (localized), and infrequent.	Impact would be perceptible/measurable, but limited in extent (localized), and infrequent.	Impact would be readily apparent, less limited in extent (affecting an entire Use Area), and occur weekly during the primary use season.	Impact would be highly noticeable, extensive (affecting multiple Use Areas), and occur on most days during the primary use season.

Wilderness Character (Opportunities for Primitive and Unconfined Recreation)

Alternatives A, B, C, and D

Primitive and unconfined recreation has been interpreted to encompass travel by primitive non-motorized and non-mechanical means, reliance on personal skills versus facilities or outside help, and attributes such as self-discovery, exploration, and freedom from managerial controls (Landres et al. 2008, Roggenbuck 2004, Hendee and Dawson 2002). Primitive and unconfined environments provide ideal opportunities for the physical and mental challenges associated with adventure, including real consequence for mistakes, and the personal growth that results from facing or overcoming obstacles (Borrie 2000; Dustin and McAvoy 2000).

Misty Fiords is largely undeveloped and opportunities to experience self-discovery, challenge and freedom from managerial controls abound. There are 11 public recreation cabins, five shelters, 18 miles of trails, and nine buoys that facilitate access to and enjoyment of Misty Fiords. Most visitors traveling to Alaska expect to find it in a wild and “unspoiled” state, but they also expect some level of infrastructure and development

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

to facilitate use (USDA Forest Service 2008c). No additional facility or trail development is proposed under any of the Alternatives.

The use of outfitters and guides, however, reduces the need for visitors to obtain personal skills related to travel and camping in primitive areas, and can negatively affect attributes of wilderness character such as opportunities for self-discovery and exploration. The use of outfitters and guides has also reduced the need for primitive travel, as most guided use in Misty Fiords is via floatplane.

Alternative D would allow the least amount of outfitter and guide use in Misty Fiords (4,553 service days annually). Under Alternative D, visitors would be more reliant on personal skills and opportunities for self-discovery and exploration would increase. Alternatives A, B, and C would allow for a higher amount of outfitter and guide use (10,398, 12,409, and 21,417 service days, respectively), which would reduce the need for primitive travel and visitor reliance on personal skills.

Wilderness Character (Encounters and Soundscape)

Alternative A (No Action)

Encounters

Under Alternative A, conditions in Misty Fiords would continue to be evaluated for comparison to standards provided in the Forest Plan for the Primitive, Semi-Primitive and Non-Motorized, and Primitive Motorized ROS Classes. Encounter levels at popular lakes in the 06 Misty Core Lakes Use Area (e.g. Nooya and Big Goat Lake) are expected to continue to exceed the standards identified in the Forest Plan for the Semi-Primitive Motorized ROS Class. Encounter levels in other Use Areas are considerably below Forest Plan standards, although localized crowding may occur in the 10 Rudyerd Winstanley Use Area. Because Alternative A does not adopt revised standards for monitoring opportunities for solitude in Misty Fiords, it would allow for the greatest increase in encounter levels across all areas except the 06 Misty Core Lakes Use Area, where conditions already exceed standards provided in the Forest Plan.

Under Alternative A, for example, Forest Plan Standards and Guidelines for the 10 Rudyerd Winstanley Use Area (Semi-Primitive Motorized ROS Class) would allow for encounter levels to increase by approximately 500 percent compared to current conditions. Concerns about crowding in this Use Area have already been expressed by the public. This significant increase in encounter rates would be inconsistent with public comments indicating that social conditions should, at a minimum, remain similar to current conditions.

Because Alternative A would not apply design elements and mitigation measures common to Alternatives B, C, and D, the likelihood of crowding near Winstanley Island public recreation cabin and on the Low Lake / Big Lake and Gokachin Trails would be higher than under the action alternatives. Encounter monitoring information from the West Misty Use Area (Low Lake/Big Lake and Gokachin Trail) indicates that encounter rates are generally low (average of 0.22 encounters per day). Encounter rates in the 10

Rudyerd Winstanley Use Area are higher (average of 0.7 encounters per day) and the public has expressed concern about crowding in the area around Winstanley Island cabin.

Soundscape

Floatplanes are the primary method of transport for outfitter and guide activities in the 01 West Misty, 02 Northeast Misty, 05 South Misty Lakes, and 06 Misty Core Lakes Use Areas. Under Alternative A, outfitter and guide use would continue to have a minor effect (as defined in Table 3-4) on opportunities for solitude in the 01 West Misty, 02 Northeast Misty, and 05 South Misty Use Areas because of the low amount of use occurring. Alternative A allows for the highest amount of outfitter and guide use on lakes in the 06 Misty Core Lakes Use Area. Guided floatplane tours in this Use Area have, and would continue to have, a major effect on opportunities for solitude in Misty Fjords.

Because Alternative A would allocate the most service days to outfitters and guide in the 06 Misty Core Lakes Use Area, it would be the least likely to disperse this use, and related noise impacts, into less popular Use Areas in Misty Fjords and onto adjacent waterways.

Alternatives B and D

Encounters

Alternative B and D would increase opportunities for solitude in the 06 Misty Core Lakes Use Area. In Alternative B, conditions in 06 Misty Core Lakes would be monitored to ensure that encounter rates do not exceed the standard of “no more than two encounters per day during trip 80 percent of the time” (standard adopted for the Semi-Primitive Wilderness opportunity zone under all of the action alternatives).

Alternative B would have a minor negative effect on opportunities for solitude in all other Use Areas in Misty Fjords; encounter rates would not, however, exceed standards adopted for the Primitive and Semi-Primitive recreation opportunity zones. Outfitter and guide allocations under Alternative B may cause infrequent, localized crowding in the 10 Rudyerd Winstanley and 07 Walker Chickamin Use Areas due to the limited number of campsites and accessible recreation sites available.

Alternative D would increase opportunities for solitude across all Use Areas in Misty Fjords. Given the already low encounter rates in most parts of Misty Fjords, positive effects will be negligible in all but the 06 Misty Core Lakes, 07 Walker Chickamin, and 10 Rudyerd Winstanley Use Areas. Alternative D would best address public concerns about crowding in these areas.

Alternative B allocates 300 service days to outfitter and guide use in the 10 Rudyerd Winstanley Use Area and 200 service days to outfitter and guide use in the 07 Walker Chickamin Use Area during the summer season, which is more than the No action alternative and Alternative D, and substantially less than Alternative C. Compared to the No action alternative, Alternative B would allow for approximately 43 and 51 additional guided groups each year, respectively, in these Use Areas during the 139-day summer season (based on average guided group size in those areas, not including the guide).

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Soundscape

Alternative B would have a minor negative effect on opportunities for solitude in the 01 West Misty, 02 Northeast Misty, and 05 South Misty Lakes Use Areas. Alternative B would improve opportunities for solitude in the 06 Misty Core Lakes Use Area because it allocates less use to outfitters and guides in this Use Area, where the predominant guided activity is floatplane landing tours.

Alternative D would allow for a small increase in motorized traffic associated with outfitter and guide floatplane landings in the 01 West Misty (259 service days), 02 Northeast Misty (73 service days), and 05 South Misty Use Areas (59 service days). Effects on opportunities for solitude would be minor. Alternative D would significantly reduce the effects from guided floatplane landings in the 06 Misty Core Lakes Use Area.

Alternative C

Encounters

Alternative C would increase opportunities for solitude in the 06 Misty Core Lakes Use Area, where conditions would be monitored to ensure that encounter rates do not exceed the standard adopted for the semi-primitive wilderness opportunity zone under all action alternatives.

If outfitter and guide use levels reached full allocations provided under Alternative C, the additional guided use would result in moderate to major effects on opportunities for solitude throughout Misty Fiords. Use Areas that are more difficult to access and have more dispersed recreation opportunities (02 Northeast Misty and 03 South Misty) would experience moderate effects. Major effects would occur in all other Use Areas. Alternative C may be inconsistent with standards developed during the KMRD Recreation Planning Project for encounter rates in the primitive wilderness and semi-primitive wilderness opportunity zones.

The public has expressed concern about crowding in the 10 Rudyerd Winstanley Use Area during the summer season. Alternative C allocates 1,501 service days in this Use Area to guided use during the summer season, which is more than under any other alternative. Alternative C would allow for approximately 1,354 additional service days (about 376 more guided groups) for outfitter and guide use in comparison to the No action alternative. Given the concentrated nature of recreation activities in this area, and the limited number of accessible locations for recreating and camping, Alternative C would allow for major negative effects to opportunities for solitude within the 10 Rudyerd Winstanley Use Area.

Soundscape

Alternative C would allow for a significant increase in motorized traffic associated with outfitter and guide floatplane landings in the 01 West Misty and 02 Northeast Misty Use Areas (increase of 1,088 service days and 2,625 service days, respectively). An increase in floatplane traffic in these areas is inconsistent with Forest Plan direction to not disperse use in wilderness. Effects to wilderness character would be moderate.

Recreation Use and Use Levels

Alternatives A, B, C, and D

The highest guided use in Misty Fiords between 2005 and 2009 was 10,398 service days per year (Table 3-5). This guided use level was used for comparison of the No action alternative and Alternatives B, C, and D, with recognition that demand for guided use will most likely increase over time and guided use would not be authorized in excess of the annual visitor capacity for Misty Fiords (42,825 service days).

Table 3- 5) Annual guided use allocations¹ by alternative for recreation use areas in Misty Fiords

Recreation Use Area	2005-2009 Highest Use	Visitor Capacity	Alt A (No Action)	Alt B (Proposed Action)	Alt C	Alt D
	#SDs	#SDs	#SDs	#SDs	#SDs	#SDs
01 West Misty	96	2,366	0	355	1,184	355
02 Northeast Misty	211	7,425	0	1,114	3,713	372
03 South Misty	220	6,989	0	1,048	3,495	699
05 South Misty Lakes	100	2,075	0	311	1,038	208
06 Misty Core Lakes	9,539	12,777	0	7,922	6,389	1,917
07 Walker Chickamin	37	1,747	0	262	873	174
08 Burroughs Unuk	11	1,965	0	294	983	98
09 Alava Princess Manzanita	29	3,550	0	710	1,776	533
10 Rudyerd Winstanley	155	3,931	0	393	1,966	197
TOTAL	10,398	42,825	0	12,409	21,417	4,553

¹ Comparison is based on total guided use allocations for the spring, summer, and fall seasons.

Alternative A would allow for less overall outfitter and guide use in Misty Fiords than Alternatives B and C and more than double the outfitter and guide use in Alternative D (Table 3-6). Alternative A would allow for the highest amount of outfitter and guide use in the 06 Misty Core Lakes Use Area (9,539 service days annually), an area popular for floatplane landing tours. Alternative A would therefore be the least likely to disperse outfitter and guide use and impacts to less popular areas and to adjacent waterways.

Average guided group size in the 06 Misty Core Lakes Use Area is 5.4 people per group. A reduction of 1,617 service days in Alternative B would result in approximately 300 less plane landings per year in this Use Area. Limiting guided use in the 06 Misty Core Lake

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Use Area may disperse guided use and impacts to less popular areas in Misty Fiords and increase the number of floatplane landings on saltwater in Rudyerd Bay (10 Rudyerd Winstanley Use Area) and Walker Cove (07 Walker Chickamin Use Area).

In Alternative C, the reduction of 3,150 guided service days would result in approximately 583 less landings per year in 06 Misty Core Lakes. In Alternative D, the reduction of 7,622 service days would result in approximately 1,411 less landings per year in this Use Area.

Like Alternative B, this may disperse guided use and impacts to less popular areas in Misty Fiords. The likelihood of dispersing use into other wilderness locations is highest under Alternative C because of the allocation reduction in 06 Misty Core Lakes and the allowance of considerable growth in all other wilderness Use Areas. Alternative C also allows for the highest amount of outfitter and guide use and impacts during the spring and fall seasons.

Indirect effects on wilderness, however, would be minimized in Alternative D because Alternative D provides for the least amount of outfitter and guide use in Misty Fiords. In Alternative D, outfitter and guide activity may become concentrated on marine waterways.

Cumulative Effects

Alternatives A, B, C, and D

Activities, including those unrelated to outfitters and guides, occurring on NFS lands, non-NFS lands, along marine waterways, and in the airspace surrounding NFS lands in Misty Fiords, have the potential to impact wilderness character and diminish or improve opportunities for solitude.

Landowners on the Unuk River have expressed concern about the potential for an increase in outfitter and guide use in the 08 Burroughs Unuk Use Area. Alternatives B and C would allow for 283 and 972 additional service days (respectively) for guided use in the 08 Burroughs Unuk Use Area. Alternative D would provide a minimal increase of 87 service days per year in the Area. Alternatives A and D would minimize conflicts with private landowners and provide the most opportunity to experience solitude in this use area compared to Alternatives B and C; cumulative effects of guided use plus activities that might occur on the private property would be low.

Motorized boat traffic is concentrated along the shorelines of the 03 South Misty, 07 Walker Chickamin, 09 Alava Princess Ella Manzanita, and 10 Rudyerd Winstanley Use Areas. Saltwater activities are not under Forest Service jurisdiction, but those activities may affect the quality of the experience of those people recreating on NFS lands in the area. All action alternatives could result in an increase from current conditions in outfitter and guide use in areas where saltwater traffic is currently concentrated (about 656 groups, 2,577 groups, and 384 groups per year in Alternatives B, C, and D respectively). In addition, the action alternatives also have less guided use than Alternative A allocated to the 06 Misty Core Lakes Use Area which could displace floatplane landings from the lakes to the saltwater. Alternative A, the No action

alternative, would allow for less use in these four shoreline areas and would allow the highest amount of outfitter and guide use in the 06 Misty Core Lakes Use Area so would have the least impact in areas already affected by saltwater traffic.

Noise impacts from aircraft overflights and saltwater landings are concentrated in the 01 West Misty, 06 Misty Core Lakes, 09 Alava Princess Ella Manzanita, and 10 Rudyerd Winstanley Use Areas. Unguided visitors to these areas have commented that the floatplane traffic associated with saltwater landings has negatively impacted their experience because the area does not feel like a wilderness on a busy day. Alternative B allocates a total of 9,380 service days annually to outfitter and guide use in these four areas, compared to 9,819; 11,315; and 3,002 for Alternatives A, C, and D, respectively. Alternative D could have a major effect on opportunities for solitude in the saltwater areas of Misty Fiords, primarily Rudyerd Bay and Walker Cove due to increased guided use in the shoreline Use Areas combined with reduced use in the 06 Misty Core Lakes. Alternative A would be the least likely to cause indirect impacts in saltwater areas and would maintain the existing condition.

A limited amount of information is available about unguided use in Misty Fiords. Dispersed recreation site monitoring and information collected about trail and public recreation cabin use indicates that unguided use is concentrated in the 09 Alava Princess Manzanita and 10 Rudyerd Winstanley Use Areas, particularly in areas surrounding trails and public recreation cabins. The amount of annual use allocated to outfitters and guides in these two Use Areas under Alternatives A, B, C, and D is 184; 1,103; 3,742; and 730 service days, respectively. Alternative A would allow for the least amount of impact from outfitter and guide activities in areas of Misty Fiords that are popular among unguided visitors, except possibly the trail-accessible lakes in the 06 Misty Core Lakes Use Area (e.g. Punchbowl Lake and Nooya Lake Trail). Alternative A would allow for the highest amount of impact from outfitter and guide activities in the 06 Misty Core Lakes Use Area, which is used predominantly by outfitters and guides.

The Forest Service has been using the Bakewell Lake public recreation cabin as an administrative site for the past several years in support of the Bakewell Lake Coho Recolonization Project. This project, including the fish rearing structures in Bakewell Lake and use of motorized equipment in support of the project, diminishes wilderness character in the 05 South Misty Lakes Use Area. If recolonization efforts succeed, there is also a potential for an increased interest and demand for guided fishing opportunities in this Use Area. All action alternatives could result in an increased allocation to outfitter and guides in this Use Area. The Bakewell Lake Recolonization project is expected to be completed and the cabin reopened for public use in mid- to late summer 2012.

ADF&G maintains two administrative facilities in Misty Fiords, one on Hugh Smith Lake (05 South Misty Lakes Use Area) and one on the Unuk River (08 Burroughs Unuk Use Area). Administrative facilities diminish the undeveloped quality of wilderness character, but are provided for in ANILCA and their use and maintenance (the presence of staff) are not included in “encounter” monitoring data. Monitoring data collected by ADF&G staff indicate that encounter rates in the area surrounding these administrative facilities are within standards for the primitive recreation opportunity zone. All action

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

alternatives could result in an increase in outfitter and guide use in these Use Areas but no alternative is expected to exceed the proposed encounter rates.

The Red Alders and Beaver Camp public recreation cabins (both in the 06 Misty Core Lakes Use Area) are scheduled to be decommissioned and have been taken off of the reservation system. Removal of the cabins will enhance wilderness character in these areas and provide additional opportunities for primitive and unconfined recreation. Ella Lake (Red Alders Cabin) and Manzanita Lake (Beaver Camp Cabin) each have two public use cabins. This change will not result in any changes to the number of guided floatplane landings authorized on the lakes.

Recreation

This recreation analysis addresses Issue 2:

Issue 2: Outfitter and guide use may cause crowding, noise, and disturbance, particularly in locations popular with unguided users (including those involved in subsistence activities).

This analysis will focus on how outfitter and guide use will affect recreation opportunities and social conditions in areas that are popular with the unguided public. The measurements used to describe the effects of the alternatives on the recreation resource are:

- *Number of service days allocated to outfitters and guides by recreation use area*
- *Number of service days allocated during the summer to outfitters and guides in 04 Duke Island, 08 Burroughs Unuk, 11 Gravina Island, 12 Bell Island, 13 East Cleveland, 17 George Carroll Thorne, 23 Betton Island, 24 Ketchikan Core NA, 27 Margaret Bay, and 28 Naha Bay (areas identified by unguided users as locations of interest or concern)*

This analysis will also address the extent to which the alternatives meet the project purpose and need by providing a range of recreation opportunities for guided and unguided users across KMRD, minimizing conflicts between guided and unguided users, and providing standards and indicators for monitoring social conditions.

The analysis area does not include road-accessible developed sites, including developed campgrounds in the Ward Lake Recreation Area and the Southeast Alaska Discovery Center in downtown Ketchikan, and the Fish Creek Wildlife Observation Site near Hyder.

Affected Environment

As described under Wilderness above, more than 2/3 of the Ketchikan-Misty Fiords Ranger District's 3,262,549 acres are in the federally-designated Misty Fiords National Monument Wilderness (Misty Fiords). Where reasonable, information and discussion in the Wilderness section will be referenced here to reduce redundancy.

The KMRD area offers visitors a unique combination of features, including an island and marine environment with 2,199 miles of shoreline, forested mountains, protected fiords, glaciers, numerous subalpine and alpine lakes, and an abundance of fish and wildlife. Community road systems are limited and provide access to recreation sites and attractions near the communities of Ketchikan, Saxman, and Hyder. The KMRD Motor Vehicle Use Map (MVUM) displays National Forest System roads and OHV trails open to public motor vehicle use. Remote road systems (100.1 miles) and OHV trails (36.7 miles) exist in locations where timber harvest has taken place. Brown Mountain Road is accessible via the Ketchikan-area road system and has been used for guided jeep tours. Use of the remote road systems and OHV trail systems is concentrated in the fall and predominantly associated with unguided hunters. Guided use of remote road systems is infrequent except in the 27 Margaret Bay Use Area.

Much of the KMRD is either inaccessible or not suitable for recreation. White and Stynes (2010) note that two distinguishing characteristics of national forest recreation in Alaska are the large number of dispersed and undeveloped recreation resources and the great potential for the use of boats and planes to access dispersed recreation opportunities along extensive coastlines and backcountry areas.

Recreation Opportunity Spectrum (ROS)

As described in Wilderness, the Forest Plan uses the ROS to help identify, quantify, and describe the types of recreation settings that the Tongass NF provides. Overall, 70 percent of the KMRD is allocated to the Primitive ROS Class with most of this in wilderness as described above. Approximately 24 percent is allocated to the Semi-Primitive Non-Motorized and Semi-Primitive Motorized ROS classes. The remaining 6 percent is allocated to the Roded Natural, Roded Modified, and Rural ROS classes.

Wild and Scenic River System

Six river systems on KMRD were recommended by the Forest Plan for inclusion in the National Wild and Scenic Rivers System. That recommendation is an administrative decision indicating those rivers are eligible for inclusion; Congressional action is necessary to designate a river. The following river systems on KMRD were recommended for inclusion in the National Wild and Scenic River System: Blue River (26 miles “Wild”), Chickamin River (94 miles “Wild,” 2 miles “Scenic”), Gokachin / Mirror / Low / Fish Creek system (30 miles “Wild”), Naha River (17 miles “Wild,” 2 miles “Scenic”), Orchard Lake / Creek (10 miles “Wild,” 16 miles “Recreational”), and Wolverine Creek / McDonald Lake (6 miles “Wild”). One goal of the Forest Plan for these river segments is to maintain and protect the free-flowing character and outstandingly remarkable values associated with these rivers.

Recreation Use and Use Levels

The Ketchikan-Misty Fiords Ranger District surrounds the coastal communities of Ketchikan and Saxman (Revillagigedo Island), Metlakatla (Annette Island), Meyers

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Chuck (Cleveland Peninsula), Loring (Naha Bay), and Hyder (mainland). Many residents of Southeast Alaska place a high value on the quality and availability of outdoor recreation opportunities in the region (USDA Forest Service 2008c) and purposefully live in proximity to remote, undeveloped areas as a part of their lifestyle (USDA Forest Service 2008c). Local residents engage in dispersed recreation activities on NFS lands and along adjacent waterways.

Visitors come to Southeast Alaska to experience the sense of wildness, rugged beauty and solitude, and many of the recreation and tourism attractions occur in remote, undeveloped portions of KMRD. Similarly, the recreational settings and subsistence opportunities offered are an important part of many Alaskan residents' lifestyle.

Recreation use is not evenly distributed across the forest or throughout the year. Guided and unguided use tends to be concentrated in accessible areas with particularly attractive features or recreation opportunities. Use is concentrated during the summer season and along accessible shorelines, river and stream bottoms, and around subalpine and alpine lakes and neighboring areas (USDA Forest Service 2008c). Use patterns are also associated with protected boat anchorages, boat landings, and aircraft landing sites.

Recreation use is also not distributed evenly in time. Most of the use by both residents and non-residents occurs when during what is referred to in this analysis as the summer season, May 15 – September 30. More of the National Forest System lands are accessible during these months and visitors usually enjoy less severe weather conditions with warmer temperatures. Weather is generally more cooperative for access to the forest by boat or plane during these months, including lighter winds, better visibility, and longer daylight hours. In addition, snow along the roads has usually melted and many of the trails have been cleared of downed trees from the winter, opening up more access points. The spring season is defined as April 20-May 14 and fall season runs from October 1 through October 20. These dates were based on median start and end dates of outfitters and guides between 2004-2008 (Appendix C, Visitor Capacity Analysis).

Approximately 265 dispersed recreation sites have been inventoried on the KMRD. Dispersed recreation sites are areas that exhibit visible and measurable impacts from people camping or otherwise using NFS lands. Typical impacts at dispersed sites include firewood removal, fire ring construction, trampling of vegetation, burned or eroded soil, nails in trees, and human litter or waste. Dispersed recreation sites are used by both guided and unguided visitors.

KMRD Recreation Facilities

A current inventory of Forest Service facilities on KMRD is presented in Table 3-6. Recreation facilities play an important role in facilitating public use and enjoyment on NFS lands on KMRD. All facilities are available for unguided use; some facilities are available for guided use such as roads, trails, visitor centers, wildlife observation sites, and some public recreation cabins.

Table 3- 6) KMRD Recreation Facilities

Type of Facility	Number
Anchor Buoys - Wilderness	9
Anchor Buoys - Nonwilderness	12
Campground Developments	3
Number of Camp Sites in Campgrounds	44
Interpretive Sites (Visitor Centers)	1
Wildlife / Fish Viewing Sites	2
Public Recreation Cabins - Wilderness	11
Public Recreation Cabins - Nonwilderness	13
Shelters - Wilderness	5
Shelters - Nonwilderness	5
Trails (number of miles) - Ketchikan vicinity	37.8
Trails (number of miles) - Remote	43.5
NFS Road (number of miles) - Ketchikan vicinity	8.4
NFS Road (number of miles) - Remote	100.1
Off-Highway Vehicle Trails (number of miles) - Ketchikan vicinity	0
Off-Highway Vehicle Trails (number of miles) - Remote trails	36.7

Guided Use

There has been substantial growth in the number of visitors to Southeast Alaska since the early 1990s. Summer visitors more than doubled between 1993 and 2006 (MacDowell Group et al. 2007). Scenery and sightseeing are consistently among the top features attracting visitors to Alaska (McDowell Group 2005). Many of these visitors experience the Tongass passively, without actively using the Forest for recreational purposes. For those who do use the national forest, visits are often a small component (half-day excursion) of a broader tourism trip (via cruise ship) to Alaska (White and Stynes 2010). In addition, many of the popular recreation and tourism activities, such as saltwater fishing, flightseeing, and sea kayaking, do not take place on NFS lands.

Approximately two-thirds of the non-residents visiting Alaska by cruise ship use a guide or outfitter at some point during their trip (White and Stynes 2010). Between 2000 and 2009, the number of outfitters/guides permitted by the KMRD increased from 23 to 58 and guided use has increased from approximately 13,000 to 16,366 visitor service days annually. In 2009, approximately 43 percent of the guided use on KMRD occurred in Misty Fiords National Monument Wilderness. The growth in the tourism industry around Ketchikan has contributed to much of these increases. It is reasonable to assume that demand for special use permits to conduct outfitter and guide operations on the KMRD will continue to increase.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Guided use on the KMRD is largely concentrated in the 06 Misty Core Lakes, 23 Betton Island, 24 Ketchikan Core NA, and 27 Margaret Bay Use Areas. The most common guided activities are floatplane landing tours and nature tours. Floatplane landing tours account for about one-third of the total guided use on the district and approximately 94 percent of the use in Misty Fiords. Activities such as hiking, photography, sightseeing, kayaking, and camping compose just over half of the guided use on KMRD. Nearly 10 percent of the guided use on KMRD is wildlife viewing (primarily at the Margaret bear viewing area). Less than 5 percent of the use is guided fishing and less than 1 percent includes hunting for mountain goat, black bear, and brown bear. Demand for outfitter and guide activities in the portions of KMRD that are easily accessed from Ketchikan has increased and there is concern about the impacts of this increased use on unguided visitors in popular areas.

Outfitters and guides reported using 183 locations on the KMRD between 2005 and 2009. These locations often overlap with inventoried dispersed recreation sites. With the exception of several easily accessible locations (e.g. Betton Island and Ward Creek), developed recreation sites (e.g. Margaret Bay and Fish Creek Wildlife Observation Site), and lakes used for floatplane landing tours (e.g. Nooya Lake and Big Goat Lake), use at most outfitter and guide locations is typically infrequent (zero to five groups per year).

The range of activities and types of recreation experiences offered by outfitters and guides can lead to conflicts when incompatible activities occur in close proximity. Comments received during the Ketchikan-Misty Fiords Planning Project highlighted conflicts between people engaged in incompatible activities (wildlife viewing and hunting). Comments also noted that the activities of large, guided operations can detract from the setting and experience of smaller groups, both guided and unguided. Some small tour guides also expressed concern that they are being displaced from their traditional use areas by larger commercial operators.

Just over half of the guided tours on KMRD are nature tours, including hiking, photography, sightseeing, and kayaking or camping tours. Flightseeing landing tours are also a large percentage of the guided tours (around one-third of the total). Nearly 10 percent of the use is wildlife viewing (primarily at the Margaret bear viewing area). Less than 5 percent of the use is guided fishing and less than 1 percent of the guided use on the district includes hunting for mountain goat, black bear, and brown bear.

Except for road-based nature tours, guided uses are generally the same as those described under wilderness, though additional areas are used:

- Guided goat hunting occurs in the alpine environments in the 01 West Misty, 02 Northeast Misty, 03 South Misty, 06 Misty Core Lakes, 12 Bell Island, 16 Ketchikan Core SPNW, and 17 George Carroll Thorne Use Areas.
- Between 2005 and 2009, guided fishing occurred in 18 of the 28 Use Areas. The highest amount of guided fishing District-wide was 639 service days (206 groups) in 2007. Between 2005 and 2009, guided fishing was concentrated in the 06 Misty Core Lakes (24 percent of total guided fishing use), 12 Bell Island (18 percent of total guided fishing use), and 24 Ketchikan Core NA (20 percent of total guided fishing use) Use Areas. Many of the streams on the KMRD are relatively short and provide a limited number of fishing opportunities. Concerns have been raised about streams

and guided use in the following areas: 08 Burroughs Unuk, 11 Gravina Island (Bostwick Creek), 17 George Carroll Thorne (Fish Creek and Carroll Creek), 24 Ketchikan Core NA (Ward Creek), and 28 Naha Bay (Naha Creek) Use Areas. The state of Alaska manages fish populations, but the Forest Service is responsible for managing outfitter and guide use in a manner that maintains the social conditions desired on District streams and minimizes conflicts between visitors.

- Ninety-eight percent of KMRD-wide guided floatplane landings occur at 15 lakes in the 06 Misty Core Lakes Use Area as described above under Wilderness. A smaller number of guided floatplane landings also occur in the 01 West Misty, 02 Northeast Misty, 03 South Misty, 05 South Misty Lakes, 12 Bell Island, 17 George Carroll Thorne and 18 Central Revilla SPNW Use Areas.
- The highest amount of remote setting nature tour guided use that occurred between 2005 and 2009 was 7,604 service days (598 groups) in 2008. During this time period, remote setting nature tours occurred in 12 of KMRD's 28 Recreation Use Areas. This type of guided use is concentrated in the 06 Misty Core Lakes, 17 George Carroll Thorne, and 23 Betton Island Use Areas. Access is by floatplane (06 Misty Core Lakes) or motorized boat (17 George Carroll Thorne and 23 Betton Island). The public has expressed concern about the high levels of guided activity at two locations in the 23 Betton Island Use Area, both of which provide excellent day use and camping opportunities that are relatively accessible from town.
- Guided camping on the KMRD is typically associated with sea kayaking and occurs at dispersed sites along KMRD's shoreline. Between 2005 and 2009, guided camping was reported in 11 of KMRD's 28 Use Areas. Nearly all of it occurs in wilderness as described above. Guided camping also occurs in association with remote setting nature tours in the subalpine/alpine portions of the 12 Bell Island Use Area. No guided camping is authorized in areas accessible via the Ketchikan-area road system.

Roads provide additional access and recreation opportunities outside wilderness. Road-based nature tours on the KMRD include the following types of activities: jeep tours on the Forest Service road system (Brown Mountain Road) and hiking on trails accessed via the Ketchikan-area road system. The highest amount of road-based nature tour guided use that occurred between 2005 and 2009 was 1,288 service days (179 groups) in 2006. During this time period, road-based nature tours occurred in two of KMRD's 28 Recreation Use Areas, the 16 Ketchikan Core SPNW and 24 Ketchikan Core NA Use Areas.

In 2005, KMRD completed the Commercial Uses on Ketchikan Trails Environmental Assessment (EA), which considered the authorization of guided use on 12 trails accessible via the Ketchikan road system. The Decision Notice authorized guided use on three of the 12 trails analyzed: Lunch Creek, Connell Lake, and Ward Creek Trails (see Chapter 1 and the Project Record for more details). Public comments received during the Ketchikan-Misty Fjords Planning Project indicate that Ketchikan-area residents are satisfied with this decision and are concerned that any increase in guided use on road-accessible trails would cause crowding and negatively impact unguided recreation experiences.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Visitor Experience

Between 2009 and 2010, KMRD staff involved the public in a multi-step, Limits of Acceptable Change (LAC) – based recreation planning process. Ten public meetings were held in Ketchikan, Alaska to learn about the recreation opportunities desired across KMRD and related concerns. Comments received during this planning process informed this analysis by bringing attention to Use Areas and locations where concerns about crowding and displacement of unguided visitors exist.

A small number of informal visitor interviews conducted in 2008 and 2009 targeted unguided visitors in an effort to obtain information about visitor perceptions and experiences on the KMRD. The average length of visit for those interviewed was four days. Visitors reported that the best part of their experiences was scenery (62 percent), remoteness/solitude (42 percent), wildlife viewing (31 percent), and availability of visitor facilities (23 percent). Visitors reported that the most negative part of their experience was the motorized boat and floatplane traffic (27 percent), lack of additional visitor facilities (15 percent), lack of information available about the area (12 percent), and campsite/cabin condition (12 percent).

Popular and High-Valued Local Areas

While there is a general consensus that outdoor recreation opportunities and activities are highly important to residents, there is limited data that accurately quantifies unguided use (FP FEIS, 3-373). Much of the information regarding unguided use has historically been based on long-term observations, anecdotal information, and professional estimates informed by monitoring of social encounters, on-the-ground-impacts, trail use, and public recreation cabin use.

Unguided visitors often use boats to access dispersed recreation opportunities along extensive coastlines and backcountry areas. Southeast Alaska residents infrequently use outfitters and guides (FP FEIS 3-382) and tend to use their own boats and equipment to reach the Forest. Personal boats are often smaller than charter boats used by nonresidents, resulting in visiting groups of residents generally being smaller than nonresident groups (FEIS, 3-382). Residents who traditionally use an area may be discouraged by the presence of guided groups in the same area (FEIS, 3-375).

While many residents of the Ketchikan area support the growing tourism industry, others have expressed concern that the existing and increasing level of guided use is causing crowding and displacement of local residents and subsistence users, and diminishing recreation opportunities on the District.

Forest Plan direction is to minimize adverse impacts to popular or high-valued local areas when authorizing outfitter and guide use (p. 4-46). The following use areas, or specific locations or attractions within these areas, have been identified by the public as popular or high-valued local areas: 04 Duke Island, 08 Burroughs Unuk, 11 Gravina Island, 12 Bell Island, 13 East Cleveland, 17 George Carroll Thorne, 23 Betton Island, 24 Ketchikan Core NA, 27 Margaret Bay, and 28 Naha Bay. These areas are generally more accessible than more remote portions of the KMRD (with the exception of the 04 Duke Island and 08 Burroughs Bay Use Areas) and often provide unique recreation opportunities, such as hot springs or exceptional wildlife viewing opportunities.

Use areas identified as popular or high-valued local areas often provide unique recreation and subsistence activities. For example, the 08 Burroughs Unuk Use Area has a moose population, which provides a unique hunting opportunity on KMRD. The 12 Bell Island Use Area offers trail-accessible hot springs and a historic shelter on Lake Shelokum. The Naha River has a steelhead run, making it a popular area during spring and fall fishing seasons.

Interparty conflict is often a larger concern for visitors than the numbers of visitors present or crowding (Manning 1985). Studies have found that recreation conflict is related to a number of variables, including visitor motivations, social values, perceived similarity of groups or activities, type and level of technology used, level of experience, tolerance for sharing resources, and expectations for encountering other types of activity groups (Manning 1999). Research suggests that zoning or separating recreation groups or activities can be an effective approach to managing recreation conflict (Manning 1999).

Comments received throughout the KMRD recreation planning process helped Forest Service staff identify locations and use areas where conflicts between guided and unguided visitors are a concern and identify Design Criteria and Mitigation Measures for outfitter and guide management that minimize the impacts of guided use on popular or highly-valued local areas without unnecessarily restricting guided opportunities.

Monitoring and Monitoring Results

As described under Wilderness, substantial monitoring of social conditions has occurred on KMRD.

Encounter monitoring has occurred in 15 of the 28 Recreation Use Areas on the KMRD, including eight of the non-wilderness Use Areas. Encounter monitoring data collected outside of wilderness indicates that encounter rates are generally far below standards and guidelines established in the Forest Plan.

Environmental Consequences

Direct and Indirect Effects

All alternatives would meet the Forest Plan Management Prescriptions for Wild, Scenic, or Recreational Rivers (pp. 3-74 through 3-94). Varying levels of recreation and tourism are allowed within Wild, Scenic, and Recreational River LUDs; all action alternatives would meet these standards and guidelines. No alternative proposes development along the recommended river segments and all eligible segments recommended by the Forest Plan for inclusion in the Wild and Scenic River System will maintain their free-flowing character and outstandingly remarkable values.

The measurement used to analyze the effects of the No action alternative and Alternatives B, C, and D on unguided visitors' experiences overall is the number of service days allocated by Recreation Use Area. Tables 2-6 and 2-7 in Chapter 2 display those numbers in comparative format.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

The measurement used to analyze the effects of the No action alternative and Alternatives B, C, and D on unguided visitors' experiences in highly-valued local areas is the number of service days allocated during the summer to outfitters and guides in recreation use areas identified by unguided users as locations of interest or concern (Table 3-7). In these areas, the effects comparison is based on outfitter and guide allocations for the summer season when crowding and conflicts between guided and unguided visitors are more likely. Outfitter and guide use during the spring and fall seasons is generally low and crowding and visitor conflicts during these seasons are unlikely.

Table 3- 7) Summer guided use allocations¹ for Recreation Use Areas identified by the public as areas of interest or concern.

Recreation Use Area	2005-2009 Highest Use in Summer	Visitor Capacity in Summer	Alt A (No Action)	Alt B (Proposed Action) ¹	Alt C ¹	Alt D ¹
	#SDs	#SDs	#SDs	#SDs	#SDs	#SDs
04 Duke Island	22	2,168	0	0	1,084	0
08 Burroughs Unuk	10	1,501	0	225	751	75
11 Gravina Island	0	3,253	0	651	1,627	0
12 Bell Island	224	7,006	0	1,401	3,503	701
13 East Cleveland	221	3,795	0	759	1,898	190
17 George Carroll Thorne	792	4,337	0	3,253	2,169	2,169
23 Betton Island	8,153	11,676	0	8,757	5,838	8,757
24 Ketchikan Core NA	1,502	21,684	0	8,674	10,842	5,421
27 Margaret Bay	2322	3,670	0	2,752	1,835	2,386
28 Naha Bay	14	2,168	0	0	1,084	0
Total	13,260	61,258	0	26,472	30,631	19,699
¹ Comparison is based on the summer season (May 15th through September 30th).						

Recreation Use and Use Levels

Alternative A (No Action)

Alternative A, the No action alternative, does not set guided use allocations for Recreation Use Areas on KMRD. Proposals for outfitter and guide permits would continue to require individual resource analyses and management decisions to be authorized. This alternative does not meet agency direction for evaluating cumulative effects of guided uses on NFS lands as specified in the Forest Service Recreation Special Uses Handbook (FSH 2709.14). FSH direction for renewing outfitter and guide permits is to authorize use consistent with the level of use utilized effectively under the former permit (FSH 2709.14, section 53.1n). Up to 25 percent more days may be authorized than the highest actual use of the previous five years if capacity exists, but not to exceed

the previously authorized amount for each permit. Therefore, it can be anticipated that in the short-term somewhere between 23,424 and 29,280 visitor days could be authorized for summer season across the entire district (24,245 to 30,306 across all seasons).

In addition to renewing outfitter and guide permits, the KMRD processes new permit applications each year. Between 2000 and 2009, the number of outfitters and guides permitted by the KMRD increased from 23 to 58, an average increase of 3.5 outfitters and guides annually. During this same time, annual guided use on KMRD increased from 13,000 to 16,366 service days, an average increase of 337 service days annually. It is reasonable to assume that demand for special use permits to conduct outfitter and guide operations on the KMRD will continue to increase. This additional workload may delay the issuance of new permits on KMRD because additional environmental analysis would need to be completed, or new applications could be denied if the additional work of environmental analysis and permit administration cannot be accommodated.

