



2011 Denali National Park and Preserve Visit Characteristics

Natural Resource Technical Report NPS/AKR/NRTR—2013/669



ON THE COVER

Denali backcountry hikers approach a rock outcropping in the wide expanse of open tundra.
Photograph by: NPS Photo

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Peter J Fix

Department of Humans and the Environment
School of Natural Resources and Agricultural Sciences
University of Alaska Fairbanks
Fairbanks, AK 99775-7200

Andrew Ackerman

Social Scientist
Center for Resources, Science, and Learning
Denali National Park and Preserve
Denali, AK 99755

Ginny Fay

Institute of Social and Economic Research
University of Alaska Anchorage
Anchorage, Alaska

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Contents

	Page
Figures.....	v
Tables.....	v
Abstract.....	vii
Acknowledgements.....	viii
Introduction.....	1
Methods.....	3
Main Entrance Area.....	3
Spring Shoulder Season.....	3
Summer.....	3
Talkeetna.....	4
Analysis.....	4
Incorporating Savage River Ranger Kiosk Data.....	4
Developing Weights for the Main Entrance Area Data.....	5
Results.....	6
Completed Surveys and Response Rate.....	6
Population Estimates and Weights Applied.....	7
Visitor Characteristics.....	8
Activity Participation.....	10
Spring Results.....	10
Summer/Peak Season Results.....	10
Profile of Visits.....	12
Characteristics of Fly-in Visitors.....	18
Overnight Visitors.....	18

Contents (continued)

	Page
Day Visitors	21
Suggestions for Improving Recreation in the Park	23
Considerations Regarding Wording and Analysis of the Open-Ended Question	24
Spring Respondents	24
Summer Respondents	29
Discussion	35
Activity Participation	35
Estimating Visit Population and Characteristics from Sample Data	36

Figures

	Page
Figure 1. Visitation by Residency, Spring vs. Summer.....	8
Figure 2. Distribution of Visits across Summer Months by Visitor Residence.....	9
Figure 3. Activity Participation by Activity, Denali Park Road, Spring 2011. <i>Note.</i> Sampling started April 7, 2011, at the tail end of winter activity season.	10
Figure 4. Guided Versus Unguided Overnight Visitors	19
Figure 5. Common Fly-in Recreation Destinations and Southside Alaska Range Glaciers.....	20
Figure 6. Location of Activities, Multi-day Fly-in Visits Originating from Talkeetna.....	21

Tables

	Page
Table 1. Sample Locations at the Main Entrance Area Summer 2011	3
Table 2. Key Differences in Savage River Ranger Kiosk Survey.....	4
Table 3. Time Blocks Sampled and Completed Surveys Main Entrance Area and Talkeetna Airport, 2011	6
Table 4. Population Estimates of Recreation Visits by Type of Bus and Weights Applied, Denali Park Road Main Entrance Area Summer 2011	7
Table 5. Summer Visitors, Distribution of Nights in Area by Residence	9
Table 6. Visitor Participation by Activity, Denali Park Road, Summer 2011.....	11
Table 7. Key Findings of Activity Characteristic Analysis.....	13
Table 8. Characteristics of Main Activities, Summer 2011	15
Table 9. Residence of Visitors on Multi-day Fly-in Visits Originating from Talkeetna.....	18
Table 10. Distribution of Guided vs. Independent Visitors on Multi-day Fly-in Visits Originating from Talkeetna.....	18
Table 11. Activities of Multi-day Fly-in Visits Originating from Talkeetna	19
Table 12. Description of other Recreation Activities, Multi-day Fly-in Visits Originating from Talkeetna	20
Table 13. Residency of Visitors on Fly-in Day Visits Originating from Talkeetna.....	21

Tables (continued)

	Page
Table 14. Zips of Day Visitors who Fly-in <i>and</i> Visited the Talkeetna Ranger Station during the same day.....	21
Table 15. Landing Location of Fly-in Day Visits Originating from Talkeetna.....	22
Table 16. Distribution of Package Tour and Independent Travelers, Fly-in Day Visits Originating from Talkeetna.....	22
Table 17. Package Tour Operators used by Fly-in Day Visits Originating from Talkeetna.....	23
Table 18. Spring Comments: Suggestions for Improvement Related to the Bus System, Campgrounds, Information and Infrastructure	26
Table 19. Spring Comments: Suggestions for Improvement Related to Access, Services, and Keep it As Is.....	27
Table 20. Spring Comments: Suggestions for Improvement Explicit to the Spring Season	28
Table 21. Summer Comments: Suggestions for Improvement Related to the Bus System	30
Table 22. Summer Comments: Suggestions for Improvement Related to Campgrounds and Information.....	31
Table 23. Summer Comments: Suggestions for Improvement Related to Infrastructure and Access	32
Table 24. Summer Comments: Suggestions for Improvement Related to Services and Other Issues.....	33
Table 25. Summer Comments: Suggestions for Improvements: Satisfied, Keep it the Same, Other	34
Table 26. Population Estimates for Exit Locations, Summer 2011	37

Abstract

This report is part of a larger study undertaken in 2011 to estimate recreation visitor use in Denali National Park and Preserve (Denali) (Fix, Ackerman, & Fay 2012). This part of the study estimated visitor activities during recreation visits to Denali during spring and summer 2011. In addition, a profile of the characteristics of visits by the main activity of the visitors (e.g., area of residence of the visitors, method of arrival, other activities engaged in, hours in the park, nights in the Denali area) was developed. This study examined activities and their characteristics by visit, as opposed to by visitors. The study is the first in Denali to sample all arrival modes and major access points to the park (e.g., by plane, bus, car, train, bicycle, foot). This type of analysis provides insight into how Denali visitors spend time inside the park. In addition, this study estimated the total population of visits and developed weights to ensure estimates were representative of all visits to the park. Finally, this study sampled visits throughout the entire spring and summer visitor season and examined patterns of visitor activities throughout the season.

Visitors completed 5,892 surveys during the spring at the main entrance area, at the Talkeetna Airport, and during the summer at the main entrance area. Among key findings is that a significant number of visitor groups made visits (9% of all visits) into the park specifically for the purpose of using National Park Service staffed facilities in the entrance area such as the Denali Visitor Center, the Murie Science and Learning Center, and the Backcountry Information Center. These visits were relatively short (on average just over two hours) and combined with few other activities. Other visits (2.4% of the total) were for the primary purpose of using non-NPS staffed visitor facilities (e.g., purchase bus tickets, campground reservations, purchase food). Almost all of these visits were associated with an independent traveler in a private vehicle. Among local residents of the Denali area (i.e., Healy to Cantwell, which includes seasonal employees), day hiking on trails around the entrance area was the most frequently cited reason for a visit to the park. Among Alaskan residents that were not from the local area, sightseeing and wildlife viewing on a bus, sightseeing and wildlife viewing in a personal vehicle, and day hiking in the entrance area were the most frequent reasons for a visit to the park (22%, 20%, and 19%, respectively). For both visitors from the lower 49 U.S. states and international visitors, sightseeing/wildlife viewing on a bus was the most often cited reason for a visit into the park (60% and 54%, respectively).

In Talkeetna, only visitors who landed on or near a glacier in the park were sampled. The most often reported glacier landing locations for day visitors were the Ruth (44%), Eldridge (30%), and Kahiltna Base Camp (18%). Thirty-seven percent of the glacier-landing day visitors (i.e., scenic air tours) were on a package tour and the majority of all day visitors were from the lower 49 states (74%). For overnight visitors (i.e., air taxi visitors), as expected, climbing was the primary activity for most (89%), with the majority landing at Kahiltna Base Camp (83.9%). The fly-in data is unique in that it is the first sample of Denali visitors to encompass the entire peak fly-in recreation season and can be used as a baseline for future investigations into Denali's fly-in recreation visit patterns.

Acknowledgements

Matthew Helt and Justin St. Onge were outstanding in their job of gathering data at the various locations in the north entrance area. Surveying vehicles on the Park Road at the post office was a logistically challenging task and they executed the task in an exceptional manner. They also deserve thanks for persevering through a rainy June. Sue Krawicki did an excellent job maintaining a positive attitude while gathering data at the Talkeetna Airport throughout the early season months. She dealt with numerous days of waiting out rain, followed by bursts of frantic activity. Lucy Tyrrell assisted prior to the data collection season with logistics of lodging and securing approval for sampling. Elisabeth Padilla provided valuable assistance in coding the open-ended responses and analyzing the Talkeetna Airport data. Finally, we extend our gratitude to those visitors who took the time to answer our questions and complete the survey.