Use Levels

Based on guided use levels between 2005 and 2009, Alternative A would allow for less outfitter and guide use District-wide than Alternatives B, C, and D (Tables 2-6 and 2-7). Between 2005 and 2009 the highest annual outfitter and guide use on KMRD was 24,245 service days (for the spring, summer, and fall seasons).

The highest amount of outfitter and guide use in the 06 Misty Core Lakes Use Area between 2005 and 2006 was 9,539 service days annually. Alternative A allows for a higher amount of outfitter and guide use in the 06 Misty Core Lakes Use Area than Alternatives B, C, and D (Table 3-7). The public has expressed concern that limiting outfitter and guide use in the 06 Misty Core Lakes Use Area would disperse outfitter and guide use into less popular areas on the wilderness and non-wilderness portions of KMRD. Alternative A is the least likely to result in negative indirect social effects as a result of dispersing outfitter and guide use in this Use Area.

Highly-valued Local Areas

Between 2005 and 2009, the highest amount of guided use during the summer season in KMRD's ten highly-valued local areas was 13,260 service days, which is less than the amount of use that would be allocated to outfitters and guides under Alternatives B, C, and D (Table 3-7). However, Alternative A would not apply the Design Elements and Mitigation Measures identified in the EIS, Appendix B to existing permits. Alternative A would also not result in the adoption of revised standards for monitoring social conditions on the wilderness and non-wilderness portion of KMRD (Table 2-1, Chapter 2), or the adaptive management approach described under Elements Common to All Action Alternatives in Chapter 2 of this EIS. Crowding and conflicts between guided and unguided visitors would occur or may begin to occur in popular areas:

- Bailey Bay hot springs (12 Bell Island Use Area), Helm Bay (13 East Cleveland Use Area),
- Fish Creek and the Low Lake / Big Lake Trail system (17 George Carroll Thorne)
- Ward Creek vicinity (24 Ketchikan Core NA)
- Margaret Bay (27 Margaret Bay)
- and Tatoosh, Back, Hump, Pup, Grant, Stack, Moser, Cache, and Cedar Islands in the 23 Betton Island Use Area.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Crowding and conflict are likely under Alternative A because design criteria and proposed standards for social encounter rates (for Alternatives B, C, and D) would not be implemented to minimize conflicts between guided and unguided users, even though the overall amount of use would be lower than the action alternatives.

This alternative has potential for use to be authorized through additional environmental analyses up to the carrying capacity identified in Appendix C of the DEIS; such analyses would follow the Forest Plan ROS guidelines which could allow for five- to ten-fold increases in the number of encounters per day in some Recreation Use Areas identified as popular with unguided users, leading to continued or new conflict in these areas.

The highest amount of outfitter and guide use in the 08 Burroughs Unuk, 12 Bell Island, 17 George Carroll Thorne, and 24 Ketchikan Core NA Use Areas combined between 2005 and 2009 (during the summer season) was 2,528 service days (see Table 3-7). All four of these highly-valued local Use Areas would have less overall guided use under Alternative A than under any other alternative.

The highest amount of outfitter and guide use in the 04 Duke Island Use Area between 2005 and 2009 was 22 service days during the summer season. No outfitter and guide use was reported during the spring and fall seasons. Alternative A, because of its current description of highest use would essentially allow a small amount of outfitter and guide use in the 04 Duke Island Area related to past accidental use as shown in Chapter 2. Encounter rates in this Use Area are below the Primitive ROS Class Standards identified in the Forest Plan. Alternative A would have a negligible impact on encounter rates and unguided visitor experiences in the 04 Duke Island Use Area. This effect is considered for comparison's sake.

No outfitter and guide use occurred in the 11 Gravina Island Use Area between 2005 and 2009. Alternatives A and D do not allocate any use in this Use Area to outfitters and guides. Alternatives B and C allocate 651 and 1,627 service days, respectively, during the summer season to outfitter and guide use in the 11 Gravina Island Use Area, which could create user conflicts that would be avoided under Alternative A. Encounter rates in this Use Area are below the ROS Class Standards identified in the Forest Plan.

The highest amount of guided use in the 13 East Cleveland Use Area between 2005 and 2009 was 221 service days during the summer season. This is less use than would be allocated to outfitters and guides under Alternatives B and C, and more than under Alternative D. Encounter rates in this Use Area are currently below ROS Class Standards identified in the Forest Plan. The public has expressed concern, however, about crowding in this area, particularly in popular bays (e.g. Helm Bay). This alternative would not include design criteria and mitigation measures for this area, such as restrictions for guided shoreline and cabin use in Helm Bay area.

The highest amount of outfitter and guide use in the 23 Betton Island Use Area between 2005 and 2009 (during the summer season) was 8,153 service days during the summer season. This is less use than would be allocated to outfitters and guides under Alternatives B and D, and more than under Alternative C (Table 3-7). The 23 Betton Island Use Area is popular with guided and unguided visitors and the public has

expressed concern that guided use negatively impacts recreation experiences and has resulted in displacement of unguided visitors. Monitoring information has not been collected for encounter rates in the 23 Betton Island Use Area.

The highest amount of outfitter and guide use in the 27 Margaret Bay Use Area between 2005 and 2009 (during the summers season) was 2,322 service days. This is less use than would be allocated to outfitters and guides under Alternatives B and D and more than under Alternative C during the summer season. Most outfitter and guide use in this area occurs between July 15th and September 15th, so conflicts with unguided visitors accessing the area for hunting during the fall season are minimized. Nonetheless, several public comments indicate that there is conflict between different types of visitors in the Margaret Bay Use Area, particularly visitors participating in wildlife viewing activities and those hunting in the area. No encounter monitoring data has been collected for the 27 Margaret Bay Use Area, but encounters are relatively common during the bear viewing season.

The highest amount of outfitter and guide use in the 28 Naha Bay Use Area between 2005 and 2009 (during the summers season) was 14 service days (Heckman Lake). Naha Bay Use Area is used by unguided resident and nonresident visitors during the spring, fall, and summer months. Encounter monitoring information has not been collected for this Use Area, but Forest Service cabins and trails in the Use Area receive a high amount of use. This alternative would allow for a small amount of use in the 28 Naha Bay Use Area.

Alternative B (Proposed Action)

Use Levels

Alternative B (Proposed Action) would allow for more outfitter and guide use District wide than Alternatives A and D, and less than Alternative C. Alternative B allocates 53,997 service days annually to outfitters and guides. Alternative B would allow for a 123 percent increase in outfitter and guide use annually across the KMRD (just over double the highest use of use that occurred between 2005-2009 under Alternative A).

Alternative B allocates 75 percent of the summer season capacity in the 06 Misty Core Lakes, 17 George Carroll Thorne, 23 Betton Island, 25 South Revilla NA, and 27 Margaret Bay Use Areas to outfitters and guides. A large amount of guided use occurred in the 06 Misty Core Lakes, 23 Betton Island, and 27 Margaret Bay Use Areas between 2005 and 2009; the 75 percent allocation to outfitters and guides would allow for the high level (approximately the average use between 2005 and 2009) of outfitter and guide use historically occurring in these areas to continue. Outfitters and guides have also expressed an interest in providing additional guided opportunities in areas close to town. The 75 percent allocation in the 17 George Carroll Thorne and 25 South Revilla NA Use Areas would allow for growth in the outfitter and guide industry in areas relatively accessible from Ketchikan. Design criteria and mitigation measures adopted under Alternative B would reduce impacts to unguided visitors' experiences in these areas.

Highly-valued Local Areas

Alternative B allocates 26,472 service days to outfitters and guides (summer season) in the ten highly-valued local areas identified on the KMRD (Table 3-8). This allocation

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

would allow for double the outfitter and guide use in highly-valued local areas (during the summer season). Alternative B allows for more outfitter and guide use in these ten areas than Alternative D and less than Alternative C. Outfitter and guide allocations under Alternative B could result in moderate impacts to unguided visitors' experiences in some areas identified as highly-valued local areas due to the allowable increase in overall summer use within these ten areas. However, design criteria and mitigation measures would ensure that crowding and impacts from outfitter and guide use are minimized in popular locations and attractions within these use areas (e.g. Bostwick Bay, Bailey Bay hot springs, and the Ketchikan-area trail system). Refer to Recreation under the "Resource Considerations" section of the Use Area Cards in Appendix B of the DEIS for information on the area-specific mitigation measures.

Alternative B does not allocate use to outfitters and guides in the 04 Duke Island or 28 Naha Bay Use Areas, the same as Alternative D. Alternative B allocates more use to outfitters and guides in all other locally popular Use Areas than Alternatives A and D. The only exception is 23 Betton Island Use Area in which Alternatives B and D would provide the same allocation. Alternative B allocates less than Alternative C in half of the high valued areas (08 Burroughs Unuk, 11 Gravina Island, 12 Bell Island, 13 East Cleveland, and 24 Ketchikan Core NA Use Areas).

Alternative B allocates the most use to outfitters and guides in the 17 George Carroll Thorne, 23 Betton Island, and 27 Margaret Bay Use Areas. Outfitters and guides have expressed an interest in increasing use in the 17 George Carroll Thorne Use Area, which is relatively accessible from town. This alternative would allow for the four times the amount of guided use in the 17 George Carroll Thorne Use Area as compared to Alternative A. Design criteria and mitigation measures adopted under all action alternatives should minimize the impacts of additional guided use on unguided visitors' experiences in the 17 George Carroll Thorne Use Area (such as near the Fish Creek cabin).

Alternative B would also allow for an increase in outfitter and guide use in the 23 Betton Island Use Area (increase of 604 service days, about 50 groups, during the summer season) and the 27 Margaret Bay Use Area (increase of 430 service days, about 65 groups, during the season). Alternative B will have minor impacts on unguided visitors' experiences in these areas because of the design criteria and mitigation measures that will be adopted to reduce the likelihood of crowding and conflict between guided and unguided visitors in popular locations (e.g. smaller islands in the 23 Betton Island Use Area).

Alternative C

Use Levels

Alternative C would allocate 74,005 service days annually to outfitter and guide use on the KMRD. Alternative C allocates more service days to outfitter and guide use than Alternative B (53,997 service days) and Alternative D (34,905 service days). Alternative B would allow for a 205 percent increase in guided use annually across the KMRD when compared to the highest amount of outfitter and guide use between 2005 and 2009.

Alternative C is the only alternative that would not establish any Use Areas where 100 percent of the visitor capacity is allocated to unguided use.

Alternative C would allocate 6,389 service days in the 06 Misty Core Lakes Use Area to outfitters and guides annually, which is less than the highest amount of guided use between 2005 and 2009 (9,539 serviced days). By limiting the amount of outfitter and guide use in the 06 Misty Core Lakes Use Area, Alternative C has the potential to disperse flightseeing traffic and cause indirect effects to social conditions (e.g. crowding and additional floatplane landings) on adjacent waterways, particularly in Rudyerd Bay and Walker Cove where occasional complaints have been received already.

Highly-valued Local Areas

Under Alternative C, outfitter and guide use in highly-valued local areas would be permitted to increase approximately 131 percent compared to the highest amount of use between 2005 and 2009. Alternative C allows for a larger amount of outfitter and guide use in the 04 Duke Island, 08 Burroughs Unuk, 11 Gravina Island, 12 Bell Island, 13 East Cleveland, 24 Ketchikan Core NA and 28 Naha Bay Use Areas than Alternatives B and D. Alternative C would allocate the same amount of guided use in 17 George Carroll Thorne Use Area as Alternative D, but this would be nearly triple that seen under Alternative A.

Alternative C allocates 7,673 service days during the summer season to outfitter and guide use in the 23 Betton Island and 27 Margaret Bay Use Areas, which is less than the highest amount of summer use in these areas between 2005 and 2009 (10,475 service days). Limiting guides in the areas which they currently concentrate could force them into other popular areas just to maintain their business operations; such expansion could create user conflicts between guided and unguided users where it does not currently exist.

Of the action alternatives, Alternative C has the most effect. However, Design criteria and mitigation measures should ensure that crowding and impacts from outfitter and guide use are minimized in popular locations and attractions within these use areas.

Alternative D

Use Levels

Alternative D allocates 34,905 service days annually to outfitter and guide use on the KMRD, which is more guided use than occurred between 2005 and 2009 (24,245 service days) and less guided use than would be allocated under Alternatives B and C.

Alternative D would allow for an overall 44 percent increase in outfitter and guide use across KMRD annually. Alternative D would allow for an increase in outfitter and guide use in all Use Areas except the 04 Duke Island, 06 Misty Core Lakes, 11 Gravina Island, 13 East Cleveland, and 28 Naha Bay Use Areas.

Alternative D allocates 1,917 service days in the 06 Misty Core Lakes Use Area to outfitters and guides annually, which is less than the highest amount of guided use between 2005 and 2009 (9,539 serviced days) and the amount allocated to guided use under Alternatives B and C. By limiting the amount of outfitter and guide use in the 06 Misty Core Lakes Use Area, Alternative C has the highest potential to disperse flightseeing traffic and cause indirect effects to social conditions (e.g. crowding and

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

additional floatplane landings) on waterways adjacent to NFS lands in Misty Fiords, particularly in Rudyerd Bay and Walker Cove, or at other lakes on KMRD.

Highly-valued Local Areas

Alternative D allocates 19,699 service days to outfitters and guides (during the summer season) in the ten highly-valued local areas on the KMRD, which is 49 percent more than the highest amount of outfitter and guide use that occurred annually between 2005 and 2009 but less than would be allocated to outfitters and guides under Alternatives B and C. Negative impacts to unguided visitors' experiences associated with the increase in guided use that would be allocated under Alternative D, as compared to the highest use analyzed in Alternative A, would be offset by the implementation of the previously described design criteria and mitigation measures, resulting in minor impacts to highly-valued local areas.

Cumulative Effects

Alternatives A, B, C, and D

The following activities or uses may cumulatively affect recreation resources and the implementation of this decision.

Timber Management Activities

Timber management activities could result in temporary road closures that seasonally impact guided and unguided recreation access, particularly on the Margaret Bay road system, Brown Mountain Road, and Shelter Cove road system. Free use timber is not able to be predicted in time or location; generally these small permits do not interfere with recreation uses, either guided or unguided, but will be coordinated with the timber staff group as necessary to minimize impacts to forest visitors.

Hydroelectric and Mining Development

Soule River hydroelectric development, in the 20 Hyder SPNW Use Area, would flood areas used for a small amount of guided hunting and fishing. Development related to the hydroelectric project may increase access and demand for guided use. The highest amount of outfitter and guide use in this Use Area between 2005 and 2009 was 27 service days. All action alternatives allow for a growth of outfitter and guide use in the 20 Hyder SPNW Use Area if additional recreation opportunities become available.

Mining activities in the Duke Island area, in combination with an increase in outfitter and guide use (Alternatives A and C), would have a moderate impact on unguided visitors' experiences in this Use Area, which is important for cultural and subsistence activities.

Activities Occurring Adjacent to NFS Lands

Activities occurring on non-NFS lands, along marine waterways, and in the airspace surrounding NFS lands on the KMRD have the potential to impact recreation experiences and opportunities for solitude on the wilderness and non-wilderness portions of KMRD.

During the summer season, motorized boat traffic is concentrated along the shorelines of the 05 South Misty, 07 Walker Chickamin, 09 Alava Princess Manzanita, 10 Rudyerd Winstanley, 11 Gravina Island, 13 East Cleveland, and 23 Betton Island Use Areas. The

Forest Service does not have jurisdiction over activities occurring on saltwater. The amount of annual use allocated to outfitters and guides in these seven Use Areas under Alternative A, B, C, and D is 8,815, 12,580, 15,640, and 10,171 service days, respectively. All alternatives could result in an increase in outfitter and guide use in areas where saltwater traffic is currently concentrated. Alternative D would allow for the least increase in outfitter and guide use in areas impacted by motorized boat traffic on saltwater.

On the non-wilderness portion of KMRD, noise impacts from aircraft overflights and saltwater landings are concentrated in the 17 George Carroll Thorne, 23 Betton Island, 25 South Revilla NA, and 27 Margaret Bay Use Areas. Between 2005 and 2009, the highest amount of outfitter and guide use in these four Use Areas was 11,269 service days. Alternatives B, C, and D would allow for 14,929, 10,926, and 13,845 service days, respectively.

Unguided Recreation Use on NFS Lands in Misty Fjords

A limited amount of information is available about unguided use on the KMRD. Dispersed recreation site monitoring and information collected about trail and public recreation cabin use indicates that unguided use on the non-wilderness portion of KMRD is highest in areas identified as high-valued local Use Areas (Table 3-8). Between 2005 and 2009, the highest amount of guided use during the summer season in KMRD's ten highly-valued local areas was 23,424 service days, which is less than the amount of use that would be allocated to outfitters and guides under Alternatives B and C. Social encounters and guided lake landing rates will be monitored to ensure that social conditions in these use areas do not exceed established standards.

Dispersed recreation site monitoring and information collected about trail and public recreation cabin use indicates that unguided use in Misty Fjords is concentrated in the 09 Alava Princess Ella Manzanita and 10 Rudyerd Winstanley Use Areas, particularly in areas surrounding trails and public recreation cabins. The amount of annual use allocated to outfitters and guides in these two Use Areas under Alternatives B, C, and D is 1,103, 2,857, and 512 service days, respectively. Alternative A would allow for the least amount of impact from outfitter and guide activities in areas of Misty Fjords that are popular among unguided visitors. One exception is on the trail-accessible lakes in the 06 Misty Core Lakes Use Area (e.g. Punchbowl Lake Trail). Alternative A would allow for the highest amount of impact from outfitter and guide activities in this the 06 Misty Core Lakes Use Area, which is used predominantly by outfitters and guides.

Bakewell Lake Coho Recolonization Project

The coho salmon recolonization project at Bakewell Lake may increase demand for outfitter and guide use in the 05 South Misty Lakes Use Area. Encounter rates in this area are currently below Forest Plan Standards and Guidelines for the Semi-Primitive Non-Motorized ROS Class. Monitoring will ensure that encounter rates do not exceed standards identified in the Forest Plan or standards adopted under any of the action alternatives.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Road Extension from Harriet Hunt Lake to the Forest Service road system in Shelter Cove

There is a proposal to extend a state road from Harriet Hunt Lake to the Forest Service road system in Shelter Cove. If opened to the public, this road would increase access and opportunities for dispersed recreation in the 16 Ketchikan Core SPNW, 17 George Carroll Thorne, and 25 South Revilla NA Use Areas. Improved access to George Inlet and Carroll Inlet may result in an increase in the amount of unguided use, increased demand for outfitter and guide use, and crowding along the coastline. Between 2005 and 2009, the highest amount of outfitter and guide use in the 17 George Carroll Thorne Use Area during the summer season was 792 service days. Alternative B allocates 3,253 service days to outfitters and guides in this Use Area for the summer season and Alternatives C and D allocate 2,169 service days to outfitters and guides. Along the roads in 25 South Revilla NA Use Area, the highest amount of guided use was only 2 service days; Alternatives C and D would allow for 1,084 and Alternative B would allocate 1,626 in this Use Area during the summer season.

Improvements to the Hyder Road System

The Alaska Department of Transportation plans to pave the road accessing Hyder and the Fish Creek Wildlife Viewing Site from Stewart, British Columbia in 2012. Paving may result in additional demand for guided and unguided recreation opportunities in the 20 Hyder SPNW and 22 Hyder NA Use Areas. All of the action alternatives allow for considerable growth in outfitter and guide use of this area. Encounter rates will be monitored to ensure that they do not exceed established standards.

Heritage

This analysis considers the effects of the alternatives on heritage resources. This analysis also considers proposed allocations by alternative as they relate to two issues, Issues 3 and 5:

- *Allowing outfitter and guide use in 04 Duke and 21 Percy Hotspur Mary use areas may affect historic properties, sacred sites and traditional cultural properties.*
- *Outfitter and guide use may negatively affect wildlife, subsistence uses, and cultural and traditional uses.*

Affected Environment

The Area of Potential Effect (APE) as defined in Section 106 of the National Historic Preservation Act is the geographic area(s) within which a Federal project may directly or indirectly affect the character of heritage resources eligible to the National Register of Historic Places. For this project, the APE includes the National Forest Lands within the KMRD boundaries.

The Native Peoples of this area have left their mark on the land evidenced by a variety of sites including villages, seasonal villages or campsites, middens, fish traps and weirs,

rock art, sacred and religious areas, and subsistence or resource gathering places. The Cape Fox, Tongass, and Tsimshian peoples continue to recreate, hunt, and gather on these lands which make up the APE today.

The historical period in Southeast Alaska began in 1741 when Aleksei Chirikov, a member of Russia's Second Kamchatka Expedition under Vitus Bering, sighted land somewhere between Yakobi and Chichagof islands. Since then, enterprises including fishing, mining, fur farming, timber harvest, and tourism have developed in the analysis area and left evidence on the land (Arndt et al 1987).

The ~200 archaeological surveys conducted between 1974 and 2010 have covered over 24,909 acres and resulted in the location and documentation of 561 Alaska Heritage Research Sites (AHRS) within the APE. Out of the 561 AHRS sites (also known as Historic Properties) 461 are either listed, determined eligible or are potentially eligible for the National Register of Historic Places. Many of these surveys were conducted along the ~2,444 miles of coastline within the APE but a significant number were conducted further inland in relationship to proposed projects including; timber harvest activities, roads, trails, cabin construction/maintenance, and various special use permits including those issued to guides.

Under Executive Order 13007 the Organized Village of Saxman and the Ketchikan Indian Community have declared that the “Duke Island area” which includes 04 Duke and 21 Percy Hotspur Mary use areas as sacred. The un-recognized Tongass Tribe has voiced the same concerns for the one of the areas. In response to these concerns, the Forest Service has not allowed any new on the ground use by outfitters and guides in these two use areas since 1999 (see Table 3-8). Historic properties in the “Duke Island area” include old village sites, summer camps, graves of shamans and other important people, shamanistic encounter and dreaming sites, traditional hunting and gathering areas, battlefields and fort sites. Warriors in Tlingit culture are highly venerated some are cultural heroes and places associated with their deeds and deaths are long remembered. Tribal members have told the Forest Service that locations in the “Duke Island area” are equivalent to “Gettysburg.” Therefore many historic properties located throughout the “Duke Island area” are also considered sacred.

This area has also been a traditional hunting and gathering area for local Tribes for thousands of years. These traditions are linked to ancestral lifestyles, oral traditions, migrations, villages, and other cultural sites. This traditional use continues to this day and remains important for transmitting cultural knowledge from the Elders to the young which, educates the youth about natural resources, their uses, methods of harvesting, processing, and the imperatives for a balance between consumption and the continued regeneration of resources. In addition, specific subsistence areas, such as Gravina Island, were identified as important.

Since 1991 KMRD archaeologists have been working with the KMRD Recreation Department and have implemented an inventory and monitoring program to assess the potential effects on historic properties from non-guided recreationalists and guided activities throughout the KMRD. Since then, District archaeologists together with recreation specialists have monitored numerous guided and non-guided campsites as well as their day use activity areas. Most of the recreational sites monitored have been in the

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

high sensitivity zone for cultural resources as defined by our Programmatic Agreements with the State Historic Preservation Officer and the Advisory Council on Historic Preservation. As of 2010 effects to historic properties have very rarely been observed at guided campsites or day use areas where historic properties were also located at or nearby.

Environmental Consequences

Direct and Indirect Effects

Table 3- 8) Annual guided use allocations¹ for Recreation Use Areas identified as areas of concern for Heritage.

Recreation Use Area	Service Days Authorized (in 2009)	Visitor Capacity in Service Days	Annual Service Days Allocated			
			Alt A (2005-2009 Highest Use)	Alt B	Alt C	Alt D
04 Duke Island	0	2,839	22*	0	1,420	0
21 Percy Hotspur Mary Islands	0	2,129	0	639	1,065	0
Total	0	4,968	22*	639	2,485	0

¹ Use in this area has not been permitted since 1999. However, unplanned use occurred in one year by a guide who had formerly been permitted in the area and did not realize it was closed. That use was stopped upon discovery and has not occurred again.

Alternatives A, B, C, and D

Potential effects to cultural resource sites due to human activities come primarily from vandalism or theft. Sites can be dug up, looted, or destroyed. Guide permits require the protection of cultural resources and therefore permitted guided use has little, if any, direct effect. Concentrated recreation use at a cultural resources site can also cause indirect effects such as site trampling, increased erosion, and disturbance and displacement of cultural artifacts. For example, trampling the surrounding area can result in site erosion or plant cover loss, thereby exposing the site to weathering. Effects on historic properties from guided recreation can be eliminated or reduced by avoiding the cultural resources sites or by using mitigation measures to reduce the potential impacts.

Guided use will not occur uniformly across the analysis area. Effects on cultural resources will be mitigated through permit stipulations such as the use of *Leave No Trace* practices, oversight, and enforcement of pertinent cultural resource laws and regulations, interpretation, and use restrictions where necessary. A monitoring program can help assure that proposed activities do not affect cultural resources through soil disturbance, rutting, compaction, and erosion. Monitoring also addresses issues of commercial use that may increase the potential for deliberate looting or inadvertent disturbance of fragile sites

Table 3-8 displays the potential outfitter and guide allocation in the “Duke Island Area” (Use Area 4 Duke Island and Use Area 21 Percy Hotspur Mary Islands). This area has been determined eligible for the National Register of Historic Places as a Traditional Cultural Property (CRM Report # 2011100552001). This same area has also been declared sacred by local tribes. As a result, there is potential for adverse affects to the Duke Island Area Traditional Cultural Property and sacred sites if service days are allowed under Alternatives B or C.

Under our Third Programmatic Agreement among the USDA Forest Service, Alaska Region, the Advisory Council on Historic Preservation, and the Alaska State Historic Preservation Officer Regarding Heritage Program Management on National Forests in the State of Alaska, the KMRD archeologist has determined that the activities proposed under Alternatives A or D where no service days are allowed in the “Duke Island Area” (Use Area 4 and Use Area 21) for the Ketchikan-Misty Fiords Ranger District Outfitter Guide EIS will have no affect on properties eligible to the National Register of Historic Places.

Any future proposed guided activities that are not listed in their permits or that have the potential to disturb the ground will continue to receive a case-by-case section 106 review by the KMRD archaeologist.

Most of the eligible sites are buried below the present ground surface and are not visible; The primary mitigating factors are; that no ground disturbance will be allowed; permit holders will be required to follow all heritage protection laws, use *Leave No Trace* principles include provisions protecting fragile heritage resources. Additionally, guides will provide the Forest Service with the locations of the campsites they used throughout the season. This will enable archaeologists to monitor the effects of campsite use.

Any cultural resources encountered during guided activities should be left as found and reported to the permit administrator who should then notify the KMRD archaeologist.

Cumulative Effects

Alternatives A, B, C, and D

Based on past monitoring of known cultural resource sites and recreation use, no cumulative effects on cultural resources from the commercial recreation proposed in the four alternatives are anticipated beyond the natural decaying process. The types of non-ground-disturbing recreation activities and the relatively low levels of use over the analysis area as a whole combined with mitigation measures, administrative oversight, and enforcement of regulations are expected to result in minimal effects. Therefore: cumulative effects for all of the alternatives are not likely to result in adverse impacts to the cultural resources.

Wildlife

This wildlife section addresses the effect of the Ketchikan-Misty Fiords Ranger District Outfitter and Guide Management Plan on:

- species listed under the Endangered Species Act (ESA) or their designated critical habitat,
- sensitive species listed by the Alaska Region (FSM 2670),
- management indicator species (MIS) as required by FSM 2621, and
- other native and desired non-native wildlife species of concern (FSM 2620.1).

Wildlife resource concerns are directly related to Issue 5 of this EIS:

Issue 5: Outfitter and guide use may negatively affect wildlife, subsistence uses, and cultural and traditional uses.

Concerns and design criteria to lessen effects form the basis of this analysis and the remainder of this section. This section will measure effects through the number of service days allocated to outfitters and guides as well as a relative comparison of alternatives by resource.

Potential effects to wildlife occur when disturbance from outfitter and guide activities overlap with crucial life phases: overwintering when body reserves are limited, reproduction and young rearing when disturbance can further deplete body resources and/or cause abandonment of young, and summer/fall foraging where animals are trying to put on fat reserves in preparation of migration and/or the winter season. These functions will be described by species in the Affected Environment Section and analyzed in the Environmental Effects Section.

This Ketchikan-Misty Fiords Outfitter-Guide Management Plan wildlife analysis incorporates direction in the 2008 Forest Plan (USDA Forest Service 2008b), and tiers to the accompanying Forest Plan Amendment FEIS (USDA Forest Service 2008c), and the Annual Monitoring and Evaluation Reports.

An integrated conservation strategy was developed to provide habitat to maintain viable populations of native and desired non-native wildlife species and subspecies that may be associated with old-growth forests (USDA Forest Service 2008b, pp. 3-174 and 3-175). The conservation strategy includes two major components: the system of large, medium and small old-growth reserves (OGRs) distributed throughout the Tongass National Forest and a series of standards and guidelines applicable to those portions of the Tongass open to potential development to protect important habitat components and provide old-growth forest habitat connectivity. OGRs will not be modified nor will ground disturbing outfitter and guide activities be authorized in the Record of Decision for this project. Therefore, OGRs will not be discussed further in this document.

Affected Environment

Introduction

The wildlife analysis area for direct and indirect effects of this project includes NFS lands on KMRD and the immediately adjacent marine environment that would be used by outfitters and guides to access authorized sites. The cumulative effects area is the same boundary, but includes non-NFS lands. These areas are appropriate for wildlife analysis since outfitter and guide activities permitted as a result of a decision on this EIS will be within these boundaries and the area is large enough to cover wildlife home ranges. KMRD is part of ADF&G Game Management Unit (GMU) 1 with most of KMRD within subunit 1A; the northwestern portion of Cleveland Peninsula falls within subunit 1B.

Recreational use is not distributed equally due to visitor use patterns; some areas have intensive disturbance whereas others have less intensive disturbance (Leung and Marion 2000). Outfitter and guide use on KMRD is generally restricted to four habitat types due to access: the beach/estuary fringe accessible by boat or floatplane, the subalpine/alpine habitat accessed by floatplanes or developed trails, forested habitat adjacent to the beach fringe, roads or trails, and riparian habitat along streams that can be accessed by boat, floatplane, roads, or trails. Areas further away from access points would be less used.

Beach fringe is the strip of land within a 1,000-foot horizontal distance inland from the saltwater shoreline, not including estuaries. It is a transitional zone between land and water, salt water and fresh water, and vegetated and non-vegetated conditions. Estuary fringe is the land within 1,000-foot horizontal distance around river mouths or estuaries. Both the beach and estuary fringe have great value to wildlife, particularly bears, bald eagles, swans, other waterfowl and shorebirds, river otters, mink, marten, and Sitka black-tailed deer, because of its aquatic and vegetative diversity. KMRD contains over 2,400 miles of shoreline and associated beach/estuary fringe habitat.

Alpine habitat is located at and above tree line and characterized by short, windswept perennial shrubs, short, leaning conifers, and heath dominated peat bogs. Alpine-adapted fauna in Southeast include mountain goat, rock ptarmigan and American pipit. Alpine ridges are favored thoroughfares for deer, goat, bear, wolves and wolverine. Subalpine habitat is located just below alpine and contains forage abundant meadows and tree cover.

Old-growth forests typically possess the following characteristics: large trees with wide variation in tree size and spacing; large snags and fallen trees; a high incidence of trees with broken or deformed tops, and multiple canopy layers, canopy gaps and patchy understory. Old-growth forests are important habitat for many species of wildlife, including deer, bears, and bald eagles. Old-growth forest is important to this analysis as wildlife species and outfitters and guide client use extend beyond the 1000-foot beach/estuary fringe and immediate riparian zone.

Riparian habitat occurs along rivers, streams, and shorelines of lakes and contains elements of both aquatic and terrestrial ecosystems. These areas are important for species such as bears, waterfowl, and shorebirds.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Assumptions for the wildlife analysis are the same as those displayed in Chapter 2 under Alternative Descriptions, except as described here:

- Recreation Use seasons (spring 4/20-5/14, summer 5/15-9/30, fall 10/1-10/20) do not correspond with hunting seasons or wildlife breeding, foraging, migrating, or wintering lifecycles. Therefore, effects are based on the total allocated service days instead of service days by individual recreational use season.
- For the purpose of this analysis, outfitter and guide activities were expected to continue to increase and reach allocation levels whereas unguided use would remain static or increase more slowly. This led to the assumption that outfitter and guide activities are more likely to occur, would occur more frequently, and would therefore pose a greater risk to wildlife than unguided use. Many of the outfitter and guide activities occur in areas less accessible to the general public (further from Ketchikan or requiring larger boats or aircraft). Unguided use on NFS lands is currently not quantified or easily quantifiable. However, the population of the Ketchikan Gateway Borough decreased by 8 percent between 2000 and 2009 and is 6 percent lower than it was in 1990 (Alaska Community Database Online). This lower local population and the slower increase in independent travelers led to the assumption that non-guided use would be less likely to reach unguided use allocations, be in smaller groups, be predominantly on the weekends or limited evening hours due to work schedules, and have lower risk to wildlife.
- Very little conclusive research on how specific numbers of recreationists disturbed or changed wildlife response were found and none came from Alaska. Although some activities, such as guided fishing, would likely not occur in large group sizes, this EIS does not set outfitter and guide allocations by activity. Therefore, the wildlife biologist assumed maximum group size when considering potential for wildlife disturbance. Group size in Misty Fiords Wilderness is limited to no more than 12 persons (including guide) for outfitter and guide activities (USDA Forest Service 2008b REC3.A.4, p. 3-20). Outside of wilderness group size should generally be limited to 12 to 20 people (USDA Forest Service 2008b REC3.II.A.3, p. 4-46).

Due to known disturbance factors, Leave No Trace Principles for Wildlife include “Avoid wildlife during sensitive times: mating, nesting, raising young, or winter”. Given the variety of wildlife species on KMRD, avoidance would have to occur during the entire recreational season. Therefore, it is unlikely that Leave No Trace principles for wildlife would be implemented to the level that would avoid all disturbances. Design criteria and Forest Plan Standards and Guideline buffer requirements should lessen, but not alleviate impacts.

Level of Influence in Determining Effects

Numerous studies have identified a variety of factors that influence both the vulnerability of wildlife and the frequency of wildlife response to human disturbance. Although disturbance has been heavily studied, research on thresholds is lacking; wildlife responses are relatively unpredictable and may vary even within a given species (Cline et al. 2007). As a result, standardized terms (i.e., minor, moderate, or major) are not used for this analysis. Consequently, an alternative ranking system based upon allocated service days was used.

Threatened, Endangered, and Sensitive Species

The only listed species known to occur in the vicinity of KMRD are limited to the marine environment. Therefore, species not occurring within Southeast Alaska inside waters and/or the southern portion of the Tongass National Forest were dropped from further analysis. Species known or suspected to occur within the action area were analyzed further. These species are displayed in Table 3-9. There is no critical habitat designated within or adjacent to KMRD.

Table 3- 9) Threatened, Endangered, Candidate and Sensitive Species Occurring in the KMRD vicinity

Common Name	Scientific Name	Status
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered
Steller sea lion (Eastern DPS)	<i>Eumetopias jubatus</i>	Threatened
Fin whale	<i>Balaenoptera physalus</i>	Endangered
Yellow-billed loon	<i>Gavia adamsii</i>	Candidate Species
Queen Charlotte goshawk	<i>Accipiter gentilis laingi</i>	R10 Sensitive Species
Black oystercatcher	<i>Haematopus bachmani</i>	R10 Sensitive Species

Humpback Whale

Humpback whales occur worldwide in all major oceans. They inhabit temperate and tropical waters in the winter and cool, coastal waters spring through fall. They generally inhabit waters over continental shelves and in summer are relatively close to shore. Dahlheim et al. (2009) list them as feeding in Southeast Alaskan panhandle waters from about May through December, although some have been seen every month of the year. Prey is zooplankton and small schooling fish. They are regularly sighted in the Inside Passage and coastal waters of the Southeast Alaska panhandle from Queen Charlotte Sound north to Prince William Sound.

Humpback whales are the most abundant of the eight species of endangered whales that occur in Southeast Alaska waters. Relatively high densities of humpback whales occur throughout much of Southeast Alaska and northern British Columbia (Allen and Angliss 2010). Dahlheim et al. (2009) reported a 10.6 percent annual increase in the humpback whale population in Southeast Alaska during their 17 year study. The recovery plans for the humpback whale identified six known or potential, categories of human impacts to these species: 1) hunting, 2) entrapment and entanglement in fishing gear, 3) collisions with ships, 4) acoustic disturbance, 5) habitat degradation, and 6) competition for resources with humans (NMFS 1991). Acoustic disturbance, the most likely effect from guided activities, includes all types of marine vessels and low-flying aircraft. Whale response to noise varies and is correlated to size, behavior, and composition of the whales at the time of disturbance. Responses have ranged from leaving or avoiding feeding and nursery areas to becoming habituated to vessel traffic and its noise. Habituation, however, may cause humpbacks to be more vulnerable to vessel strikes (USDA Forest Service 2008c, Appendix F).

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Steller Sea Lion

Two distinct population segments (DPS) are recognized within the United States in 1997: the western DPS, located west of Cape Suckling (144°W) and classified as endangered and the eastern DPS, located east of Cape Suckling, is classified as threatened (NMFS 2008). KMRD occurs solely within the eastern DPS. Rookeries (used for breeding and pupping) usually occur on remote islands with difficult human access. Haulouts (areas used during other portions of the year) may overlap with rookeries, but also include other rocks, reefs, beaches, jetties, breakwaters, navigational markers, floating docks, and ice flows. Rookeries and haulouts are used consistently year after year. Ocean use ranges from nearshore out to the continental shelf. Schooling fish including walleye pollock, salmon, and eulachon, cephalopod mollusks and invertebrates comprise the majority of the diet; seals and sea otters are occasionally taken. Critical habitat for Steller sea lions was designated by National Marine Fisheries Service (NMFS) in 1993 and includes a 20 nautical mile buffer around all major haulouts and rookeries, as well as associated terrestrial, air and aquatic zones, and three large offshore foraging areas.

Small sea lion haulouts occur on Easterly Island, immediately west of Emerald Bay (14 West Cleveland Recreational Use Area) and on Grindall Island, off the south tip of Kasaan Peninsula, Prince of Wales Island west of the action area. Sealions have occasionally been hauled out on rocks at Nose Point (18 Central Revilla SPNW Recreational Use Area). None of these haulouts are designated as critical habitat.

No threats to continued recovery are currently identified for the eastern DPS given the long term sustained growth of the population as a whole.

Fin Whale

Fin whales are found in deep, offshore waters of all major oceans. Fin whales are migratory, moving seasonally into and out of high-latitude feeding areas, but the overall migration pattern is complex, and specific routes have not been documented (NMFS website). Within the U.S. Waters in the Pacific, fin whales are found seasonally off the coast of North America and in the Bering Sea during the summer (Allen and Angliss 2010). Fin whales were observed by Dahlheim et al. (2009) off the southern tip of Prince of Wales Island and in lower Clarence Strait (near Gravina Island) in areas exposed to the open ocean or in channels in close proximity to open ocean. They assumed that fin whales move in and out of the waters of Southeast Alaska on a seasonal basis, since they could find no reports on the winter occurrence of fin whales in Southeast Alaska.

Although most populations were depleted by modern whaling in the mid-twentieth century, there are still tens of thousands of fin whales worldwide (NMFS 2006). Threats to fin whales are similar to those for humpback whales. Negative responses of fin whales to whale watching and other boating traffic such as substantially reduced dive time and foraging has been documented in north Atlantic populations. Increased tourist trade in Southeast Alaska has the potential to cause similar results.

Yellow-billed Loon

Yellow-billed loons nest exclusively in coastal and inland low-lying tundra 62-74° N latitude in association with permanent, fish-bearing lakes (USFWS 2006). Specific

characteristics of wintering habitats are not well known, but the species normally occurs in protected near shore marine waters (USFWS 2006). Migration and wintering habitat quality are also important to yellow-billed loon conservation, especially adequate fish populations for food and low pollution levels (USFWS 2006). Heintz and Piston (2009) list yellow-billed loons as a rare migrant and winter visitant, and a casual summer visitant. They list average arrival time as mid-October with variable numbers present through mid-April. They have only three summer records, all of single birds in alternate plumage: Anchor Pass June 11, 1999, Carroll Inlet June 20, 1999, and Clarence Strait/Gravina, July 9, 2005. Three young of the year were observed at Whipple Creek in February 2011. Yellow-billed loon populations are vulnerable due to a combination of low starting population size, low reproductive rate, and very specific breeding habitat requirements (USFWS 2006).

Queen Charlotte Goshawk

Goshawks generally occur in dense mature or old growth aspen, conifer, or mixed forests. In Southeast Alaska, goshawks preferentially use high and medium volume old growth forest and avoid non-forested, clear-cut, and regenerating areas (Federal Register 2007). Goshawk nests have been found in eight recreation use areas: 11 Gravina, 12 Bell Island, 17 George/Carroll/Thorne, 18 Central Revilla SPNW, 19 North Revilla, 25 South Revilla NA, 26 Central Revilla NA, and 27 Margaret Bay. No existing outfitter and guide use sites are within close proximity to these known nests. Goshawks have been sighted at numerous other locations, but the nests have not been found. The major threat to goshawks is the loss of old growth habitat due to logging. Goshawks are also susceptible to human disturbance during nesting period. A low reproductive rate makes recovery slow.

Black Oystercatcher

Black oystercatcher breeding habitat is the high tide margin of the inter-tidal zone and includes mixed sand and gravel beaches, cobble and gravel beaches, exposed rocky headlands, rocky islets, and tidewater glacial moraines within close proximity to dense mussel beds; they avoid brushy and forested habitats (Gotthardt and Coray 2005). Pairs nest just above the high-tide line and use the inter-tidal zone to feed themselves and their chicks. In winter, flocks of black oystercatchers concentrate on protected, ice-free tidal flats with dense mussel beds.

Black oystercatchers breed along the exposed, outer islands of Southeast Alaska and is known to nest as close as Snail Rock, Revillagigedo Channel near Boca de Quadra (Heintz and Piston 2009). They are also known to occur on and around Duke Island (Swarth 1909, and personal observations). Johnson et al. (2010) found that Duke Island is also used as a stopover area during seasonal migrations. They are rarely found in the protected inside waters near Ketchikan (10 records, March–August). Black oystercatchers have a small global population with estimates of 8,500 – 11,000 individuals.

The black oystercatcher's small population size and complete dependence upon a narrow coastal band throughout their life cycle places this species at risk to human and other mammalian disturbance. Black oystercatcher populations appear to be regulated by the

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

availability of quality foraging and nesting habitat. Because they are confined to specific shoreline habitat and congregate during the winter, they are vulnerable to natural and human disturbances. Threats include predation, recreational disturbances, flooding, vessel wakes, and shoreline contamination (Tessler et al. 2007). Nest location data indicate extensive overlap between nesting territories and remote shoreline campsites and documented oystercatcher decline (USDA Forest Service 2009). Human-induced disturbance is the most important factor limiting population growth in some parts of the species range. Human-induced habitat alteration is suspected of causing local extirpations from islands around Sitka, AK (Andres and Falxa 1995). Increasing commercial and recreational vessel traffic and growing recreational use at breeding sites including increased human presence by campers, kayakers, and fishermen in remote coastal areas can interfere with parental care and foraging, may result in nest abandonment, and increases the likelihood that nests and eggs will be inadvertently trampled.

Management Indicator Species

FSM 2621.3 requires the effects of a proposed action to Management Indicator Species (MIS) be assessed and that the Forest Plan requirements, goals and objectives for these species are met at the project level (FSM 2621.4). MIS are vertebrates or invertebrate species whose response to land management activities can be used to predict the likely response of other species with similar habitat requirements (FSM 2631.3).

Thirteen wildlife MIS were selected for the Tongass (USDA Forest Service 2008b, pp. 3-230 to 3-241). All are associated with productive old-growth forest (POG). Six of the MIS also specifically use riparian habitats and five of the species use estuarine habitats. Since habitat changes would be negligible through this project, those MIS species affected mainly by habitat loss or change in road density will not be discussed further in this analysis.

Those MIS species likely to be affected by guided activities and recreation use were selected for detailed analysis. Rationale for selection is displayed in Table 3-10.

Table 3- 10) MIS Selected for Further Analysis and Rationale for Selection

Species	Habitat Description and Rationale for Selection
Mountain goat	Mountain goats (<i>Oreamnos americanus</i>) are species of local interest that can be affected by aircraft and human disturbance during critical life phases.
Brown bear and Black bear	Brown bears (<i>Ursus arctos</i>) and black bears (<i>Ursus americanus</i>) are species of local interest related to outfitter and guide activities of wildlife viewing and guided hunting. They can be affected by human disturbance during critical life phases.
Bald eagle	Bald eagles (<i>Haliaeetus leucocephalus</i>) are species of National interest. Primary nesting habitat occurs in a narrow fringe along the beach. Nesting eagles can be impacted by nearby recreational activities.

Mountain Goat

Mountain goats were originally limited to the mainland portion of KMRD, but were successfully transplanted onto Revillagigedo Island in 1983 and 1991 (Porter 2008a). Mountain goats utilize cliffs, alpine and subalpine habitats, and adjacent old-growth

forest. Steep glacial valleys and peaks in GMU 1A provide important escape terrain from predators; nutritional forage is found in alpine meadows (Porter 2008a). During the peak foraging season (August-October), mountain goats may gain 10-15 lbs of body mass per month; however, during winter mountain goats are in a negative energy balance and are dependent upon fat and protein reserves built up during summer (White 2008). Mountain goats are known to be sensitive to human disturbance and particularly disturbance by aircraft (Foster and Rahe 1983, Festa-Bianchet and Côté 2008, Goldstein et al. 2005).

ADF&G does not have a solid population estimate for GMU 1A, but numbers appear to be moderately high and stable based upon long-term aerial surveys (Porter 2008a). Non-residents who hunt mountain goat must be accompanied in the field by an Alaska licensed guide or Alaska resident 19 years or older who is within the second-degree of kindred (2010-2011 Alaska Hunting Regulations). Approximately 15 percent of goat hunters in GMU 1A between 1996 and 2006 were non-residents and many are selective for trophy size goats (Porter 2008a). The majority of guided hunts on KMRD takes place in Misty Fiords with almost all guided hunts using alpine lakes areas for access and base camps. Although goats are present on Revillagigedo, access is limited. The Cleveland Peninsula south of Yes Bay/Santa Anna was closed to all hunting (resident, non-resident, and subsistence) in 2003 due to conservation concerns. There is potential for conflicts between floatplane landing tours and goat hunters using the same alpine lakes (Needs Assessment). There are currently three mountain goat guides with long-term priority permits on KMRD with a total of 14 hunts authorized.

Brown and Black Bear

Within KMRD, brown bear populations are generally restricted to the mainland (Misty Fiords and Cleveland Peninsula) although individuals, generally single males, are infrequently found on Revillagigedo Island. Black bears occur throughout KMRD.

Brown and black bears are important both for hunting (including both guided and non-guided hunting) and to the recreation and tourism industry of Southeast Alaska. Both bears use areas from sea level to the alpine and are habitat generalists. Most quality bear habitat within Misty Fiord occurs in a relatively narrow band of between saltwater and high elevation peaks and ice fields; habitat on the Cleveland Peninsula is similar to the island portions of KMRD with broader valleys and lower peaks (Porter 2008b).

The late-summer season has been identified as the most critical or limiting period for brown bears when they must build up energy reserves that are adequate to survive the winter and successfully reproduce (Schoen and Gende 2007, Flynn et al. 2007). Riparian areas and salmon bearing streams are also highly important to black bear (Schoen and Peacock 2007, Peacock 2004 PhD Thesis). During this season, bears concentrate along low elevation valley bottoms and salmon streams where their efforts focus on consuming large quantities of fish. Cover for visual obscurity, provided by riparian buffers or forested vegetation, is important for minimizing interactions among bears and between humans and bears with bears twice as likely to be displaced from open areas (Flynn et al. 2007, Suring et al. 1998). In areas where brown and black bear coexist, black bear tend to be pushed into lower quality habitat or smaller streams. Bears frequent the sedge and grass beaches and lakeshores during the spring to forage on grasses and sedges as they

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

emerge from their dens. Visibility along the beach makes them accessible and vulnerable to boat-based hunters.

The Needs Assessment acknowledges remote setting nature tours and guided fishing often occur in tidal and riparian areas where the possibility of a bear encounter may be higher. Floatplane landing tours may disturb bears feeding at the inlets and outlets of lakes or shorelines. Brown bears have also been known to react more strongly to hikers in remote areas than to motorized activities with the majority of full charges occurring on trails that receiving little human use (Wittinger 1999). Camping, hiking, and photography can also be stressful to bears (Warner 1987b).

Non-residents who hunt brown bear must be accompanied in the field by an Alaska licensed guide or Alaska resident 19 years or older who is within the second-degree of kindred (2010-2011 Alaska Hunting Regulations). ADF&G does not have quantitative population data available for GMU 1, but anticipates that the current brown bear DNA research occurring on the Unuk and Bradfield will allow them to more accurately estimate brown bear populations throughout the region (Scott 2009). Over concerns of increasing harvest in GMU 1, ADF&G requested the Forest Service to follow the brown bear moratorium model implemented in GMU 4 and restrict the growing number of guides. This moratorium on the number of guides and number of hunts was implemented in GMU 1 starting in 2001 (Scott 2009). There are currently 3 brown bear guides on KMRD with a total of 9 hunts authorized. Since brown bear populations on KMRD only occur on the mainland, hunting access is by boat.

Black bears have long been hunted in GMU 1A for trophies and food and annual harvest has increased from roughly 25 bears/year in the 1970s to an average of 78 bears/year between 2000-2006 [range 55 to 103] (Porter 2008b). Hunter access has generally been by boat with floatplane access a distant second. Porter attributed fluctuations in annual harvest to human activity and weather during hunting season rather than changes in bear numbers. There is no guide requirement for non-resident black bear hunters and most non-residents have traditionally hunted without a guide in GMU 1A. In contrast 45 percent of the harvest in GMU 1B was taken by guided hunters, but overall harvest levels ranged from 7 to 30 bear during the period 1995-2006 (Lowell 2008). More emphasis was placed on black bear populations with regulatory changes made at the November 2010 Alaska Board of Game meeting. Citing concerns about black bear numbers in GMU 1-3 in Southeast Alaska, the Board of Game adopted a drawing permit hunt for nonresident black bear hunters who do not hunt with guides. Resident hunters, and nonresident hunters who employ a guide were not affected by the new regulation, but, in exchange, guides agreed to a reduced hunt allocation based upon their average actual harvest 2008-2010 (ADF&G January 6, 2011 letter to Forrest Cole.). These regulations go into effect for the 2012-2013 harvest season.

Clashes between hunters and bear viewing guides/clients at Margaret Creek (within 27 Margaret Bay Recreation Use Area) have occurred in recent years and continue to occur. The Alaska Board of Game enacted a regulation in November 2010, prohibiting black bear hunting within ¼ mile of Margaret Creek. The road system and area around Hyder, AK is also closed to all bear hunting to enhance bear viewing opportunities (Scott 2009).

Bald Eagle

Bald eagles nest in mature or old-growth trees, snags, cliffs, and rock promontories, along saltwater shorelines and mainland rivers with a dominant view of the surrounding landscape (USFWS 2009). Where disturbance is minimal, habitat tends to be composed of a narrow strip of land along the coast that provides large trees suitable for nesting, fishing, and loafing (USFWS 2009). In Southeast Alaska, over 90 percent of known nests are in the beach/estuary buffer within 500 feet of saltwater. Approximately 2,450 miles of shoreline occur within KMRD. Over 700 bald eagle nests have been mapped on KMRD although FWS has not updated the information for the Ketchikan area for several years and data is lacking for much of Misty Fiords.

Eagles breeding in coastal Alaska remain in the vicinity of their nest sites throughout the year (USFWS 2009). The nesting period in Alaska begins with courtship and nest building in February and ends when the young fledge by late August into early September (FWS 2009). Eagle sensitivity to humans varies, with eagles being most sensitive to human disturbance during the courtship through egg laying phases (USFWS 2009). Sensitivity also varies among individuals within each phase. This variability may be related to a number of factors, including visibility of the activity, its duration and noise level, extent of the area affected by the activity, the eagle pair's prior experiences with humans, and tolerance of the individual nesting pair (USFWS 2009).

Other Species of Concern

The following species have specific Forest Plan Standards and Guideline disturbance buffers and/or represent a suite of species affected by recreational activities.

Swans, Waterfowl, and Shorebirds

Numerous winter swan surveys have been conducted on KMRD since the 1960s providing information on swans and other wintering waterfowl (KMRD wildlife atlas and observation database). Most trumpeter swans begin arriving in October with spring migration occurring in April.

Trumpeter swans (*Cygnus buccinator*) winter in sheltered bay and estuaries, lakes, and ponds and usually move to large lakes and estuaries once the weather turns cold (Slater 2006). There is little information about the effects of human activities to swans on wintering grounds, but disturbances that disrupt winter foraging activities or cause frequent movements from resting areas may decrease overall condition or even cause mortality (Slater 2006). The breeding range is concentrated along the Gulf of Alaska, but young cygnets were observed near the mouth of Traitors Cove in 2005 and have been reported on Duke Island. Due to swan sensitivity to human disturbance, wetlands otherwise suitable for trumpeter swan but subject to disturbance by human activity, are likely to be avoided by swans, (Slater 2006, Henson and Grant 1991). Swans may also abandon their nest and eggs in breeding areas that are frequently disturbed (Slater 2006). Henson and Grant (1991) found that swans on the Copper River Delta, Alaska, were often alerted by aircraft overflights, vehicle traffic, and pedestrian activities.

Over 25 waterfowl species and over 30 shorebird species have been documented near Ketchikan with many more listed as rare or casual visitors (Heinl and Piston 2009a).

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Waterfowl migrate through or winter in the larger bays, estuaries, rivers, on KMRD; lakes are used in the spring and fall with winter use dependent upon weather and more specifically ice conditions. Shorebirds are found in many of the same areas along the beach/estuary fringe.

Migrating and breeding seasons overlap with spring, summer, and fall recreation seasons. Therefore, this suite of birds can be affected by outfitter and guide activities.

Hérons

Heinl and Piston (2009b) list great blue herons (*Ardea herodias fannini*) as uncommon residents and a slightly more common winter visitant with numbers generally the highest from September to May. Habitat for great blue herons is tidal sloughs, estuaries and beaches, shallow lakes, lower reaches of salmon spawning streams, large freshwater ponds and marshes; nests are located in upper parts of trees or rarely in bushes or on the ground (Armstrong 1995). Butler and Baudin (1999) reported that nests are often built in colonies and most nests are within 3 km [1.9 mi] of coastal foraging habitats. Research has shown that great blue herons are negatively affected by human disturbance, particularly during breeding and fledgling periods (Carlson and McLean 1996, Butler and Baudin 2000, Carney and Sydeman 1999, Boyle and Sampson 1985, Gains et al. 2003).

Peregrine Falcon

Peregrine falcons (*Falco peregrinus peali*) nests are generally situated on ledges of vertical rocky cliffs, 65 to 900 feet in height, sheltered by overhanging grass, rocks, tree roots, salal, or mosses; some nests are found on grassy benches of rocky bluffs (USDA Forest Service 2008c). Most nests occur near large seabird colonies on the outer coastline or nearby islands. Heinl and Piston (2009b) list them as a rare migrant and casual or very rare winter and summer visitant. Peregrine falcons were observed on Duke Island in summer/fall of 2010. It has not yet been determined if they were nesting.

Osprey

Osprey (*Pandion haliaetus*) are limited to riparian areas adjacent to larger lakes, rivers, beaver ponds, coastal beaches, or large estuaries with abundant fish populations. They winter in Mexico and Central and South America then migrate to Alaska in April and September (VanDaele 2008, Heinl and Piston 2009). Osprey are naturally rare in Southeast Alaska and may be at the northern periphery of the range; competition with bald eagles may be a limiting factor (USDA Forest Service 2008c). Heinl and Piston (2009b) list ospreys as an uncommon migrant, rare summer visitant, and possible breeder. Osprey frequently adapt to human activities, but any disturbances which keep adults from their nests in May or June may cause the eggs or young nestlings to become chilled and die (VanDaele 2008). Osprey have been sighted repeatedly at Perseverance Lake and at Naha River, Jordan Lake, Hassler Island, Ella Bay, Manzanita Lake, Margaret Lake, and Orchard Lake (Heinl and Piston 2009b, KMRD observation database).

Endemic Small Mammals

Southeast Alaska has been found to be a region with an especially high degree of endemism in its small mammal fauna. Southern red-backed voles (*Myodes* [formerly

Clethrionomys] grapperi) are the only endemic listed for the middle and southern inner island complex which includes KMRD (MacDonald and Cook 2007). Southern red-backed voles are mainly nocturnal and are active year-long. According to MacDonald and Cook (2007), *Myodes grapperi solus* only occurs on Revillagigedo Island. Preferred habitat is cool, mesic deciduous, coniferous, or mixed forests, with large amount of ground cover; muskegs, sedge marshes, and shrubby habitats are also used (NatureServe 2010). However, Smith et al. (2005) found that southern red-back voles were positively correlated with the percent cover of deciduous shrubs and decayed down wood in the understory, but that peatland mixed–conifer forest habitat contributed little to breeding populations in Southeast Alaska.

Migratory Birds

Over 100 species of birds migrate from the lower 48 states, Central and South America, to nesting, breeding, and rearing grounds in Alaska. Most of the birds fly to the interior or northern Alaska and only pass through southeast Alaska on their way to the breeding grounds (USDA Forest Service 2008c). Of the migratory bird species of management concern listed in the Forest Plan (USDA Forest Service 2008c) or listed in the FWS Region 7 [Alaska] Birds of Conservation Concern (2008), 43 were reported by Heinl and Piston (2009a) as occurring in the Ketchikan area (Attachment B). Many use forested habitat; other important habitats include shrub thickets, marshes, cliffs, beach and tidal flats, rocky and shores and reefs, and inshore and offshore waters.

Environmental Consequences

Blanc et al. (2006) summarize multiple studies that document disturbance to wildlife is more intense when activities are dispersed.

In all action alternatives, adaptive management principles could be used to adjust outfitter and guide allocations identified in the selected alternative under specific conditions (see EIS, Chapter 2). Allocations could be adjusted within individual use areas, but increases would not go above the highest outfitter and guide allocation analyzed for that use area. Total allocations would remain less than or equal to the 74,005 service days allocated under Alternative C. Adaptive management could increase the risk to wildlife under a specific alternative, but not above the highest risk analyzed. Use of the adaptive management measures for wildlife shown in Appendix D would lessen the impact to the species specified in the adaptive management measure.

Alternative A is not consistent with all Forest Plan Wildlife Standards and Guidelines. Current permit guidelines call for aircraft to maintain 1,500 feet from wildlife, but they generally do not contain necessary stipulations to prevent disturbance from other activities or implement no disturbance buffers for many species. These design criteria would not be added to Alternative A under this Environmental Impact Statement.

With the inclusion of the design criteria in Appendix B and species specific mitigation measures, Alternatives B, C, and D would be compliant with regulations and Forest Plan Standards and Guidelines.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Since outfitters and guides are required to comply with all Federal regulations, the project would be consistent with the Endangered Species Act, the Bald Eagle Protection Act, and the Marine Mammal Protection Act. Enforcement of these regulations is under the jurisdiction of the US Fish and Wildlife Service, National Marine Fisheries Service (NOAA fisheries), and the US Coast Guard.

Direct and Indirect Effects

Effects Common to All Alternatives and All Species

Direct and indirect effects occur from outfitter and guide activities and connected actions that adversely affect individuals, their young, or their habitat. General disturbance effects on wildlife from recreational activities have been well documented, but not quantified. The indirect impacts of recreation on wildlife are even less understood than the direct impacts (Cole and Landres 1995). Boyle and Sampson (1985) recognized that impacts were occurring, but acknowledged that management was hampered by the complexity of cause-and-effect relationships and the incompleteness of existing information. Cole (1993) states that recreational impacts on wildlife are not usually obvious, are difficult to study, and are poorly understood. Taylor and Knight (2003) document similar lack of information on the area of influence from various recreational activities. Tempel et al. (2008) compiled current research and summarize effects:

- 1) if an activity elicits a significant behavioral response from individuals, occurs frequently, and/or is widespread, long-term impacts to the reproduction and survival of individuals is possible,
- 2) If a large enough number of individuals is negatively affected by recreation, impacts at the population level can occur,
- 3) if impacted wildlife populations have important interactions with other species, community impacts are also possible.

Direct effects from recreation include intentional or unintentional wildlife harassment, alteration of wildlife behavior, and displacement from food, water, and shelter (Leung and Marion 2000). According to Blanc et al. (2006), the main effect of disturbance is a change in behavior whether it is associated with movement and escape or not; effects can be physiological or behavioral. Physiological effects include increased heart rate and respiration, increased oxygen consumption, increased body temperature, and increased metabolism (Cline et al. 2007). Gill et al. (2001) state the decision to move away from disturbance or not is complex and dependent upon the quality of the habitat individuals are currently occupying, the distance to and quality of other suitable sites, the relative risk of predation, the density of competitors in alternative sites, and the investment required to establish a new territory. Indirect effects include reduced health and fitness, reduced reproductive rates, increased mortality, composition change (Leung and Marion 2000, Taylor and Knight 2003, Cole and Landres 1995). Many immediate disturbance responses appear to be short-term; however, little is known about the long-term effects of recreational disturbance on energy balance or survival rates (Cole 1993). Indirect impacts occur wherever and whenever recreational use occurs (Cline et al. 2007).

Cline et al. (2007) went on to state that indirect effects typically occur over a long period of time and affect a broader ecological scale than wildlife disturbance. They occur through normal recreation activities such as hiking, biking, hunting, and fishing where recreationists have the potential to negatively impact the physical environment (e.g., trampling vegetation, soil compaction, erosion, disturbances due to noise and motion, pollution, nutrition loading, and introduction of non-native invasive plant species). While indirect impacts such as trampling has been studied extensively from an ecological condition, their impacts on wildlife still are not fully understood (Cline et al. 2007).

Boyle and Sampson (1985) reviewed 166 research articles of which 163 documented negative effects of recreational activity on wildlife: 52 on hiking and camping, 37 on boating, 27 on wildlife viewing and photography, 20 on off road vehicle use, 12 on snowmobile use, 8 on shore recreation and swimming, and 7 on rock climbing. Leung and Marion (2000) state that the mere presence of visitors may harm wildlife by displacing them from essential habitats or disrupting their raising of young and that trails and campsites may cause a landscape fragmentation effect possibly interfering with movement of some animal species. Visitors hiking on trails may disturb wildlife, displacing them from trail corridors during times temporarily or permanently. Likewise, camping can disrupt normal wildlife activities, attract animals, or alter wildlife habitat through vegetation and soil impacts causing wildlife to avoid areas with campsites (Leung and Marion 2000, Boyle and Sampson 1985). Most vegetation damage occurs quickly at low and moderate levels of visitor use (Leung and Marion 2000). Monz (1998) found that campsites on beaches and on forest understory in Prince William Sound, Alaska, were very susceptible to vegetation loss. Cole and Landres (1995) report to vegetation and soils caused by human trampling during hiking, camping, fishing, nature tours, and off road vehicles.

Direct impacts from fishing include disturbance, entanglement with fishing lines and ingestion of lead sinkers; indirect impacts associated with fishing include vegetation trampling, boating disturbance, introduction of non-native species (Cline et al. 2007).

Wildlife viewing and photography intentionally approach wildlife which can be more disturbing than accidental encounters since encounters are generally more frequent and of longer duration (Boyle and Sampson 1985, Cline et al. 2007).

Motorized recreation can have direct effects from collisions with wildlife and indirect effects including noise, pollution, habitat degradation, disturbance, and harassment (Cline et al. 2007). Aircraft disturbance on mountain goats is well documented and will be discussed in more detail in the mountain goat section.

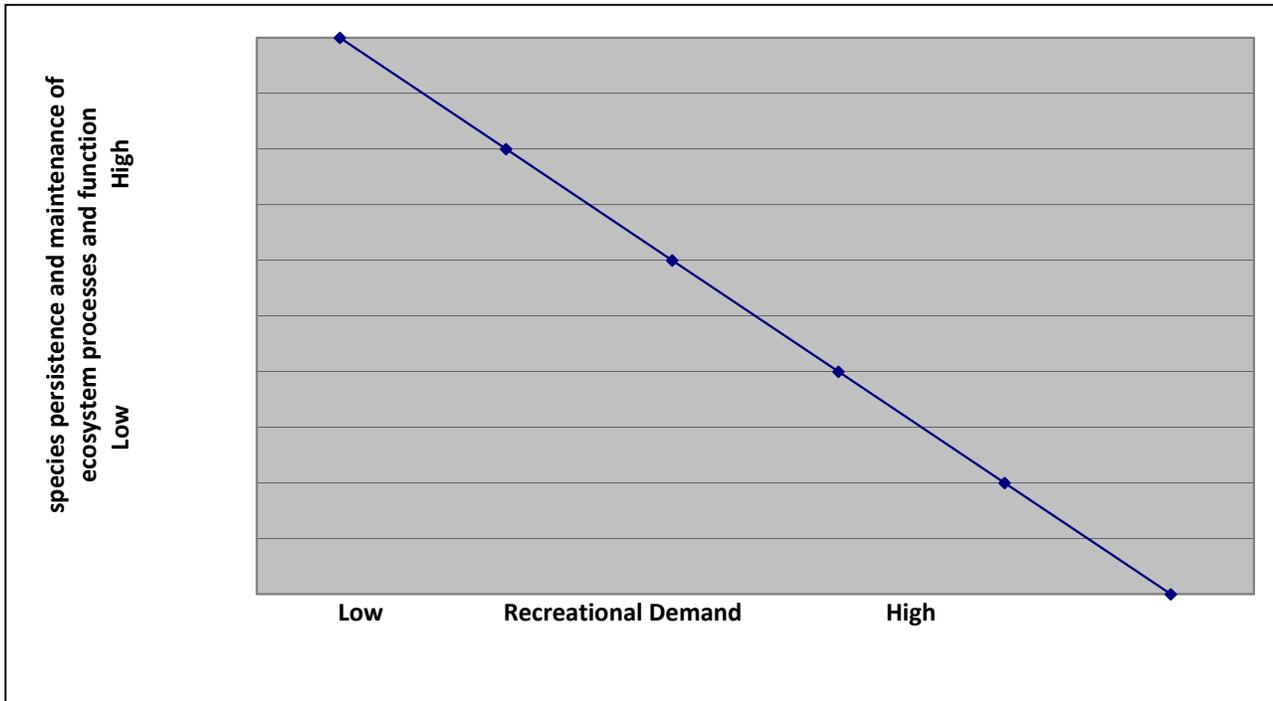
In light of the above information, all authorized outfitter and guide activities identified in the Needs Assessment (Appendix A) and being considered under this management plan could cause disturbance to wildlife.

Because quantitative evaluation of recreation effects was not possible owing to data limitations for many species, the wildlife biologist developed a risk ranking based upon the number of service days allocated to outfitter and guide activities and the assumptions at the beginning of this document. Specifically, that the risk of disturbing wildlife would increase as the number of days allocated to outfitter and guide activities increased. This

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

is similar to the assumption in Gaines et al. (2003) that as recreational demand increases, effects on wildlife also increase over space and time and that increasing recreational use results in decreasing species persistence and maintenance of ecosystem processes and function (Figure 3-1). The risk ranking is shown in Table 3-13. Effects to individual species listed above in Affected Environment follow the table.

Figure 3-1) Assumed relationship between increasing recreational demand and species persistence and maintenance of ecosystem processes and functions (Gaines et al. 2003)



Threatened, Endangered, and Sensitive Species

Based on the analysis in the biological evaluation (BE in the Project Record), the biologist made the following determinations on the effects of the alternatives on endangered, threatened, and proposed species selected for detailed analysis (Table 3-11). Rationale for selection is displayed in Table 3-10.

Table 3- 11) Determination of Effect for Federally listed or R10 Sensitive wildlife species known or suspected to occur in the vicinity of the Ketchikan-Misty Fiords Ranger District

Federally Listed Species or R10 Sensitive Species	Alternative	Determination
Humpback whale	All	Not Likely to Adversely Affect
Fin whale	All	Not Likely to Adversely Affect
Steller sea lion	All	Not Likely to Adversely Affect
Yellow-billed loon	All	Not likely to jeopardize candidate species or adversely modify proposed critical habitat
Queen Charlotte goshawk	All	May adversely impact individuals, but not likely to cause a trend to federal listing or a loss of viability in the Planning Area, nor cause a trend toward federal listing
Black oystercatcher	All	May adversely impact individuals, but not likely to cause a trend to federal listing or a loss of viability in the Planning Area, nor cause a trend toward federal listing

Alternatives A, B, C, and D

Humpback Whale and Fin Whale

None of the ten authorized outfitter and guide activities would degrade the marine environment. Potential effects come from the interdependent action of using boats and floatplanes to access outfitter and guide use sites. Whale response to noise varies and is correlated to size, behavior, and composition of the whales at the time of disturbance. Responses have ranged from leaving or avoiding feeding and nursery areas to becoming habituated to vessel traffic and its noise. Habituation, however, may cause humpbacks to be more vulnerable to vessel strikes (USDA Forest Service 2008c). Recreational activities would add to the current marine traffic, associated acoustic disturbance, and chance of vessel striking whales. Forest-wide standards and guidelines direct the Forest Service to ensure that Forest Service permitted or approved activities are conducted in a manner consistent with the Marine Mammal Protection Act, Endangered Species Act, and NMFS regulations for approaching whales, dolphins, and porpoise. "Taking" of whales is prohibited; "taking" includes harassing or pursuing, or attempting any such activity (USDA Forest Service 2008b WILD4.B pg. 4-99). The effects of interrelated unguided use would also come from boat and possibly floatplane access. Actual levels of use are unknown, and cannot be reliably predicted for the future. Without more accurate ideas of future activities, impact levels are assumed to be similar to the 2003-2007 trend found by Allen and Angliss (2010). NMFS and the Coast Guard have enforcement jurisdiction over unguided users.

Steller Sea Lion

The KMRD Outfitter and Guide Management Plan action area occurs within the eastern DPS; therefore, analysis is limited to that stock. No critical habitat has been designated

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

within KMRD. Similar to the humpback whales analysis, none of the ten authorized outfitter and guide activities would degrade the marine environment. Potential effects to come from the interdependent action of using boats and floatplanes to access outfitter and guide use sites. The effects of the interrelated unguided use would also come from boat and possibly floatplane access. Harassment or displacement of sea lions from preferred habitats by human activities such as boating, recreation, aircraft, was identified as a concern with regard to long-term conservation in the Biological Assessment conducted for Forest Plan (USDA Forest Service 2008c). NMFS identified similar threats in the 2008 updated recovery plan for Steller sea lions, but acknowledged that there is not currently enough information to quantify effects.

At present, the most likely threats to the eastern DPS are development, increased disturbance and habitat destruction, increases in the magnitude or distribution of commercial or recreation fisheries, and environmental change. Disturbance from increased human use of remote areas in Southeast Alaska represent a potential threat in the future but little is known about the potential impacts from changes to the physical environment, disturbance from vessel traffic, and tourism related activities. Temporary movements from areas of disturbance have been documented and rookeries subject to repeated disturbance may be permanently abandoned. Because of lack of information, it is not possible to quantify these threats (NMFS 2008). NMFS goes on to state that the potential threat from increased human disturbance highlights the need to keep regulatory mechanisms such as the MMPA in place to protect sea lions.

Yellow-billed Loon

There is no tundra nesting or breeding habitat anywhere within the KMRD action area. Yellow-billed loons occur in the marine waters surrounding KMRD during the winter, but effects of the Proposed Action or interrelated or interdependent activities would be negligible since there is little overlap in seasons (April 20-October 20 represents recreational use versus mid-October through mid-April when loons are more likely to be in the area). Design criteria require outfitter-guides to prevent disturbance at all times and report any sightings of yellow-billed loons.

Queen Charlotte Goshawk

None of the ten authorized outfitter and guide activities would alter productive old-growth habitat. Instead, effects would come from human disturbance in close proximity to nesting goshawks. Some of these areas are used by outfitter and guides and could be impacted before actual nests could be located and buffered. Potential effects of other natural and manmade factors were analyzed in the listing package and were determined to be limited across the landscape in Southeast Alaska and were not expected to have population-level impacts on the Queen Charlotte goshawk (Federal Register 2007). Forest Plan Standards and Guidelines to minimize disturbance during the nesting season have been included as permit design stipulations.

Black Oystercatcher

Black oystercatchers generally occur on outer exposed coastlines, but are known to nest on shores within 03 South Misty, 04 Duke, and 21 Percy/Hotspur/Mary Recreation Use Areas. The majority of outfitter and guide activities within these areas utilizes the shoreline in some capacity during nesting and young rearing periods and therefore, has

the potential to negatively impact black oystercatchers. Documented disturbance impacts include disruption of courtship and breeding activities, abandonment of nests or fledglings, trampling or swamping of nests, reduction in the amount of parental care of young, reduction in the amount of time spent foraging and foraging success, increased predation, and/or desertion of otherwise suitable habitat (Tessler et al. 2007, Gotthardt and Coray 2005, USDA Forest Service 2009, Andres and Falxa 1995, Chatwin [master’s thesis] 2010).

Table 3- 12) Relative risk of impacting Black Oystercatcher

Relative Risk				
	Less Risk			More Risk
Alternative A			X	
Alternative B		X		
Alternative C				X
Alternative D	X			

Alternative D would have the least impact on black oystercatchers (Table 3-12) since it would allocate zero service days to outfitters and guides in 04 Duke, and 21 Percy/Hotspur/Mary Recreation Use Areas (e.g.: within the Duke Island Special Interest Area [Zoological] LUD). However, Alternative D would allocate 699 service days on 03 South Misty which could lead to the impacts mentioned above.

Alternative B has the second lowest risk since it also would not allocate days on 04 Duke or 21 Percy/Hotspur/Mary Recreation Use Areas, but would allocate 1,048 service days on 03 South Misty. These alternatives protect two out of the three known areas where black oystercatchers occur on KMRD.

Alternative A ranks second highest in risk to black oystercatchers since it has more widespread use. Very little outfitter and guide use has been authorized on 04 Duke in the past 5 years (20 service days in 2005) or on 21 Percy/Hotspur/Mary (0 service days), but up to 223 service days have been issued on 03 South Misty.

Alternative C has the greatest risk since it would allocate the greatest number of service days (50 percent of capacity) to outfitters and guides in all three areas where black oystercatchers are known to occur on KMRD. Therefore, it could have substantial adverse impacts on black oystercatcher populations on KMRD, affecting the southernmost portion of its range on the Tongass. Potential suitable habitat occurs along outer coastlines elsewhere on the Tongass, although few surveys have been conducted in Southeast Alaska (Tessler et al. 2007).

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Table 3- 13) Alternative Risk Ranking for Wildlife by Recreation Use Area

Recreation Use Area	Acres	Total Service Days				Alternative Risk Ranking				
		Carrying Capacity	2005-2009 Highest Use (Existing Alt A)	Alt B Proposed Action	Alt C	Alt D	Highest Risk			Lowest Risk
01 West Misty	193,421	2,366	96	355	1,184	355	A	C	B,D	B,D
02 Northeast Misty	1,301,579	7,425	211	1,114	3,713	372	A	C	B	D
03 South Misty	629,903	6,989	220	1,048	3,495	699	A	C	B	D
04 Duke Island	37,643	2,839	22	0	1,420	0	A	C	B,D	B,D
05 South Misty Lakes	14,927	2,075	100	311	1,038	208	A	C	B	D
06 Misty Core Lakes	57,862	12,777	9,539	7,922	6,389	1,917	A	B	C	D
07 Walker Chickamin	14,339	1,747	37	262	873	174	A	C	B	D
08 Burroughs Unuk	29,846	1,965	11	294	983	98	A	C	B	D
09 Alava Princess Manzanita	20,597	3,550	29	710	1,776	533	A	C	B	D
10 Rudyerd Winstanley	20,548	3,931	155	393	1,966	197	A	C	B	D
11 Gravina Island	39,720	4,259	0	853	2,130	0	C	B	A	D
12 Bell Island	137,866	9,173	275	1,835	4,587	918	A	C	B	D
13 East Cleveland	87,530	4,969	230	994	2,485	248	A	C	B	D
14 West Cleveland	74,108	2,839	13	853	1,420	426	A	C	B	D
15 Wilson / Bakewell	13,319	2,020	54	404	1,010	302	A	C	B	D
16 Ketchikan Core SPNW	46,978	1,419	12	426	710	142	A	C	B	D
17 George Carroll Thorne	137,531	5,679	813	3,655	2,841	2,571	A	B	C	D
18 Central Revilla SPNW	93,308	5,023	19	1,507	2,512	1,507	A	C	B,D	B,D
19 North Revilla	70,560	4,259	37	1,277	2,130	1,277	A	C	B,D	B,D
20 Hyder SPNW	121,378	2,129	4	639	1,065	639	A	C	B,D	B,D
21 Percy Hotspur Mary	7,014	2,129	0	639	1,065	0	A	C	B	D
22 Hyder NA	7,235	1,419	27	710	710	710	A	B,C,D	B,C,D	B,C,D
23 Betton Island	4,990	15,288	8,431	10,202	7,644	9,841	A	B	D	C
24 Ketchikan Core NA	19,190	28,392	1,572	11,357	14,196	7,098	A	C	B	D
25 South Revilla NA	40,181	2,839	2	1,895	1,420	1,252	A	B	C	D
26 Central Revilla NA	15,462	2,839	0	1,136	1,420	751	A	C	B	D
27 Margaret Bay	9,822	4,805	2,322	3,206	2,403	2,670	A	B	D	C
28 Naha Bay	5,498	2,779	14	0	1,420	0	A	C	B,D	B,D
Total	3,252,354	147,923	24,245	53,997	74,005	34,905	A*	C	B	D

[1] With Alternative 1, no use will be allocated to outfitters and guides. Special Use Permits would be issued on a case by case. Use could reach capacity.