Introduction

The data in this analysis is part of a larger study undertaken in 2011 to estimate recreation visitor use in Denali National Park and Preserve (Denali) (Fix, Ackerman, & Fay 2012). The study relied upon visitor surveys at the main entrance area and the Talkeetna Airport. Questions were included on the surveys at the main entrance area regarding visitors' activities, demographics, and an open-ended question that provided an opportunity to make suggestions for improving recreational opportunities in the park. The Talkeetna Airport surveys, which were administered between April 7 and July 31, also measured activities, with additional information being gathered regarding landing locations, and visitor demographics, however, suggestions for park improvements were not gathered. This report presents results of the analysis of demographics, activities, and comments on existing park services and infrastructure. Data at the main entrance area were gathered during spring (April 7 through May 19) and summer (May 29 through September 15); comparisons between spring and summer are presented when appropriate. Park management can use this information to directly inform future visitor monitoring strategies and efforts with regards to understanding front and backcountry visitor use levels and patterns in different areas of the park and across seasons. The open-ended responses, while not intended to be generalized to all Denali visitors, can provide insight into facilities and/or services that might need to be addressed in future planning. The data is also valuable in informing future visitor spending models, such as an update to the Denali-specific, money generation model (MGM), developed by Stynes and Ackerman (2010). Finally, this study can be utilized by Denali interpretive and visitor program staff to target programs and activities to specific visitor groups.

Visits vs. Visitors

The primary goal of the larger study was to estimate the number of visits to Denali during 2011 (excluding winter season). As such, the focus of the study was the unique entry of a person into the park within a 24-hour period, which is the definition of a visit for reporting purposes as specified in the NPS Director's Order 82 (NPS Office of Policy, 2004). This definition distinguishes visits from *visitors*. To illustrate the significance of this distinction we will use examples of actual visitor behavior in Denali National Park and Preserve. A couple enters Denali on Wednesday to hike, and exits the park after their hike to spend the night in a hotel just outside the park entrance. On Thursday the same couple enters the park again to take a bus trip. This results in four *visits* over the two days, generated by two visitors. Alternatively, a couple could enter the park and spend five days and four nights in Kantishna (inside park). This would result in just two *visits* over five days, by two visitors. Data regarding activities and length of time in the park were specific to the particular *visit* on which a visitor was sampled. Thus, analyses of activities and characteristics of those activities, and corresponding results, are by visit, with some visits lasting multiple days and others being only a few hours. This distinction is critical as it provides a more accurate depiction of how visitors spend their time in the park. For example, our *visit* methodology allows information on activities occurring on each unique visit to the park and the characteristic of those visits (e.g., length of time in the park). Counting only visitors necessarily underestimates actual visitation as well the potential impacts of visitation associated with specific visitor activities or behaviors.

Methods

Main Entrance Area

Spring Shoulder Season

We sampled vehicle and bicycle traffic between April 7, 2011 and May 19, 2011 along the Denali Park Road. The specific time blocks sampled during the day varied slightly across the season to account for changing temperature and day length (i.e., average air temperatures in early April are often below freezing and there are three hours less of daylight the first week of April than the last week of April). During April, we selected 4-hour time blocks to sample, with the starting time randomly selected among 10 a.m., 1 p.m., and 3 p.m. During May we randomly sampled from two potential time blocks each day: 10:30 a.m. to 3 p.m. and 3 p.m. to 8 p.m. A total of 29 time blocks were sampled during this 43-day period. To gather data from visitors, the field technician was positioned at a pull-out near mile 12 of the Denali Park Road with a sign announcing the survey. Passing recreation visitor vehicles were pulled over and those in the vehicle were asked to complete a survey. The survey asked what activities they participated in, their main or primary activity, zip code of their residence, and if they had comments for improving the park's recreation opportunities during the spring shoulder season.

Summer

The summer season was defined by the period when the primary park shuttles and tour buses were running, May 20 to September 15 in 2011. Five locations were sampled during this time (Table 1). Visitors were surveyed as they were exiting the park; protocol for sampling visitors varied by location (see Fix, Ackerman, and Fay 2012 for details). The surveys were administered to one individual (either a sampled individual exiting or one person in a sampled group) at the post office, bus stop, train depot, and bike path/Jonesville Trail. While the surveys at these locations had slight differences to reflect the mode of transportation, they included the same questions regarding length of time in the park, number of nights in the Denali area, if they took a bus past mile 15, and which bus they took, activities participated in, primary activity, zip code of residence, and if they had suggestions for improving the park's recreation opportunities. At the Savage River ranger kiosk, the survey was administered to all passengers on the sampled buses, with responses to questions being provided by a show of hands. Because of this format, it was necessary to ask for measured responses in predefined categories. Differences in questions between the two formats are highlighted in

Table 2.

Table 1. Sample Locations at the Main Entrance Area Summer 2011

Sample location	Target visitors	Time blocks sampled¹
Post office	Visitors exiting the park in a private vehicle	67
Bus stop	Visitors exiting the park via shuttle buses	25
Train depot	Visitors exiting the park via the Denali Star train	15
Bike Path/Jonesville Trail	Visitors exiting the park by foot or bicycle	19
Savage River ranger kiosk	Visitors on a DNHT, TWT, or KE bus	16

¹Time block refers to a four hour period selected for sampling. More than one time block could be sampled on a day. The numbers reported in this table are the number of time blocks that were randomly selected to be sampled.

Table 2. Key Differences in Savage River Ranger Kiosk Survey

Question	Response scale for park road, bus stop, train depot, bike path/Jonesville Trail survey	Response scale for Savage River Ranger Kiosk survey
Nights in the Denali Area	Open-ended	Categories of: 0, 1, 2, 3, > 3
Hours in park without exiting	Open-ended	Not asked, length of bus trip was known
How they arrived in park today	Seven categories with an “other” options	Asked only who arrived by train.
Type of bus taken	Six categories with an “other” option	Not asked, bus type known
Activities / main activity	Open-ended with checklist	Asked how many also: drove to mile 15 in personal vehicle, hiked (entrance area, past Savage River, etc.), biked, visited kennels, attended an education program, went flightseeing
Zip code	Open-ended	Categories of: Local, Non-Local Alaska, Lower 49, International
Recommendations for improving recreation	Open-ended	Not asked.

Talkeetna

At the Talkeetna Airport we sampled passengers returning from day trip glacier-landing flights and multi-day fly-in trips. Day trip visitors were asked their landing location, if they were part of a guided tour, and their residence zip code. Although individuals were sampled, if they were part of a group they were asked to provide information for all members of their group. Overnight trip visitors were asked how many days they were in the park, their main activity (and other activities), landing location, if they were part of a guided tour, and residence zip code. They were also asked to provide information for all members of their group. Forty-nine time blocks were randomly selected to be sampled from April 7 to July 31, a range based on previous years’ fly-in recreation season as determined by surface conditions on the glaciers and weather.

Analysis***Incorporating Savage River Ranger Kiosk Data***

Because the tour buses sampled at the Savage River ranger kiosk used a slightly different survey instrument (i.e., asking bus passengers to raise their hand to indicate response categories applied to them), the raw data files could not be readily combined. To combine the datasets for purposes of analysis, records needed be created in the existing datasets gathered from the Denali Park Road at the post office, bus stop, train depot, and the Bike Path/Jonesville Trail data to reflect the distribution of responses in the Savage River ranger kiosk data (i.e., activities participated in, number of nights in the Denali area, and residency). It was assumed the primary activity of the tour bus visits was sightseeing and wildlife viewing on a bus; four and one half and eight hours were entered for length of time in the park for the Denali Natural History Tour and Tundra Wilderness Tour passengers, respectively (based on average trip times). Combining these two sources of data, though, was contingent upon developing a set of weights to adjust for the relative size of the different samples.

Developing Weights for the Main Entrance Area Data

To accurately estimate characteristics of the visitors (e.g., demographics, activities, etc.) it is necessary to know how well the sample represents the population. To gauge representation, characteristics of the sample can be compared to commonly known characteristics of the population (e.g., specific tour bus ticket sales, demographics). If discrepancies are found, weights can be applied to ensure respondents with certain characteristics are present in the sample in similarly representative amounts as they are in the population. For example, if visitors to Denali from Fairbanks, Alaska are 10% of a survey sample, but are known to make up 20% of the population, a weight of 2 could be applied to ensure their characteristics are accurately represented in results. However, in this case the total population of summer visits at Denali National Park and Preserve was an unknown. The visitor use estimation component of this study estimated total recreation visits that did not take a bus past the Savage River at mile 15 (Fix, Ackerman, and Fay 2012). These “non-bus” visits were added to known bus passengers (i.e., ticket sales) to estimate the total number of recreation visits to the park. The resulting estimate of total visits also provided the distribution of bus types and non-bus trips within the population of visits. Because our visitor survey included a question about the specific bus type taken by each visitor who travelled past mile 15 of the park road (e.g., Visitor Transportation Services (VTS), Tundra Wilderness Tour (TWT), etc.), we were able to use the type of bus attribute and the non-bus visits in our sample data, aggregated across respondents, and compare them to the overall population values for 2011. Weights could then be developed to increase accuracy of reported results. Among visitor surveys conducted in Denali, this is the first attempt to estimate the population and apply weights to ensure representation with regards to trip and visitor characteristics.