Source: WL_RPT_Use_Table.xlsx compiled from final_alternative_comparison.xlsx

Management Indicator Species

Alternatives A, B, C, and D

Mountain Goat

Although Alternative A (No Action) currently has the least number of total service days overall, it currently has the highest amount of service days in 06 Misty Core lakes and has no outfitter and guide allocation ceiling other than visitor capacity (Table 3-13 above). Existing permits could increase 25 percent based upon current FSH direction or more with additional NEPA. Since the activity in 06 Misty Core lakes is predominantly floatplane landing tours and aircraft present the greatest risk of disturbance to goats, outfitter and guide use under Alternative A has the highest risk of disturbing mountain goats causing stress related health issues, abandonment of kids, injury related deaths. Forest Plan Standards and Guidelines for aircraft to maintain 1,500 feet from goats lessen some potential impact, but the distance is much less than the 1,500 to 2,000 meter horizontal (4,921 ft to 6,562 ft) and 1,500 meter vertical distance (4,921 ft) recommended by more recent research to lessen disturbance effects (see below). Alternatives B and C fall mid-range with Alternative B having less total service days allocated to outfitters and guides, but having more days allocated within 06 Misty Core lakes. Alternative D has the second lowest total service days allocated to outfitter and guide activities and the lowest allocation of service days in 06 Misty Core lakes. Therefore in order of risk to disturb mountain goats Alternative A ranked the highest, followed by Alternative B, then Alternative C, with Alternative D the lowest risk to mountain goats.

The amount of guided goat hunting on KMRD is consistent with ADF&G objectives. Goat populations are thought to be moderately high and stable (Porter 2008a). However, the different sexes can be difficult to distinguish at a distance which can lead to overharvest of nannies (females) and affect populations. Mountain goat research is occurring in Southeast Alaska that should yield more accurate population estimates. To protect mountain goat populations since currently levels of guided goat hunting appear sustainable, no additional goat hunts or re-allocation of existing hunts should occur until these research results are finalized.

Important lifecycle timeframes (key foraging, breeding, wintering, kidding seasons) for mountain goats in Alaska occur August through mid June. This overlaps with the majority of the recreation season being analyzed plus the winter season. Therefore, impacts from recreational activities involving aircraft or hiking or camping in the alpine have the potential to disturb mountain goats.

Mountain goats appear to react to human disturbance to a higher degree than most ungulates with nannies being most sensitive to disturbance during the kidding and post-kidding seasons (BC Mgt Plan 2010). They also state that intense single disturbances and chronic stress from repeated disturbances can be expected to produce short- and long-term health effects on populations. Even when there is no overt sign of disturbance such as running, increased heart rate can result in excessive energy expenditure (Canfield et al. 1999).

Human proximity can cause disturbance that varies from short term (e.g., increased vigilance and short flight response) to long term displacement from preferred habitat or changes in

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

population demographics (BC Mgt Plan 2010). Foster and Rahe (1983) recommended that humans remain quiet and out of view (or quiet and still, if in view) to reduce stress-responses created from human-goat confrontations.

Floatplane landing tours are the most common outfitter and guide activity in Misty Fiords National Monument Wilderness representing approximately 94 percent of the use. The Forest Plan provides standards and guidelines to maintain kidding and winter habitat and to manage disturbance from aircraft flights. However, research recommends aircraft maintain greater distance than Forest Plan standards and guidelines. Festa-Bianchet and Côté (2008) recommend aircraft maintain a 2 kilometer [~6,600 ft] distance from goats. Goats in their long-term study showed strong negative responses (walking or running more than 100m [328 ft] or remaining alert for more than 10 minutes) to helicopters within 500 meters [1,640 ft]. All goats still exhibited distinct disturbance behavior from aircraft >1,500 meters [4,921 ft] away. Responses included kids being temporarily separated from their mothers, one nanny breaking a leg while fleeing a helicopter, and several cases of panicked goats running at full speed over cliffs or precipitous terrain.

Fixed-wing aircraft appeared to be slightly less disruptive than helicopters for Dall sheep in the Yukon (Frid 2003), but little data is available comparing mountain goat response. Increases in mountain goat movement were observed during fixed wing telemetry flights (Poole and Heard 1998 as cited in BC Mgt Plan 2010). The goats Foster and Rahe (1983) observed in their Stikine River study appeared to be equally nervous and as highly excitable in response to helicopter, airplane, and human activity. Mountain goats frequently (83 percent) exhibited disruptive behavioral patterns in response to human disturbances. Both moderate and severe flight stress-responses also occurred under local (401-1600 m [1316 ft - 5249 ft]) encounters. Individual goats were noted to respond differently to varying intensities of disturbance, possibly due to the degree of previous stress encounters. To completely avoid harassment, Foster and Rahe also recommended a 2 kilometer [~6,600 ft] buffer, particularly in regions of elevated human activity. The BC Mgt Plan (2010) identifies 5 studies that recommend the 2 kilometer buffer for both helicopters and fixed wing aircraft and 3 others that recommend a 1,500 meter buffer (4,921 ft).

Brown and Black Bears

Outfitter and guide use under all alternatives has the potential to disturb or displace bears which can alter social patterns and affect energy balance and overall bear fitness or survival. However, it is difficult to quantify the degree to which the presence of people recreating within bear habitats will disturb individual bears or cause long-term population viability problems. Alternative A has the greatest risk of disturbing bears of any alternative since it does not incorporate design features for limiting disturbance to bears in estuaries, grass flats or along salmon streams. Alternative A currently has the lowest number of service days, but has the potential to increase to the highest number (i.e.: approach visitor capacity) since allocations are not set. Of the action alternatives, Alternative C has the highest overall risk, followed by Alternative B, with Alternative D having the lowest risk overall. Recent improvements to the Titan Trail Bridge (22 Hyder NA) could result in it becoming an additional viewing platform and change use patterns of individual bears.

Recreational Use Area 27 Margaret is the exception to the general ranking. Given the interest in Margaret over the past several years and its proximity to Ketchikan, Alternative A has the highest risk to bears. Since physiological and long-term impacts to bears are difficult

to measure, more emphasis could be placed on social factors such as site capacity and visitor interaction rather than loss of bear foraging opportunity. Of the action alternatives, Alternative B presents the highest risk to bears at the Margaret viewing site since it allocates the greatest number of service days to that use area and bear viewing is the main activity in that area. Alternative D is the next highest; Alternative C would have the least risk. The Margaret viewing site is discussed further in the bear viewing site section below.

The level of guided brown bear hunting currently authorized on KMRD is consistent with ADF&G objectives pending final research results from the Unuk River – Bradfield Canal study. With the existing moratorium on additional guides and hunts (Scott 2009), consumptive recreational impacts to brown bears from guided hunting would remain unchanged. More emphasis was placed on black bear populations with regulatory changes made at the November 2010 Board of Game meeting. Implementing a moratorium on guided black bear hunts on KMRD is consistent with the population concerns and BOG action. The Board of Game also closed an area within ¼ mile of Margaret Creek to bear hunting in response to requests from tour guides at the Margaret bear viewing site. This had minimal effect on black bear hunting guides who generally have not used that area because of the high number of tourists.

The effects of non-consumptive recreation activities on bears, such as viewing from boats (ranging from cruise ships to one-person kayaks) and floatplanes or established bear-viewing areas have been documented. Other recreation activities such as bike riding, sightseeing, camping, hiking, picnicking, and fishing that occur in bear habitats also have an effect. Since habitat and disturbance factors are similar for both brown and black bears, I combined these species for effects analysis. Most research in Alaska dealt with brown bears, but available information on black bears support similar habitat and disturbance. I identified two concerns for bears: disturbance at key foraging areas such as grassy flats in the spring and salmon streams in the fall (Schoen and Gende 2007, Schoen and Peacock 2007, Flynn et al. 2007) and displacement of bears from bear viewing activities. Both can cause altered behavior during crucial times when bears need to amass body weight to survive (Chi and Gilbert 1999, Warner 1987a, Warner 1987b, Schoen and Gende 2007, Schoen and Peacock 2007).

Foraging:

Nutrition is the most important factor determining reproductive success in black bears since undernourished females will not successfully reproduce (Olsen 1999). Malnutrition can also affect reproduction and cause mortality in brown bear (Wittinger 1999). The importance of access to an abundant, high-quality food resource such as salmon was significantly correlated with adult female body size, reproductive success and litter size, and population density (Hilderbrand et al. 1999). Hilderbrand et al. (1999) concluded that availability of meat, particularly salmon, greatly influences habitat quality for brown bears at both the individual level and the population level. They also stated that as bears are restricted to increasingly fewer fishing sites, greater competition and risk of predation could prevent smaller bears and females with offspring from exploiting spawning salmon, which could lead to increased mortality.

Warner (1987a) found that the number of brown bear on the Brooks River, southwestern Alaska, was negatively correlated with the number of fishermen during salmon runs. Bears either left the river or learned to grab fish at the end of a fisherman's line causing safety issues. In Montana, White et al. (1999) found that brown bears disturbed by climbers in the

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

alpine spent 53 percent less time foraging, 52 percent more time moving within the foraging area, and 23 percent more time behaving aggressively, compared to when they were not disturbed. This resulted in reduced energy intake and additional energy expenditure which can in turn affect animal fitness and survival.

Crupi (2003 master's thesis) studied the effects of recreational activities on bears on the Chilkoot River near Haines, Alaska and found that brown bear activity was clearly influenced by human activity. Nearly every aspect of bear activity and foraging behavior was negatively impacted by human activity, particularly as human use at the site continued to increase. Bear activity was 40 percent greater when humans were absent and bears were frequently displaced by human activity. When humans were absent or more than 100 meters [328 ft] away, bears in their study caught almost 3 times as many fish and 71 percent more live fish (higher energy content); only sub-adult bears (lowest social order) were closer than 100 meters. Bears spent less time fishing when humans were present or, in some cases, left foraging areas in the morning and only returned in the evening after activities ceased. Bears captured more salmon with less effort during daylight hours without human presence than they did during the early morning or late evening, possibly due to better visual detection of salmon. Crupi (2003 master's thesis) concluded that if human activity continued to expand and infringe upon foraging opportunities, then decreased bear activity and population productivity could be expected.

Effects of disturbance during the denning season is more variable with some bears apparently tolerant of human disturbance although energetic costs have rarely been studied.

Bear Viewing Sites:

Habituation can have negative impacts in unregulated areas if bears associate humans with food but habituation at highly regulated viewing sites may not displace bears from foraging areas (Wittinger 1999). This was true at Pack Creek, Admiralty Island in Southeast Alaska where bears appeared to be habituated to human presence and associated humans with food (Warner 1987b). Conversely, other literature on bears is split with some studies showing bears habituate to humans and human activity whereas other studies document substantial bear disturbance and avoidance of areas with high human use and development (Chi and Gilbert 1999). They summarize additional studies which showed that when visitor numbers were unrestricted, disturbance could exceed the threshold of even the most tolerant bears. In their study at Anan Creek just north of KMRD, Chi and Gilbert (1999) found that most males fished exclusively or >75 percent of their time at the upper falls away from the viewing site; roughly half of the females fished exclusively at the upper falls, two fished exclusively at the lower falls by the viewing site and the remaining females used both falls with more use occurring at the lower falls when they had cubs. This fit with other research where males select the best habitat and females with cubs select lesser habitat to avoid the threat and competition of large males (Warner 1987a, Warner 1987b). Visitor numbers acted as a ceiling; habituated black bears at the viewing site were more tolerant of humans than non-habituated bears at the upper site, but spending less time fishing as visitor group size reached or exceeded 15 people. Social activity increased as numbers increased and loud talking further disturbed bears at the viewing site. Brown bears at Anan fished both falls, but did so before visitors arrived in the morning or after they left in the evening (Chi and Gilbert 1999). They concluded that their data documented the importance of having alternative foraging sites where bears can fish without human disturbance or distraction and recommended 1) that placing restrictions on group size, 2) establishing fixed viewing hours, and 3) screening

visitors from bears using blinds or hidden platforms could lessen disturbance impacts to bears. Crupi (2003 master's thesis) suggested implementing temporal and spatial restrictions to give bears access to secure foraging sites while providing for a safe, sustainable, high quality bear viewing program. Marshall (2008 Master's thesis) also found that bears consumed 24 percent less salmon on the Fishing Branch River, Yukon Territory, when visitors were present and spent roughly 17 percent less time fishing. Marshall also found similar bear distributions with some bears only at visitor free sites and others apparently habituated to viewers.

The results of these studies are consistent with what the wildlife biologist observed at the Margaret viewing site in Recreation Use Area 27 Margaret Bay. Bears would feed at the falls below the observation platform until they sensed tour groups approaching. At that point, many bears would move into the surrounding forest until groups left, then return to the falls after groups left. Sows with cubs were frequently seen at the lower road bridge, but since visitor use has increased and expanded to both the upper and lower bridges, I have seen, and the tour operators have reported, less bears. Margaret Creek is a short, isolated salmon stream. If bears are displaced from the creek, it may affect bear condition, reproduction, and overall size of that population. It is unknown at this point if the few bears observed in 2010 is the result of several years of increasing visitor use or weather related factors. Bears were observed more frequently during the 2011 season when higher flows may have led to more consistent salmon runs. Design criteria that limits outfitter and guide activity to the viewing platform and upper bridge provides a refuge for bears, while allowing for less crowding of tour groups at the viewing platform.

Bald Eagle

Over 90 percent of nests on the Tongass occur within the beach buffer. While legal regulations (16 USC 668-668d and 50 CFR 22.26) prohibit recreational activities within a minimum of 330 feet from nests from March 1 through August 31, research has documented recreational disturbance effects over 1,500 feet away. Therefore, alterations in eagle behavior from outfitter and guide activities in the beach/estuary fringe would still occur under all alternatives. Alternative A presents the highest risk as permits only prohibit camping within the 330 foot zone. Alternative C has the second highest risk followed by Alternatives B and D, respectively. Exceptions occur in 17 George, Carroll, Thorne and 23 Betton Island Recreation Use Areas where Alternative B would have higher risk of disturbing eagles than Alternative C.

Identified threats to bald eagles include destruction of nesting habitat and excessive nest disturbance by humans. Bald eagles may respond in a variety ways when disturbed by human activities. During the nest building period, eagles may inadequately construct or repair their nest, may expend energy defending the nest rather than tending to their young, or may abandon the nest, all of which can lead to failed nesting attempts.

Steidl and Anthony (2000) studied the effects of recreational activity on bald eagles in interior Alaska. Eagle behavior changed substantially when campers camped for 24 hours 100 meters [~330 feet or minimum required by regulation] from a nest as opposed to camps 500 meters [1,640 ft] from the nest. The camps at 330 feet caused eagles to spend 53 percent less time preening, 56 percent less time sleeping, 50 percent less time maintaining the nest, 30 percent less time feeding themselves or their young, and adults spent 24 percent more time away from the nest. Reduced prey levels can affect nestlings by limiting growth rate,

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

prolonging nestling and fledgling dates, and influence survival. Although some eagles habituate to constant noise, Steidl and Anthony (2000) found that eagles in their study did not habituate to recreational activities. Frequent, short duration trips had greater impact than stays of several days, but eagles still vocalized twice as much suggesting that while behavior was more normal, the eagles were still agitated. Steidl and Anthony (2000) theorized that relatively infrequent, repeated, short duration disturbance within the breeding territory could have cumulative effects on adults and affect developing young.

Human activities at nests that cause any of these responses and lead to injury, a decrease in productivity, or nest abandonment are considered disturbance and are thus a violation of the Bald Eagle Protection Act (USFWS 2009).

Other Species of Concern

Alternatives A, B, C, and D

Swans, Waterfowl, and Shorebirds

Duke (04) and 21 Percy, Hotspur, Mary Recreational Use Areas are designated a Special Interest Area Land Use Designation (Duke Island Zoological Area) because of the extensive numbers of waterfowl, sea birds and migratory birds using the area, nesting sandhill cranes and trumpeter swans, fragile habitat, and other unique wildlife. Special Interest Zoological Areas contain unique or significant animals, animal groups, or animal communities, habitat, location, life history, ecology, environment, rarity, or other features. These two Recreation Use areas along with 03 South Misty contain the only known nesting of the R10 Sensitive Species, black oystercatcher, on KMRD (see BA/BE for detailed discussion of black oystercatchers). As discussed below, many shorebirds and waterfowl are impacted by recreational activities. Very minimal outfitter and guide use has occurred on 04 Duke in the past and zero use on 21 Percy, Hotspur, Mary (Table 3-13), but additional use up to visitor capacity could be authorized on a case-by-case basis under Alternative A with additional NEPA. Design criteria implementing Forest Plan Standards and Guidelines are not included in existing permits thus increasing the risk under Alternative A. Alternative C would have the second greatest risk to swans, waterfowl, and shorebirds nesting and wintering in the Duke Zoological Area by allocating 50 percent of the visitor capacity to outfitter and guide activities (1,420 and 1,065 service day to 04 Duke and 21 Percy, Hotspur, Mary Recreational Use Areas, respectively). Alternative D would not allocate service days to outfitter and guides within the zoological area (04 Duke and 21 Percy, Hotspur, Mary Recreational Use Areas); therefore it would have no risk. Alternatives B would also allocate 0 service days on 04 Duke, but would allocate 639 service days on 21 Percy, Hotspur, Mary Recreational Use Areas. Therefore, Alternative B would have an intermediate level of risk to extensive numbers of waterfowl and shorebirds within the Duke Zoological Area.

Within the other recreation use areas, Alternative A currently has about the lowest service days, but could have the highest use with additional NEPA and does not implement design criteria buffers for reducing disturbance. Alternatives C generally has the second highest risk to swans, waterfowl, and shorebirds, Alternative B the third highest, and Alternatives D has the lowest risk. Disturbance from recreational activities would occur which could disrupt birds at outfitter and guide sites and lead to lowered reproduction or displacement.

Although the summering population of trumpeter swans continues to increase in Alaska, the rapidly expanding tourist industry presents an additional challenge for effective swan conservation in Alaska (Conant et al. 2007). Recreational activities, both motorized (boats, ATVs, floatplanes, and vehicles) and non-motorized, can reduce habitat availability and quality for trumpeter swans in breeding and non-breeding areas, and are thus considered significant threats (Slater 2006). Henson and Grant (1991) found that floatplanes at altitudes above 2,000 feet and passing vehicle traffic caused swans to temporarily stop activities, but did not cause incubating females to leave the nest; vehicles that stopped elicited greater disturbance responses. Pedestrian activities elicited the greatest response from incubating and brood-rearing trumpeters in their study. Such disturbances frequently led to recesses by incubating females, uncharacteristic brood movements, and significant behavioral changes. Females took longer recesses when disturbed and spent less time feeding and preening which can lead to increased nest predation rates, increased embryo mortality or retarded development due to egg exposure, changes in female energy budgets, and avoidance of otherwise suitable habitat (Henson and Grant 1991). The availability and quality of wintering habitat is one of the greatest threats to swans, but there is little information about the effects of human activities to swans on wintering grounds (Slater 2006). However, Slater (2006) stated that human activities that disturb swans on breeding grounds likely affect swan behavior on wintering grounds. Disturbances that disrupted winter foraging activities or caused frequent movements from resting areas may decrease overall condition or even cause mortality. Slater (2006) also recognized that swans in poorer condition on the wintering grounds may have higher mortality during a severe winter event or epizootic outbreaks.

Human disturbance associated with recreational activities negatively affects waterfowl and shorebirds (Gaines et al. 1993, Henson and Grant 1991, Boyle and Sampson 1985, Klein et al. 1995, Haaman et al. 1999). Effects included declining numbers of breeding pairs, increased nest abandonment, egg mortality from exposure, increased predation of eggs and hatchlings, depressed feeding rates on wintering grounds, and avoidance of otherwise suitable habitat. Conflicts often arise because shorelines, beaches, sandbars, and islands used by foraging and loafing waterbirds are also attractive to outdoor recreationists and ecotourists (Rodgers and Schwikert 2002). Over time, effects from human disturbance can result in declining waterfowl populations (Haaman et al. 1999). Most breeding waterfowl either fast entirely during incubation or depend to some extent on food resources found on the breeding grounds; these critical resources are obtained prior to egg-laying or during short feeding recesses taken during incubation; therefore disturbance may also put additional stress on an already energetically stressed females (Henson and Grant 1991). Migrating and wintering waterfowl attempt to conserve energy by minimizing flight time and maximizing foraging time. Human disturbance may force waterfowl to change food habits, forage only at night, or desert the feeding area (Haaman et al. 1999). They also reported that large flocks tended to be more susceptible to disturbance than small flocks. Similar to other studies, they documented that resident waterfowl were less responsive to human disturbance than migrants.

Multiple studies have correlated human disturbance with changes in shorebird productivity or distribution, but few have identified the mechanisms through which reproductive failure might occur or quantify the impacts (Carney and Sydeman 1999). Boyle and Sampson (1985) reported disruption of shorebird breeding and/or movement to lower quality habitat from beach and shore recreationists. Carney and Sydeman (1999), however, documented

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

more variable effects. Many shorebirds, such as fulmars, cormorants, gulls, terns, and pelicans, exhibited substantially reduced breeding success whereas other species such as albatrosses and shearwaters showed little to no effect or became habituated to repeated human presence. Haaman et al. (1999) found similar results with recreational activities leading to flushing from nesting habitat, degraded shoreline habitat from vegetative trampling and boat wake, decreased foraging time due to displacement, nest abandonment, and increases in chick mortality. Chatwin (2010 master's thesis) studied off shore disturbance from motor boats and kayaks and found that most seabird species were not disturbed if boats and kayaks remained at least 70 meters [230 ft] offshore. However, Chatwin (2010 master's thesis) re-confirmed that surface-nesting seabirds are particularly vulnerable to land-based disturbance and recommended that viewers not go ashore at seabird nest or roost sites. Conversely, studies of impacts of motorboats and personal watercraft by Rodgers and Schwikert (2002) showed that buffers of 150 meters [~500 ft] were necessary to prevent flushing, nest abandonment, or other altered behavior.

Hérons

Alternative A could increase from the lowest overall service days to the highest and does not implement design criteria. Current permits do not contain Forest Plan buffers for reducing disturbance. Therefore, it has the highest risk to heron persistence. Of the action alternatives, Alternative C would have the greatest potential risk since it generally allocates the greatest number of service days followed by Alternatives B and D, respectively.

Research has shown that great blue herons are negatively affected by human disturbance, particularly during breeding and fledgling periods (Carlson and McLean 1996, Butler and Baudin 2000, Carney and Sydeman 1999, Boyle and Sampson 1985, Gains et al. 2003). Human activity near the rookery can cause breeding failure and limit the maintenance of heron populations. The number of fledglings raised in heron colonies with frequent human disturbance was substantially lower than at colonies with no disturbance (Butler and Baudin 2000, Carney and Sydeman 1999). Vennesland (2010) found some instances of seasonal habituation in British Columbia where herons became less responsive to very low levels of human disturbance as the nesting season progressed, but response was stronger the following year indicating that habituation did not hold between nesting periods. They cautioned that their results should not be applied to larger group disturbance and that other studies where herons were apparently habituated to human presence still had lower nesting success than areas without disturbance. Carney and Sydeman (1999) assert that wildlife photographers and viewers can be particularly disruptive since they approach birds in the colony and spend more time in close proximity; other activities such as hiking are potentially less disruptive if they are further away and/or involve less time, but may also be less predictable and tend to occur during the summer breeding season.

Peregrine Falcon

Alternative C would allocate 50 percent of the visitor capacity of 04 Duke Island to outfitter and guides and have the greatest potential risk to peregrines on Duke Island since it is a remote setting and birds are not habituated to human disturbance. Alternative A has the second highest risk; minimal outfitter and guide activity has occurred in the past and it is unlikely many case-by-case permits would be approved given the cultural significance of the island. Alternatives B and D have no risk as they do not permit outfitter and guide use (zero service days allocated).

Peregrine falcons were observed on Duke Island in summer/fall of 2010. According to Cooper and Beauchesne (2004) and White et al. (2002) peregrine falcons show a range of tolerance to disturbance. Those that nest in more urban areas tolerate noise whereas those in more remote areas are more subject to human disturbance particularly during the breeding season.

Osprey

Alternative A generally has the least amount of service days. However, it could have the highest use and would not implement design criteria buffers for reducing disturbance. Alternative C would have the next greatest risk followed by Alternatives B and D, respectively.

Osprey frequently adapt to human activities, but any disturbances which keep adults from their nests in May or June may cause the eggs or young nestlings to become chilled and die (Van Daele 2008). Levenson and Koplun (1984) concluded where possible, human activity (including recreational use) near nesting ospreys should be minimized and not initiated after ospreys have commenced nesting.

Endemic Small Mammals

Alternative A currently has the least amount of service days, but has the potential to increase the most on a case-by-case basis. Alternative C would have the greatest potential risk of the action alternatives since it generally allocates the greatest number of service days followed by Alternatives B and D.

Studies of recreation impacts on small mammals are uncommon and are limited mainly to rodents and bats (Tempel et al. 2008). They further summarized research from multiple authors showing that because of their smaller home ranges, small mammals can be affected by localized recreation impacts on vegetation and soils. The southern red-backed vole (*Myodes gapperi solus*) is the only endemic species reported to occur within the project area. They are nocturnal so foraging normally occurs when most recreational activities, other than camping, are absent. No outfitter and guide activities that would cut or remove habitat for endemic species would be authorized in permits issued under the Record of Decision for this project. However, some trampling of vegetation would occur from human use and tent placement which could affect the dense understory cover preferred by the voles. Limited firewood use could remove some of the down wood preferred by voles, but impacts would be isolated to limited areas. Individuals could be temporarily disturbed by intermittent human presence and noise or displaced by trampling and campsites, but these impacts would be confined to a fraction of the total habitat available across KMRD. Therefore, potential impacts to endemic species would be limited within the proximity of specific outfitter and guide use sites.

Migratory Birds

Alternatives A, B, C, and D

Alternative A has the least amount of total service days currently, but has the potential to increase the most on a case-by-case basis with additional NEPA. Alternative C has the second greatest risk followed by Alternatives B and D, respectively.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Migratory birds would be most susceptible to disturbance from recreational activities occurring during the nesting/fledging period which generally begins in mid-April and ends about mid-July when young birds have fledged. This overlaps with spring and summer recreational use seasons, so disturbance is possible during sensitive breeding periods. The magnitude of effects would likely vary depending on the individual bird species. Haaman et al. (1999) summarize studies showing that recreational activity may disrupt breeding activity and displace birds.

Cumulative Effects

Alternatives A, B, C, and D

All Wildlife Species

Cumulative effects result from the incremental impact of the outfitter and guide activities added to other relevant past, present, and reasonably foreseeable future actions.

The wildlife biologist considered the complete list of projects identified as having potential cumulative effects and selected those that related to recreational disturbance of wildlife. From the general and species specific research findings in direct effects, cumulative disturbance effects are similar for all species (i.e.: behavioral, physiological, disruption, or abandonment). Therefore, the biologist combined the species together for cumulative effects analysis.

Cumulative effects relevant to wildlife include guided and unguided recreational activities on KMRD within the overall visitor capacity (147,923 service days), winter recreational use, recreational use on non-NFS ownerships within the KMRD analysis boundary, flight-seeing tours and marine based tours not within Forest Service jurisdiction, and consumptive use of wildlife. Since visitor capacity is the same for all alternatives, cumulative effects would not vary by alternative. The amount of unguided and unregulated use cannot be quantified as not all residents or visitors engage in outdoor recreational activities.

Unguided persons engaging in floatplane landing tours, freshwater fishing, hiking, beach activities, sightseeing, wildlife viewing at developed sites, camping, and road-based activities would have disturbance effects similar to those analyzed for outfitter and guides, but cumulative effects would add to the amount of disturbance and the area affected. A greater number of animals would be disturbed by recreationists since generalized outfitter and guide locations could also receive use from the general public and additional areas along the beach, roads, trails, lakes, and streams receive use based upon recreation monitoring. In addition to direct disturbance of individuals, unguided use would cause additional trampling and other site disturbance further reducing the quality and/or quantity of available habitat. Additional impacts to wildlife populations would occur from similar activities on non-NFS lands. For marine-based species, all non-NFS related activities are part of or add to acoustical disturbance and potential temporary displacement of whales and sea lions and other marine species.

Unregulated activities such as flightseeing and marine based sightseeing/viewing tours would have a greater potential for disturbing mountain goats, bears, waterfowl, and shorebirds since they are only regulated by safety regulations and not on how far they have to remain from wildlife. They are prohibited by federal regulation from approaching or impacting marine

mammals or nesting bald eagles although enforcement personnel are limited. Tours in Misty Fjords and more specifically Rudyerd Bay could impact seabird colonies.

Consumptive use of wildlife (i.e.: hunting and trapping) would reduce wildlife populations, but are levels are regulated by ADF&G Board of Game and the Federal Subsistence Board to maintain sustainable population levels. Any conservation concerns would be addressed by emergency closure order or regulatory changes.

Winter recreational activities can overlap outfitter and guide use seasons and have the potential to impact wildlife when energy reserves are critical to survival. Research was included under direct effects where available since wildlife lifecycles do not correlate to the recreational use seasons. Outfitter and guide requests for the winter season would require separate NEPA before a permit could be issued. Impacts to wildlife would be analyzed based on the specific proposal. Unguided use such as snowmobiling on KMRD or adjacent non-NFS lands has a high probability of disturbing wildlife and causing additional energy expenditure from fright/flight response. This could reduce overall condition of the animal and affect reproductive success the following year or lead to mortality.

Activities such as commercial fishing may occasionally disturb shorebirds or waterfowl, but this would be minimal to their overall operation and more likely to occur at anchorages or during recreational breaks. Charter boat fishing would potentially have a greater effect as sightseeing and viewing could be included in the activity as opportunities occurred. Effects would be similar to other boating effects described in direct effects. Distance maintained from shorebird colonies or other species of interest would depend upon safety considerations not regulation.

Subsistence Uses

Affected Environment

In Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA), subsistence is defined (in part) as “the customary and traditional uses by rural Alaska residents of wild renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation” (ANILCA Sec. 803). ANILCA Section 804 states “... the taking on public lands of fish and wildlife for non-wasteful subsistence uses shall be accorded priority over the taking on such lands of fish and wildlife for other purposes.”

Subsistence issues identified during public scoping were centered mainly on social impacts, addressed under Recreation in this EIS. Encounter monitoring information provides an idea of the number of social encounters a visitor can expect to experience in an area and can be used to monitor social conditions across KMRD.

This section focuses on evaluating the potential effects on subsistence uses and needs.

ANILCA Title VIII, Sec. 802 (1) states

“...consistent with sound management principles, and the conservation of healthy populations of fish and wildlife, the utilization of the public lands in Alaska is to cause the least adverse impact possible on rural residents who depend upon subsistence uses of the resources of such lands. ”

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

ANILCA Title VIII, Sec. 810 states:

“In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands under any provision of law authorizing such actions, the head of the Federal agency having primary jurisdiction over such lands or his designee shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. ”

An ANILCA 810 analysis commonly focuses on those food-related resources most likely to be affected by habitat degradation associated with management activities and addresses three factors related to subsistence uses: 1) access to resources; 2) resources distribution and abundance; and 3) competition for the use of resources. The evaluation determines whether subsistence uses within the project area or portions thereof may be significantly restricted (FSH 2090.23). This evaluation shall, at a minimum, address whether or not there is likely to be:

- A reduction in subsistence uses due to factors such as direct - impacts on the resource, adverse impacts on habitat, or increased competition for the resources.
- A reduction in the subsistence uses due to changes in availability of fish and wildlife resources caused by an alteration in migration or location.
- A reduction in subsistence uses due to limitations on the access to harvestable resources, such as by physical or legal barriers.

The evaluation determines whether subsistence uses within the project area are significantly restricted by any of the proposed alternatives. The Alaska Land Use Council defines a significant restriction on subsistence uses as:

“A proposed action shall be considered to significantly restrict subsistence uses if, after any modification warranted by consideration of alternatives, conditions, or stipulations, it can be expected to result in a substantial reduction in the opportunity to continue uses of renewable resources. Reductions in the opportunity to continue subsistence uses generally are caused by: reductions in abundance of, or major redistribution of resources; substantial interference with access; or major increases in the use of those resources by non-rural residents.”

Wildlife

In terms of wildlife, subsistence use of the following terrestrial wildlife species occurs within the project area: deer, moose, black and brown bear, furbearers, small game, and waterfowl. These species were considered in this analysis. Deer are of major importance as a subsistence resource in Southeast Alaska; deer hunting is not allowed as a guided use except as allowed under state regulations as a lesser species. The Forest Plan FEIS provides a comprehensive analysis of subsistence resources and potential effects, both Tongass-wide and for each rural community of Southeast Alaska. Under full implementation of the Forest Plan, the only subsistence resource that maybe significantly restricted in the future is subsistence use of deer (USDA Forest Service 2008c). See the wildlife section of this EIS for additional information on existing conditions related to wildlife.

Fisheries

Subsistence and personal use harvest of fishes occurs in both marine and freshwater environments. The state of Alaska manages all personal use and saltwater subsistence harvest, and the Tongass National Forest regulates the subsistence harvest of fishes within the freshwaters of its jurisdiction.

There are known personal use and subsistence harvest areas in freshwaters within the analysis area. The areas are located within Recreation Use Areas 03 South Misty, 08 Burroughs Unuk, 12 Bell Island, 16 Ketchikan Core SPNW and 28 Naha Bay. These areas have the highest potential to be adversely affected by guided use sport fishing.

Sockeye salmon are the species harvested the most in subsistence and personal use fisheries in the Ketchikan area. The majority of harvest occurs under the Alaska Department of Fish and Game (ADF&G) administered subsistence and personal use fisheries. There is little subsistence or personal use harvest of coho salmon, trout and Dolly Varden across KMRD (ADF&G unpublished data). Harvest of eulachon occurs in both salt and freshwaters and is administered through state and federal regulations.

Environmental Consequences

Direct and Indirect Effects

Access

Section 811(a) of ANILCA requires that

“...rural residents engaged in subsistence uses shall have reasonable access to subsistence resources on the public lands.”

As an independent subsistence access provision, Section 811(b) states

“Notwithstanding any other provision of this Act or other law, the Secretary shall permit... snowmobiles, motorboats, and other means of surface transportation traditionally employed for [subsistence] purposes by local residents, subject to reasonable regulation.”

Alternatives A, B, C, and D

See the Recreation section for discussion of recreation use levels and Highly-valued Local Areas.

KMRD completed an Access and Travel Management analysis with a Decision Notice on July 11, 2008. All alternatives in this project will follow and implement the road, trail, and area decisions in that decision notice. Access to Forest Service administered lands follows the KMRD Access and Travel Management Plan decision and its impacts to subsistence uses and activities were analyzed at that time. This EIS does not alter that decision.

In some areas, transporters (essentially, point to point charter transportation by boat, plane, or other vehicle) may be employed by subsistence users to access hunting or fishing sites. On KMRD, there is no known transporter use to gather subsistence resources. If someone chose

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

to use a transporter, the Forest Service would consider them unguided users since transporters would not be regulated by this decision. Thus, access for people transported to areas on KMRD would not change (see the Glossary in Chapter 4 for more information on transporters).

Generally, guided and unguided use tends to be concentrated in accessible areas with particularly attractive features or recreation opportunities. Use is concentrated along accessible shorelines, river and stream bottoms, and around subalpine and alpine lakes and neighboring areas (USDA Forest Service 2008c). Use patterns are also associated with protected boat anchorages, boat landings, and aircraft landing sites. Access is primarily via floatplane and motorized boat. Guided and unguided use is concentrated during the summer months, when weather is most conducive to forest use.

Nothing in this analysis will change how federally qualified subsistence users access subsistence resources. Access will remain the same because this analysis does not close roads and trails, or eliminate docks and buoys. No changes in physical access (by foot, boat, vehicle, and ATV) will occur under any alternative. Subsistence access would still be available and would not be restricted. Outfitters and guides permitted to use Forest Service docks and buoys do not have exclusive use or access.

Wildlife

Since this EIS would not alter the KMRD Access and Travel Management Plan decision, there would be no change in access for wildlife subsistence resources.

Fisheries

Access to fisheries resources by subsistence users would not be affected by this NEPA decision. Access to Forest Service administered lands follows the KMRD Access and Travel Management Plan decision and its impacts to subsistence uses and activities were analyzed at that time. This EIS does not alter that decision.

Distribution and Abundance

Alternatives A, B, C, and D

Wildlife

While disturbance could result in shifts in wildlife use patterns at specific outfitter and guide locations, these are not expected to be substantial enough to affect overall wildlife, and more specifically deer distribution at the Community Use, Wildlife Analysis Area (WAA) or Game Management Unit (GMU) level.

Habitat alteration from ground disturbance would be limited to trampling by feet, tent footprints, and human waste disposal (DEIS, Chapter 2) and would not affect overall habitat capability or wildlife abundance.

Consumptive uses of wildlife are regulated by the Federal Subsistence Board and the Alaska Board of Game. By including the Subsistence Board and Board of Game decisions, this document will maintain abundance of wildlife for subsistence across KMRD.

Fisheries

Distribution of trout, salmon and char would not be affected by guided use. Recreational activities authorized under special use permits are not ground disturbing and would not affect fisheries in a manner to alter their distribution across the project area.

Guided users and subsistence users can target the same resource, especially salmon. Across the analysis area measurable impacts to the abundance of trout, salmon and char from guided use would not occur. Therefore, guided use would not affect fisheries subsistence resources in terms of abundance. For example, reported harvest of sockeye by permitted outfitters and guides was less than 10 during the period 2005-2009. Approximately 9,000 sockeye were harvested in the same period by subsistence and personal use individuals.

Alternative A has the lowest number of service days for outfitters and guides, thus, would be the best alternative for maintaining the subsistence resource abundance. Alternative D includes lower guided allocations in those areas that were mentioned as important to subsistence use so it is the most advantageous for wildlife and fisheries subsistence abundance of the action alternatives. Alternative B has the next lowest allocation of guided visitors and Alternative C has the highest allocation.

Competition

Alternatives A, B, C, and D

Competition from a social interaction standpoint could occur between rural subsistence users and outfitters and guides at beach locations or other key access points, such as alpine lakes. Social interactions are discussed in the Recreation section of this EIS.

Wildlife

Of all subsistence species important to local residents, competition for resources with guided users is most likely to occur for species that are commonly targeted by hunting. Guided deer hunting will not be authorized in any alternative except as allowed under state regulations as a lesser species. This should minimize the effect outfitters and guide activities have on this important species. Consumptive uses of wildlife are regulated by the Federal Subsistence Board and the Alaska Board of Game. With the implementation of mountain goat, brown, and black bear design criteria on hunts on KMRD under this EIS, there would be minimal change in competition between rural and non-rural hunters for terrestrial wildlife resources.

Fisheries

Competition for salmon could occur, however; the above sockeye example shows the risk of competition is relatively low.

Should significant competition for resources occur, subsistence activities would have priority over other uses, as defined in ANILCA, and adaptive management, or if needed, regulatory mechanisms, would be utilized to resolve the conflict.