Results

Completed Surveys and Response Rate

Sampling during the spring shoulder season and summer at the main entrance area and the Talkeetna Airport resulted in 5,892 completed survey instruments, 5,707 by way of direct responses to questions posed to individuals and 185 surveys posed to all passengers on tour buses at the Savage River ranger kiosk (Table 3). It is important to note that the 185 “large group” surveys completed at the Savage River ranger kiosk represents 8,011 individuals who responded to survey questions.

Table 3. Time Blocks Sampled and Completed Surveys Main Entrance Area and Talkeetna Airport, 2011

Sample location	Time blocks sampled	Completed surveys	Response rate
Spring shoulder season	29	974	95%
Talkeetna ¹			
Day users	43 ¹	803	99%
Overnight users	43	163	98%
Denali Park Road	58	2,536	94%
Bus Stop	18	554	99%
Train Depot	13	475	96%
Bike Path/Jonesville Trail	17	202	95%
Savage River ranger kiosk ²	16	185	100%
Totals and Avg. Response Rate³	194	5,707	97%

¹Time blocks for Talkeetna were equivalent to days. The day users and overnight visitors were sampled on the same days (i.e., there were 43 days sampled). However, because of weather not all days sampled had surveys completed by overnight visitors.

²The number of completed surveys for Savage River represents buses, not individuals. The number of individual recreation visitors on the buses sampled at the Savage River ranger kiosk was 8,011. The total number of unique recreation visitor responses to the core survey questions, therefore, was 13,718. The response rate is in reference to buses that refused to stop/allow the survey crew to board. Some passengers on buses may have refused by not raising their hands to the questions, although field technicians reported high levels of participation.

³Because the methodology was different, the Savage River ranger kiosk completed surveys and the response rate is not included in the overall totals and response average.

Population Estimates and Weights Applied

Using Fix, Ackerman and Fay's (2012) estimate of visits that did not take a bus past mile 15, and the number of passengers who disembarked from a TWT or DNHT inside the park and exited by foot, private vehicle, etc., the distribution of visits by bus type and those visits that did not take a bus was calculated for the entire summer 2011 visitor population. This was in turn, used to calculate weights for the sample data (Table 4). It is important to note the distribution presented in (Table 4) is for visits, not visitors (i.e., a visitor may take a bus on one visit to the park and not take a bus on a separate visit).

Table 4. Population Estimates of Recreation Visits by Type of Bus and Weights Applied, Denali Park Road Main Entrance Area Summer 2011

Visit type	Total population ¹	% of pop	% of sample data	Weight
Visitor Transportation System (green shuttle bus)	71,550	16.8	16.7	1.00
TWT disembark at hotel ²	74,446	17.5	8.3	2.10
TWT disembark in park	19,361	4.5	6.4	0.71
DNHT disembark at hotel ²	52,652	12.3	5.6	2.20
DNHT disembark in park	5,491	1.3	2.6	0.50
Kantishna Experience	5,674	1.3	1.3	1.02
Teklanika campground pass	4,109	1.0	1.5	0.64
Bus en route to lodges in Kantishna (e.g., Camp Denali)	18,737	4.4	2.0	2.20
Did not travel past mile 15	174,450	40.9	55.6	0.74

¹Total population of recreation visits during the time period June 1 through September 15.

²Data based on extrapolation from the Savage River Ranger Kiosk data. Cases were created based on the population characteristics as measured by the surveys at the Savage River Ranger Kiosk. TWT = Tundra Wilderness Tour; DNHT = Denali Natural History Tour.

Note: If visitation patterns remain stable, the distribution of visits by bus type could be used by other survey efforts in Denali National Park and Preserve to weight the resulting data, if the data are gathered according to distinct visits and the particular type of visit. If visitation patterns shift, the population values would need to be recalculated. However, weighting by type of bus type could result in activities specific to **only** one exit location (e.g., catching the Denali Star Train) over or underrepresented depending on whether the sample at that specific location is over or under represented.

Visitor Characteristics

During the spring shoulder season, just under 70% of visits were from Alaska, with 19% of the visitors being from McKinley Village/Denali Park or Healy (within approximately 20 miles of the park entrance), and 5% were from outside the US (internationals). However, during the summer season, the trend reversed with visits from residents of the lower 49 states dominating (72% of visits), while visits from international visitors comprised 16% and Alaskans 11% (Figure 1). The composition of residency is relatively stable throughout the main summer months (June –August), while the month of September saw a slight *decrease* in visitors from the lower 49 states and internationals, and a corresponding *increase* in Alaskans (Figure 2).

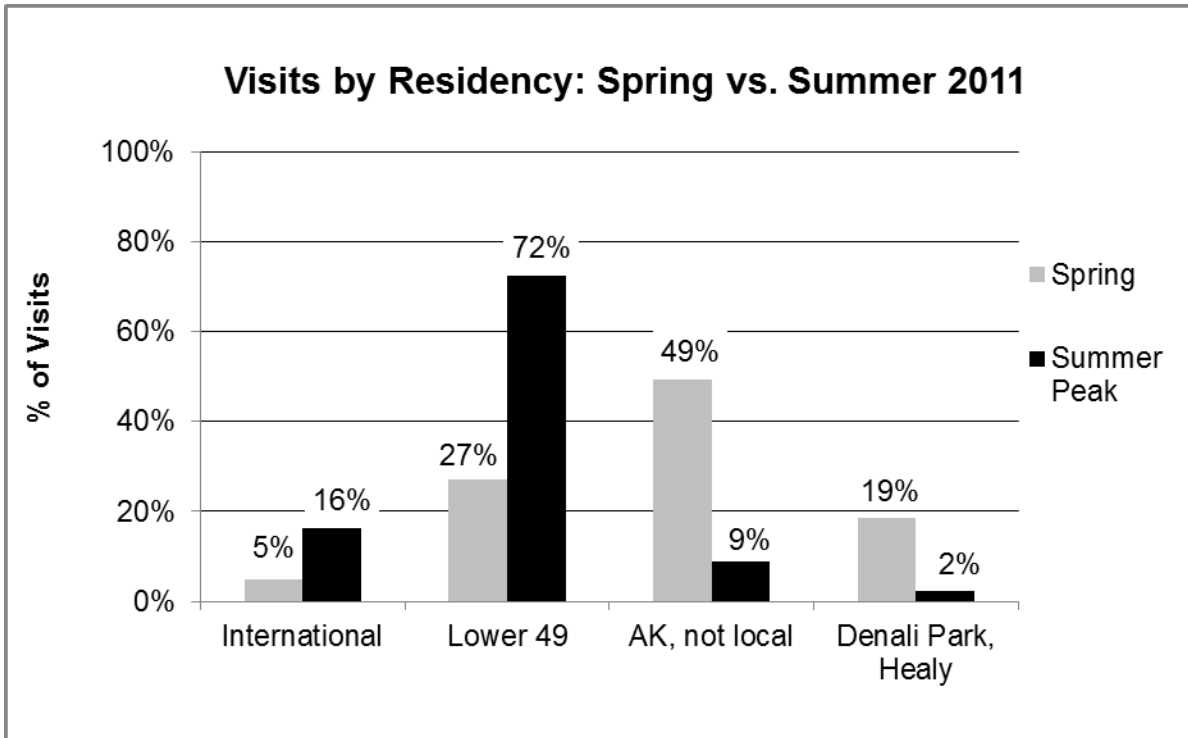


Figure 1. Visitation by Residency, Spring vs. Summer.

$\chi^2 = 1562$, $p < 0.001$. The summer analysis utilized the data collected at the Savage River Ranger Kiosk to estimate characteristics of those visitors on a TWT or DNHT who took their respective bus directly back to their hotel (See Analysis section in Methods). Data for the summer analysis were weighted by bus type (see Weighting section in Methods). Denali Park, Healy include seasonal employees living in the area.

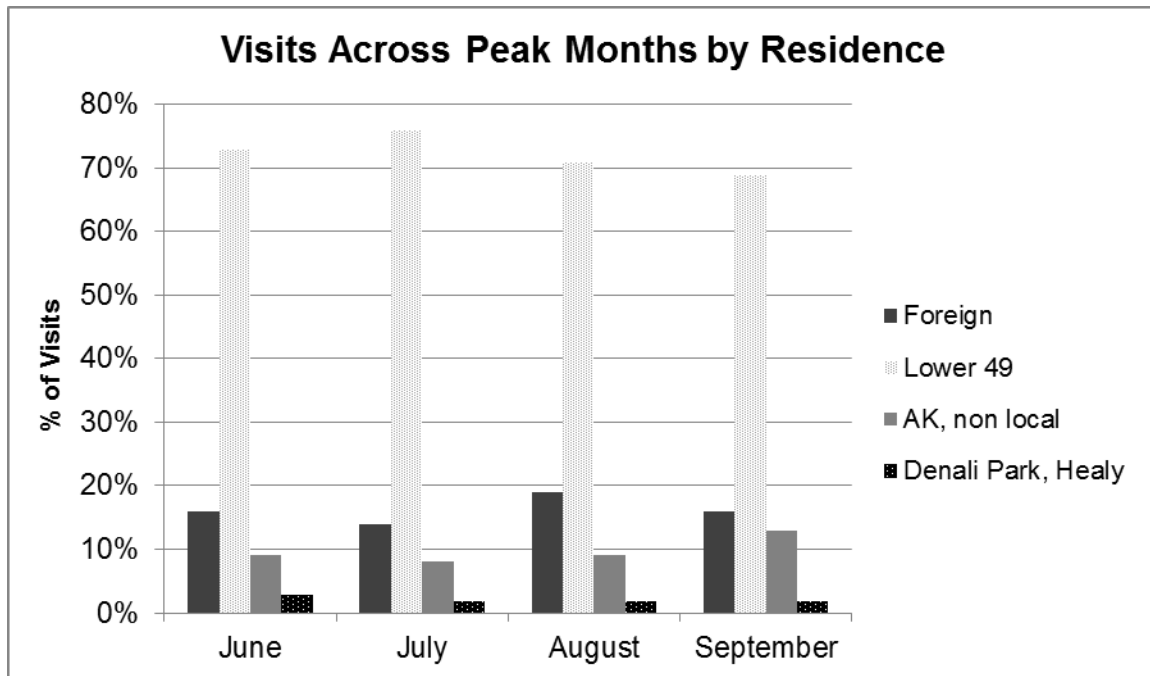


Figure 2. Distribution of Visits across Summer Months by Visitor Residence

Notes. $\chi^2 = 25.8$, $p = 0.002$. Includes the data collected at the Savage River Ranger Kiosk to estimate characteristics of those visitors on a TWT or DNHT who took their respective bus directly back to their hotel (see Analysis section in Methods. Data were weighted by bus type (see Weighting section in Methods).

Regarding time spent in the Denali area, visitors from the lower 49 states and international visitors spent on average **2.5** nights in the area. In contrast, visitors from Alaska (not local) spent **1.6** nights on average. International visitors exhibited more variability in the number of nights in the area compared to visitors from the lower 49, with Alaska (not local) visitors the most likely (24%) to be taking a day trip, i.e., only one day in the area on this trip (Table 5).

Table 5. Summer Visitors, Distribution of Nights in Area by Residence

Nights in area	International	Lower 49	AK not local
0 nights	3%	3%	24%
1 night	26%	13%	28%
2 nights	42%	58%	29%
3 nights	19%	16%	11%
4 or more nights	10%	10%	7%

$\chi^2 = 507$, $p < 0.001$. Includes the data collected at the Savage River Ranger Kiosk to estimate characteristics of those visitors on a TWT or DNHT who took their respective bus directly back to their hotel (see Analysis section in Methods. Data were weighted by bus type (see Weighting section in Methods).

Activity Participation

Spring Results

During the spring shoulder season, the activities with the most frequent participation were sightseeing, wildlife viewing, and driving along the park road. These activities were also most frequently selected as the primary activities. Just over 10% of springtime visitors camped in the campground, but few selected it as their primary activity. In contrast, almost all who participated in biking selected it as their primary activity (Figure 3).

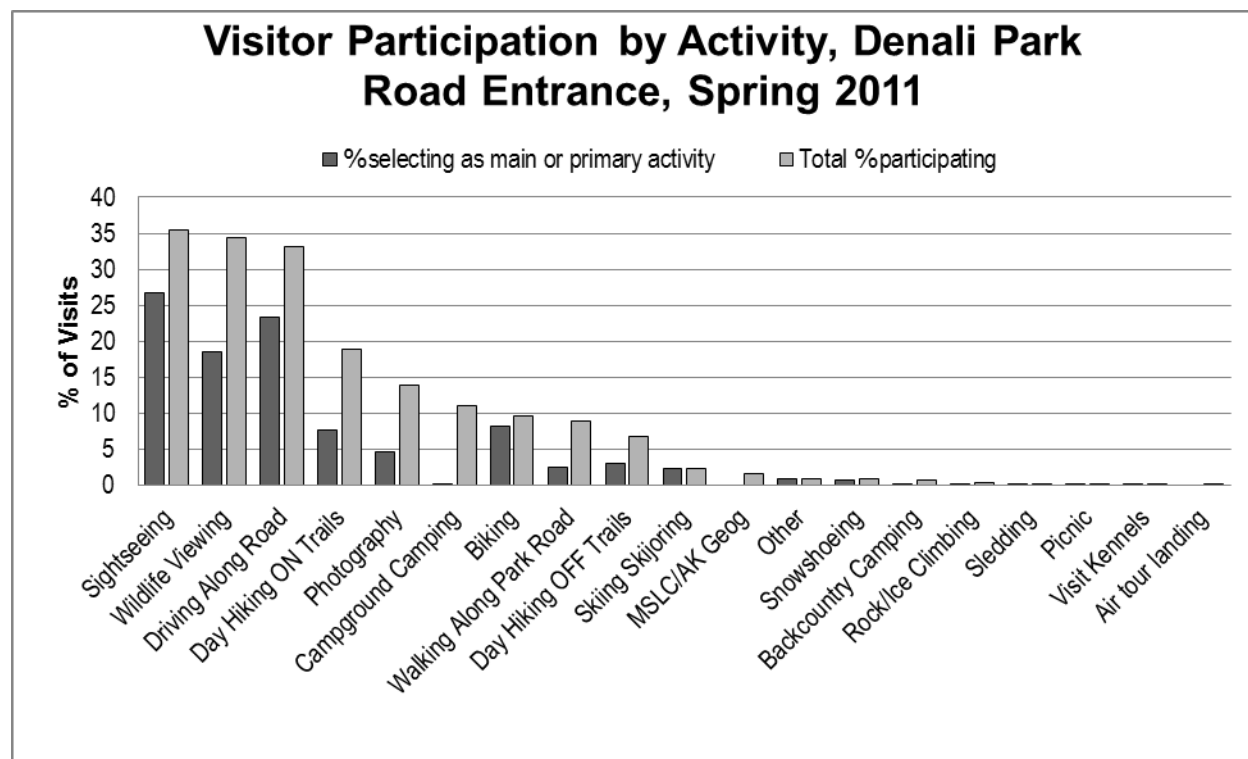


Figure 3. Activity Participation by Activity, Denali Park Road, Spring 2011. *Note.* Sampling started April 7, 2011, at the tail end of winter activity season.

Summer/Peak Season Results

During the summer peak season, **sightseeing and wildlife viewing on a bus** was the most frequently participated in activity (56.9% of visits) and most often selected as the main or primary activity during that particular visit. Only 5.9% of visitors who took a bus did not select it as their primary activity. The second most frequently participated in primary activity was **day hiking on trails in the entrance area**, however participation was much lower than taking a bus trip (19.4% vs. 56.9%). Other popular activities included **sightseeing and wildlife viewing from a personal vehicle**, **visitor services provided by the NPS (e.g., the visitor center and the Murie Science and Learning Center)**, and **camping in the campground** (

Table 6).

Table 6. Visitor Participation by Activity, Denali Park Road, Summer 2011

Activity	Percent selecting as main activity	Total percent participating	Estimated number of participants ¹
Sightseeing/wildlife viewing on bus ²	51.1%	56.9%	259,351
Sightseeing wildlife viewing in personal vehicle	8.5%	14.9%	67,914
Day Hike on trails in entrance area	10.4%	19.4%	88,426
Day Hike on trails past savage box	2.7%	8.3%	37,832
Day Hike on road	0.1%	1.3%	5,925
Day Hike off trail	2.4%	6.3%	28,716
Running	0.3%	0.3%	1,367
Bicycling	0.4%	1.3%	5,925
Overnight backpacking in backcountry	0.9%	1.2%	5,470
Visitor services NPS	9.1%	12.2%	55,608
Ranger programs or hikes	0.3%	1.1%	5,014
Visitor services NPS concessionaire	2.4%	2.6%	11,851
Getting info	0.4%	0.5%	2,279
Looking for RV campsite	0.2%	0.2%	912
Camping in campground	1.5%	10.5%	47,859
Photography	0.6%	8.7%	39,655
Visit kennels	3.7%	8.4%	38,287
Flightseeing not landing in park ³	0.5%	1.7%	7,749
Glacier landing flight ⁴	n/a	1.2%	5,467

Note. Includes the data collected at the Savage River Ranger Kiosk to estimate characteristics of those visitors on a TWT or DNHT who took their respective bus directly back to their hotel (see Analysis section in Methods). Data were weighted by bus type (see Weighting section in Methods).