Cumulative Effects

Alternatives A, B, C, and D

Wildlife and Fisheries

Federal Subsistence regulations only apply to federal lands. Therefore, cumulative effects would be similar to direct effects. There are no anticipated significant impacts to abundance or distribution of wildlife or fisheries resources, nor to competition for or access to wildlife or fisheries subsistence resources. Based on no anticipated impact to abundance, distribution, access and minimal risk for competition, Alternatives A, B, C and D would not negatively impact subsistence and subsistence resources. However, it is acknowledged outfitted and guided recreational activities have the potential to negatively affect subsistence fisheries activities in terms of social encounters.

ANILCA 810 Subsistence Determination

This project will not result in a significant possibility of a significant restriction on subsistence use of any subsistence resources.

ANILCA 810 and 811 Access to Resources

Established modes of access (by foot, boat, vehicle, and ATV) would remain available under all the alternatives since this project does not close roads, trails, or eliminate docks or buoys.

Botany

Affected Environment

Vegetation present in the project area is diverse. The elevation ranges from sea level to alpine, at approximately 2,500 feet. Vegetation is characterized by the abundance and movement of water. Well drained surfaces support coastal temperate rainforest while poorly drained surfaces support wetlands (Schoen and Dovichin 2007). A variety of habitats are present within the project area.

This analysis addresses sensitive plant and lichen species (USDA 2009), rare plants, and invasive plants. It tiers to the Biological Evaluation for Sensitive Plants and Lichen, Invasive Plant Risk Assessment, and Botany Resource Report in the Project Record for this project. It is assumed general vegetation would be impacted by guided use.

Botanical field surveys with various intensity levels have occurred in scattered locations across KMRD. The national database Natural Resource Information Systems (NRIS) is the record for all botanical surveys and sensitive plant and lichen, rare plant, and invasive plant occurrences on the Tongass National Forest. All surveys were conducted by qualified botanists familiar with the flora of Southeast Alaska. Not all surveys were conducted at a time suitable for all species identification. As of November 11, 2010, 1,725 acres of KMRD have been examined in 231 surveys for sensitive and rare plants and/or lichen. Most of these surveys occurred within areas proposed for timber sales. Ninety-nine surveys for invasive

plants have been documented on the KMRD. Most of these surveys occurred along roadways or in areas of human disturbance.

During the summer of 2010, fourteen outfitter and guide sites were surveyed or monitored for sensitive species, rare plants, and invasive plants. Surveys were general in intensity level, completed at the appropriate time of year for identifying species, and conducted by a botanist familiar with the flora of Southeast Alaska.

Permits are not for a specific location, but are open-ended, and allow outfitter and guides the discretion and flexibility to visit any location within and around the outfitter and guide site and/or use area. Specific information on use, like frequency of visit, number of service days per site, and type of use is not reported. Guided groups may use several locations in a day, but are required to report only one use location. Therefore it can be assumed outfitters and guides are visiting more sites than those reported.

Only reported outfitter and guide use sites were analyzed for overlap with known sensitive species, rare plants, and invasive plant occurrences, and served as the direct and indirect effect analysis area. These 206 sites are listed in the GIS Outfitter and Guide Use point shapefile and are shown on Recreation Use Area Cards.

The entire KMRD served as the cumulative effects analysis area.

Threatened and Endangered Plants

Threatened and endangered species are those listed in accordance with the Endangered Species Act of 1973. No federal or state listed threatened, endangered, or proposed species are known to occur on the Tongass. The only federally listed plant by the U.S. Fish and Wildlife Service in Alaska is the Aleutian shield fern (*Polystichum aleuticum* C. Christensen). Listed as endangered, it is only known from Adak Island in the Aleutian Island chain and is not expected to occur in the Tongass. No formal consultation is required. The Aleutian shield fern will not be addressed any further in this document

Sensitive Plants and Lichen

Sensitive species are defined as those plant species whose population viability is a concern, as evidenced by: 1) current or predicted downward trends in population numbers or density; and, 2) current or predicted reduction in a species existing distribution (FSM 2670.5.19). These are protected by USDA Forest Service regulations and manual direction. There are seventeen plants and one lichen species on the Alaska Region's Sensitive Species List (2009). For the remainder of this analysis, sensitive plants and lichen will be referred to as sensitive plants. Of these eighteen species, five are documented and known to occur on the KMRD and six are suspected to occur based on the presence of suitable habitat in the project area (Table 3-14). The seven species that are not known or suspected to occur within the project area will not be discussed further.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Table 3- 14) Potential Sensitive Plant and Lichen Habitat within the Project Area

Plant Name Scientific Name Common Name	Species documented in Project Area (found in KMRD)	General Habitat															
		Upper beach meadow	Well drained open areas	Beach/ forest ecotone	Forest edge	Forest	Open forest	Streamside, riverbank	Bog	Heath	Dry meadow	Wet meadow	Alpine and subalpine	Talus slopes	Rock outcrop	Ultramafic	Estuaries
<i>Botrychium spathulatum</i> spatulate moonwort		X	X										X				
<i>Cirsium edule</i> var. <i>macounii</i> edible thistle	X										X		X	X			
<i>Cypripedium montanum</i> mountain lady's slipper		X		X			X										
<i>Cypripedium parviflorum</i> var. <i>pubescens</i> Large yellow lady's slipper									X		X	X					
<i>Ligusticum calderi</i> Calder's loveage					X						X	X	X				
<i>Lobaria amplissima</i> Lichen, no common name	X			X													
<i>Piperia unalascensis</i> Alaska rein orchid	X						X	X	X	X							X
<i>Platanthera orbiculata</i> Lesser round-leaved orchid	X				X	X	X		X								
<i>Polystichum kruckebergii</i> Kruckeberg's swordfern	X													X	X	X	
<i>Sidalcea hendersonii</i> Henderson's checkermallow		X		X													X
<i>Tanacetum bipinnatum</i> subsp. <i>huronense</i> dune tansy		X															

Within the project area, approximately 133 sensitive plant and lichen populations are documented. These populations occupy approximately 13 acres of the entire project area. Thirty populations occur within 1 mile of known outfitter and guide sites. None of these known occurrences coincide with reported existing recreation use sites.

Four populations of *Cirsium edule* var. *macounii* have been documented in Misty Fiords Wilderness, all at high elevations. During the summer of 2010, a known population was revisited. This population occurs within a quarter mile of a documented outfitter and guide recreation site in Recreation Use Area 06 Misty Core Lakes. The site was heavily trampled.

No plants were found. In at least one location, recreation use appeared to have affected one population of sensitive plants.

Rare Plants

Rare species are vascular plants:

- 1) ranked by the Alaska Natural Heritage Program to be vulnerable to extirpation from the state (AKNHP 2008);
- 2) are known or suspected to occur within the proposed project area;
- 3) determined to be rare on the Tongass National Forest and not yet given a state ranking;
- 4) have population viability concerns on the Tongass, but are not on the sensitive plant list; and,
- 5) have been or are being raised as an issue because of rarity or conservation concerns.

The AKNHP Vascular Plant Tracking List contains 354 species (2008). Only the 21 plant species considered to be rare and documented to occur within the project area will be analyzed further (Table 3-15). One species suspected in the analysis area, *Cirsium brevistylum*, is addressed as rare. Three conifers designated rare by the Forest Plan are also included in this analysis: *Abies lasiocarpa*, *Abies amabilis*, and *Taxus brevifolia*.

Table 3- 15) Rare Plants Present or Suspected Within the Project Area

<i>Abies amabilis</i> (Pacific silver fir)	<i>Lobelia dortmanna</i> (water lobelia)
<i>Abies lasiocarpa</i> (subalpine fir)	<i>Lonicera involucrata</i> (twinberry honeysuckle)
<i>Ambrosia chamissonis</i> (silver burweed)	<i>Maianthemum stellatum</i> (star-flowered false Solomon's seal)
<i>Asplenium trichomanes</i> (maidenhair spleenwort)	<i>Mimulus lewisii</i> (Lewis' monkeyflower)
<i>Brasenia schreberi</i> (water shield)	<i>Monotropa uniflora</i> (indian pipe)
<i>Cirsium brevistylum</i> (short-styled thistle)	<i>Poa laxiflora</i> (lax-flowered bluegrass)
<i>Galium kamtschaticum</i> (boreal bedstraw)	<i>Schoenoplectus subterminalis</i> (water clubrush)
<i>Glyceria leptostachya</i> (davu mannagrass)	<i>Taxus brevifolia</i> (Pacific yew)
<i>Isoetes occidentalis</i> (Western quillwort)	<i>Tiarella trifoliata</i> var. <i>lacinata</i> (cut-leaved foamflower)
<i>Lactuca biennis</i> (tall blue lettuce)	<i>Viola sempervirens</i> (evergreen violet)
<i>Listera convallarioides</i> (broad-leaved twayblade)	

Within the project area, approximately 123 rare plant populations are documented. These populations occupy approximately 15 acres of the entire project area. Eighteen populations occur within 1 mile of known outfitter and guide sites. These species are found in many

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

types of habitats including lake, pond, and stream edges, beaches, moist old-growth forest, subalpine, and alpine sites. Suitable habitat for known rare plants is present throughout the project area; rare species may occur at unsurveyed existing and future outfitter and guide use sites. Similar to sensitive plants, with little information available, it is unknown what effects guided use is having on rare plants and/or their suitable habitats

Invasive Plant Species

For this analysis, an invasive species is non-native, aggressive, difficult to manage, and successful at reproduction. Appendix C of the Invasive Plant Risk Assessment for this project (Project Record) lists the Tongass National Forest High Priority Invasive Species targeted for control on the Forest. Rank is based on the Invasiveness Ranking System for Non-Native Plants of Alaska (USDA 2008d). The ranking process takes into account ecosystem impacts, biological attributes, distribution, and control measures. The more invasive a species is, the higher the ranked score.

There are over 3,000 invasive plant occurrence records within the project area. Nearly 2,230 of these records are documented within 1 mile of an outfitter and guide recreation site. Most of these occurrences are presence/absence data and do not depict the actual spatial extent of the infestations. Some of these documented occurrences occur outside of NFS Lands. These records are retained because of their proximity and the potential for dispersal onto NFS lands.

Tongass National Forest High Priority Invasive species are located throughout the project area. Some populations are located in areas that receive high service day use. Seven hundred twenty-two of the documented occurrences are Tongass National Forest High Priority invasive plants. At this time, no invasive plant populations are continuously being treated on a yearly basis. Table 3-16 depicts which Tongass National Forest High Priority invasive plant species are documented within the project area.

Table 3- 16) High Priority Invasive Plant Species Documented Within the Project Area

Scientific Name	Common Name	Rank 0-100 (low-high) ¹
actively controlling these plants where feasible		
<i>Cirsium arvensis</i>	Canada thistle	76
<i>Cirsium vulgare</i>	bull thistle	61
<i>Hieracium aurantiacum</i> and <i>Hieracium caespitosum</i>	orange hawkweed, devil's paintbrush and meadow hawkweed	79
<i>Hieracium lachenalii</i>	Common hawkweed	Not Ranked
<i>Senecio jacobaea</i>	Tansy ragwort	63
<i>Sonchus arvensis</i> ssp. <i>uliginosis</i>	Perennial sowthistle	73
<i>Polygonum cuspidatum</i> Sieb & Zucc.	Japanese knotweed	87
actively controlling these plants <i>only in certain locations</i>		
<i>Crepis tectorum</i>	narrow-leaf hawk's beard	54
<i>Leucanthemum vulgare</i>	oxeye daisy, white daisy	61
<i>Melilotus alba</i> Medikus	white sweetclover	80
<i>Melilotus officinalis</i>	yellow sweetclover, king's crown	65
<i>Phalaris arundinacea</i>	reed canarygrass	83
<i>Tanacetum vulgare</i>	common tansy	57

¹ USDA 2008d

Recent surveys detected invasive plant species at five of the fourteen outfitter guide locations surveyed in 2009 (see Table 3-17). New infestations of weeds were found at two of these five sites.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Table 3- 17) 2010 Surveys of Outfitter and Guide Recreation Use Sites Within the Project Area

Recreation Use Area	Outfitter and Guide Recreation Site	Recreation Permitted Guided Use	Invasive Plant Species Detected*
06	Big Goat Lake Cabin	Floatplane landing	<i>Plantago major</i> New infestation since 2009 site visit
16	Brown Mountain Road	Remote nature viewing	<i>Digitalis purpurea</i> , <i>Hieracium aurantiacum</i> , <i>Hypochaeris radicata</i> , <i>Leucanthemum vulgare</i> , <i>Phalaris arundinacea</i> , <i>Poa annua</i> , <i>Plantago major</i> , <i>Ranunculus repens</i> , <i>Trifolium repens</i> , <i>Taraxacum officinale</i>
09	Manzanita Dispersed Campsites	Kayaking, camping	<i>Plantago major</i>
10	Checats Trailhead	Hiking	<i>Plantago major</i>
27	Margaret Bear Viewing Platform	Remote nature viewing, hiking, transport	<i>Digitalis purpurea</i> , <i>Hypochaeris radicata</i> , <i>Leucanthemum vulgare</i> , <i>Phalaris arundinacea</i> , <i>Poa annua</i> , <i>Plantago major</i> , <i>Ranunculus repens</i> , <i>Trifolium repens</i> , <i>Taraxacum officinale</i> Three new infestations since 2008 site visit

*Bold denotes high priority invasive plant species

Surveys at Big Goat Lake Cabin and Margaret Bear Viewing platform found new invasive species infestations not documented in previous surveys. The survey of Manzanita dispersed campsite found an invasive species at a site that had never been surveyed before. These data indicate the presence of vectors at each of these recreation sites that are introducing invasive species.

Environmental Consequences

Sensitive and Rare Plants

Direct and Indirect Effects

This document analyzes impacts to vegetation in the preferred general habitats that are suitable for sensitive plants and lichen and rare plant species. Each action alternative increases service day allocations without field verification for presence/absence of sensitive or rare plants. KMRD permit administrators would not authorize outfitter and guide use in the area occupied by any known sensitive or rare plant population, unless approved by the KMRD botanist.

Potential direct and indirect effects to undocumented sensitive or rare plants and/or their suitable habitats from the activities associated with guided recreation use include (de Gouvenian 1996, Knight, et al. 1995, Leung and Marion 2000, Marion 1991):

- **Trampling, crushing, or uprooting** as a result of hiking, walking, camping, or turbidity from floatplanes or motorboats can cause physical damage, injury, or death to individual plants or habitats. When a plant is injured, its viability is compromised. A plant's ability to optimally produce food, store food, reproduce, compete for nutrients, counter pests and herbivory, all contribute to viability. Depending upon the growth form of the plant, or the habitat it occurs within, some plants are more vulnerable to injury than others.
- **Unauthorized vegetation cutting or removal** as a result of firewood collection, campsite creation, trail creation, and/or keepsake/memento collection. These actions can cause physical damage, injury, and/or death to the sensitive plant, thus compromising the viability of the individual. Modifications to trees can result in a loss of habitat and/or death for the sensitive lichen.
- **Invasive species introduction** as a result of transport of reproductive material, mainly inadvertently and unknowingly. Introduction and establishment of invasive species by unknowingly transporting and releasing non-native reproductive and vegetative material into pristine habitats leads to competition for resources between native and non-native species. Non-native species have a higher likelihood of surviving due to the lack of herbivores, available niche, favorable growing conditions, lack of endophytic fungi, and the increase of suitable, disturbed habitat.
- **Vegetation composition alteration** as a result of a disturbance. Disturbance is a temporary change in environmental conditions resulting in a change in ecosystem conditions. A natural disturbance is caused by nature, such as an avalanche or wind throw event. An artificial disturbance is caused by man, such as trail construction, logging, or campsite establishment. There are many actions that are considered disturbances, such as invasive species introduction, changes in soil composition, loss of vegetation. Some plant species favor disturbances. While other plant species favor old growth conditions lacking disturbance. When vegetation composition changes, the habitat type present at a site also changes.
- **Hydrologic pattern alteration** as a result of trampling, hiking, and/or camping. Changes in the hydrologic pattern by way of redirecting water flow, reducing or increasing site moisture levels, and/or changes in water levels can affect the availability of water for plant growth and functions.
- **Solar exposure alteration** as a result of vegetation composition changes. Changes in vegetation composition by loss of canopy species or conversion of vegetation type can result in the opening or closing of the canopy. Changes in canopy cover results in increased or decreased solar exposure. The viability of plants is directly related to amount of sunlight and/or shading.
- **Inorganic composition alteration** as a result of camping, hiking, and/or unauthorized collection. Changes in inorganic composition by the movement and/or modification of abiotic features, such as rocks and minerals, can affect plant viability. Some plants grow directly on rocks or from cracks in rocks.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

- **Soil alteration** as a result of trampling. Changes in the physical and/or chemical characteristics of soil, including aeration, moisture, strength, temperature, nutrient availability, and microorganisms, can affect plant root growth and functions. (de Gouvenian 1996)
- **Organic litter alteration** as a result of firewood collection and/or pulverized from trampling. Changes in physical presence and/or spatial distribution of litter can affect plants relationships with beneficial microorganisms. The viability of some plants depends on the presence of their mutualistic fungi. Decomposers release nutrients back into the soil. Without these species, nutrient availability at a site decreases.
- **Air quality alterations** as a result of pollution from aircraft or watercraft. Changes in air quality from an increase in dust, gases, or fumes are toxic to some lichen species over time.
- **Water quality alterations** as a result of soil erosion, fecal matter contamination, pollution from watercraft or floating aircraft. Changes in the quality of freshwater by increases in organic matter content, or amount of soluble free oxygen can affect the viability of submerged aquatic plant species. These changes are also referred to as eutrophication.

The intensity of the impact to the vegetation at a site is directly related to the type of recreation use a site receives. Hiking and camping are the recreational activities most likely to impact sensitive and rare plants. Hiking is a component of hunting, freshwater fishing from a shoreline, remote nature viewing, road-based nature tours, and floatplane landing tours. Camping is a component of hunting, fishing, and remote nature viewing.

The susceptibility to disturbance or durability of the vegetation can influence the accommodation of recreation use a site receives. The resilience and resistance of an individual plant species is dependent on its morphology and habitat. Each species and habitat has a different threshold to disturbances before impacts occur. Some plant species and their habitats are more vulnerable, while others are more hardy or quick to recover.

Habitats dominated by non-woody plants are more susceptible to impacts from trampling. It takes fewer service days before vegetation cover decreases than habitats dominated by shrubs. Upland habitats dominated by short grasses are the least susceptible to impacts from trampling. Characteristics of plants that promote resistance to trampling include short stature, large size, tufted or bunched habits of growth, stems that are woody or wiry and flexible, and leaves that are tough and/or growing in basal rosettes (Cole and Trull 1992).

The first few visits to a dispersed recreation site result in the majority of cumulative disturbance to plant and soil communities (Monz 1998). Amplitude of use (the amount of use and duration of use a site receives) can have a direct relationship with the amount of impacts a site receives. Increase in the amount of use an individual site receives increases the likelihood of impacts. Increasing the size of a group at an individual site increases the likelihood of impacts. Outfitters and guides are encouraged to follow Leave No Trace principles (LNT 2008). LNT recommends dispersing use before impacts to vegetation are visible. Outfitter and guides often visit the same sites annually. Accumulation of concentrated use can negate the effects of Leave No Trace on fragile sensitive and rare species habitats.

Alternatives B and C could lead to guided use in areas where there has been very little or no guided use in the past. Based on the trends of outfitter and guides visiting the same site annually, it is likely new dispersed sites would be created and heavy impacts to vegetation would result in areas without durable surfaces. If use occurs in habitat suitable for sensitive or rare plants, then habitat would be impacted. A direct correlation occurs between increased use allocation and increased impacts to vegetation/habitats (Leung and Marion 2000).

Some sites used by outfitters and guides are hardened (for example, developed trails, viewing sites, roads). Effects to sensitive and rare plants and their habitat would be minimal at these sites if guided visitors stay within the hardened area.

Alternatives A, B, C, and D – Sensitive Plants

Impacts of guided use specifically on sensitive plants or their suitable habitats have never been monitored. With little quantitative information available, it is unknown what effects guided use is having on sensitive plants and/or their suitable habitats. Most areas on KMRD would not have concentrated use and would not be affected by guided use. However, suitable habitat for known and suspected sensitive plants is present throughout the project area; sensitive species may occur at unsurveyed existing and future guided use sites.

Alternatives A, B, C, and D may adversely impact individuals, but are not likely to result in a loss of viability in the Planning Area or a trend toward federal listing of all sensitive plants. Alternative C has the highest risk of effects to botany resources followed by Alternatives B, D, then A.

Adaptive management would allow any action alternative the ability to increase or decrease allocations for any use area based on observed or measured impacts, or lack thereof, to resources, facilities, and/or social standards as a result of guided use. Ultimately, adaptive management makes any action alternative equal in likelihood of risk, independent of the initial, selected authorized annual allocation. Adaptive management would, however, provide the opportunity to implement mitigation recommendations in response to unforeseen impacts to sensitive plant populations or suitable habitat (Appendix D of the DEIS).

Alternatives A, B, C, and D – Rare Plants

Alternatives B and C would allow guided use in areas where there has been very little or no guided use in the past. Based on the trends of outfitter and guides visiting the same site annually, it is likely new dispersed sites would be created and heavy impacts to vegetation would result in areas without durable surfaces. If use occurs in habitat suitable for rare plants, then habitat would be impacted.

Cumulative Effects

Alternatives A, B, C, and D

Potential cumulative effects to sensitive or rare plants and/or their suitable habitats from the activities associated with guided recreation use include (de Gouvenian 1996, Knight, et al. 1995, Leung and Marion 2000, Marion 1991):

- Vegetation/habitat loss as a result of any combination of direct and/or indirect effects.
Loss of vegetation and/or habitat as a result of modification decreases the available

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

suitable habitat for sensitive species. Vegetation and/or habitat loss can result from the interactions of trampling, crushing, cutting, alterations to soil, alterations to hydrology, alterations to water quality, alterations to air quality, etc. Loss occurs when vegetation is impacted beyond recovery.

- Microclimate alteration as a result of any combination of direct and/or indirect effects. Altered microclimate as a result of habitat modification decreases the available suitable habitat for sensitive species. An altered microclimate can result from changes in solar exposure, alterations in hydrologic patterns, alterations in soil microbial and fungal activities, decreased air quality, decreased water quality, loss of ground cover, loss of organic litter, loss of mineral soil, and increased sediment movement.

The impacts from recreation use can be expected to accumulate over time. Visitor capacity is the sum of outfitter and guide use and unguided use. Visitor capacity is six times greater than the average high use depicted in Alternative A. It is not possible to quantify how much, where and when impacts would occur or the magnitude of these impacts. Impacts to sensitive and rare plants from recreation use may be expected to increase with the increase of service days.

Invasive Plant Species

Direct, Indirect, and Cumulative Effects

Alternatives A, B, C, and D

Weeds spread more easily in some habitats than in others and rate of spread is influenced by many factors. Areas of high disturbance, moderate soil moisture and pH, and lack of shading are at a higher risk of weed invasion than shaded areas or areas of low disturbance. A vector is a pathway that makes possible the movement of invasive plant species. In addition to natural, uncontrollable vectors like wind, water movement and wildlife, guided and unguided recreationists and other forest users can also spread weeds.

Recreation users may serve as direct vectors for spreading invasive species. Invasive species can be introduced to the recreation site on clothing or gear. They can be spread at recreation sites by recreationist who walk or drive through the infestation. Vehicles used at some remote recreation sites are brought into these sites from a city. Vehicles can carry invasive species reproductive material.

As described under sensitive plants, habitat may be altered in some locations by outfitter guide use. Most invasives prefer disturbance for seed germination or vegetative growth. In areas with vegetation death or loss, competition from native species is greatly reduced. Without competition from native species, invasives are able to establish and possibly spread throughout the area of disturbance.

Most outfitter and guides are based out of the city Ketchikan, Recreation Use Area 24, the use area most extensively surveyed and with the most documented invasive species and Tongass National Forest High Priority invasive species. Due to the high use from Ketchikan, the potential for outfitter and guides to spread invasive species from Use Area 24 is likely.

Some Tongass National Forest High Priority Invasive species populations are located in areas that receive high service day use. Based on survey inventory data, the risk of invasive species introduction, establishment, and/or spread at current guided use levels is low. The risk increases with the increase in number of service days allocated.

Many permits do not authorize a specific location, but are open-ended enough to allow outfitter and guides the discretion and flexibility to visit any location within and around the outfitter and guide site and/or use area, such as shorelines within a particular bay.

Alternatives B, C, and D would allow outfitter and guides the ability to visit new sites, without additional NEPA analysis or field surveys. Most outfitter and guides are based out of the city Ketchikan, recreation use area 24, the use area most extensively surveyed and with the most documented invasive species, and Tongass National Forest High Priority invasive species. Due to the high use from Ketchikan, the potential for outfitter and guides to visit a site with a known invasive plant population is extremely high.

Alternatives B, C, and D contain project design measures to prevent the introduction, establishment, and spread of invasive species by vectors associated with the project actions. These measures do not pertain to Alternative A. Project design measures are described in Appendix B of the DEIS.

Table 3-18 ranks each alternative by amount of risk of invasive species introduction, establishment, and spread.

Table 3- 18) Alternative Risk Ranking for Invasive Species Introduction

Alternative	Risk
D	Low
A	Moderate
B	Moderate
C	High

Adaptive management would allow any action alternative the ability to increase or decrease allocations for any use area based on observed or measured impacts, or lack thereof, to resources, facilities, and/or social standards as a result of guided use. Ultimately, adaptive management makes any action alternative equal in likelihood of risk, independent of the initial, selected authorized annual allocation. Adaptive management would, however, provide the opportunity to implement mitigation recommendations in response to unforeseen impacts from the introduction, establishment, and spread of invasive plants (Appendix D of the DEIS).

Hydrology and Fisheries

Affected Environment

The condition of and effects to fisheries are tied to the condition of and effects to hydrology. Thus, both resources are discussed here. In general the Alaska Department of Fish and Game (ADF&G) manages fisheries populations and the Forest Service manages fisheries habitats.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

This analysis focuses on fisheries habitat, however; discussion on fish and fish populations were included to provide a better picture of the fishery resource.

Hydrology

The approximate 3.2 million acres within the KMRD contains numerous watersheds of varying size and complexity. The streams and lakes are physically complex due to the moisture of island and mainland environments, steep topography, variable geology and past and present glacial activity. Systems range from single islands to large mainland systems. Within the project area there are over 4,800 miles of fish bearing stream and over 26,500 acres of lakes.

The largest stream and river systems are located on the mainland and are driven by glacial processes in the north with a transition to rain and snow driven systems in the south. The glacial systems are colored by glacial silt and most rain and snow systems are colored by tannins leached out of adjacent lands. Most in-stream habitats are formed and controlled by bedrock and large woody debris input. In addition to these physical controls, beavers (*Castor canadensis*) can play a key role in altering stream channel morphology.

Overall, systems tend to be resistant and resilient to most disturbances aside from indiscriminate land management practices or major natural occurrences like landslides and wind throw.

Fisheries

Salmon, Trout, and Char

Five species of Pacific salmon are found within the project area. Pink (*Oncorhynchus gorbuscha*), chum (*O. keta*), sockeye (*O. nerka*), coho (*O. kisutch*), and king (*O. tshawytscha*) salmon can all be found at certain times of year in area freshwaters. Pink and chum salmon tend to prefer lower gradient and larger streams, but can be found in most accessible streams. Sockeye salmon are typically found in watersheds containing large lakes as the juvenile of this species mostly rears in these habitats. Coho are widely distributed across KMRD. They are extremely adaptable and can exploit a wide range of fresh water habitats. King salmon are only found in a few systems on the KMRD.

Resident and anadromous populations of coastal cutthroat trout (*Oncorhynchus clarki clarki*), coastal rainbow trout (*O. mykiss irideus*) and Dolly Varden char (*Salvelinus malma*) are likely stable as suggested by the general harvest restrictions published by ADF&G in 2010. The ADF&G manages cutthroat for limited harvest and Dolly Varden for liberal harvest with additional restrictions in place to protect particularly high quality fisheries. However, it is known that cutthroat are particularly susceptible to sport fishing over-harvest, and despite conservative restrictions, population declines can still occur when sport fishing pressure increases (Gresswell and Harding 1997).

Steelhead are the anadromous form of rainbow trout, and are a prized sport fish. Steelhead tend to prefer medium-sized and larger stream systems with abundant areas of turbulent, well-oxygenated flows (Bisson et al. 1998). Recent data suggest steelhead populations throughout Southeast Alaska were more abundant than they are now (Lohr and Bryant 1999;

Harding and Love 2008). It appears evident that steelhead populations are or can be highly sensitive to high levels of sport fishing pressure, especially when regulations allow for moderate harvest. Local areas of interest for steelhead include but are not limited to Fish Creek in Thorne Arm (17 George Carrol Thorne), Ward Creek (24 Ketchikan Core) and the Naha River (28 Naha Bay).

Salmon and trout populations appear stable (allowing for annual population fluctuations) across the analysis area and the majority of salmon harvest occurs in salt waters outside the jurisdiction of the Forest Service.

Management Indicator Species, Threatened, Endangered, and Sensitive Species, and Invasive Species

The 2008 Forest Plan lists four species of fish as Management Indicator Species (MIS): pink salmon, coho salmon, Dolly Varden, and cutthroat trout. These species are well distributed throughout the project area in appropriate habitats.

There are no Sensitive species found within or adjacent to the project area, however; there are Federally Listed species found in salt waters adjacent to the project area. Pacific herring within the Southeast Alaska Distinct Population Segment were designated a candidate species in April 2008. Fourteen stocks of salmon and steelhead have been identified as potentially migrating into the marine waters of the Tongass (USDA Forest Service 2008c Appendix F).

- Snake River Spring/Summer-run Chinook salmon
- Snake River Fall-run Chinook salmon
- Upper Columbia River Spring-run Chinook salmon
- Lower Columbia River Chinook salmon
- Upper Willamette River Chinook salmon
- Puget Sound-run Chinook salmon
- Columbia River Chum salmon
- Snake River Basin Steelhead
- Lower Columbia River Steelhead
- Middle Columbia River Steelhead
- Upper Columbia River Steelhead
- Upper Willamette River Steelhead
- Puget Sound Steelhead

There are no known aquatic invasive species such as New Zealand mud snail, Quagga mussel or whirling disease present at this time, but there is risk of their introduction.

Environmental Consequences

The following definitions are used to describe relative levels of effect for fisheries and hydrology.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Minimal – No measureable effects resulting from outfitted and guided activities to other resource areas which affect fisheries resources are occurring, and no measurable change in fisheries habitats is detectable.

Minor – Effects resulting from outfitted and guided activities to other resource areas which indirectly affect fisheries resources may be occurring, but no measurable change is detectable.

Direct and Indirect Effects

The following description of effects assumes Forest Plan direction and applicable BMPs are being followed and met. If standards, guidelines and BMPs were not being met there would be additional environmental effects not considered in this document.

In summary, all alternatives would affect hydrology and fisheries resources across the KMRD. Streams, lakes and water quality would be affected at varying levels across the analysis area. These effects would not be measurable due to BMPs and standards and guidelines being incorporated into each alternative. BMPs and standards and guidelines provide adequate protection for hydrology and fisheries resources. All alternatives will achieve state water quality standards. Guided use authorized under any alternative would not affect water quantity.

Alternative A - No Action

Hydrology

The No action alternative allocates no portion of the visitor capacity to outfitters and guides. Recreational activities have, are and would continue to occur. The calculated visitor capacity applies to each Recreational Use Area, but Adaptive Management would not be implemented. In this analysis, hydrology is ultimately concerned with impacts from recreational activities, regardless of being caused by guided users or unguided users. Therefore, visitor capacity is a logical measure to assess effects and compare alternatives.

Alternative A would cause effects to hydrological resources in all 28 Recreational Use Areas. Riparian areas would be subject to damage and loss of vegetation. Loss of vegetative cover in the riparian zone can lead to a wide range of impacts. The impacts include, but are not limited to; streambank and lake shore alteration, increased erosion, increased sedimentation, increased water temperature and increased pollution (Clark and Gibbons 1991).

The risk and level of impact to hydrological resources from outfitted and guided activities would vary across the analysis area, and would be most severe in areas that are heavily used, in high demand, provide easy access, have existing infrastructure and are sensitive to impacts associated with recreational activities (Clark and Gibbons 1991). Areas where recreational use is concentrated around waterbodies and streams are at higher risk. At this time, 206 recreation use sites have been recorded in the 28 Recreation Use Areas. Impact and risk to hydrological resources is not the same at each site, however; impacts to some resource areas that can indirectly affect water have been recorded. Despite the acknowledged effects, Alternative A meets Forest Plan standards and guidelines, thus minimizing risk.

Alternative A would continue to contribute minimal to minor amounts of sedimentation to streams and lakes. Localized effects would be most obvious in pools, backwaters and mouths of streams entering lakes. It is expected this minor effect would not be detectable over background levels a short distance downstream or on deltas. Periods of higher flow would scour these areas and redistribute the sediment. As a result, it would be unlikely to detect changes in fine sediment and attribute them to recreational use.

Recreational activity would continue to affect channel morphology within and downstream of the location of use. Recreational activity is known to affect many aspects of channel morphology (Clark and Gibbons 1991).

Outfitted and guided recreation would affect vegetation within the riparian zone. Physical damage to vegetation by trampling would continue to occur. Loss of vegetation would occur in small localized areas such as campsites, user generated trails and stream access points. Damage and loss of vegetation can lead to a wide range of responses in the riparian area as well as the stream (Kauffman and Krueger 1984, Abouguendia 2001). Responses include but are not limited to; decreased water quality, increased water temperature and alteration of stream flow patterns. The effects of these responses may include reduced dissolved oxygen levels, increased risk of disease bearing pathogens being present in the water, increased evaporation, alteration of food webs and a reduction or loss of habitat for aquatic species.

Alternative A would not change the risk of bacterial contamination from human waste. Meeting BMPs and proper management of human waste would negate the risk of recreational activities leading to a measurable degradation in water quality.

Current recreational use that meets BMPs and Forest Plan Standards and Guidelines would maintain existing aquatic resource conditions within the project area. The intent of BMPs and Forest Plan Standards and Guidelines is to provide adequate protection for a resource area. Combining these sources of direction would provide protection for and minimize risk to watershed health.

In summary, the No action alternative would continue to authorize guided recreational use across KMRD and each new request would require a separate NEPA analysis. The visitor capacity would apply and serve to cap overall recreational use. Effects to streams, lakes, riparian areas and water quality would continue. Water quantity would not be affected.

Fisheries

Salt water

Fish and fish habitat within salt water is outside the jurisdiction of the Forest Service, however; activities permitted within the Proposed Action transit salt water, thus it is reasonable to include discussion of Threatened, Endangered or Sensitive Species which have been identified to occur adjacent to the project area.

Pacific Herring – In general, Pacific herring occur throughout the North Pacific Ocean from the Yellow Sea northeastward through the western Bering Sea, the Russian Arctic Chukchi and White Seas, and southward from the Alaskan Beaufort Sea to Baja California, Mexico. The Southeast Alaska Distinct Population Segment (DPS), which is being considered for listing under the Endangered Species Act, extends from Dixon Entrance northward to Cape Fairweather and Icy Point and includes all Pacific herring stocks in Southeast Alaska. At

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

least five major herring populations are presently identified in Southeast Alaska: 1) Sitka, 2) Auke Bay (including Lynn Canal) 3) Craig-Hydaburg, 4) Deer Island-Etolin Island (near Wrangell), and 5) Ketchikan. The Ketchikan population falls within the KMRD Outfitter-Guide Action Area.

In 2008, NMFS formally requested information, data, or comments pertinent to the status review of the Southeast Alaska Pacific herring DPS. That information has not been released.

Major threats include over fishing and destruction of spawning habitat from dredging, oil spills, log storage, road and other construction activities, and quality degradation. Global warming may also reduce the amount of phytoplankton and zooplankton prey.

None of the identified threats would occur from outfitter-guide activities. No ground or inter-tidal disturbing activities are authorized. Likewise, the Forest Service does not permit, and has no jurisdiction over salt water commercial or sport fishing. The herring fishery in Lynn Canal and the Juneau area has been closed since 1982, but purse-seine commercial harvest of thousands of tons herring annually still occurs elsewhere in Southeast Alaska (NMFS website, accessed October 2011). Since most spawning takes place in March, outfitter-guide access to beaches would have no measurable effect on herring spawn on the 2,000 plus miles of shoreline on KMRD.

Salmon & Steelhead – Distribution of these stocks is primarily in outer coastal waters, although there is a low probability that some may occasionally be present in inside waters. None originate in or are known to occur in fresh water Alaskan streams. Due to all activities described in this federal action occurring adjacent to or in fresh water there would be no effect from outfitter-guide activities.

Fresh Water

Riparian and stream systems are complicated and dynamic, making it difficult to write the exact effects recreation activities have on them. However, it is generally accepted that recreational activities can affect water resources (Clark and Gibbons 1991), which in turn affect fisheries. Based upon the types of recreational activities occurring on KMRD and knowledge of district personnel it is realistic to suggest recreational activity produces similar influences, causes and impacts to fisheries resources as those documented in research. Many of the effects to fisheries are indirect effects and would be expressed following effects to other resource areas such as hydrology and botany.

Continuing guided use would have effects to fish. Guided use would also affect soils, riparian areas, riparian vegetation, and stream channels, which ultimately affect fish habitat and populations. Meeting BMPs and Forest Plan direction would minimize these effects.

Effects to fisheries and fish habitat would continue. Trout, char and salmon would be subjected to harvest and some level of indirect mortality caused by catch-and-release fishing. Habitats would be affected at some unknown level by causative agents such as sedimentation. Research has documented recreation caused effects to riparian vegetation (Marion and Cole 1996) which in turn can indirectly affect fish habitat and fish. Heavily used areas within the riparian zone would be most likely to contribute to affects to fisheries. Describing the exact level of effect is not possible due to the indirect nature of cause-and-effect relationships between recreational activities and fisheries. Some immeasurable level

of simplification of habitats would occur. Watersheds are dynamic and attributing measurable incremental impacts on fisheries to prescribed levels of guided use is doubtful.

The level of harvest and incidental mortality appear low enough to maintain self-sustaining fish populations. The Alaska Department of Fish and Game manages fisheries populations within the analysis area and would make adjustments to regulations as they see fit.

Current management does not authorize guided use in 28 Naha Bay. Implementation of Alternative A would allow guided sport fishing in Patching Lake. A series of migration barriers prevent salmon and steelhead from reaching Patching Lake. A population of resident cutthroat and Dolly Varden exists in the lake. Patching Lake is sufficiently removed from the popular steelhead and salmon fishing areas lower in the Naha River drainage that interactions between guided and unguided users would be minimized.

Guided sport fishing poses a risk of introducing an invasive species like New Zealand mud snail, or whirling disease. These aquatic invasive can be transported on fishing gear and remain viable for a considerable length of time when removed from water. Alternative A poses the highest risk of introducing an aquatic invasive species because no current permit stipulations or mitigations exist to minimize risk.

In summary, the No action alternative would continue to affect fish and fish habitats in fresh waters. Effects to habitats would be immeasurable when BMPs and Forest Plan direction are met. The risk of introducing an aquatic invasive species is higher in this alternative because no current mitigative measures are included in permits.