¹The **estimate** of participants was calculated by multiplying the percent participating times the 455,802 summer visits to the main entrance area estimated by Fix, Ackerman and Fay (2012). Activity participation is not mutually exclusive.

²Includes a small number of visitors (approximately 1%) who reported sightseeing/wildlife viewing on the Savage River Shuttle.

³Includes flights originating near the main entrance area, as well as Kantishna, Healy, and possibly Talkeetna.

⁴Location was not specified in the survey. Although these visitors were surveyed at the main entrance area, the flight could have originated in Talkeetna. In addition, passengers on the TWT and DNHT reported taking a glacier landing flight at a higher rate than other visitors (1.3% vs. 0.9%). Some of these visitors might have been on part of a package tour that took an Era helicopter "Denali Glacier Expedition" flight, which does not actually land inside the park.

Regarding the accuracy of the estimates of participation, results were compared to available data collected by the park throughout the summer season. Data for comparison were available for bus ridership, visiting the kennels, and overnight backpacking. Regarding bus ridership, the park reports 265,707 bus trips took place during the 2011 season. This study's estimate of visits that reported sightseeing/wildlife viewing on a bus was 2.4% lower than the overall estimate of bus ridership, indicating a high degree of validity (as some backpackers or lodge guests might not have self-reported sightseeing and wildlife viewing on a bus as an activity). Our estimate of visits to the kennels was approximately 3,000 visits below the Denali staff reported statistics, but the degree of similarity provides evidence of validity. It is also important to note that a portion of kennel visitors could have been doing other activities during their visit and as a result did not consider their time at the kennels an "activity" when sampled. The percent of respondents who reported overnight backpacking extrapolated to a total number of visits that was within 301 of the NPS reported number (5,671).

Profile of Visits

While participation rates of specific activities are useful for facility planning, additional information is needed to understand how visitors spend their time in the park. Examples of such information include:

- Combinations of activities participated in on a visit
- Length of time spent in the park
- Patterns of residency and activity participation
- Method of arrival and activity participation

Analysis could be conducted to examine the above characteristics for each variable. However, that would still not provide an adequate profile of visits. We built a profile of average visits according to primary activity. This analysis provides a better indication of how visitors spend their time in the park on any given day. Primary activity was selected as the basis for analysis as many aspects of park management are focused on visitor activities. A summary of key findings is shown in (

Table 7).

Table 7. Key Findings of Activity Characteristic Analysis

Primary Activity	Key findings
Sightseeing wildlife viewing on bus	Activity most often selected as the primary activity. Dominated by visitors from Lower 49. While some visitors in this activity category did participate in other activities, no other activity dominated.
Day hike on trails at entrance area	Activity with highest participation rate by locals (7% of all day hikers). 12% of these hikers arrived in the park by foot (mostly locals), the only activity for which this mode of arrival is above 3%. 24% of day hikers also drove the first 15 miles of the Park Road in a private vehicle on the same visit.
Sightseeing wildlife viewing in personal vehicle	Activity with second highest participation rate of Alaskans (not local). As such, average number of nights in the area on the lower end of the range (i.e., personal vehicle and in-state residence = possible daytrip from home to visit to the park). Number of hours in park in the middle of the range.
Visitor services NPS ¹	Not dominated by a particular residence (locals participate relatively high within their own group). A large percent arrived by personal vehicle (indicating they were seeking out these services independently). Few other activities participated in, and time in park was low (on average 2.2 hours), indicating most visitors in this category likely were not camping or doing significant outdoor activities in the park but were “preparing for” some future activity and/or learning about the park in general.
Visitor services NPS concessionaire ²	Very short time in park (on average < 1 hour), almost all arrived by private vehicle. These entries are best categorized as logistics or preparation trips that often occur prior to a significant day or overnight trip further into the park or are purely transportation related.
Campground	Highest participation rate among Alaskans (not local). Highest rate among profile categories of participation in other activities (on average 1.3 other activities in addition to the primary).
Day hiking on trails <i>past</i> Savage River (west of Mile 15)	Participated in a wide variety of activities, but difficult to compare to other groups because of their multi-day visits. Did not typically use NPS visitor services, and did not stay in Denali surrounding area (i.e., stayed in the park the entire time).
Backpacking	Did not use NPS visitor services during actual days backpacking (either they didn’t recognize the permit process as NPS services or went to BIC on separate visit/prior day). 28% also stayed in NPS campgrounds.

¹Includes the Denali Visitor Center, Murie Science and Learning Center, and Backcountry Information Center.

²Includes services such as the Wilderness Access Center, Campground Reservations, and Riley Creek Mercantile.

Detailed analysis by activity is presented in Table 8. Visitors from the lower 49 made up 72% of summer visitors. As such they dominate the residency of many primary activities. Nonetheless, variation was evident, changing by as much as 20% for certain activities. It is important to note that locals and non-local Alaska residents made up a relatively small percentage of summer visitors. As a result, a relatively small percentage of participation within an activity might be a relatively large percent of that demographic group. Finally, it should be noted that the relative amounts of visits within each activity varied greatly.

Two main activities are of particular relevance: “visitor services NPS” and “visitor services provided by NPS concessionaires” (e.g., campground reservations, Wilderness Access Center, Riley Creek Mercantile). What makes these activities stand out is that these short visits appear to be expressly for the purpose of using the visitor services (on average 2.2 and 0.9 hours, respectively) (Table 8). For those entering the park for non-NPS visitor services, almost all entered with a private vehicle.

Also noteworthy was the high percent of locals who day hiked on the trails at the entrance area. It appears the bike path and Jonesville trail was an important access route for this group. The campgrounds in the park saw high use by non-local Alaskans, which makes sense given the need to transport camping equipment/RV. This user group also participated in other activities while in the park, as well as spent on average one and half nights in the area outside of the park (Table 8).

Table 8. Characteristics of Main Activities, Summer 2011

Visit Profile Characteristic	Main Activity on <i>Visit</i> to Denali National Park and Preserve			
	Sightseeing and Wildlife Viewing on Bus	Day Hike Trails Entrance Area	Sightseeing and Wildlife Viewing in Personal Veh.	Visitor Services NPS
Percent Total (visits)	51% (232,915 visits)	10% (47,403 visits)	8% (38,743 visits)	9% (41,478 visits)
Residency	International (17.0%) Lower 49 (78.7%) AK not local (3.8%) Local (0.3%)	International (18.0%) Lower 49 (58.8%) AK not local (16%) Local (7.2%)	International (13.8%) Lower 49 (62.5%) AK NL(20.9%) [20% of grp.] Local (2.8%)	International (16.9%) Lower 49 (68.1%) AK not local (11.4%) Local (3.6%)
How arrived	Park tour bus (63.7%) Personal Vehicle (30.7%) Hotel Shuttle (4.4%) Train (0.5%) Foot (0.3%)	Park tour bus (.3%) Personal Vehicle (61.2%) Hotel Shuttle (21.4%) Train (4.6%) Foot (11.9%) [local]	Park tour bus (0) Personal Vehicle (99%) Hotel Shuttle (0.4%) Train (0.4%) Foot (0.2%)	Park tour bus (0.2%) Personal Vehicle (62.1%) Hotel Shuttle (28%) Train (7.5%) Foot (0.6%)
Percent of visits with >1 activity on that visit: ¹	25.9%	53.4%	48.5%	12.0%
Activities per visit: (<i>M</i> = <i>mean</i>)	<i>M</i> = 1.5	<i>M</i> = 1.9	<i>M</i> = 1.6	<i>M</i> = 1.2
Percent of visits associated with “other” (non-main) activities:	Campground (8.7%) Hike trails (EA) (8.6%) Hike > m15 (6.9%) Kennels (4.6%) ss/wv Pers. Veh. (3.2%) Visitor Serv. NPS (1.8%)	ss/wv Pers. Veh. (24.7%) Campground (13.1%) Kennels (11.3%) Hike off trail (9.6%) Bus (8.7%) Visitor Serv. NPS (6.2%)	Hike trails EA (19.4%) Campground (8.4%) Visitor Serv. NPS (7.8%) Kennels (4.6%) Hike off trail (1.8%) Visitor Serv. non NPS (1.2%)	Hike trails (EA) (6.4%) Campground (1.9%) Kennels (1.5%) ss/wv Pers. Veh. (2.2%)
Group size	<i>M</i> = 2.8 ²	<i>M</i> = 2.6	<i>M</i> = 2.7	<i>M</i> = 2.8
Hours in park	<i>M</i> = 13.1	<i>M</i> = 10.7	<i>M</i> = 5.9	<i>M</i> = 2.2
Nights in area	<i>M</i> = 1.9 ³	<i>M</i> = 2.6 [excludes locals]	<i>M</i> = 2.0 [influence of AK NL]	<i>M</i> = 2.1

Note. Includes the data collected at the Savage River Ranger Kiosk to estimate characteristics of those visitors on a TWT or DNHT who took their respective bus directly back to their hotel (see Analysis section in Methods. Data were weighted by bus type (see Weighting section in Methods).

¹% > 1 Activity = the percentage of respondents participating in other activities. Mean # act. = the average number of activities participated in.

²Group size was not asked of the tour bus passengers in the Savage River ranger kiosk sample; this average does not include tour bus passengers.

³For tour bus passengers in the Savage River ranger kiosk sample, this question had five categorical responses (day trip, 1, 2, or 3 nights, and 4+ nights). Thus, for this activity only, all data for this question were placed into the following categories: (0 nights, 1 night, 2 nights, 3 nights, 4 nights). Although this will underestimate the mean, only 3.0% of respondents stayed four or more nights so the magnitude of overestimation is small. (The average excluding the tour buses was 2.2).

Table 8. Characteristics of Main Activities, Summer 2011 (continued)

Visit Profile Characteristic	Main Activity			
	Visitor Services non- NPS	Kennels	Campground	Day Hike Trails Past M15
Percent Total (visits)	2.4% (10,939 visits)	3.7% (16,865 visits)	1.5% (6,837 visits)	2.7% (12,307 visits)
Residency	International (23.4%) Lower 49 (63.8%) AK not local (10.6%) Local (2.1%)	International (12.3%) Lower 49 (82.3%) AK not local (5.0%) Local (0.5%)	International (20.2%) Lower 49 (50.2%) AK not local (28.4%) Local (0%)	International (14.4%) Lower 49 (81.6%) AK not local (4.0%) Local (0)
How arrived	Park tour bus (1.4) Personal Vehicle (96.5%) Hotel Shuttle (1.4%) Train (0.7) Foot (0%)	Park tour bus (0) Personal Vehicle (53.4%) Hotel Shuttle (44.7%) Train (1.8) Foot (0 %)	Park tour bus (0%) Personal Vehicle (94.3%) Hotel Shuttle (0%) Train (3.1%) Bicycle (1.1%)	Tour Coach (11.4) Personal Vehicle (46.0%) Hotel Shuttle (19.0%) Train (1.9) Other (21%)
Percent of visits with >1 activity on that visit: ¹	8.7%	48.1%	54.5%	92.2%
Activities per visit: (<i>M</i> = mean)	1.1	1.6	2.3	3.0
Percent of visits associated with “other” (non-main) activities:	ss/wv Pers. Veh. (4.3%) Visitor Serv. NPS (4.3%) Hike trails (EA) (1.4%)	Bus (5%) ss/wv Pers. Veh. (11.5%) Hike trails EA (23.6%) Campground (2.9%) Visitor Serv. NPS (9.1%)	Bus (20.5%) ss/wv Pers. Veh. (15.6%) Hike trails (EA) (21%) Hike past m 15 (11.2%) Hike off trail (13%) Bicycle (4.9%) Kennels (4.9%) Ranger programs (4.4%) Backpack (1.5%)	Bus (62.9%) ss/wv Pers. Veh. (5.7%) Visitor Serv. NPS (0.0%) Day hike off trail (39.8%) Day hike Road (5.9%) Campground (19.7%) Bicycle (7.6%) Kennels (8.0%) Flightseeing (12.7%)
Group size	<i>M</i> = 2.4	<i>M</i> = 2.9	<i>M</i> = 2.9	<i>M</i> = 2.9
Hours in park	<i>M</i> = 0.9	<i>M</i> = 4.1	<i>M</i> = 37.1	<i>M</i> = 75
Nights in area	<i>M</i> = 2.4	<i>M</i> = 2.4	<i>M</i> = 3.1	<i>M</i> = 3.0

Note. Includes the data collected at the Savage River Ranger Kiosk to estimate characteristics of those visitors on a TWT or DNHT who took their respective bus directly back to their hotel (see Analysis section in Methods). Data were weighted by bus type (see Weighting section in Methods).

¹% > 1 Activity = the percentage of respondents participating in other activities. Mean # act. = the average number of activities participated in.

Table 8. Characteristics of Main Activities, Summer 2011 (continued)

Profile Characteristic	Main Activity		
	Backpacking	ACTIVE ¹	Fly in Climbing
Percent (visits)	0.9% (4,102 visits)	16.9 % (77,031 visits)	
Residency	International (18.0%) Lower 49 (65.4%) AK not local (11.5%) Local (5.1%)	International (17.2%) Lower 49 (62.3%) AK not local (15.3%) Local (5.3%)	International (36.2%) Lower 49 (48.2%) Alaska (15.6%)
How arrived	Park tour bus (0) Private Vehicle (76.9%) Hotel Shuttle (18.0%) Train (2.6%) Foot (2.6%)	Park tour bus (0.3%) Private Vehicle (59.2%) Hotel Shuttle (18.0%) Train (4.8%) Foot (9.1%) Bicycle (1.3%)	n/a
% > 1 Activity: ²	74.4%	65.6%	
Mean # act.:	1.6	2.3	
% other act.:	Bus (61.6%) ss/wv Pers. Veh. (7.0%) Hike trails EA (8.9%) Campground (27.6%) Visitor Serv. NPS (0.0%) Visit. Serv. Non NPS (0.0%) Day hike past m 15 (25.7%) Day hike off trail (37.2%)	Bus (61.6%) ss/wv Pers. Veh. (19.2%) Campground (19.0%) Kennels (9.2%) Visitor Serv. NPS (4.4%) Visit. Serv. Non NPS (0.1%) Flightseeing (2.5%)	
Group size	<i>M</i> = 2.0	<i>M</i> = 2.6	<i>M</i> = 3.9, sd = 3.1, range = 1 – 15
Hours in park	<i>M</i> = 87	<i>M</i> = 33.4	<i>M</i> = 15.2 Days, sd = 6.1, range = 2 – 40
Nights in area	<i>M</i> = 3.9	<i>M</i> = 3.0	<i>M</i> = 3.0

Note. Includes the data collected at the Savage River Ranger Kiosk to estimate characteristics of those visitors on a TWT or DNHT who took their respective bus directly back to their hotel (see Analysis section in Methods. Data were weighted by bus type (see Weighting section in Methods).

¹Active = Primary activity of day hiking on trails, day hike past Savage Box, day hike off trail, backpacking, bicycling, and running.

²% > 1 Activity = the percentage of respondents participating in other activities. Mean # act. = the average number of activities participated in.

Characteristics of Fly-in Visitors

The survey at the Talkeetna Airport, while only surveying one member of each group, gathered information on all members of the group. The 803 completed day user surveys represents 2,448 individuals and the 163 completed overnight visitor surveys represents 663 individuals. Results in this section are reported by group totals.

Overnight Visitors

Table 9. Residence of Visitors on Multi-day Fly-in Visits Originating from Talkeetna

	All overnight visitors (incl. guides)		Guides Only	
	Total	%	Total	%
Lower 49	300	47.5	56	8.9
International	225	35.6	2	0.3
Alaska	97	15.4	20	3.2
(unknown)	11	1.7	7	1.1
Total	632	100	85	13.5

Table 10. Distribution of Guided vs. Independent Visitors on Multi-day Fly-in Visits Originating from Talkeetna

n Guides	n Visitors	% of Guided	% of Total Visitors	n Groups	%Total by Group
1	65	20.9	10.3	17	10.5
2	129	41.5	20.4	18	11.1
3	99	31.8	15.7	10	6.2
4	13	4.2	2.1	1	0.6
Guide only	1	0.0	0.2	1	0.6
Unsure	4	1.3	0.6	1	0.6
Total Guided	311	100	49	48	30
Total Independent	321	0	51	114	70
Total	632		100	162	100