Alternatives B, C, and D

Hydrology

Alternatives B, C, and D allocate recreational use to outfitters and guides across the 26, 28, and 24 Recreation Use Areas, respectively. Visitor capacity applies to all areas and adaptive management would be implemented in all areas. Hydrology resources can be affected by guided or unguided recreational use. Research documenting the impacts of recreational activities does not differentiate between guided and unguided use. There is insufficient data on unguided use to predict total actual use on KMRD therefore visitor capacity is used to set the upper limit of anticipated recreation use.

The visitor capacity is the same in all the alternatives. Effects such as loss of or damage to riparian vegetation and streambank disturbance would continue. These effects would be localized, discontinuous, and occur as long as recreational use continued in the project area. Potential effects of recreational use on streams, lakes, riparian vegetation, water quantity and water quality would be the same as the effects of Alternative A above.

In most instances, adaptive management minimizes risk to hydrological resources by allowing resource managers to respond quickly and appropriately to situations. Adaptive management allows managers to select from a wide range of potential solutions, monitor for desired results and adjust management accordingly. This strategy reduces the risk of affecting streams, lakes, riparian areas, water quantity and water quality. For aquatic resources, Alternatives B, C, and D pose lesser risk than Alternative A from a management implementation perspective. Alternatives B, C, and D include adaptive management, which

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

allows managers to more rapidly and effectively deal with aquatic resource issues than Alternative A. All the action alternatives (B, C, and D) include adaptive management; thus they have the same level of risk when it comes to management implementation.

Briefly, Alternatives B, C, and D allocate a portion of the recreation visitor capacity to outfitters and guides while recognizing unguided use would occur. Continuing recreational use would have effects to streams, lakes, riparian vegetation and water quality. Water quantity would not be affected. Meeting BMPs and Forest Plan direction would minimize these effects. Alternatives B, C, and D would meet desired conditions at the same pace due to the same BMPs and standards and guidelines being applied. The inclusion of adaptive management allows managers to more rapidly respond to aquatic issues when they occur. If allocated numbers were increased under adaptive management principles there would be a higher risk of affecting hydrology resources.

Fisheries

The action alternatives, Alternative B through Alternative D, would cause effects to fisheries resources in fresh waters. Regardless of percent of capacity or actual number allocated the same Forest Plan direction and BMPs would be applied with the intent of minimizing or negating effects. However, risk of affecting fisheries resources differs due to differing allocations. Potential effects of recreational use on streams, lakes, riparian vegetation, water quantity, water quality, and fisheries would be the same as the effects of Alternative A above.

The alternatives do have different levels of risk of effects. Alternative C has the highest risk of affecting fisheries resources when compared to the other action alternatives (B and D). This alternative allocates the highest number of service days to guided use and presents the highest risk of affecting fisheries resources. Alternative C would meet desired conditions at a slower pace than Alternative B and Alternative D due to increased numbers of outfitted and guided clients potentially occurring across the analysis area.

The Proposed Action would meet desired conditions more rapidly than Alternative A (No Action) and Alternative C, but not as quickly as Alternative D regarding risk of affecting fisheries.

In Alternatives B, C, and D, the cleaning of wading equipment prior to use in fresh waters administered by KMRD (see Appendix B of the DEIS) will help reduce the risk of introducing an aquatic invasive species to fresh waters in the analysis area.

Cumulative Effects

Hydrology and Fisheries

Alternatives A, B, C, and D

Cumulative effects boundary for hydrology and fisheries resources includes the entirety of all watersheds that fall within KMRD. Although the alternatives affect hydrology and fisheries resources at the 206 documented recreational sites, a clearer picture of watershed condition is obtained by looking at the watershed scale.

Past and current recreational activity and land management practices, including past timber harvest, have contributed to the existing condition in the analysis area. The continuation of guided recreational use under these alternatives would not add cumulatively to those impacts. Best Management Practices and Forest Plan Standards and Guidelines would be implemented and would provide adequate protection for hydrological and fisheries resources. All the alternatives would cause effects to fisheries. The potential level and magnitude of effects would be the same due to capacity being the same. With the capacity for a given area being the same in each alternative there is no difference in cumulative effect risk between alternatives. With adequate protection, measurable incremental effects would not occur, therefore, implementing the No action alternative or the action alternatives would not add cumulatively to existing impacts. Because effects would be non-existent or immeasurable, they would not add cumulatively to effects from Timber Sales, Hydropower development or Mining exploration.

It is acknowledged that negative effects will occur at small discontinuous locations during the life of this document. Monitoring is designed to identify areas where negative impacts may occur and gives managers the ability to adapt management at that site to meet resource needs and issues. Quickly addressing resource issues will minimize the risk of recording a measurable effect to hydrology and fisheries resources.

Essential Fish Habitat

Essential Fish Habitat (EFH) is the water and substrate necessary for fish spawning, breeding, feeding, or growth to maturity. The marine EFH in Alaska includes estuarine and marine areas from tidally submerged habitat to the 200-mile exclusive economic zone (EEZ). The freshwater EFH includes streams, rivers, lakes, ponds, wetlands and other bodies of water currently and historically accessible to salmon. EFH for Pacific salmon recognizes six critical life history stages: (1) spawning and incubation of eggs, (2) juvenile rearing, (3) winter and summer rearing during freshwater residency, (4) juvenile migration between freshwater and estuarine rearing habitats, (5) marine residency of immature and maturing adults, and (6) adult spawning migration. Habitat requirements within these periods can differ significantly and any modification of the habitat within these periods can adversely affect EFH.

Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act states that all federal agencies must consult the National Marine Fisheries Service (NMFS) for actions or Proposed Actions that may adversely affect EFH. The Act promotes the protection of EFH through review, assessment, and mitigation of activities that may adversely affect these habitats. On August 25, 2000 the Forest Service, Alaska Region, and NMFS came to an agreement on how consultation will be accomplished in Alaska.

The project areas include the entire land area of the Ketchikan-Misty Fiords Ranger District of the Tongass National Forest. The streams and lakes within the project area support a variety of anadromous and resident fish species. Anadromous species that spawn in freshwater streams or lakes in the project area include: pink salmon (*Oncorhynchus gorbuscha*), chum salmon (*O. keta*), sockeye salmon, (*O. nerka*), coho salmon (*O. kisutch*), Chinook salmon (*O. tshawytscha*), coastal cutthroat trout (*O. clarkii*), steelhead (rainbow) trout (*O. mykiss*), and Dolly Varden char (*Salvelinus malma*). The project area also supports

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

resident populations of coastal cutthroat trout, rainbow trout, Dolly Varden char, and non-game fish species including sculpin (*Cottus spp.*) and three-spined stickleback (*Gasterosteus aculeatus*).

The analysis area provides a large amount of EFH and includes all of the freshwaters within the lands administered by Ketchikan-Misty Fiords Ranger District. Since no alteration of, or ground disturbing activities would occur when Marine Access Facilities are utilized, marine habitats would not be affected and are therefore not analyzed with either project.

The EIS would authorize a variety of outfitted and guided activities around the Ranger District. The Fisheries and Hydrology sections of the EIS specifically examines the effects of outfitted and guided sport fishing, which is the primary activity that would affect EFH, on the aquatic resources.

Conclusions

The Forest Service believes that the Ketchikan-Misty Fiords Outfitter and Guide Management Plan may adversely affect EFH. However, the effects to aquatic resources, as described in the EIS and specialist reports, will be minimal or virtually immeasurable. Implementing Forest Plan Standards and Guidelines, Best Management Practices, and Outfitter and Guide permit stipulations will eliminate nearly all effects on EFH. Additional impacts to EFH may occur only from unforeseen events.

Soils, Wetlands, Geology, and Karst _____

Affected Environment

Soil productivity is defined as the capacity of soil to support plants due to inherent chemical, physical, and biological properties. Surface erosion is the movement of soil via water movement at the soil surface.

Wetlands are defined as: "those areas that are inundated or saturated by surface or groundwater with a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (40 CFR 230.41(a)(1)).

Floodplains are composed of naturally eroded sediments carried by a stream or river and deposited in slack-water sections of channels during high-water periods. Floodplains are considered to be areas subject to a one percent or greater chance of flooding in any given year.

The soils, wetlands and floodplains analysis areas for direct, indirect, and cumulative effects are the entire KMRD. If effects were thought to be greater than slight, separation would have been by the 149 sixth level watersheds.

Past and current recreational activity and land management practices, including past timber harvest, have contributed to the existing condition in the analysis area. Past outfitter guide use has not resulted in any reported significant impacts on soils, wetlands, or floodplains within Ketchikan-Misty Fjords Ranger District. Trails and campsites are maintained to standard. Soil erosion and soil puddling is minimal, and when recognized trails are rerouted or the area hardened to avoid resource damage. COE 404 permits are obtained before fill is placed in wetlands.

Environmental Consequences

All alternatives and activities conform to standards and guidelines and comply with the Clean Water Act and Executive Orders 11988 and 11990. No extraordinary circumstances exist related to soils, wetlands, or floodplains and the proposed activities. No land-disturbing activities are proposed by this EIS.

Degree of impact definitions for soil and wetland resources are as follows:

Slight - Impact does not affect the overall condition of the resource. For example, wetland function, soil productivity, or sediment production are essentially identical to the undisturbed or otherwise existing condition on a watershed scale.

Moderate - Impact has a measurable or noticeable effect that may affect the overall condition of the resource.

Direct and Indirect Effects

Alternatives A, B, C, and D

Soils

Effects on the soil resource would be slight from proposed activities for all alternatives. Building of roads or trails, cutting or yarding of trees or vegetation, or building of structures are not proposed and are not authorized through this project. Minor loss of vegetation might occur in some places from heavy foot traffic but soil erosion and resulting depositions would be slight on soil resources. Slight impacts on soil productivity may occur from compaction in small, heavily used areas. Adaptive management allows for action to correct unanticipated effects, further reducing concern over effects on soil resources. Proposed activities would avoid areas of active mass wasting (landslides).

Wetlands

Effects on wetlands would be slight from proposed activities for all alternatives. Filling or draining of wetlands are not proposed and are not authorized through this project. Minor loss of vegetation might occur in some places from heavy foot traffic but alteration of wetland function would be slight. Adaptive management allows for action to correct unanticipated effects, further reducing concern over effects on wetland resources

Karst

This EIS does not include or allow for use or visitation of caves. However, increased recreational usage may result in the opportunistic discovery and visitation of caves. Adaptive

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

management may be used to restrict use of specific areas should they experience unpermitted use. Nevertheless, it is expected that effects on caves would be slight.

Cumulative Effects

Alternatives A, B, C, and D

Past and current recreational activity and land management practices, including past timber harvest, have contributed to the existing condition in the analysis area. The continuation of guided recreational use under these alternatives would not add cumulatively to those impacts. All the alternatives would cause slight effects to soil and wetland resources. The potential level and magnitude of effects would be the same due to capacity being the same. With the capacity for a given area being the same in each alternative there is no difference in cumulative effect risk between alternatives. Because effects would be so slight, they would not add cumulatively to effects from timber sales, hydropower development or mining exploration.

It is acknowledged that negative effects will occur at small discontinuous locations during the life of this document. Monitoring is designed to identify areas where negative impacts may occur and gives managers the ability to apply adaptive management at that site to meet resource needs and issues. Quickly addressing resource issues will minimize the risk of recording a measurable effect to soil or wetland resources.

Adaptive Management

Reducing user days on a damaged site, generally will not remediate a site. Rather, use should be eliminated or the site should be hardened. As recreation sites are discovered or planned, follow BMPs 16.1(Recreation Facilities Planning and Location), 16.4(Trail Construction and Maintenance), and 12.5(Wetland Identification, Evaluation, and Protection). Moving campsites to upland sites may alleviate some impacts.

Other Required Disclosures

NEPA at 40 CFR 1502.25(a) directs “to the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with ...other environmental review laws and executive orders.”

Endangered Species Act

None of the alternatives is anticipated to have a direct, indirect, or cumulative effect on any threatened or endangered species in or outside the project area. Biological Evaluations (BE) are included in the planning record.

National Historic Preservation Act

Under our Third Programmatic Agreement among the USDA Forest Service, Alaska Region, the Advisory Council on Historic Preservation, and the Alaska State Historic Preservation Officer Regarding Heritage Program Management on National Forests in the State of Alaska, the KMRD archeologist has determined that the activities proposed in all four alternatives for

the Ketchikan-Misty Fiords Ranger District Outfitter Guide EIS will have No Affect on historic properties eligible to the National Register of Historic Places. Any future proposed guided activities that are not listed in their permits or that have the potential to disturb the ground will continue to receive a case-by-case section 106 review by the KMRD archaeologist.

Alaska National Interest Lands Conservation Act (ANILCA)

An ANILCA Section 810 and 811 subsistence evaluation was conducted. No significant restrictions on the abundance and distribution of, access to, or competition for subsistence resources in the project area are anticipated.

Executive Order 13175 (2000) and 13084 (1998): Consultation and Coordination with Indian Tribal Governments

EOs 13084 and 13175 direct federal agencies to work with tribal governments in policy development and project implementation where significant tribal interests are affected by federal policies or undertakings. KMRD has had several contacts and discussions with affected Tribal governments (Chapter 1, Public Involvement). Resolution of questions and concerns discussed at meetings is ongoing.

Magnuson-Stevens Fishery Conservation and Management Act of 1996

The Magnuson-Stevens Fishery Conservation and Management Act of 1996 (hereafter referred to in this section as “the Act”) requires consultation with the National Marine Fisheries Service on activities that may affect Essential Fish Habitat (EFH). EFH is defined as "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity." EFH for Pacific salmon includes marine waters, intertidal habitats, and freshwater streams accessible to anadromous fish. Marine EFH for the salmon fisheries in Alaska includes all estuarine and marine areas utilized by Pacific salmon of Alaska origin, extending from the influence of tidewater and tidally submerged habitats to the limits of the U.S. exclusive economic zone. The Act promotes the protection of these habitats through review, assessment, and mitigation of activities that may adversely affect these habitats.

In accordance with the agreement of June 28, 2007 between the Forest Service and the NMFS for consultation on EFH, the Forest Service sent a copy of the Ketchikan-Misty Fiords Outfitter and Guide Management Plan DEIS to NMFS, which formally started the consultation process.

NMFS provided no comments on the findings of the assessment. Thus, no Forest Service response was necessary. The EFH Assessment is included in Chapter 3 of the FEIS. For specific information about the affected resources and the alternatives under consideration, please refer to this EIS.



Chapter 4

Lists

Changes Between DEIS and FEIS

- The lists in this chapter were updated.

CHAPTER 4, LISTS

This chapter contains lists of those consulted during development of this EIS, those receiving this EIS, references used in developing this EIS, and a glossary of the more technical words used in this EIS. Additional references were used in developing resource reports and other documents in the Project Record. An index of the EIS is found at the end of this chapter.

List of Preparers and Contributors _____

INTERDISCIPLINARY TEAM MEMBERS:

Contributor	Title and Office	Years FS Experience	Project Role / Expertise
Susan Jennings	ID Team Leader, Supervisor's Office	24	ID Team Leader, Socio-economics
Jeannie Blackmore	Lands Specialist, KMRD	31	Lands
Lorelei Haukness	Recreation Planner, Wilderness Specialist, KMRD	12	Wilderness, Recreation, Special Uses
Shauna Hee	Botanist, KMRD	6	Threatened, Endangered, and Sensitive Plants and Invasive Plants
Michelle Putz	Writer/Editor, Supervisor's Office	20	Writer/Editor
Jill Reeck	Wildlife Biologist, KMRD	31	Wildlife and Subsistence
Peter Roginski	Fisheries Biologist, KMRD	8	Fisheries and Subsistence
Darin Silkworth	Soil Scientist, Supervisor's Office	7	Soils, Wetlands, and Karst
Martin Stanford	Archaeologist, KMRD	15	Cultural Resources
Cathy Tighe	Special Use Permit Administrator, KMRD	22	Special Use Permits
Will Young	Hydrologist, KMRD	10	Water Resources

OTHER FOREST SERVICE CONTRIBUTORS:

Karen Brand, Recreation Staff Officer
 Dennis Chester, Wildlife Biologist
 Jacob Hofman, GIS, Inventory and Monitoring
 Ken Post, Regional Environmental Coordinator
 Rob Reeck, Tribal Liaison

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Parker Reid, Special Uses Natural Resource Specialist
Andrew Schmidt, Team Leader, Alaska Lands Team

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this EIS:

FEDERAL, STATE, AND LOCAL AGENCIES:

Alaska Department of Fish and Game
NOAA National Marine Fisheries Service
USDI Fish and Wildlife Service

TRIBES AND CORPORATIONS:

Cape Fox Corporation
Ketchikan Indian Community
Metlakatla Indian Community
Organized Village of Saxman

Distribution of the EIS

This EIS has been distributed in several formats: hard copies, compact discs, and via the internet. Those receiving the EIS in more than one format have only been listed once in the lists below.

List of EIS Recipients

This EIS has been distributed in hard copy or compact disc format to individuals who specifically requested a copy of the document. In addition, copies have been sent to Federal agencies, federally recognized tribes, State and local governments, and organizations representing a wide range of views. The following agencies, organizations, and individuals were provided with a copy of the Ketchikan-Misty Fiords Outfitter/Guide Management Plan Environmental Impact Statement.

FEDERAL, STATE, AND LOCAL AGENCIES:

Alaska Department of Natural Resources, Office of Project Management and Permitting, ANILCA Implementation Program
(State of Alaska) Citizens Advisory Commission on Federal Areas
U.S. Environmental Protection Agency, Region 10
National Marine Fisheries Service
U.S. Department of the Interior, Office of Environmental Policy & Compliance
USDA Forest Service, Tongass National Forest Supervisor's Office, Ketchikan

USDA Forest Service, Regional Office, Juneau
USDA National Agriculture Library

TRIBES AND TRIBAL CORPORATIONS:

Cape Fox Corporation
Ketchikan Indian Community
Metlakatla Indian Community
Organized Village of Saxman

LIBRARIES:

Metlakatla Centennial Library
USDA Forestry Service Library
Alaska State Library
Hyder Public Library
Ketchikan Public Library

ORGANIZATIONS AND BUSINESSES:

Earthjustice
Meyers Chuck Community Association
Tenacious Charters
Tongass Tribe

INDIVIDUALS

A.J. Slagle
Barry Christensen
Charles Stout
Jay Rhodes
Richard Hoffmann

List of EIS Notifications

The following agencies, businesses, and organizations were sent a letter, email, or postcard with information about the EIS and notifying them of the website location of this EIS.

FEDERAL, STATE, AND LOCAL AGENCIES:

Advisory Council on Historic Preservation
Alaska Department of Environmental Conservation, Division of Air and Water Quality
Alaska Department of Fish and Game
Alaska Department of Fish and Game, Department of Wildlife Conservation
Alaska Department of Fish and Game, Office of Habitat Management and Permitting
Alaska Department of Natural Resources, Division of Mining, Land, & Water
Alaska State Department of Environmental Conservation

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Alaska State Department of Public Safety
Alaska State Parks
Bureau of Indian Affairs
Chief of Naval Operations
City of Ketchikan
City of Saxman
Federal Aviation Administration
Federal Highway Administration
Hyder Community Association
Juneau Reg. Field Office, U.S. Army Corps of Engineers
Ketchikan Gateway Borough
Ketchikan Parks and Recreation
Mayor, City of Ketchikan
Mayor, City of Metlakatla
Mayor, City of Thorne Bay
Mayor, Ketchikan Gateway Borough
National Marine Fisheries Service, Protected Resources Management
NOAA Office of Policy and Strategic Planning
US Army Corps of Engineers, Pacific Ocean Division
US Coast Guard
US Department of Energy, Office of NEPA Policy & Compliance
US Department of the Interior, Office of Environmental Policy & Compliance
US Fish and Wildlife Service
US House of Representatives
US Senate
USDA APHIS PPD/EAD
USDA Forest Service
USDA Forest Service, Tongass National Forest, District Offices
USDA National Agricultural Library
USDA Natural Resources Conservation Service, National Environmental Coordinator
Wrangell Cooperative Association

TRIBES, TRIBAL CORPORATIONS, AND OTHER TRIBAL ENTITIES:

Alaska Native Brotherhood / Native Sisterhood Camp 15
Alaska Native Brotherhood / Native Sisterhood Camp 14
Central Council Tlingit & Haida Indian Tribes of Alaska
Saanya Kwan - Tei Kweidi
Sealaska Corporation
Tlingit & Haida Community Council

ORGANIZATIONS AND BUSINESSES:

Alaska Center for the Environment	Alaska Peak and Seas
Alaska Discovery RV Tours, Ltd.	Alaska Rainforest Campaign
Alaska Glacier Adventures	Alaska Sportfishing Adventures, LLC /
Alaska Hummer Adventures	Action Jackson Charters
Alaska Natural Mystic	Alaska Travel Adventures, Inc.

Final Environmental Impact Statement

Allen Marine Tours
American Safari Cruises, LLC
Anchor Excursions dba Snow Goose
Baranof Skiff Excursions
Bluewater Adventures, Ltd.
Carlin Air
Carro-Flagg Enterprises, Inc.
Cascadia Wildlands Project
Center for Biological Diversity
Cleveland Coalition
Concerned Alaskans for Resources and the Environment
Crane Adventures, LLC
Dalin Charters/Guiding
Ducks Unlimited
Explore Alaska Charters
Family Air
Farwest Research
Fish Creek Tours
FSEEE
Greenpeace
Hallco, Inc.
Hidden Inlet Resort
International Chamber of Commerce
Island Wings
Kayak Transport Company
Ketchikan Chamber of Commerce
Ketchikan Daily News
Ketchikan Homebuilders Association
Ketchikan Off-Road
Ketchikan Outdoors Recreation and Trails Coalition
Ketchikan Rod & Gun Club
Ketchikan Snowmobiling Club
Ketchikan Sport & Wildlife Club
Ketchikan Visitors Bureau
Ketchikan Volunteer Rescue Squad
Ketchikan Yacht Club
KRBD Radio
KTKN Radio
Lindblad Expeditions, Inc.
Marble Creek Farms and Tongass
Substance Screening
Midnight Sun Adventure Tours
Mink Bay Lodge
Mirror Lake Fishing Club
Misty Fjords LLC
Misty Fjords Air & Outfitting
Muskeg Excursions
Naha Bay Outdoor Adventures
Natural Resources Defense Council
Nature Trek Canada
Panhandle Motorcycle Adventures
Premiere International Corporation
Primo Expeditions
Promech Air
RdM Pilot/Guide
Rogue Charters
Salmon Falls Resort
Saltery Lodge
SE AK Regional Subsistence Council
Seaport Limousine Ltd.
Seawind Aviation
Sierra Club
Silver King Charters
Sitka Conservation Society
Snow's Cove, Inc.
Sockeye Sam's
South Tongass Fire Department
Southeast Alaska Conservation Council
Southeast Alaska Flyfishing
Southeast Alaska Guide Service
Southeast Alaska Resources
Southeast Aviation
Southeast Exposure Sea Kayak Company
Southeast Sea Kayaks
Southern Southeast Regional Aquaculture Association, Inc. (SSRAA)
Sportsman Paradise Tours
Stabbert Maritime
Taquan Air
Taquan Air & AK Rainforest Sanctuary
The Boat Company
The Nature Conservancy in AK
The Wilderness Society
Tongass Conservation Society
Tongass Rainforest Expeditions
Tongass Tribe
Trout Unlimited
U.S. Borax, Inc. c/o Rio Tinto Minerals
Upstream Dreams
West Travel, Inc. dba Cruise West
Westcoast Adventure Tours, Inc.
Yes Bay Lodge, Inc.

INDIVIDUALS

Andrew Pankow
Andy Mathews
Art Johnson
Bev Davies
Bill Green
Brad Finney
Charlie Reynolds
Chris Stack
Cindy Wagner
Dale Pihlman
Dave Hashagen
Dick Hamlin
Dick Hunlin
Elmer Makua
Eric Lunde
Floyd Crocker
George Cook
George Porter
James Benson
James Stanley
Jean Public
Jerry Scudero
Jim Pomplun
John Stedman
Keith Wadley

Ken Teune
Lee & Winona Wallace
Lyle Stack
Mark Adams
Marvin Charles
Matthew Williams
Merlene Hawkins
Mike Cessnun
Mike Sallee
MJ Turek
Nick Hashagen
Nora DeWitt
Peter Dwyer
Philip Stage
Reid Parker
Robert Hickman
Robert Scherer
Scott Foster
Shaun Hearn
Steve and Laura Huffine
Steve Hoffman
Steve Patton
Steven McClaren
Todd Bright
Tom Skultka

References Cited

The following references were cited in this EIS. Additional items are cited in specialists' reports. Those references are found in the individual specialist reports.

Alaska Community Database Online. State of Alaska, Dept. Commerce. Accessed January 10, 2011. Internet: http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm

Abouguendia, Z. 2001. Livestock grazing and riparian areas: a literature review. Grazing and pasture technology program, Regina, Saskatchewan.

Ackerman, R.E., K.C. Reid, J.D. Gallison, and M.E. Roe. 1985. Archaeology of Heceta Island: A Survey of 16 Timber Harvest Units in the Tongass National Forest, Southeastern Alaska. Center for Northwest Anthropology, Washington State University, Pullman, Washington.

Allen. B. M., and R. P. Angliss. 2010. Alaska marine mammal stock assessments, 2009. U.S. Dep. Commer., NOAA Tech. Memo. NMFS AFSC-206, 276 p. Internet: <http://www.nmfs.noaa.gov/pr/pdfs/sars/ak2009.pdf>

- Andres, B.A. and G.A. Falxa. 1995. Black Oystercatcher (*Haematopus bachmani*). The birds of North America online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Internet: <http://bna.birds.cornell.edu/bna/species/155>
- Armstrong, R. H. 1995. Guide to the birds of Alaska. Alaska Northwest Books, Anchorage, AK. 322 pp.
- BC Mgt Plan 2010 – Mountain Goat Management Team. 2010. Management Plan for the Mountain Goat (*Oreamnos americanus*) in British Columbia. Prepared for the B.C. Ministry of Environment, Victoria, BC. 87 pp.
- Bisson, P. A., K. Sullivan and J. L. Nielsen. 1988. Channel hydraulics, habitat use, and body form of juvenile coho salmon, steelhead and cutthroat trout in streams. Transactions of the American Fisheries Society 117:262-273.
- Blanc, R., M. Guillemain, J-B. Mouronval, D. Desmonts, and H. Fritz. 2006. Effects of non-consumptive leisure disturbance to wildlife. Rve. Ecol. (Terre Vie) 61:117-131. Internet: <http://www.cebc.cnrs.fr/publipdf/2006/BRETV61.pdf>
- Borrie, W.T. 2000. Impacts of technology on the meaning of wilderness. In Personal, Societal, and Ecological Values of Wilderness: Sixth World Wilderness Congress Proceedings on Recreation, Management, and Allocation, Volume II; 1998 Oct 24-29, Bangalore, India (A.E. Watson, G.H. Aplet, and J.C. Hendee, compilers). Proceedings RMRS-P-14. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, 87-88.
- Boyle, S. A., and F. B. Sampson. 1985. Effects of nonconsumptive recreation on wildlife: A Review. Wildlife Society Bulletin 13(2):110-116. Internet: <http://www.jstor.org/stable/3781422>
- Butler, R.W., and P. D. Baudin. 2000. Status and conservation stewardship of the Pacific great blue heron in Canada. in L. M. Darling, ed. Proceedings of a Conference on the Biology and Management of Species and Habitats at Risk, Kamloops, B.C., 15 - 19 Feb.,1999. Vol. 1, B.C. Ministry of Environment, Lands and Parks, Victoria, B.C. and University College of the Cariboo, Kamloops, B.C. 490pp.
- Canfield, J. E., L. J. Lyon, J. M. Hillis, and M. J. Thompson. 1999. Ungulates. Pages 6.1–6.25 in G. Joslin and H. Youmans, coordinators. Effects of recreation on Rocky Mountain wildlife: a review for Montana. Committee on Effects of Recreation on Wildlife, Montana Chapter of The Wildlife Society.
- Carlson, B. A. and E. B McLean. 1996. Buffer zones and disturbance types as predictors of fledging success in great blue herons, *Ardea herodias*. Colonial Waterbirds, Vol 19, No. 1 (1996), pp. 124-127. Internet: <http://www.jstor.org/stable/1521816>
- Carney, K. M., and W. J. Sydeman. 1999. A review of human disturbance effects on nesting colonial waterbirds. Waterbirds: The International Journal of Waterbird Biology, 22(1):68-79. Internet: <http://www.jstor.org/stable/1521995>
- Chatwin, T. 2010. Set-back distances to protect nesting and roosting seabirds off Vancouver Island from boat disturbance. Masters thesis, Royal Roads University, Victoria, British Columbia, Canada. Internet:

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

<http://dspace.royalroads.ca/docs/bitstream/handle/10170/375/Chatwin,%20Trudy.pdf?sequence=1>

- Chi, D. K., and B. K. Gilbert. 1999. Habitat security for Alaskan black bears at key foraging sites: are there thresholds for human disturbance? *In: A Selection of Papers from the Eleventh International Conference on Bear Research and Management, Graz, Austria, September 1997, and Gatlinburg, Tennessee, April 1998.* *Ursus* 11:225-237. Internet: <http://www.jstor.org/stable/3873005>
- Clark, R.N. and D.R. Gibbons. 1991. Recreation. *American Fisheries Society Special Publication* 19:459-482.
- Cline, R., Sexton, N., and Stewart, S.C., 2007, A human-dimensions review of human-wildlife disturbance: a literature review of impacts, frameworks, and management solutions: U.S. Geological Survey, Open-File Report 2007-1111, 88 p. Internet: <http://www.fort.usgs.gov/Products/Publications/21567/21567.pdf>
- Cole, D. N. 1993. Minimizing conflict between recreation and nature conservation. *In: D.S. Smith and P.C. Hellmund, eds., Ecology of greenways: design and function of linear conservation areas.* 1993. Univ. of Minnesota Press, Minneapolis, MN. 24:105-122.
- Cole, D. N., and P. B. Landres. 1995. Indirect effects of recreation on wildlife. *In Knight, R L. and K. J. Gutzwiller, eds. Wildlife and recreationists-coexistence through management and research.* Washington, DC: Island Press: Chapter 11, 183-202.
- Cole, David N. and Trull, Susan J. 1992. Quantifying Vegetation Response to Recreational Disturbance in the North Cascades, Washington. *Northwest Science.* Vol. 66: 229-236.
- Conant, B., J. I. Hodges, D. J. Groves, and J. G. King. 2007. Alaska trumpeter swan status report 2005. *Waterfowl Management, USDI Fish and Wildlife Service, Juneau, AK.* 8 pp.
- Cooper, J. M., and S. M. Beauchesne. 2004. Status of the Peregrine Falcon (*Falco peregrinus*) in British Columbia. B.C. Ministry Water, Land and Air Protection, Biodiversity Branch, Victoria BC. *Wildlife Bulletin B-115.* 38pp. Internet: <http://www.env.gov.bc.ca/wld/documents/statusrpts/b115.pdf>
- Crupi, A. P. 2003. Foraging behavior and habitat use patterns of brown bears (*Ursus arctos*) in relation to human activity and salmon abundance on a coastal Alaskan salmon stream. Master's thesis, Utah State Univ. 174 pp. Internet: <http://cbears.bearfoundation.org/crupithesisusu.pdf>
- Dahlheim, M.E., P.A. White, and J.M. Waite. 2009. Cetaceans of Southeast Alaska: distribution and seasonal occurrence. *Journal of Biogeography* 36: 410–426.
- de Gouvenian, Roland C. 1996. Indirect Impacts of Soil Trampling on Tree Growth and Plant Succession in the North Cascade Mountains of Washington. *Biological Conservation.* Vol. 75: 279-287.
- Dugan, D., G. Fay, and S. Colt. 2007. Nature-Based Tourism in Southeast Alaska: Results from 2005 and 2006 Field Study. Institute of Social and Economic Research University of Alaska Anchorage and Eco-Systems. March 20, 2007.

- Dustin, D.L. and L.H. McAvoy. 2000. Of what avail are forty freedoms: the significance of wilderness in the 21st century. *International Journal of Wilderness* 6(2): 25-26.
- Festa-Bianchet, M. and S. D. Côté. 2008. Mountain goats: ecology, behavior, and conservation of an alpine ungulate. Island Press, Washington, DC.
- Flynn, R. W., S. B. Lewis, L. R. Beier, and G. W. Pendelton. 2007. Brown bear use of riparian and beach zones on Northeast Chichagof Island: implications for streamside management in coastal Alaska. Alaska Dept Fish Game Wildlife Research Final Report, Douglas, AK. 90 pp.
- Foster, B. R. and E. Y. Rahe. 1983. Mountain goat response to hydroelectric exploration in northwestern British Columbia. *Environmental Management* 7:189-197
- Frid, A. 2003. Dall's sheep responses to overflights by helicopters and fixed-wing aircraft. *Biological Conservation* 110:387-399.
- Gaines, W. L., P. H. Singleton, and R. C. Ross. 2003. Assessing the cumulative effects of linear recreation routes on wildlife habitats on the Okanogan and Wenatchee National Forests. USDA Forest Service, Pacific Northwest Research Station, Portland, OR. Gen. Tech. Rep. PNW-GTR-586. 79 pp.
- Gill, J. A., K. Norris, and W. J. Sutherland. 2001. Why behavioral responses may not reflect the population consequences of human disturbance. *Biological Conservation*. 97(2): 265-268.
- Goldstein, M. I., A. J. Poe, E. Cooper, D. Youkey, B. A. Brown, and T. L. McDonald. 2005. Mountain goat response to helicopter overflights in Alaska. *Wildlife Society Bulletin* 33:688-699.
- Gotthardt, T.A. and C.A. Coray. 2005. Black oystercatcher. Alaska Natural Heritage Program, Environment and Natural Resources Institute, University of Alaska Anchorage, AK. Internet: <http://aknhp.uaa.alaska.edu>
- Gresswell, R. E. and R. D. Harding. 1997. Role of special angling regulations in maintaining and rebuilding sea-run coastal cutthroat trout populations. Pages 151-156 *in* J. D. Hall, P. A. Bisson, and R. E. Gresswell, editors, *Sea-run cutthroat trout: biology, management, and future conservation*. Oregon Chapter, American Fisheries Society.
- Haaman, B., H. Johnston, P. McClelland, S. Johnson, L. Kelly, and J. Gobielle. 1999. Birds. Pages 3.1-3.34 *in* G. Joslin and H. Youmans, coordinators. *Effects of recreation on Rocky Mountain wildlife: a review for Montana*. Committee on Effects of Recreation on Wildlife, Montana Chapter of The Wildlife Society.
- Harding, R. D. and D. C. Love. 2008. Southeast Alaska steelhead snorkel surveys of regional index streams, 2004 and 2005. Fishery Data Services No. 08-19. Alaska Department of Fish and Game. Juneau.
- Heinl, S.C., and A. W. Piston. 2009a. Birds of the Ketchikan area, Alaska Checklist. Internet: <http://www.juneau-audubon-society.org/Birds/Check%20Lists/Ketchikan%20Checklist%202009.pdf>
- Heinl, S.C., and A. W. Piston. 2009b. Birds of the Ketchikan area, Southeast Alaska. *Western Birds* 40(2):1-99.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

- Hendee, J.C. and C.P. Dawson. 2002. Wilderness management: stewardship and protection of resources and values, third edition. Golden CO: Fulcrum Publishing.
- Henson, P., and T. A. Grant. 1991. The effects of human disturbance on trumpeter swan breeding behavior. *Wildlife Society Bulletin* 19(3):248-257. Internet: <http://www.jstor.org/stable/3782513>
- Hilderbrand, G. V., C. C. Schwartz, C. T. Robbins, M. E. Jacoby, T. A. Hanley, S. M. Arthur, and C. Servheen. 1999. The importance of meat, particularly salmon, to body size, population productivity, and conservation of North American brown bears. *Canadian Journal of Zoology* 77: 132-138.
- Island Wings Service web page. 2011. Misty Fjords & Glaciers Flightseeing Tours Ketchikan, Alaska.
- Kauffman, J. B. and W. C. Krueger. 1984. Livestock Impacts on Riparian Ecosystems and Streamside Management Implications a Review. *Journal of Range Management* 35(5):430-438.
- Klein, M. L., S. R. Humphrey, and H. F. Percival. 1995. Effects of ecotourism on distribution of waterbirds in a wildlife refuge. *Conservation Biology* 9(6):1454-1465. Internet: <http://www.jstor.org/stable/2387190>
- Knight, R. L., Gutzwiller, K. J., eds. 1995. *Wildlife and Recreationists -- Coexistence Through Management and Research*. Washington, DC: Island Press: Chp 11, 183-202.
- Landres, P., C. Barns, J.G. Dennis, T. Devine, P. Geissler, C. S. McCasland, L. Merigliano, J. Seastrand, and R. Swain. 2008. Keeping it wild: an interagency strategy to monitor trends in wilderness character across the National Wilderness Preservation System. Gen. Tech. Rep. RMRS-GTR-212. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 77p.
- Leave No Trace website. Accessed January 18, 2011. Internet: <http://www.lnt.org/programs/principles.php>
- Levenson, H. and J. R. Koplín. 1984. Effects of human activity on productivity of nesting ospreys. *Journal Wildlife Management* 48(4):1374-1377. Internet: <http://www.jstor.org/stable/3801800>
- Leung, Y. and J. L. Marion. 2000. Recreation impacts and management in wilderness: a state-of-knowledge review. *USDA Forest Service Proceedings RMRS-P-15-VOL-5:23-48*.
- Lohr, S. C. and M. D. Bryant. 1999. Biological characteristics and population status of steelhead (*Oncorhynchus mykiss*) in southeast Alaska. Gen. Tech. Rep. PNW-GTR-407. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 29 p.
- Lowell, R. E. 2008. Subunit 1A black bear management report. Pages 19–29 in P. Harper, editor. Black bear management report of survey and inventory activities 1 July 2004–30 June 2007. Alaska Department of Fish and Game. Project 17.0. Juneau, Alaska. Internet: http://www.wildlife.alaska.gov/pubs/techpubs/mgt_rpts/08_blb.pdf

- MacDonald, S. O. and J. A. Cook. 2007. Mammals and amphibians of Southeast Alaska. The Museum of Southwest Biology, The University of New Mexico, Albuquerque, New Mexico. 191 pp. Internet:
<http://www.msb.unm.edu/mammals/publications/MacDonald-Cook2007.pdf>
- Manning, R. 1985. Crowding norms in backcountry settings: A review and synthesis. *Journal Leisure Research*, 17(2), 75-89.
- Manning, R. 1999. Studies in outdoor recreation: Search and research for satisfaction (Second ed.). Corvallis, OR: Oregon State University Press.
- Marion, J.L. and D.N. Cole. 1996. Spatial and temporal variation in soil and vegetation impacts on campsites. *Ecological Applications*. 6(2):520-530.
- Marion, Jeffery L. 1991. Developing a Natural Resource Inventory and Monitoring Program for Visitor Impacts on Recreation Sites: A Procedural Manual. US Department of Interior, National Park Service, Denver, Colorado, NRV T, NRR-91.
- Marshall, S. M., 2008. Behavioral effects of viewing and social dynamics of grizzly bears along the Fishing Branch River, Yukon. Master's thesis Simon Fraser Univ. Project No. 444. 95 pp. Internet:
http://www.carnivoreconservation.org/files/thesis/marshall_2008_msc.pdf
- McDowell Group, DataPath Systems, and Davis, Hibbitts & Midghall, Inc. 2007. Alaska Visitor Statistics Program. Alaska Visitor Volume and Profile. Summer 2006. Prepared for the State of Alaska Department of Commerce, Community and Economic Development. April. McDowell Group, Walt Sheridan Associates, and Leonard Guss.
- Monz, C. A. 1998. Monitoring recreation resource impacts in two coastal areas of Western North America: an initial assessment. *In*: Watson, A. E.; G. H. Aplet, and J. C. Hendee, *comps.* Personal, societal, and ecological values of wilderness: Sixth World Wilderness Congress proceedings on research, management, and allocation, volume I; 1997 October; Bangalore, India. USDA, Forest Service Rocky Mountain Research Station, Ogden, UT. Proc. RMRS-P-4:117-122.
- NMFS. 2008. Recovery Plan for the Steller Sea Lion (*Eumetopias jubatus*). Revision. National Marine Fisheries Service, Silver Spring, MD. 325 pages. Internet:
<http://www.nmfs.noaa.gov/pr/recovery/plans.htm>
- NMFS. 2006. Draft recovery plan for the fin whale (*Balaenoptera physalus*). National Marine Fisheries Service, Silver Spring, MD. Internet:
<http://www.nmfs.noaa.gov/pr/recovery/plans.htm>
- National Marine Fisheries Service (NMFS). 1991. Recovery plan for the humpback whale (*Megaptera novaeangliae*). Prepared by the humpback recovery team for the Natl Marine Fish Serv., Silver Spring, Maryland. 105 pp. Internet:
www.nmfs.noaa.gov/prot_res/readingrm/recoverplans/humpbkrp.pdf
- NatureServe. 2010. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Internet:
<http://www.natureserve.org/explorer>. (Accessed: January 26, 2011).