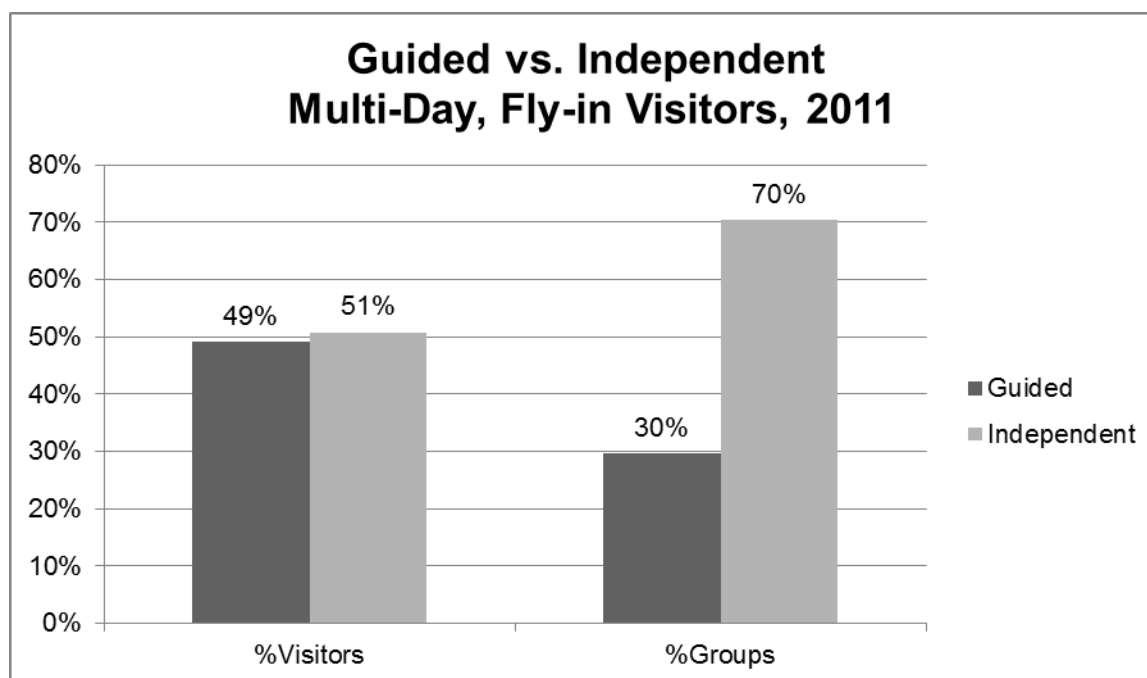


Figure 4. Guided Versus Unguided Overnight Visitors

Table 11. Activities of Multi-day Fly-in Visits Originating from Talkeetna

	Climbing	Ski	Other ¹
n participating	595	97	45
% all visitors ²	96%	15%	7%
n primary activity ³	562	25	45
% primary activity only	89%	4%	7%

¹Included in this category are 16 visitors who state they were on a college course or conducting research.

²19 groups (78 visitors) reported multiple activities. As the response categories for this analysis are not mutually exclusive, the percents sum to more than 100.

³Reports only those activities listed as the primary activity of the individuals in the groups.

Table 12. Description of other Recreation Activities, Multi-day Fly-in Visits Originating from Talkeetna

Activity	n visitors
Mountaineering course	8
Sightseeing	8
Vacation	4
Hanging out	3
Camping	2
Camping, kiting	2
Photography	2
College course ¹	13
Science research ¹	3
Grand Total	45

¹Including in the list of recreation activities to provide the best overview of activities taking place.



Figure 5. Common Fly-in Recreation Destinations and Southside Alaska Range Glaciers

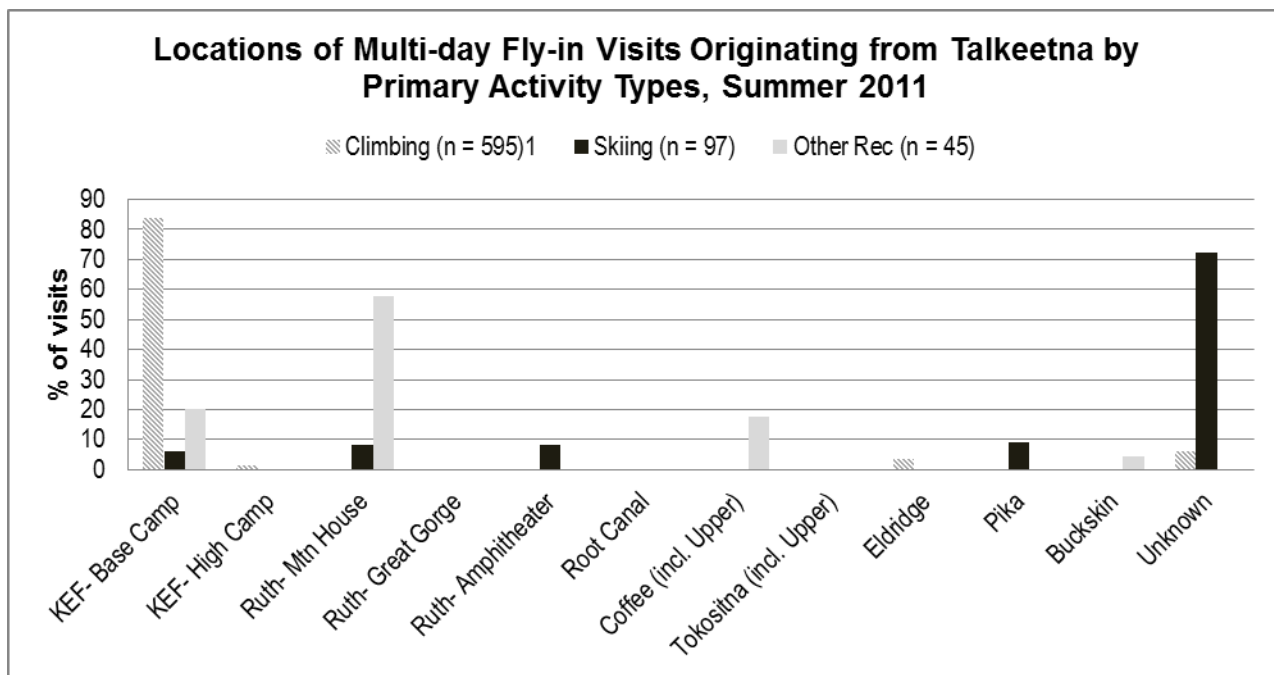


Figure 6. Location of Activities, Multi-day Fly-in Visits Originating from Talkeetna

Notes. Activity participation is not mutually exclusive and, therefore, the sum of the individuals participating in the activities is more than the sample size. Ten climbers reported two locations; therefore, the percentages sum to more than 100. Four skiers listed multiple locations, therefore the percentages sum to more than 100.

Day Visitors

Table 13. Residency of Visitors on Fly-in Day Visits Originating from Talkeetna

Residency	Total	%
Alaska	130	5.3
International	495	20.3
Lower 49	1791	73.5
Missing	12	0.5

n = 2,436

Table 14. Zips of Day Visitors who Fly-in *and* Visited the Talkeetna Ranger Station during the same day

Zip	Total	%
AK	17	4.2
International	127	31.5
Lower 49	259	64.3

n = 403

Table 15. Landing Location of Fly-in Day Visits Originating from Talkeetna

Landing location	n	%
Ruth	1079	44.3
Base Camp	432	17.7
Eldridge	731	30.0
Pika	154	6.3
Tokositna	32	1.3
Moraine Lake ¹	2	0.1
Unknown	6	0.3

n = 2,436

¹As written on the survey. This also might be known as Backside Lake.

Table 16. Distribution of Package Tour and Independent Travelers, Fly-in Day Visits Originating from Talkeetna

	Total	%
Package tour ¹	882	36.2
Independent travel	1554	63.8

¹Note, eight responses provided as a “package tour” were treated as independent travelers as they did not appear to be package tours (e.g., “self drive tour”)

n = 2,436

Table 17. Package Tour Operators used by Fly-in Day Visits Originating from Talkeetna

Package Tour Operators	n visitors	% total visitors	% package tour
Princess	328	13.5	37.2
Royal Celebrity Tours	114	4.7	12.9
Groupama	67	2.8	7.6
North Pole Tours	67	2.8	7.6
AK Tours and Travel	45	1.9	5.1
Royal Caribbean	41	1.7	4.6
New World	33	1.4	3.7
Abercrombie and Kent	31	1.3	3.5
Explore Tours	15	0.6	1.7
Charlene's Express Travel	14	0.6	1.6
Alaska Heritage Tours	12	0.5	1.4
Doggy Paw Tours	8	0.3	0.9
Alaska Railroad Tour	6	0.3	0.7
Howser Tour	6	0.3	0.7
Logos Tour	6	0.3	0.7
Railroad Tour	6	0.3	0.7
Alaska Adventure Unlimited	5	0.2	0.6
Alaska Ferry Adventures	4	0.2	0.5
Alaska Vacation	4	0.2	0.5
Alaska Vacations Tour	4	0.2	0.5
Explorer	4	0.2	0.5
Exposure Alaska	4	0.2	0.5
Costco	3	0.1	0.3
Trek America	3	0.1	0.3
Alaska Korean tour Company	3	0.1	0.3
Agama	2	0.1	0.2
Alaska Turismo (Portugal)	2	0.1	0.2
Allen and Son	2	0.1	0.2
Canadian Adventure Travel	2	0.1	0.2
Coffee Break Tours (Tennessee)	2	0.1	0.2
Great Lakes	2	0.1	0.2
Millennium	2	0.1	0.2
Rainbow Mountain Adventures	2	0.1	0.2
Rainbow Mountain Tours	2	0.1	0.2
Salmonberry tour	2	0.1	0.2
No company name entered	11	0.5	1.2
Travel agents familiarization tour	10	0.4	1.1
Association of National Tour Directors	8	0.3	0.9
Total on package tour ¹	882	36.5	100.0

Suggestions for Improving Recreation in the Park

Spring and summer respondents at the entrance area, at the completion of the survey, were asked the following open-ended question: "Do you have any recommendations for improving the park's recreational opportunities during the spring/summer?" This section presents responses to that question. However, important caveats regarding the effect of the question's wording and the method for analyzing the responses must be considered when viewing results.