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

- Olson, G. 1999. Black bear. Pages 7.13-7.20 in G. Joslin and H. Youmans, coordinators. Effects of recreation on Rocky Mountain wildlife: a review for Montana. Committee on Effects of Recreation on Wildlife, Montana Chapter of The Wildlife Society.
- Peacock, E. 2004. Population, genetic and behavioral studies of black bears *Ursus americanus* in Southeast Alaska. PhD Thesis, Univ. Nevada, Reno. 184pp plus Appendices.
- Porter, B. 2008a. Unit 1A mountain goat management report. Pages 1–16 in P. Harper, editor. Mountain goat management report of survey and inventory activities 1 July 2005–30 June 2007. Alaska Department of Fish and Game. Project 12.0. Juneau, Alaska. Internet: http://www.wildlife.alaska.gov/pubs/techpubs/mgt_rpts/goat_08.pdf
- Primo Expeditions web page. 2011. Primo Expeditions Rates. Ketchikan, Alaska
- Rodgers Jr., J. A. and S. T. Schwikert. 2002. Buffer-zone distances to protect foraging and loafing waterbirds from disturbance by personal watercraft and outboard-powered boats. *Conservation Biology*. 16(1):216–224.
- Roggenbuck, J.W. and B.L. Driver. 2000. Benefits of nonfacilitated uses of wilderness. *In Wilderness science in a time of change conference, Volume 3: Wilderness as a place for scientific inquiry* (S.F. McCool, D.N. Cole, W.T. Borrie, and J. O’Loughlin, compilers) proceedings. RMRS-P-15-VOL-3. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station: 33-49.
- Schoen, John W. and Erin Dovichin, eds. 2007. The Coastal Forests and Mountains Ecoregion of Southeastern Alaska and the Tongass National Forest: A Conservation Assessment and Resource Synthesis. Anchorage, Alaska. 4.19 1-4.
- Schoen, J. and S. Gende. 2007. Brown bear *in*: Schoen, J. W. and E. Dovichin eds: A conservation assessment and resource synthesis for the Coastal Forests and Mountains Ecoregion in southeastern Alaska and the Tongass National Forest. The Nature Conservancy and Audubon Alaska. Anchorage, AK. Internet: http://home.gci.net/~tnc/HTML/Consv_assessment.html or <http://conserveonline.org/workspaces/akcfm>
- Scott, R. 2007. Unit 1 brown bear management report. Pages 1-19 in P. Harper, ed. Brown bear management report of survey and inventory activities 1 July 2004 – 30 June 2006. Alaska Dept. Fish Game, Juneau, AK.
- Slater, G. L. 2006, August 17. Trumpeter Swan (*Cygnus buccinator*): a technical conservation assessment. USDA Forest Service, Rocky Mountain Region. Internet: <http://www.fs.fed.us/r2/projects/scp/assessments/trumpeterswan.pdf>
- Smith, W. P., S. M. Gende, and J.B. Nichols. 2005. Correlates of microhabitat use and density of *Clethrionomys gapperi* and *Peromyscus keeni* in temperate rain forests of Southeast Alaska. *Acta Zoologica Sinica* 51(6):973-988.
- Steidl, R. J., and R. G. Anthony. 2000. Experimental effects of human activity on breeding bald eagles. *Ecological Applications*, 10(1):258–268.
- Suring, L. E., K. R. Barber, C. C. Schwartz, T. N. Bailey, W. C. Shuster, and M. D. Tetreau. 1998. Analysis of cumulative effects on brown bears on the Kenai Peninsula, Southcentral Alaska. *In*: A Selection of Papers from the Tenth International

- Conference on Bear Research and Management, Fairbanks, Alaska, July 1995, and Mora, Sweden, September 1995. *Ursus* 10: 107-117. Internet: <http://www.jstor.org/stable/3873117>
- State of Alaska Community Database Online.
http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.htm. Accessed on 02/21/2010
- Taylor, A. R., and R. L. Knight. 2003. Wildlife responses to recreation and associated visitor perceptions. *Ecological Applications*, 13(4):951–963.
- Tempel, D., V. Wright, J. Neilson, and T. Mildenstein. 2008. Linking wilderness research and management—volume 5. Understanding and managing backcountry recreation impacts on terrestrial wildlife: an annotated reading list. (Wright, Vita, series ed.) USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO. Gen. Tech. Rep. RMRS-GTR-79-Vol 5. 70 p. Internet: http://www.fs.fed.us/rm/pubs/rmrs_gtr079_5.pdf
- Tessler, D. F., J. A. Johnson, B. A. Andres, S. Thomas, and R. B. Lanctot. 2007. Black oystercatcher (*Haematopus bachmani*) conservation action plan. International Black Oystercatcher Working Group, Alaska Department of Fish and Game, Anchorage, Alaska, U.S. Fish and Wildlife Service, Anchorage, Alaska and Manomet Center for Conservation Sciences, Manomet, Massachusetts. Internet: http://www.whsrn.org/shorebirds/conservation_plans.html. 115 pp.
- USDA Forest Service. 2009. Forest Service Alaska Region Sensitive Species List Assessment and Proposed Revisions. USDA Forest Service, Alaska Region, Juneau, Alaska.
- USDA FS. 2009. FSM 2600 Supplement No.: R-10 2600-2009-1.
- USDA Forest Service. 2008a. Determination of Need for Commercial Uses on the Ketchikan-Misty Fjords Ranger District. Tongass National Forest, Lynn Kolund, Sign. US Forest Service, Ketchikan, Alaska.
- USDA Forest Service. 2008b. Tongass Land and Resource Management Plan (Forest Plan). R10-MB-603b. US Forest Service, Tongass National; Forest, Ketchikan, Alaska.
- USDA Forest Service. 2008c. Tongass Land and Resource Management Plan, Final Environmental Impact Statement, Plan Amendment. R10-MB-603f. US Forest Service, Ketchikan, Alaska.
- USDA Forest Service. 2008d. Invasiveness Ranking System for Non-Native Plants of Alaska. Region 10, Juneau, Alaska.
- USDA Forest Service. Forest Service Handbook 2709.11, Section 41.53, Outfitting and Guiding Administration. US Forest Service.
- USDA Forest Service. 2007. Determination of Need and Extent of Commercial Uses within Wilderness Areas on the Tongass National Forest
- USFWS. 2009. Bald eagle natural history and sensitivity. USDI Fish and Wildlife Service, Alaska Region. Accessed January 03, 2011. Internet: http://alaska.fws.gov/eaglepermit/guidelines/baea_nhstry_snstvy.htm

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

- USFWS. 2006. Yellow-billed loon conservation assessment . Internet:
http://alaska.fws.gov/fisheries/endangered/yellow_billed_loon.htm
- VanDaele, L. 2008. Osprey Alaska Dept. Fish Game Notebook Series. ADF&G, Juneau, AK.
Internet: <http://www.adfg.state.ak.us/pubs/notebook/bird/osprey.php>
- Vennesland, R. G. 2010. Risk perception of nesting great blue herons: experimental evidence of habituation. *Canadian Journal Zoology* 88:81-89.
- Warner, S. H. 1987a. Patterns of brown bear and visitor use on Brooks River and recommendations for management. USDI National Park Service, Katmai National Park and Preserve, Alaska. 51 pp.
- Warner, S. H. 1987b. Visitor impact on brown bears, Admiralty Island, Alaska. *International Conference Bear Research and Management* 7:377-382.
- White, C. M., N. J. Clum, T. J. Cade, and W. G. Hunt. 2002. Peregrine Falcon (*Falco peregrinus*). *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online:
<http://bna.birds.cornell.edu/bna/species/660>
- White, D. Jr., K. C. Kendall, and H. D. Picton. 1999. Potential energetic effects of mountain climbers on foraging grizzly bears. *Wildlife Society Bulletin* 27(1):147-151. Internet:
<http://www.jstor.org/stable/3783951>
- White, E.M. and D.J. Stynes. 2010. Characterization of Resident and Non-resident Visitors to Alaska National Forests. Joint Venture Agreement between the USDA Forest Service Pacific Northwest Research Station and Oregon State University. August, 2010.
- Wittinger, T. 1999. Grizzly bear. Pages 7.20-7.28 in G. Joslin and H. Youmans, coordinators. *Effects of recreation on Rocky Mountain wildlife: a review for Montana*. Committee on Effects of Recreation on Wildlife, Montana Chapter of The Wildlife Society.

Glossary

Alpine/subalpine habitat

The region found on a mountain peak above tree growth, generally above 1,500 feet in elevation.

Anadromous Fish

Fish (such as salmon and steelhead) that spend part of their lives in fresh water and part of their lives in salt water. Anadromous fish ascend from the sea to spawn in freshwater streams.

Beach Fringe

The area, typically forested, that is inland from saltwater shorelines.

Best Management Practices (BMP)

These are common-sense actions required by law to keep soil and other pollutants out of streams and lakes. BMPs are designed to protect water quality and to prevent new non-point source pollution.

Cave

Legally defined under federal law as “any naturally occurring void, cavity, recess, or system of interconnected passages which occurs beneath the surface of the earth or within a cliff or ledge and which is large enough to permit an individual to enter, whether or not the entrance is naturally formed or human-made. Such term shall include any natural pit, sinkhole or other feature which is an extension of the surface,” (Federal Cave Resource Protection Act of 1988). Speleologists use “cave” to refer to all parts, regardless of size, of an underground system that links openings and chambers and that may connect the system to the surface. Included in the term caves are tree molds and lava tubes associated with lava flows, erosional caves, and those formed by dissolution of bedrock.

Developed Recreation

Recreation that requires facilities that, in turn, result in concentrated use of an area, such as campgrounds and picnic areas. Facilities in these areas might include roads, parking lots, picnic tables, toilets, drinking water, and buildings (see Dispersed Recreation).

Dispersed Recreation

Recreation activities that are not confined to a specific place and are generally outside developed recreation sites. This includes activities such as scenic driving, hiking, backpacking, hunting, fishing, snowmobiling, cross-country skiing, and recreation in primitive environments (see Developed Recreation).

Dispersed Recreation Site

An area exhibiting evidence of recreational use, either through day or overnight activity

Encounter

An individual or group met while on National Forest System (NFS) lands or freshwater lakes. An encounter may occur at a Forest Service cabin, on a trail, or along a shoreline, among other places. An encounter only occurs when both parties are on NFS lands. When groups or individuals meet employees doing administrative work (such as staffing a fish weir or monitoring a campsite), this is not and would not be counted as an encounter. This definition of an encounter is specific to this analysis.

Endangered Species

Any species of animal or plant that is in danger of extinction throughout all or a significant portion of its range. Plant or animal species are identified by the Secretary of the Interior as endangered in accordance with the 1973 Endangered Species Act.

Estuary

An ecological system at a stream mouth, where fresh and saltwater mix, and where salt marshes and intertidal mudflats are present. The landward extent of an estuary is the limit of salt-intolerant vegetation, and the seaward extent is a stream’s delta at mean low water.

Forest-wide Standards and Guidelines

A set of rules and guidance that directs management activities and establishes the environmental quality, natural renewable and depletable resource requirements, conservation potential, and mitigation measures that apply to several land use designations.

Geographic Information System (GIS)

A computerized map database that is used to store and evaluate site-specific information.

Guiding

Providing services or assistance (such as supervision, protection, education, training, touring, or interpretation) for financial or other gain to individuals or groups on National

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Forest System lands (FSH 2709.14, 53.1e). Flightseeing tours that land on lakes in, for example, the 06 Misty Core Lakes Use Area are providing a guiding service.

Habitat

The sum total of environmental conditions of a specific place that is occupied by an organism, population, or community of plants or animals.

Hunt

An authorization for one guided client on National Forest System lands for the purpose of hunting one or more species in one general geographic area. A hunt does not typically exceed 10 days in length and can be considerably less based on the species pursued. A hunt is an authorization for a land use activity which may or may not result in the harvest of an animal.

Indicator

An element of the social or ecological setting that changes in response to recreation activities and can be monitored to assess conditions in relationship to established standards.

Karst

A type of topography that develops in areas underlain by soluble rocks, primarily limestone. Dissolution of the subsurface layer results in areas of well-developed, surface drainage that are sinkholes, collapsed channels, or caves.

Land Use Designation (LUD)

A defined area of land, identified by the Forest Plan, to which specific management direction is applied.

Management Indicator Species (MIS)

Vertebrate or invertebrate wildlife species whose response to land management activities can be used to predict the likely response of other species with similar habitat requirements. The National Forest Management Act regulations prescribe the use of management indicator species.

Muskeg

A bog, often dominated by sphagnum moss, tussocky sedges, and an open growth of scrubby trees, frequently with deep accumulations of organic material. Occurs in wet, poorly drained northern regions.

Outfitter or guide

Those who, generally for compensation, facilitate the use, enjoyment, understanding, and appreciation of national forest recreation settings where the need for service has been identified and is compatible with objectives and management direction.

Outfitter and Guide Use Location

A location used by an outfitter and guide three or more time in the past five years based on data from the Tongass Outfitter and Guide database.

Outfitting

Outfitting includes the delivery of vehicles, boats, camping gear, or similar supplies or equipment to the National Forest (FSH 2709.14, 53.1e). In other words, if a transportation company rents and delivers the gear a visitor needs, it is outfitting and it would be managed through this plan through allocation of service days.

Persons at One Time (PAOT)

Used to measure how many people can use a recreation site at one time.

Priority Special Use Permit

Permits issued to an outfitter/guide who has demonstrated successful performance in conducting operations on National Forest System lands for two or more consecutive years. Priority use, if authorized by the Deciding Officer, guarantees the operator a certain level of use for up to a 10-year period (FSH 2709.11, Chapter 40).

Recreation Opportunity Spectrum (ROS)

A system for planning and managing resources that categorizes recreation opportunities into seven classes. Each class defines the degree to which certain recreation experience needs are met. Classes are based on the extent to which the natural environment has been modified, the type of facilities provided, the degree of outdoor skills needed to enjoy the area, and the relative density of recreation use.

Recreation Opportunity Zone

Area where a prescribed blend of social, ecological, and managerial settings will be provided. The KMRD has been divided into four recreation opportunity zones, the Primitive Wilderness, Semi-Primitive Wilderness, Semi-Primitive Non-Wilderness, and Natural Accessible Recreation Opportunity Zones, which will provide a range of recreation experiences across the District.

Recreation Site

A specific site and/or facility occurring within a recreation place. Some examples of recreation sites are: recreation cabins, trailheads, picnic areas, and wildlife viewing blinds.

Recreation Use Area

The KMRD is divided into 28 study areas; area boundaries were determined based on primary method of access, visitor use patterns, Land Use Designations (LUDs) determined in the Forest Plan, Recreation Opportunity Zone, geography (e.g. watershed boundary), and agency and public comments received during the KMRD Recreation Planning Project.

Service Day

A day or any part of a day on National Forest System lands for which an outfitter or guide provides services to a client. One client on the National Forest for 15 minutes in one day is equivalent to one service day. One client on the National Forest for 24 hours in one day is also equivalent to one service day.

Sensitive Species

Animal and plant species identified by the Forest Service Regional Forester as potentially susceptible or vulnerable to activity impacts or habitat alterations and, therefore, in need of special considerations during land management activity planning.

Soundscape

Soundscape refers to the total acoustic environment associated with a given area and is composed of both natural and human-caused sounds.

Special Use Authorization

A permit, term permit, temporary permit, lease, or easement that allows occupancy or use of, or rights and privileges on National Forest System lands.

Special Use Permit

Permits and granting of easements (excluding road permits and highway easements) authorizing the occupancy and use of land.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

Standard

Threshold that, if exceeded, would constitute an unacceptable impact to ecological conditions or visitor experiences. Provides a specific measure of acceptable conditions for each indicator in each recreation opportunity zone.

Subsistence

Section 803 of the Alaska National Interest Lands Conservation Act defines subsistence use as, “the customary and traditional uses by rural Alaska residents of wild renewable resources for direct, personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of non-edible byproducts of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for personal or family consumption; and for customary trade.”

Temporary Special Use Permit

Permit issued for less than one year.

Threatened Species

A plant or animal species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Threatened species are identified and defined in accordance with the 1973 Endangered Species Act and published in the Federal Register.

“Transporter”

The Forest Service has no official definition of a transporter, though the following description has generally been agreed to: Point to point charter transportation in which the client determines the destination and supplies the necessary equipment for the trip, but needs transportation to the location. Chartering transportation by vehicle, boat, or plane simply to access a location is not outfitting or guiding. Public access to and from KMRD via a transporter as defined above would be unaffected by the decisions made on this EIS; however, if the transportation company also rents and delivers the gear a visitor needs, then it becomes outfitting and would be included in and managed through this management plan.

Unguided Use

In this analysis, refers to unguided use; use for which no special uses permit is necessary and for which no one receives financial remuneration or other gain for services provided on the national forest.

Viable Population

Fish or wildlife populations that have the estimated number and distribution of reproductive individuals to ensure their continued existence and that are well distributed in the national forest.

Visitor Capacity

The amount of use an area will accommodate given the desired natural conditions, visitor experiences, and management program. For this project, it is the estimated number of users, both guided and unguided, that can be accommodated in a given area without a loss in the quality of the recreation experience.

Visitor Capacity Location

Locations used to calculate visitor capacity and identified based on information about current recreation and outfitter and guide use patterns and impacts.

Visitor Capacity Seasons

Established to assist with outfitter and guide permit administration and based on information about outfitter and guide use information provided in the Tongass Outfitter and

Guide Database, visitor capacity seasons are defined as follows: spring (April 20th through May 14th), summer (May 15th through September 30th), and fall (October 1st through October 20th).

Watershed

That area that contributes water to a drainage or stream; portion of a forest in which all surface water drains to a common point. Can range from a few tens of acres that drain a single small intermittent stream to many thousands of acres for a stream that drains hundreds of connected intermittent and perennial streams.

Wetlands

Areas that are inundated by surface or ground water with a frequency sufficient, under normal circumstances, to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include muskegs, marshes, bogs, sloughs, potholes, river overflows, mud flats, wet meadows, seeps, and springs.

Wilderness

Area designated under the 1964 Wilderness Act. Wilderness is defined as undeveloped federal land retaining its primeval character and influence without permanent improvements or human habitation. Wilderness areas are protected and managed to preserve their natural conditions. In Alaska, the Tongass Timber Reform Act of 1990 and ANILCA also have designated wilderness areas.

Index

Alaska Department of Fish and Game (ADF&G).....	11, 15, 20, 21, 84, 93, 115, 121, 122, 133, 135, 143, 145, 159, 160, 165, 174, 175, 181, 182, 184, 185, 186
Alaska Department of Natural Resources	174, 175
Alaska National Interest Lands Conservation Act (ANILCA)	11, 78, 80, 93, 143, 144, 145, 147, 148, 171, 174, 190, 191
alpine habitat.....	115
anadromous fish.....	171, 186
Army Corps of Engineers (ACOE).....	176
bald eagle	44, 78, 115, 120, 123, 124, 137, 143, 184, 185
beach fringe.....	115
Best Management Practices (BMP).....	69, 162, 163, 164, 165, 166, 167, 168, 170, 186
biological diversity.....	180
brown bear	5, 7, 72, 84, 98, 120, 121, 122, 135, 136, 144, 180, 181, 182, 184, 186
cabin	10, 18, 23, 29, 44, 78, 79, 82, 83, 84, 85, 86, 87, 88, 93, 94, 96, 100, 104, 105, 106, 109, 111, 187, 189
cave	187
chinook.....	161, 167
Clean Water Act.....	169
coho.....	93, 109, 145, 160, 161, 167, 179
commercial fishing.....	68, 78, 143
commercial recreation.....	113
competition ...	6, 19, 31, 55, 117, 124, 135, 136, 144, 147, 148, 155, 158, 171
Council on Environmental Quality (CEQ)	15, 40, 67
cultural resources	6, 31, 45, 112, 113
cumulative effects	67, 68, 76, 92, 102, 113, 115, 138, 142, 148, 149, 157, 166, 168, 181, 184
deer.....	22, 15, 144, 146, 147, 164
desired condition.....	11, 29, 166

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

- developed recreation 98, 187
dispersed recreation 85, 90, 93, 95, 96, 98,
100, 109, 110, 156
diversity..... 78, 115, 177
Dolly Varden..... 145, 160, 161, 165, 167
economics 71, 173
encounter 26, 29, 42, 44, 52, 80, 85, 86, 88,
89, 90, 93, 101, 104, 105, 109, 110, 111,
122, 143, 187
endangered species..... 149, 170, 190
Environmental Protection Agency (EPA) 1,
6, 174
erosion 33, 44, 45, 112, 127, 156, 162, 168,
169
Essential Fish Habitat (EFH) 171
estuary 115, 123, 124, 137, 187
Federal Cave Resource Protection Act 187
Federal Subsistence Board 20, 21, 68, 143,
146, 147
firewood 33, 96, 141, 155, 156
fish habitat..... 163, 164, 165
fishing . 5, 7, 21, 33, 72, 78, 83, 84, 93, 97,
98, 101, 108, 111, 116, 117, 122, 123,
127, 135, 136, 142, 143, 145, 156, 160,
161, 164, 165, 168, 177, 183, 187
food resources 139
forest habitat..... 114, 125
Forest Plan 5, 6, 7, 9, 15, 17, 19, 20, 22,
25, 26, 29, 30, 31, 33, 34, 43, 44, 52, 54,
67, 69, 71, 79, 82, 85, 88, 90, 95, 100,
101, 104, 109, 114, 116, 120, 123, 125,
130, 133, 134, 138, 140, 144, 151, 161,
162, 163, 164, 165, 166, 167, 168, 185,
188, 189
fragmentation 127
Game Management Unit (GMU) .. 55, 115,
121, 122, 146
geology..... 160, 168
goshawk 44, 117, 119, 129, 130
habitat capability 146
helicopter..... 134, 181
heritage resource 45, 110, 113
Hoonah 13
hot springs..... 100, 101, 103, 106
humpback whale .. 117, 118, 129, 130, 183
hunting 5, 7, 19, 33, 72, 78, 84, 98, 101,
105, 108, 111, 116, 117, 120, 121, 122,
127, 133, 135, 143, 144, 145, 147, 156,
187, 188
Hyder. 5, 24, 36, 37, 38, 39, 47, 48, 49, 76,
94, 95, 96, 108, 110, 122, 134, 175, 176
hydrology 45, 158, 159, 160, 161, 162,
164, 165, 166, 167, 168
income..... 77
intertidal 171, 187
karst..... 168, 169, 173, 188
Ketchikan 1, 2, 3, 5, 6, 8, 9, 10, 11, 12, 13,
14, 15, 16, 17, 22- 26, 29, 33, 35, 36,
37, 38, 39, 45, 47, 48, 49, 51, 56, 67, 77,
81, 94, 95, 97, 98, 99, 100, 102, 103,
104, 105, 106, 107, 110, 111, 113, 114,
116, 119, 123, 125, 129, 134, 145, 158,
159, 161, 164, 167, 168, 169, 171, 174,
175, 176, 177, 181, 182, 184, 185
Land Use Designation (LUD) 7, 29, 31, 80,
131, 138, 187, 188, 189
lifestyle..... 96
long-term productivity 68, 69
Loring..... 5, 96
Management Indicator Species (MIS) 114,
120, 133, 161, 188
marine environment 95, 115, 117, 129, 130
Marine Mammal Protection Act .. 126, 129
marine mammal 143, 178
marten 115
mass wasting 169
Metlakatla 5, 12, 14, 95, 174, 175, 176
Meyers Chuck 5, 96, 175
minerals..... 155, 177
mining 21, 68, 76, 108, 111, 167, 170, 175
mitigation measure.... 9, 10, 18, 19, 34, 43,
44, 45, 52, 69, 88, 104, 105, 106, 107,
108, 112, 113, 125, 187
monitoring 9, 10, 26, 29, 30, 33, 40, 41, 42,
43, 44, 45, 69, 70, 79, 80, 85, 86, 88, 93,
94, 100, 101, 103, 105, 109, 111, 112,
113, 114, 142, 143, 167, 170, 173, 183,
187
muskeg 177, 188
National Environmental Policy Act
(NEPA) 1, 5, 6, 8, 11, 12, 13, 15, 18, 21,
22, 26, 67, 68, 71, 73, 74, 76, 133, 138,
141, 143, 146, 159, 163, 170, 176

National Forest Management Act (NFMA)	69, 188	sediment	158, 163, 169, 180, 184
National Historic Preservation Act (NHPA)	13, 110, 170	selection	76, 120, 128
National Register of Historic Places (NRHP)	53, 110, 111, 113, 171	sensitive species ...	114, 149, 157, 158, 161
Notice of Intent (NOI)	12	significant restriction .	6, 55, 144, 148, 171
old-growth... 114, 115, 119, 120, 123, 130, 152, 155		Sitka	115, 120, 164, 175, 177
otter	13	social values	101
outfitters and guides.. 6, 7, 8, 9, 11, 16, 17, 18, 19, 20, 24, 25, 30, 31, 32, 33, 34, 38, 40, 49, 50, 51, 53, 54, 56, 69, 72, 73, 74, 75, 76, 81, 82, 88, 90, 92, 93, 94, 96, 98, 100, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 114, 115, 126, 131, 133, 146, 147, 149, 156, 157, 162, 165, 166		sockeye salmon	145, 160, 167
past timber harvest	167, 169, 170	soil 44, 45, 96, 112, 127, 155, 156, 158, 168, 169, 170, 173, 180, 183, 186, 191	
peregrine falcon	141	Special Interest Area	131, 138
preferred alternative	46	special use permit.. 5, 6, 7, 8, 9, 10, 29, 32, 33, 36, 42, 43, 44, 50, 73, 74, 97, 103, 111, 147	
project record 1, 12, 13, 22, 42, 67, 68, 170		standards and guidelines ... 6, 7, 19, 20, 26, 30, 34, 43, 80, 85, 101, 114, 129, 134, 162, 166, 169	
proposed action . 1, 6, 9, 10, 11, 12, 13, 15, 31, 120, 144		State Historic Preservation Officer (SHPO).....	112, 113, 170, 175
public comments	15	Steller sea lion.....	117, 118, 129, 130
public involvement.....	11, 12, 15, 67	stream habitat	160
purpose and need.....	1, 9, 10, 94	structure.....	10
Record of Decision (ROD) . 11, 15, 41, 42, 114, 141		subsistence 1, 6, 13, 17, 20, 21, 24, 31, 32, 55, 71, 76, 94, 96, 100, 101, 108, 110, 111, 114, 121, 143, 144, 145, 146, 147, 148, 171,	
Recreation Opportunity Spectrum (ROS)6, 20, 26, 29, 30, 34, 52, 79, 88, 95, 104, 109, 189		timber harvest.....	95, 111
recreation site 89, 95, 96, 150, 152, 154, 158, 170, 187, 188, 189		timber management.....	108
renewable resource.....	69, 143, 144, 190	timber sales	68, 76, 148, 170
resident fish.....	167	Tlingit.....	111, 176
riparian area 121, 122, 124, 162, 163, 164, 165, 178		Tongass National Forest . 1, 12, 18, 20, 23, 79, 114, 117, 145, 148, 151, 152, 158, 159, 167, 174, 176, 178, 184, 185	
riparian 115, 120, 121, 122, 124, 162, 163, 164, 165, 166, 178, 181, 182		tourism7, 96, 97, 100, 101, 111, 121, 130, 180	
roads 24, 33, 55, 67, 78, 95, 96, 99, 110, 111, 115, 142, 146, 148, 157, 169, 179, 187		trails. 10, 22, 24, 32, 33, 55, 78, 84, 85, 87, 88, 93, 95, 96, 97, 99, 105, 109, 111, 115, 122, 127, 142, 146, 148, 157, 163, 169, 177	
salmon. 109, 118, 121, 124, 134, 135, 136, 137, 145, 147, 160, 161, 164, 165, 167, 171, 177, 179, 180, 182, 186		transportation 1, 29, 110, 143, 145, 188, 190	
Saxman... 5, 12, 14, 95, 111, 174, 175, 176		tribal government	15, 171
scoping	8, 12, 15, 16, 17, 30, 143	trout.....	145, 147, 160, 161, 164, 167, 177, 179, 181
		turbidity	155
		U.S. Coast Guard	176

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

U.S. Fish and Wildlife Service (USFWS)
. 118, 123, 126, 138, 149, 174, 176, 180,
185, 186

unguided.... 1, 5, 6, 8, 9, 10, 16, 18, 19, 20,
24, 25, 31, 32, 33, 36, 40, 51, 52, 70,
73, 77, 79, 81, 84, 85, 93, 94, 95, 96, 98,
99, 100, 101, 102, 103, 104, 105, 106,
107, 108, 109, 110, 116, 129, 130, 142,
143, 146, 158, 162, 165, 166, 190

vegetation.. 33, 44, 96, 121, 127, 141, 148,
154, 155, 156, 157, 158, 162, 163, 164,
165, 166, 168, 169, 180, 183, 187

viable population..... 114

visitor capacity 1, 5, 6, 8, 9, 10, 18, 25, 26,
31, 33, 38, 55, 91, 107, 133, 134, 138,
140, 142, 158, 162, 163, 165, 166, 190,
191

water quality.. 19, 156, 158, 162, 163, 165,
166, 186

waterfowl 72, 115, 123, 138, 139, 142,
143, 144, 180

wetland 79, 123, 148, 167, 168, 169, 173,
191

whales 78, 117, 118, 129, 142, 183

wilderness .. 5, 8, 9, 10, 12, 17, 20, 23, 26,
29, 30, 31, 32, 42, 44, 52, 54, 69, 71, 77,
78, 80, 81, 82, 85, 86, 87, 88, 89, 90, 92,
93, 94, 95, 97, 98, 99, 101, 173, 177,
179, 181, 182, 183, 184, 185, 189,
191103, 108, 109, 116, 134, 150

wildlife habitat 127, 181

winter habitat 134

Appendix A

Responses to Comments

Changes Between DEIS and FEIS

- This appendix was added to show the comments received on the DEIS and the Forest Service responses to those comments.

Appendix A

Responses to Comments

Introduction

A Draft Environmental Impact Statement (DEIS) for the Ketchikan-Misty Fiords Outfitter and Guide Management Plan was prepared by the Forest Service and mailed for public comment in June 2011. The 45-day comment period ended August 22, 2011. Six comment letters were received from the following individuals or agencies on this DEIS. A letter designator and comment number were assigned for tracking purposes.

This appendix displays the annotated comment letters followed by the Forest Service's response to those comments. In many of the responses to comments the reader is referred to specific locations or page numbers in the DEIS where a particular topic or analysis is displayed or discussed. Page numbers have changed between the DEIS and FEIS.

The complete reference for literature cited in this appendix is found in Chapter 4 of the FEIS.

List of those who commented on the Ketchikan-Misty Fiords Outfitter and Guide Management Plan DEIS and letter designator	
EPA	Christine Reichgott United States Environmental Protection Agency (EPA)
RH	Richard Hoffmann
OEPC	Pamela Bergmann USDI, Office of Environmental Policy and Compliance (OEPC)
OPMP	Susan Magee ADNR, Office of Project Management and Permitting, ANILCA Implementation Program (OPMP)
JP	Jean Public
CS	Charlie Stout

Ketchikan-Misty Fiords Outfitter and Guide Management Plan



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 10

1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

August 12, 2011

Jeff DeFreest, District Ranger
Ketchikan-Misty Fiords Ranger District, Tongass National Forest
3031 Tongass Avenue
Ketchikan, Alaska 99901

Re: EPA comments on the Ketchikan-Misty Fiords Outfitter and Guide Management Plan
Environmental Impact Study, EPA Project # 11-4111-AFS

Dear Mr. DeFreest:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (EIS) for the **Ketchikan-Misty Fiords Outfitter and Guide Management Plan** (CEQ # 20110211) in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA). Section 309, independent of NEPA, specifically directs EPA to review and comment in writing on the environmental impacts associated with all major federal actions and the document's adequacy in meeting NEPA requirements.

EPA-1

We applaud the efforts of the Forest Service to better plan for and manage guided activities in the District and are pleased with the robust evaluation that has been undertaken in order to do so. We also commend you and your staff for the extensive effort to involve interested communities and stakeholders. Based upon our review and the design of Alternative B, the proposed action, EPA has no significant concerns with the plan and has rated it LO (Lack of Objection). An explanation of our rating system is enclosed.

EPA-2

We believe the EIS evaluates a broad range of reasonable alternatives, provides adequate information regarding the potential impacts from those alternatives, and incorporates a clear adaptive management strategy to accommodate unforeseen outcomes should they occur. In general we believe the proposed action (Alternative B) strikes a good balance between resource protection and public and commercial use. We do recommend that the Service consider a slight modification of Alternative B to further minimize impacts to 04 Duke and 21 Percy Hotspur Mary areas. We also request that you continue to work with the Metlakatla Indian Community to address their concerns regarding potential impacts to cultural resources in these areas, as well as the 17 George Carroll Thorne area.

EPA-3

EPA-4

We thank you for the opportunity to review the draft EIS. Please feel free to contact Jennifer Curtis of my staff in Anchorage at (907) 271-6324 or curtis.jennifer@epa.gov if you have questions or would like additional information regarding these comments.

EPA-5

Sincerely,



Christine B. Reichgott, Manager
Environmental Review and Sediments Management Unit

Enclosure

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action*

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

Responses to Environmental Protection Agency Comments (EPA)

EPA - 1 –

Thank you for your timely review of the Draft Environmental Impact Statement for the Ketchikan-Misty Fiords Outfitter and Guide Management Plan.

EPA - 2 -

Thank you for the Lack of Objection rating.

EPA - 3 –

Thank you.

EPA - 4 –

We will take your recommendation to modify Alternative B to minimize impact to 04 Duke and 21 Percy Hotspur Mary areas into consideration during the decision making process. We will continue to work with the Metlakatla Indian Community to address their concerns regarding cultural resources in these areas, as well as in the 17 George Carroll Thorne area.

EPA - 5 –

We will contact Jennifer Curtis if we have any questions regarding your comments.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan

1761 South Lake St.

Salt Lake city, UT 84105

7-15-11

Re: Ketchikan-Misty Fiords Outfitter & Guide Management Plan

Tongass National Forest

After spending 16 days circumnavigating Revillagigedo Island from June 23 through July 8 including most of the arms of Boca de Quadra I felt it was necessary to complain about the concentration and noise from aircraft mostly in what you call NE Misty. In the three previous sailing seasons I have been exploring every major fiord from Vancouver to Ketchikan east of the inside passage. I have never experienced the volume of aircraft noise and that includes anchoring next to a helicopter logging operation! I assumed that the place was a wilderness and especially after going into Stewart &Hyder and having none of the noise even with the two commercial fishing operations in Pearce Canal and the helicopters operating out of the Stewart Airport for all the core drilling operations going at the time. Over on that side of the Monument it is a relative wilderness compared to Rudyerd Bay!

RH-1

It was disturbing to read through the DIES and to find out that more not less airplane use is being proposed under all alternatives! I was in Smeaton, Shoalwater Pass, Rudyerd, and Walker cove for two days each and all but the later was a buzz with airplane noise. I was hoping to paddle my sea kayak, row my shell, and hike some of the trails but due to the rainy condition I did paddle some but mostly was boat bound and reading enjoying the spectacular waterfalls due to the amount of rain that was falling. Even though at times the cloud deck was at sea level it seemed to have no effect on the aircraft. I was in Rudyerd over July 3-4 an incredibly wet period, also no effect! It is an incredible place with waterfalls pouring off everywhere! The fourth started off with 5 flying over together and motoring in was intercepted by 4 more landing right next to me as if I wasn't even there! Enclosed are photos of that encounter. I think I remember 10 Landings and I stopped counting after 20 planes! According to the DEIS Nooya lake has 423 landings annually with 3.8 per day and up to 20. Who in their right mind would want to go to all the trouble to hike in there to that! Before my trip I got all the Trail info in the hopes of doing some hikes and after experiencing the place you certainly are doing the hiking public a disservice by not mentioning this. You are so proud of the fact you do all the trail work by hand to preserve the wilderness feel but wilderness it is not! With all the downfall I experienced on my hike into Humpback Lake it would be far more productive to just get out the chain saw!

RH-2

RH-3

RH-4

The DEIS states that 98% of the float plane landings occur on just 15 lakes in the core area! I believe I read there are 58 guides now permitted and there is no limit to salt water landings! No wonder 27 percent of visitors reported negative feedback on power boat and float plane noise! I am at fault also, but there is a far different level of noise from my 28 foot sailboat putsing along a ft 4 to 5 knots and planes taking off and landing all around. With only 2 of the 28 areas closed to outfitting and guiding and

RH-5

RH-6

Final Environmental Impact Statement

authorized use set at 40,000 compared to the 25,000 in your 2006 data it seems to me the noise and conflict will only increase. I feel sorry for the mountain goats living there and have no way to escape the onslaught.

RH-6 cont.

RH-7

My alternative is far different than those listed and would propose to cut allowable daily flights, and force the remaining to spread over more of the monument to areas less used not just the closest to Ketchikan. I also think you need to approach the overcrowding issue by incorporating a limit and reservation quota as they do in Glacier Bay and close areas to motorized craft of all kinds. This is wilderness and with that designation all of the alternatives are outside this special classification of land use!

RH-8

RH-9

I know I will be contacting The Douglass's authors of the guide to, "Exploring Southeast Alaska" about the increased airplane use since their book was published in 2007. It is such an incredibly beautiful place but I know I will not be back! There is only one place with more air traffic and that is at the Bar Harbor Marina in Ketchikan!

RH-10

Sincerely,



Richard Hoffmann



Final Environmental Impact Statement



Responses to Richard Hoffmann Comments (RH)

RH - 1 –

We are sorry that you did not have a quiet time at NE Misty. Yes, the area where you were located is adjacent to the Misty-Fiords National Monument Wilderness.

In Chapter 1, page 15, of the DEIS, we list your concern as Issue 4; ‘Noise associated with floatplanes and boats in and around Misty Fiords National Monument Wilderness may negatively impact wilderness character.’ This issue is discussed in Chapter 3 of the DEIS on pages 70 to 86. Included in the analysis is a clear distinction of what areas the Forest Service can control and which it cannot. On page 85, it clearly states that, ‘Saltwater activities are not under Forest Service jurisdiction.’ These areas are under the jurisdiction of the State of Alaska. However, the section does go on to discuss impacts that may occur by limiting floatplane traffic in some areas, which could cause an increase in floatplane traffic to saltwater areas. We recognize that the decision made based on this analysis may have impacts to recreationists on saltwater areas and disclose the possible impacts in the DEIS.

RH - 2 –

Actually, none of the action alternatives proposes more use in the 06 Misty Core Lakes area (DEIS pg 43), which is the area that currently receives the highest flightseeing use. The number of service days authorized in 2009 was 11,268, with the highest use of 9,539 service days (Alternative A). The action alternatives would authorize 7,922 service days in Alternative B, 6,389 in Alternative C, and 1,917 in Alternative D.

In the area where you were recreating there would be an increase from 220 service days in Alternative A to 1,048 in Alternative B, 3,713 in Alternative C, and 372 in Alternative D. None of these days will be authorized on saltwater areas, which are managed by the State of Alaska.

RH - 3 –

As stated earlier, the Forest Service has no control over the number of airplane landings on salt water. This area is controlled by the State of Alaska. As for the planes flying over, some of these may have been landing on the freshwater lakes within the Monument and some may have been just flying over.

Some floatplane operators have increased their use of saltwater landings in Rudyerd Bay and Walker Cove. Landing on saltwater does not require a Forest Service permit and there are no fees charged for the activity. In addition, there are excellent wildlife viewing opportunities on saltwater. The public has expressed concerns about the increase in use along these waterways, along with concerns that management attempts to limit or reduce outfitter and guide use in the 06 Misty Core Lakes Use Area, will cause these bays to become increasingly crowded and impacted by noise associated with floatplane traffic (DEIS pg 75).

We recognize that the amount of flight traffic is high and are trying to address the portion that the Forest Service controls in this NEPA analysis. In the 10 Rudyerd Winstanley area, the current summer use is 147 service days, the action alternatives range from 150 to 1,501 summer service days. None of these service days would authorize use on

saltwater. Depending on which alternative is selected use in the Rudyerd area, may stay about the same or increase by ten-fold. The decision-maker will consider your concerns before making decisions on which alternative to select.

RH - 4 –

The public has expressed concern about the impacts of floatplane traffic (overflights and guided landing tours) on visitor experiences in Misty Fiords, particularly on lakes with public recreation cabins and/or shelters and on lakes that are accessible via trail from saltwater. Unguided visitors are less likely to access lakes via floatplane because of cost and equipment needs. However, some resident and unguided visitors access the lakes via trails from saltwater or hire floatplane transport services to stay at public recreation cabins. KMRD staff has received complaints from unguided visitors about crowding and airplane traffic on Nooya and Punchbowl Lakes. Both of these lakes are accessible via trails and have public use shelters available (DEIS pg 77).

The range of alternatives addresses the concerns for solitude and sound in the Wilderness, while trying to balance the effect of dispersing use to saltwater locations. Noise impacts from aircraft overflights and saltwater landings are concentrated in the 01 West Misty, 06 Misty Core Lakes, 09 Alava Princess Ella Manzanita, and 10 Rudyerd Winstanley Use Areas. Alternative B allocates a total of 8,920 service days annually to outfitter and guide use in these four areas, compared to 9,819, 9,380, and 2,376 for Alternatives A, C, and D, respectively. Alternative D could have a major effect on opportunities for solitude in the saltwater areas of Misty Fiords, primarily Rudyerd Bay and Walker Cove, because more flightseeing tours would disperse to saltwater locations. Alternative A would be the least likely to cause indirect impacts in saltwater areas (DEIS pg 85) since the number of service days available is the highest in Alternative A.

Strong storms during October 2010 caused extensive blowdown on remote hiking trails across the Ketchikan-Misty Fiords Ranger District. Trails in Misty Fiords National Monument Wilderness were most heavily affected and trail crews began clearing work in mid-June 2011. All trails on the Ketchikan road system were cleared and made accessible to foot traffic. Due to the severity of the blowdown, crews were unable to clear all remote trails during the summer of 2011 (6/11/2-11 FS News Release). The downfall you experienced on the trail was from the October 2010 storm. Although there is motorized air traffic in and around the National Monument Wilderness, the regulations for no power tools still applies. Trails will be cleared as personnel and funds are available.

RH - 5 –

As explained in the Wilderness section in Chapter 3 (DEIS pgs 70-86) we have heard the same types of concerns from others as you express in your letter. This NEPA document is trying to address these concerns through the alternatives, while looking at flightseeing displacement to saltwater.

RH - 6 –

You are correct, under some of the alternatives, noise and conflict will increase. The range of activities and types of recreation experiences offered by outfitters and guides can lead to conflicts when incompatible activities occur in close proximity (DEIS pg 90). Comments received during the Ketchikan-Misty Fiords Planning Project highlighted

conflicts between people engaged in incompatible activities (ex. wildlife viewing and hunting). Comments received throughout the KMRD recreation planning process helped Forest Service staff identify locations and use areas where conflicts between guided and unguided visitors are a concern. The IDT identified Design Criteria and Mitigation Measures for outfitter and guide management that minimize the impacts of guided use on popular or highly valued local areas without unnecessarily restricting guided opportunities (DEIS pg 92).

Through the Limits of Acceptable Change (LAC) process, indicators and standards were established to balance the needs of the unguided and guided visitors (DEIS Appendix E pg 14). The process helped in the development of a Carrying Capacity for all of the areas on the district (DEIS Appendix C). The action alternatives were developed based on the carrying capacity. If recreation use areas start to exceed the level of use in the indicators and standards, the district can take action to return to the level of use developed during the public LAC process. The intent is to limit conflicts. The amount of noise from saltwater landings is considered but out of the control of any decision on this analysis.

RH - 7 –

The flightseeing impacts to mountain goats were analyzed as part of the DEIS (pgs 123 - 124). Alternative D was developed to address concerns about aircraft noise near goat habitat. In Appendix B, unit cards where goat habitat exists include a restriction to maintain a minimum distance of 1,500 feet from subalpine/alpine habitat when mountain goats are present. Where possible, this distance should be increased to 6,600 feet to minimize effects to goats (DEIS pgs 14, 18, 22, 30, 34, 37, 42, 50, 58, 63, 67, 71, 75, 79, 83, 87, 90, 98, 107, and 111).

RH - 8 –

Alternative D is similar to your alternative, with the lowest number of allocated service days. Alternative D would significantly reduce the effects from guided floatplane landings in the 06 Misty Core Lakes Use Area (DEIS pg 83). Alternative D could have a major effect on opportunities for solitude within the Wilderness, because it reduces the number of landings and in the saltwater areas of Misty Fiords, primarily Rudyerd Bay and Walker Cove because it would disburse use to those areas (DEIS pg 85). This balancing of use is the reason we have a range of alternatives.

RH - 9 –

When the Alaska National Interest Lands Conservation Act (ANILCA) established the Misty Fiords National Monument Wilderness in 1980, it included provisions for the continuation of traditional methods of transport employed for accessing by local residents. In addition, as stated earlier, the area where you were is under the jurisdiction of the State of Alaska. We do not control access of motorized craft there.

The alternatives in the DEIS have a range of allocations that limit use in some areas within an alternative and expand use in others. The decision maker will select which alternative or parts of alternatives to implement in the Record of Decision. The decision will be based on the analysis and the concerns of all the people that comment on the DEIS, including your comments.

It is also important to note that only two locations on the Tongass National Forest, Pack Creek and Anan Creek, currently have regulations related to unguided use. We do not foresee regulating or restricting unguided use at any locations on the KMRD at this time.

RH - 10 –

Airplane use has not increased since 2007. The numbers we show in the DEIS are average and highest use between 2005 and 2009. We do understand if you feel you need to contact the author's of "Exploring Southeast Alaska".



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
1689 C Street, Room 119
Anchorage, Alaska 99501-5126



9043.1
ER11/588
PEP/ANC

August 16, 2011

Mr. Jeff DeFreest
District Ranger
Ketchikan-Misty Fiords Ranger District
Tongass National Forest
3031 Tongass Ave.
Ketchikan, Alaska 99901

Dear Mr. DeFreest:

The U.S. Department of the Interior has reviewed the June 2011 Draft Environmental Impact Statement for the Ketchikan-Misty Fiords Outfitter and Guide Management Plan project. We have no comments to offer at this time.

If you have questions, please contact me at 907-271-5011.

Sincerely,

Pamela Bergmann
Regional Environmental Officer – Alaska

**Response to Office of Environmental Policy and Compliance
Comments, Department of Interior (OEPC)**

OEPC – 1 –

Thank you for taking the time to review the June 2011 DEIS.



SEAN PARNELL, Governor

**ANILCA IMPLEMENTATION PROGRAM
Office of Project Management and Permitting**

550 W. 7TH AVENUE, SUITE 1430
ANCHORAGE, ALASKA 99501
PH: (907) 269-7529 / FAX: (907) 334-2509
susan.magee@alaska.gov

August 22, 2011

USDA Forest Service, Alaska Region
Jeffrey DeFreest, KMRD District Ranger
Ketchikan-Misty Fiords Ranger District
3031 Tongass Avenue
Ketchikan, AK 99901-5743

Dear Mr. DeFreest,

The State of Alaska reviewed the Ketchikan-Misty Fiords Ranger District (KMRD) Outfitter and Guide Management Draft Plan Environmental Impact Statement (DEIS). The following consolidated state agency comments were compiled by the State's Alaska National Interest Lands Conservation Act (ANILCA) Implementation Program.

In general, the State supports increased opportunity for recreational activities including guided recreational activities. We appreciate that, with the exception of a few highly utilized areas, the plan recommends increased opportunities for outfitting and guiding in nearly all areas of the district. While we do not agree with all of the conclusions, we also appreciate the District included the Wilderness Needs Assessments for the designated wilderness areas of KMRD in the Appendix and the accompanying explanation in the plan. Additionally, we recommend the District continue its increased efforts to work with the public and visitor industry during plan implementation.

OPMP-1

OPMP-2

Background

The plan describes guided use in terms of service days per unit, and while precise, these numbers are difficult to conceptualize in terms of actual use. In order to provide the public with a useful framework for evaluating the plan alternatives, a concise narrative description of the existing guided use on KMRD is essential. While guided use in the Monument is described on page 74 and pages 2-5 of Appendix A, this is only 43% of the total guided use on the district and there is no equivalent concise description of guided use on the rest of KMRD, or on KMRD as a whole. For example, the Appendix indicates 95% of guided use within in the Monument is flight seeing tours on Misty Core Lakes but does not specify what constitutes the majority of guided use outside of the Monument or on KMRD as a whole.

OPMP-3

We recommend adding the following key information to Chapter 1: the proportion of use by activity type (e.g. flight seeing landing tours; bear hunting, fishing); major locations for the different activity types (e.g. Misty Core Lakes for flight seeing tours); the trend in the number of outfitter/guides; the trend in visitor numbers and whether visitors arrive by cruise ship or independently; and the trend in commercial service days.

OPMP-4

State-owned Navigable Waters

The plan includes several statements that assert the Forest Service has jurisdiction over fresh water lakes within the District. For example, Appendix A, page 12 includes the following statement: “*Floatplane landings on lakes and shoreline excursions are under the Forest Service’s jurisdiction.*” Pursuant to the Equal Footing Doctrine, the Submerged Lands Act of 1953, and the Alaska Statehood Act, the State automatically received at statehood title to inland submerged lands beneath navigable waters and to land submerged under tidal waters between mean high tide and seaward to three geographical miles from the coastline of the state. ANILCA also specifically exempts state-owned lands and waters from regulations applicable solely to conservation system units. Therefore, the Forest Service does not have blanket jurisdiction over state-owned navigable waters, nor does it have the authority to require commercial operators to obtain a special use permit without a corresponding upland use (above the ordinary high water line), such as float plane landings. Our understanding is that the commercially guided flight-seeing tours referenced in the plan include a corresponding upland use and we request this be clarified.

OPMP-5

In addition, it appears the plan does not directly impact marine water excursions or marine water floatplane landings adjacent to Misty Fiords National Monument. We appreciate the plan identifies the potential for displacement to State-owned marine waters. As the Forest Service acknowledges, these marine waters are outside their jurisdiction. If displacement occurs, it will be within the State’s jurisdiction to evaluate and address any impacts.

OPMP-6

Lastly, the generally-drawn mapped recreation area boundaries include state-owned navigable waters. We request the maps include a footnote to explain that, under the Equal Footing doctrine, the Submerged Lands Act of 1953, the Alaska Statehood Act, and ANILCA, the recreation areas do not include state-owned navigable waters.

OPMP-7

ADF&G Administrative Structures

Appendix B on page 41 indicates that no additional Alaska Department of Fish & Game (ADF&G) administrative structures will be authorized on Forest lands. While we appreciate the Service’s continued cooperation and coordination with regard to our mutual responsibilities of conserving wildlife and their habitats, an outfitter/guide management plan is not the appropriate place to address ADF&G administrative facilities. We request this section be removed from the plan. If necessary, we are available to discuss this important issue.

OPMP-8

Carrying Capacity

It appears the plan has taken a balanced approach to analyzing guided use capacity for the recreation units. For example, on one of the most heavily used units, Misty Core Lakes, the proposed action (Alternative B) would allocate a level of guided use that is lower than the peak use it receives now, but sets the highest level of any of the alternatives. However, we remain generally concerned that capacity limits on outfitters and guides may also impact public access. Since a high percentage of the public depends on outfitter/guides to utilize the Tongass National Forest, including designated wilderness areas, limits on the number of outfitter/guides service days may effectively restrict public use.

OPMP-9

Guided Deer Hunting

We are concerned with the District’s decision to no longer authorize special use permits for guided deer hunting in KMRD. ADF&G is responsible for the management and sustainability of all fish and wildlife in Alaska, including for subsistence purposes, regardless of land ownership or designation, unless specifically preempted by federal law. The reasons listed in the plan for prohibiting guided deer hunts

include; low demand for guided deer hunts, lack of a guide requirement for non-resident deer hunters, and the possibility that substantial increases in guided deer hunts could conflict with subsistence use. We do not agree these reasons justify prohibiting guided deer hunting, and currently the State has no significant issues with the level of guided deer hunting within the District. Any conflict, or potential conflict, between federally qualified subsistence users and non-subsistence users is best addressed by the Alaska Board of Game and the Federal Subsistence Board. Prohibiting guided hunts based solely on allocation concerns through this plan would circumvent these existing public regulatory processes. We therefore request that the District recognize these existing authorities and processes in the EIS and continue to permit guided deer hunting on the non-wilderness and wilderness portions of the District.

OPMP-10

Special Use Permits

We recognize that guided use allocations allow for a more streamlined Outfitter Guide (special use) permit process. In future plan amendments, we recommend the Forest Service quantify or demonstrate the effectiveness of the new process.

OPMP-11

Transporters/Air and Boat Charters

We are encouraged that the plan indicates unguided visitors will continue to enjoy KMRD as they do now; however, we request more explicit recognition that public access to KMRD via transporters, including boat and air charters, will not be affected by this plan. As written, it is unclear to readers whether this is the case. We further recommend clearly defining transporter activities in contrast to outfitter and guide activities, so that readers are not confused about the plan’s intentions.

OPMP-12

Adaptive Management

We appreciate the District’s adaptive management strategy, which would first implement management actions that would cause the least impact to visitors should the District determine that action is necessary to address resource concerns. Through adaptive management the KMRD managers’ flexibility in working with Outfitter and Guides is enhanced. For example, it clarifies the means by which managers can administer special use permits, such as adding service days under a permit when appropriate.

OPMP-13

Page Specific Comments

Page 10, Public Involvement, 2nd paragraph: The plan indicates that ADF&G and the ANILCA office were consulted “*as the Needs Assessment was being developed.*” This statement is incorrect. While the Needs Assessments were provided to us upon request, at the time of the request they were already completed. No input was sought from the State during their development and as stated previously, the State does not agree with all conclusions in the assessments.

OPMP-14

Page 80, Wilderness Character (Opportunities for Primitive and Unconfined Recreation), third paragraph: Self-discovery and exploration are very subjective benefits. The assertion that these benefits cannot be realized through use of an outfitter or guide is ill-founded. Individuals do not need to be self-guided to experience “wilderness” benefits. Furthermore, it is unclear how the mere “opportunity” to use outfitter and guide services affects wilderness character. An individual still has the option to visit designated wilderness without the service of an outfitter or guide.

OPMP-15

Page 134, Affected Environment, sixth paragraph: Both quotes on this page are from Title VIII of ANILCA, not Title VII. We request this technical correction in the final plan.

OPMP-16

Page 137, Competition, second paragraph, first sentence: Since there is not yet a moratorium on brown and black bear guides and hunts, this should read:

OPMP-17

With the current moratoriums on new brown and black bear guides and hunts....

Page 137, Competition, second paragraph, third sentence: ANILCA Section 804 states that subsistence uses shall be accorded a priority opportunity whenever it is necessary to restrict the taking of populations of fish and wildlife to protect the viability of populations, or to continue subsistence uses. The presence of competition for wildlife resources does not invoke this priority opportunity.

OPMP-18

Volume B, Appendix A:

Page 12, Lake Landings: This section includes the following:

The Alaska National Interest Lands Conservation Act (ANILCA) allows these uses, but does not discuss their use for commercial purposes, nor does it address the levels of motorized use. Section 707 of ANILCA states that “except as otherwise expressly provided for in this Act wilderness designated by this Act shall be administered in accordance with applicable provisions of the Wilderness Act...” Ultimately, any use must leave the wilderness resource unimpaired for future use and preserve the wilderness character.

We disagree that ANILCA does not address levels of motorized use and request this discussion be expanded to clarify that ANILCA Section 1110(a) specifically allows motorized access into and within designated wilderness in Alaska for traditional activities, such as hunting and fishing, “*subject to reasonable regulation...to protect the natural and other values...and shall not be prohibited unless...such use would be detrimental to the resource values*” As noted, Section 707 states “*except as otherwise expressly provided for in this Act.*” The allowance for motorized use in designated wilderness is expressly the type of exception referenced in Section 707. The level of use depends upon whether there are quantifiable impacts to resource values. Any restrictions to public motorized use must be reasonable (i.e. justified), the result of a detrimental effect to resource values, and implemented through regulation. Similarly, because limits to commercial use could affect the public’s ability to access these remote areas, adequate justification is needed before implementing restrictions to motorized commercial use.

OPMP-19

Thank you for the opportunity to comment. Please contact me at (907) 269-7529 if you have any questions.

Sincerely,



Susan Magee
ANILCA Program Coordinator

**Responses to Office of Project Management and Permitting
Comments, State of Alaska, ANILCA Implementation Program
(OPMP)**

OPMP – 1 –

We hope the Wilderness Needs Assessments helped your understanding of the analysis in the DEIS.

OPMP – 2 –

The District plans to continue to work with the public and visitor industry during plan implementation. Page 39 in the DEIS includes the Project Monitoring and outlines ways that the permit administrators work with permit holders to determine use and affects. Page 40 in the Project Monitoring section states ways that the KMRD staff will interact with the public to determine effects of project implementation. The results of the monitoring will be used adaptive management strategy.

Page 40 also states that programs and strategies used to manage resources include education and awareness, field visits, site inspections, and visitor feedback.

OPMP – 3 –

Please refer to the Recreation Use and Use Levels section on pages 88 to 92, in the DEIS. The DEIS also includes the commercially guided activities needed on KMRD on page 5. These are the activities we analyzed in the DEIS. Any decisions on the analysis would be for these activities.

We added a brief summary of current guided uses to Chapters 1 and 3 of the FEIS. It is important to realize that this does not mean that future permits will be issued in the same proportion as past permits. Permitted activities are based on requests from outfitters and guides; the analysis does not specify how many days go to each guided activity in order to maintain flexibility for outfitters and guides.

OPMP – 4 –

Please refer to the Recreation Use and Use Levels section on pages 88 to 92, in the DEIS. This section describes the increase in summer visitors, the increase in the number of outfitters and guides, and the types of guided activities on KMRD. Please also note the response to OPMP 3.

OPMP – 5 –

The Forest Service recognizes the jurisdiction of the State of Alaska over land submerged under tidal waters between mean high tide and seaward. The project area description on DEIS page 1, specifically states that the project area consists of National Forest System lands. As stated on the same page you reference, Appendix A, page 12, activities occurring in the air and on saltwater are outside of Forest Service jurisdiction. The areas managed by the State that we mention in the document, we use as part of our review of cumulative effects, and discuss how the alternatives may increase the use of saltwater areas.

The State and the Forest Service do not always agree on navigability and reserved federal lands. When it comes to lake landings; this difference in definition has sometimes become an issue for the court to decide. It is our understanding that the State acknowledges this difference of opinion.

According to the Alaska Department of Natural Resources Mining, Land & Water Navigability Program website,

“Because of differing legal interpretations of court navigability decisions, several aspects of the criteria used by the state to determine navigability have been disputed by the federal government. As a direct result of these criteria disputes, many waterbodies considered navigable by the state have been determined non-navigable by the federal government.” (http://dnr.alaska.gov/mlw/nav/nav_policy.htm)

“Another navigability dispute involves remote, isolated lakes. The federal government has found many of these lakes legally non-navigable, even though they are physically capable of being navigated. The federal government's contention is that a navigable connection to another area is necessary to make travel on a remote lake worthwhile. Otherwise, the federal government views the lack of development in the area around the isolated lake as an indication that the lake will never be used for commercial transportation.

To resolve these navigability criteria disputes, the state has actively pursued a limited number of court cases challenging particular findings of non-navigability by the federal government. With the sole exception of floatplanes, the courts have agreed with the navigability criteria presented by the State of Alaska and have rejected the limitations suggested by the federal government.”

The case that DNR uses as an example for floatplanes is,

“**Slopbucket Lake.** The state claimed that the extensive use of floatplanes on Slopbucket Lake, a twenty acre lake adjacent to Lake Iliamna, was sufficient to establish navigability. The federal courts rejected this view. The courts reasoned that floatplanes do not use the lake as a navigable highway; they just take off and land there. Alaska v. United States, 754 F.2d 851 (9th Cir.) cert denied, 106 S. Ct. 333 (1985).”

We are not trying to solve the complicated navigability dispute administratively, through this document; however, based on our direction and your web site, we feel the need to consider these landlocked lakes as part of the national forest in our analysis. The Forest Service considers these lakes as not navigable because they are landlocked within the Tongass National Forest and commercial activities are floatplanes. This appears consistent with the Slopbucket Lake decision. Thus, the Forest Service feels they have the authority to require commercial operators to obtain a special use permit. Final determination of jurisdiction based on navigability would be a judicial determination.

The commercially guided flight-seeing tours referenced in the DEIS may include a corresponding upland use; however, not all flightseeing tours include shoreline excursions. Some operators land on the lakes, allow their passengers to view the forest from the floatplane floats, and then leave without touching land.

OPMP – 6 –

As stated in the DEIS (pg 85), we do recognize that the State has jurisdiction over State-owned marine waters. These areas are included in our discussion of cumulative effects because we recognize that decisions we make regarding access to the National Monument may have an effect on lands under other ownership. Please see the letter from Richard Hoffmann (above) that relates to management of State waters.

OPMP – 7 –

In the FEIS, we added a sentence to the Project Area Description on page 1, which currently states that the project area consists of National Forest System (NFS) lands that the project area excludes state and privately owned land, including all areas below mean high tide. We also added a footnote on Figures 1-1 and 1-2 that states that the plan only includes National Forest System lands even though the maps show State and private lands.

OPMP – 8 –

We removed the sentence on page 41 that states, “No additional structures will be authorized on NFS lands.” The listing of the ADF&G administrative facility will be retained since all of the existing sites are listed.

OPMP – 9 –

Your contention that the alternatives may affect public access is true in regards to guided visitors. Regardless, the Forest Service is required to:

- 1) conduct a needs assessment to determine public or agency need for authorized outfitting and guiding activities,
- 2) when monitoring demonstrates that impacts associated with use may exceed desired conditions, conduct a resource capacity analysis, and
- 3) determine the allocation of use between outfitter and guided and non-outfitted and guided visitors (FSH 2709.14 Chapter 50 Outfitting and Guiding and Other Concession Services).

The Alaska National Interest Lands Conservation Act (ANILCA) provides for the continuation of traditional methods of transport employed for accessing Misty Fiords National Monument Wilderness by local residents. If for some reason in the future a limit on unguided use is considered, it would require further analysis. It is important to note that only two locations on the Tongass National Forest, Pack Creek and Anan Creek, currently have regulations related to unguided use. We do not foresee regulating or restricting unguided use at any locations on KMRD at this time.

At this time, the agency does not restrict the use of transporters to access wilderness or non-wilderness areas or the private use of airplanes or motorboats. Transporters are not under permit by the Forest Service and are regulated by the State.

OPMP – 10 –

Again, the Forest Service is required to conduct a needs assessment to determine the public or agency need for authorized outfitting and guiding activities. KMRD completed the Determination of Need for Commercial Uses on the Ketchikan-Misty Fjords Ranger District in September 2008. Factors considered in determining the need for each outfitter/guide activity included:

- 1) skills needed to accommodate users,
- 2) access,
- 3) safety,
- 4) special management objectives,
- 5) wilderness dependence, and
- 6) resource effects (biophysical/social).

Historically, there have been very few guided deer hunts on the KMRD, and all guided deer hunting has occurred outside of wilderness. There is no State requirement for a guide and local residents, without guide services, commonly hunt deer. Deer are often hunted in areas easily accessed from town, reducing the risks associated with remote travel and recreation. Between 2003 and 2005, there were no successful deer harvests in Misty Fjords National Monument Wilderness. While ADF&G is responsible for the management and sustainability of fish and wildlife in Alaska, the Forest Service has the authority to determine when and where there is a need for guided activities.

OPMP – 11 –

We agree, this should be reviewed after monitoring – 5 to 10 years from now.

OPMP – 12 –

In the DEIS, we explicitly defined “...transporters (essentially a person hired to drop people off and pick people up)” (page 136). We also stated that, “if someone chose to use a transporter, the Forest Service would consider them unguided users since transporters would not be regulated by this decision. Thus, access for people transported to areas on KMRD would not change.” In the FEIS, we strengthened this recognition by adding additional information to Chapters 1 and 3, and by providing definitions of outfitting, guiding, and transporter in Chapter 4.

OPMP – 13 –

Thank you for your comment.

OPMP – 14 –

District staff consulted with Boyd Porter (ADF&G Wildlife Conservation, Ketchikan area) during the early development stages of the Determination of Need for Commercial Uses on the Ketchikan-Misty Fjords Ranger District to determine if there were concerns related to big game hunting on the wilderness or non-wilderness portions of the District. Mr. Porter was also given several opportunities to comment on the draft document before the document was finalized. The goal of this consultation was not to achieve consensus on the determination of need for various activities, but to inform the determination

through a mutual understanding of management objectives – both those of the State and the Forest Service. It is correct that the State ANILCA office, or more specifically, Sue Magee, was given a copy of the signed document in April of 2010, after it had been completed.

OPMP – 15 –

In the paragraph prior to the one referenced (Ch 3 Affected Environment and Effects, p. 80), it is acknowledged that “Misty Fiords is largely undeveloped and opportunities for self-discovery, challenge and freedom from managerial controls abound.” Nevertheless, the use of outfitters and guides does reduce the need for visitors to obtain personal skills related to trip planning/outfitting, travel /camping in primitive areas, and primitive travel. Forest Service managers are responsible for protecting the wilderness resources and wilderness character but have the discretion to allow commercial activities if they are found to be necessary to meet wilderness objectives. Development of primitive skills and activities is a goal of wilderness management.

OPMP – 16 –

We corrected this in the FEIS.

OPMP – 17 –

We disagree with this comment. A brown bear moratorium is currently in effect according to the ADF&G Unit 1 Brown Bear Management Report (Scott 2009). The Forest Service implemented a moratorium on additional guided black bear hunting in 2008. Additional actions were taken by the Board of Game in 2010 include “allocating bear harvests to ... non-resident guided hunters ... based on the 3-year average of harvest during 2007-2009” and going to a drawing hunt to reduce the number of permits for unguided non-resident hunters. These black bear regulations go into effect for the 2102-2013 regulatory season and affect both existing and potential new guides.

Additionally, the DEIS referenced the “Scott 2007” report; the FEIS was the updated to reference the Scott 2009 report.

OPMP – 18 –

We have clarified this in the FEIS.

OPMP – 19 –

We disagree with the State’s comment. Nothing in Section 1110(a) of ANILCA addresses commercial uses in wilderness by commercial flightseeing/landing tours by non-rural (non-federally qualified) visitors. As the State points out, Section 1110(a) deals with airplanes for access traditional activities such as hunting and fishing, "subject to reasonable regulation...to protect the natural and other values...". The paragraph on page 12 acknowledges that ANILCA allows motorized use (an exception under Section 707) and emphasizes the importance of protecting the wilderness character. The only specific exception to the Wilderness Act in ANILCA that speaks to commercial uses is Section 1307. This section allows for continuation of services for persons operating on or before January 1, 1979 who were adequately providing visitor services within conservation system units providing such type of service and similar types of visitor services within the conservation system unit are consistent with the purposes for which the unit was

established. Section 1307(c) specifically states "Nothing in this Act shall limit or affect the authority of the Federal Government ... to license and regulate transportation services" Refer to the DEIS/FEIS, Issue 4 and the Wilderness Section for analysis of floatplane impact on the wilderness character and the Subsistence section for analysis of hunting and fishing access.

Ketchikan-Misty Fiords Outfitter and Guide Management Plan



jean public <jeanpublic@yahoo.com>
06/25/2011 02:11 PM

To: comments-alaska-tongass-ketchikan-mistyfiord@fs.fed.us
cc:
bcc:
Subject: Re: Ketchikan-Misty Fiords Outfitter and Guide Management Plan

i want the days reduced to zero. i do not believe the guides exist to guide people to kill any animal. i wonder why you do. the killing and murder of an animal is offensive to me and to about 60% of the population of the united states. why are you clinging to 1860 behavior when this is 201. wildlife watchers outnumber wildlife killers by 80 to 1. and they outspend wildlife murdering sadist gun wacko hunters so that when you consign an area to killing animals, that area suffers economically. start pandering to wildlife watchers. they are far more affluent.
that is my comment for the public record.
jeanpublic

JP-1

--- On Fri, 6/24/11, comments-alaska-tongass-ketchikan-mistyfiord@fs.fed.us <comments-alaska-tongass-ketchikan-mistyfiord@fs.fed.us> wrote:

From: comments-alaska-tongass-ketchikan-mistyfiord@fs.fed.us <comments-alaska-tongass-ketchikan-mistyfiord@fs.fed.us>
Subject: Ketchikan-Misty Fiords Outfitter and Guide Management Plan
To:
Date: Friday, June 24, 2011, 2:12 PM



Ketchikan-Misty Fiords Outfitter and Guide Management Plan Draft Environmental Impact Statement (DEIS)

The DEIS for the Ketchikan-Misty Fiords Outfitter and Guide Management Plan project has been completed. The three action alternatives analyzed would allocate (distribute) between 34,900 and 74,000 service days annually to outfitters and guides for recreational use on National Forest System Lands within the Ketchikan-Misty Fiords Ranger District. The no-action alternative would allocate about 24,200 service days to outfitters and guides based on the highest use by area between 2005 and 2009. Copies of the DEIS are available for review in several formats. The DEIS is available on the internet at http://www.fs.fed.us/r10/tongass/projects/nepa_project.shtml?project=32817 & for background information <http://www.fs.fed.us/r10/tongass/districts/ketchikan/recreationplanning.shtml>

For more information or a different DEIS format, contact Sue Jennings, the project team leader, at 907-772-5864.

Thanks for your time,

JEFFREY DEFREEST, District Ranger, 3031 Tongass Ave., Ketchikan, AK 99901

The U.S. Department of Agriculture (USDA) is an equal opportunity provider and employer.

[Notices]

[Pages 40354-40355]

From the Federal Register Online via the Government Printing Office [www.gpo.gov]

[FR Doc No: 2011-17199]

=====

ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-8997-8]

Environmental Impacts Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564-1399 or <http://www.epa.gov/compliance/nepa/>

Weekly receipt of Environmental Impact Statements

Filed 06/27/2011 Through 07/01/2011

Pursuant to 40 CFR 1506.9.

Notice

In accordance with Section 309(a) of the Clean Air Act, EPA is required to make its comments on EISs issued by other Federal agencies public. Historically, EPA met this mandate by publishing weekly notices of availability of EPA comments, which includes a brief summary of EPA's comment letters, in the Federal Register. Since February 2008, EPA has included its comment letters on EISs on its Web site at: <http://www.epa.gov/compliance/nepa/> entire EIS

comment letters on the Web site satisfies the Section 309(a) requirement to make EPA's comments on EISs available to the public. Accordingly, on March 31, 2010, EPA discontinued the publication of the notice of availability of EPA comments in the Federal Register.

EIS No. 20110210, Final EIS, USFS, NM, McKinley County Easement--Forest Roads 191 and 191D, Implementation, Cibola National Forest, McKinley County, NM, Review Period Ends: 08/08/2011, Contact: Keith Baker 505-346-3820.

EIS No. 20110211, Draft EIS, USFS, AK, Ketchikan--Misty Fiords Outfitter and Guide Management Plan, Authorizes Outfitter and Guide Operations through the Issuance of Special-Use-Permits, Tongass

National Forest, Ketchikan-Misty Ranger District, Ketchikan, AK,
Comment Period Ends: 08/22/2011, Contact: Susan Jennings 907-723-0477.

EIS No. 20110212, Draft EIS, BLM, CA, Ocotillo Express Wind Energy Project, Proposing to Develop a 465-Megawatt Wind Energy Facility, Implementation, Imperial County, CA, Comment Period Ends: 10/05/2011, Contact: Cedric Perry 951-697-5388.

EIS No. 20110213, Final EIS, FAA, RI, Theodore Francis Green Airport Improvement Program, Proposing Improvements to Enhance Safety and the Efficiency of the Airport and the New England Regional Airport System, City of Warwick, Kent County, RI, Review Period Ends: 08/08/2011, Contact: Richard Doucette 781-238-7613.

EIS No. 20110214, Draft Supplement, USFS, ND, North Billings County Allotment Management Plan Revisions, Updated Information, Proposes to Continue to Permit Livestock Grazing on 43 Allotments, Medora Ranger District, Dakota Prairie Grasslands, Billings County, ND, Comment Period Ends: 08/22/2011, Contact: Nickole Dahl 701-227-7800.

EIS No. 20110215, Final EIS, FHWA, WI, Wisconsin Highway Project, Mobility Motorized and Nonmotorized Travel Enhancements, Updated Information on New Alternatives, and Evaluates a Staged Improvement, US18/151 (Verona Road) and the US 12/14 (Beltine) Corridors, Dane County, WI, Review Period Ends: 08/08/2011, Contact: George R. Poirier 608-829-7500.

EIS No. 20110216, Final EIS, FHWA, UT, Hyde Park/North Logan Corridor Project, Proposed 200 East Transportation Corridor between North Logan City and Hyde Park, Funding, Right-of-Way Acquisitions and US Army COE Section 404 Permit, Cache County, UT, Review Period Ends: 08/08/2011, Contact: Paul C. Ziman 801-955-3525.

[[Page 40355]]

Amended Notices

EIS No. 20110149, Draft EIS, USFS, MT, Troy Mine Revised Reclamation Plan, Proposed Revision is to Return Lands Disturbed by Mining to a Condition Appropriate for Subsequent Use of the Area, Kootenai National Forest, MT, Comment Period Ends: 08/05/2011, Contact: Bobbie Loaklen 406-283-7681.

Revision to FR Notice Published 05/20/2011: Extending Comment Period from 07/05/2011 to 08/05/2011.

Dated: July 5, 2011.
Aimee S. Hessert,
Deputy Director, NEPA Compliance Division, Office of Federal

Activities.

[FR Doc. 2011-17199 Filed 7-7-11; 8:45 am]

BILLING CODE 6560-50-P

Responses to Jean Public Comments (JP)

JP -1 –

Thank you for your concerns about wildlife hunting within the project area. As you stated, you would like all hunting operations to stop. Wildlife hunting is just one of the activities permitted on the Ketchikan-Misty Fiords Ranger District. Other activities include floatplane landing tours, freshwater fishing, remote setting nature tours, wildlife viewing at developed sites, camping, road-based nature tours, and institutional use (e.g. youth and education groups) (DEIS pg 5).

Most of the permitted use on the district is for activities other than hunting, including flightseeing, wildlife viewing, and nature tours, which are frequented by wildlife watchers. Based on the number of permits, wildlife viewers do outnumber wildlife hunters on the district. Guided use on the KMRD is largely concentrated in four use areas. In those areas, the most common guided activities are floatplane landing tours and remote setting nature tours (DEIS pg 90). However, the district has no plans to stop permitting guided hunts with this decision. The Determination for Commercial Uses on KMRD found that there was a public need for these activities on KMRD (DEIS Appendix A, pg 33).

JP -2 –

Two types of guided hunting are permitted on KMRD, goat hunting and bear hunting. Both of these permitted activities are coordinated with the Alaska Department of Fish and Game (ADF&G) objectives (DEIS pg 123).

Wildlife management and hunting quotas are under State jurisdiction. All permitted guides must work within both the laws and regulations of the State of Alaska and the Forest Service restrictions on their permits (DEIS pgs 19 and 20).

JP -3 –

Hunting guides must follow all of the restrictions in their permit and follow all other state regulations (DEIS pgs 19 and 20). The highest amount of permitted use on the district is for floatplane landing tours and remote setting nature tours (DEIS pg 90). These activities meet your request for guided use to view wildlife.

Currently on KMRD, there are four outfitters and guides with Forest Service special use permits to hunt brown bear, for 11 hunts; four permits authorizing black bear hunts, and four goat-hunting guides are authorized 20 hunts.

Charlie Stout called me and asked for a copy of the Ketchikan-Misty Fiords DEIS. He also expressed his concerns about the project. Charlie is concerned that the bear viewing guides will get all of the areas closed to hunting, specifically bear hunters. He would like his kids and grandkids to be able to hunt in areas where he has hunted.

CS-1

Charlie Stout
907 247-2628
Ketchikan, AK
07/21/2011

Notes by Sue Jennings, IDT Leader, 907 772-5864

Response to Charlie Stout Comments (CS)

CS-1 –

At the November 2010 Board of Game (BOG) meeting the BOG closed an area within ¼ mile of Margaret Creek to bear hunting in response to requests from tour guides at the Margaret bear viewing site. This had minimal effect on black bear hunting guides who generally have not used that area because of the high number of tourists (DEIS, pg 125). This closure should not substantially affect bear hunters since there are many areas to hunt bear on the district. This EIS does not propose to close any areas to bear hunting.

This page left blank intentionally.