Considerations Regarding Wording and Analysis of the Open-Ended Question

Question wording

The respondents were specifically asked about potential improvements. This is in contrast to asking if they are satisfied with the current recreational opportunities and then seeking clarification from those who were not satisfied. Asking visitors for suggestions on improvements may imply that improvements are warranted, in contrast to asking visitors if they are satisfied with park services. As a result, the responses to the question are directed toward aspects of the experience visitors felt needed improvement rather than aspects for which they were satisfied. While the responses provide valuable insights into perspectives of some visitors, results do not generalize beyond those who made the comments (i.e., they do not represent all visitors). First, not all respondents provided a comment; of the 3,767 summer respondents who were asked the question, 1,327 (35%) provided responses. Approximately 51% of spring respondents provided responses to the open-ended question. It is not known if the respondents who did not respond to the question were satisfied or unsatisfied with the current recreational opportunities or if they had suggestions but elected not to respond in this format. Second, as is the case with all open-ended responses, they reflect what was salient for a particular individual and, as such, not all respondents evaluated the same aspects of recreation in the park.

Data analysis

The detail included in the responses varied by responses. Some individuals provided a short response related to *one* aspect of the park, i.e., “better signage on hiking trails.” Other respondents discussed several distinct aspects of the recreation-related services, i.e., “Add hard surface bike path network; Like the bus system; Guided hikes were hard to discover, didn’t see them on the website, would have liked to have gone but didn’t know about them.” To summarize the data, codes that captured the thought expressed by the respondent were developed. If a respondent expressed multiple distinct thoughts, separate codes were assigned to each thought. In the previous two examples, the first comment was assigned one code related to *improving information* and the second comment was assigned three codes related to *infrastructure*, *satisfied with current services*, and *improving information*. **The following frequency tables provide the percent of respondents for which any part of their comment was assigned a code, always using 1,327 as the base. As a result the sum of the percentages of all codes in the tables is greater than 100.**

In addition to some comments having several distinct themes, a suggestion for improvement might have implications for different aspects of management. For example, the comment “More spots in Riley Creek Campground, difficult to get an RV spot,” has implications specifically for *campgrounds* and refers to *infrastructure* in the park. In this case both codes (i.e., campgrounds and infrastructure) were assigned to this comment so results could be viewed from either aspect of management. Again, this contributes to the codes percentages adding to more than 100.

Spring Respondents

Five hundred survey respondents during the spring season provided comments (of the 974 who completed the survey, or 51% of respondents). The largest category of spring comments was related to increasing access on the park road by private vehicles. However, the comments varied

in type and timing of access desired. Approximately 1 in 5 spring visitors who provided comments were satisfied with the existing conditions and access limitations.

The spring visitors were asked about improvements to recreation during the spring shoulder season. However, some of the responses made suggestions for improvements that, although applicable to the spring, would also be applicable in the summer. Comments that were explicit to the spring season are noted in (Table 20).

For the spring season the distribution of comments is presented for visitors from the lower 49; international origins; and residents of the area from Cantwell to Nenana, Talkeetna and Trapper Creek, and other areas in Alaska. The data includes only seven comments from residents of Talkeetna and Trapper Creek; as such caution should be used when viewing the results from this group as the distribution is presented as a percentage of the group's total (e.g., for this group, 60% is only four respondents and, thus, lacks the ability to generalize beyond those few visitors).

Table 18. Spring Comments: Suggestions for Improvement Related to the Bus System, Campgrounds, Information and Infrastructure

Codes	Percentage of comments by visitor residence ¹					
	Total	L-49	International	AK (not-local)	Local, N ²	Local, S ³
n (Total participants with comments)	500	133	19	267	74	7
BUS						
Cater to photographers	0.8	0.0	0.0	1.5	0.0	0.0
Different timing	0.2	0.0	0.0	0.0	1.4	0.0
Improve comfort/less crowding	0.2	0.8	0.0	0.0	0.0	0.0
Misc. services	0.6	0.0	0.0	1.1	0.0	0.0
Information	0.4	0.0	10.5	0.0	0.0	0.0
Other, unspecified	0.4	0.0	0.0	0.8	0.0	0.0
CAMPGROUND						
Maintenance	0.8	0.0	0.0	1.1	1.4	0.0
Rules/registration/other	1.0	3.0	0.0	0.4	0.0	0.0
INFORMATION						
Inaccurate/ outdated	0.4	1.5	0.0	0.0	0.0	0.0
Website (incl. Bus)/ pre-trip planning	0.4	0.0	0.0	0.8	0.0	0.0
Other	0.4	0.8	5.3	0.0	0.0	0.0
Post weather/ mountain visibility, wildlife sightings	1.4	4.5	0.0	0.4	0.0	0.0
SIGNS/MAPS						
Interpretive signs/ plants/ view	2.8	6.8	0.0	1.1	2.7	0.0
Other/ general/ non-specific	1.0	0.8	5.3	1.1	0.0	0.0
Signs on park road/ finding facilities in entrance area	2.4	6.8	5.3	0.8	0.0	0.0
Trail maps	0.4	1.5	0.0	0.0	0.0	0.0
Trail signs	1.4	5.3	0.0	0.0	0.0	0.0
INFRASTRUCTURE						
Expand trail system	2.4	3.8	0.0	1.5	4.1	0.0
Other	0.4	0.8	0.0	0.4	0.0	0.0
Pave/improve road/more pull-offs, parking	2.0	2.3	5.3	2.3	0.0	0.0
Repair and maintenance of road/trails	0.2	0.8	0.0	0.0	0.0	0.0

¹Percentages calculated with the n (participants with comments) of each zip code as the denominator.

²Cantwell to Nenana

³Trapper Creek and Talkeetna

Table 19. Spring Comments: Suggestions for Improvement Related to Access, Services, and Keep it As Is

Codes	Percentage comments by visitor residence¹					
	Total	L-49	International	AK (not-local)	Local, N ²	Local, S ³
n (Total participants with comments)	500	133	19	267	74	7
ACCESS						
AK resident special access/ discount	3.4	0.0	0.0	5.6	2.7	0.0
Cars/ existing road (spring)	27.8	18.8	15.8	33.3	28.4	14.3
Cars/ existing road (summer)	1.8	0.0	0.0	2.6	2.7	0.0
Cars/ existing road (winter)	0.4	0.0	0.0	0.0	2.7	0.0
Other	2.0	0.0	0.0	2.6	4.1	0.0
Plow the road	1.2	0.0	0.0	1.1	4.1	0.0
More access/ infrastructure: bikes	3.8	0.8	0.0	4.9	4.1	28.6
Extend fall season: park/ road	0.6	0.8	0.0	0.4	1.4	0.0
SERVICES						
Activities	1.6	2.3	10.5	0.8	1.4	0.0
Extended hours	0.6	0.8	0.0	0.8	0.0	0.0
Facility services/ amenities	0.4	1.5	0.0	0.0	0.0	0.0
Kids	0.4	0.0	0.0	0.4	1.4	0.0
Other	1.2	2.3	5.3	0.4	1.4	0.0
SATISFIED/ LIMIT						
Limit services/ access/ development	5.6	8.3	5.3	3.4	8.1	14.3
Satisfied/ stay the same	20.6	28.6	5.3	16.9	21.6	42.9
OTHER ISSUES						
Cost	1.0	0.0	0.0	1.9	0.0	0.0
More/ less enforcement	1.0	0.8	0.0	0.8	1.4	14.3
Other	1.4	0.8	5.3	1.9	0.0	0.0
Park personnel (NPS)	0.4	0.8	0.0	0.0	0.0	14.3
Park personnel (Aramark, Canyon, Unclear)	0.6	0.8	10.5	0.0	0.0	0.0

¹Percentages calculated with the n (participants with comments) of each zip code as the denominator.

²Cantwell to Nenana

³Trapper Creek and Talkeetna

Table 20. Spring Comments: Suggestions for Improvement Explicit to the Spring Season

Codes	Percentage comments by visitor residence ¹					
	Total	L-49	International	AK (not-local)	Local, N ²	Local, S ³
SPECIFICALLY MENTIONING SPRING						
Bus/ shuttle	1.2	0.0	15.8	0.4	2.7	0.0
Food/ place to eat	1.8	2.3	0.0	1.9	1.4	0.0
More facilities open/ general	1.6	3.0	0.0	1.5	0.0	0.0
More information/ advertise activities	2.6	5.3	5.3	1.9	0.0	0.0
NPS ranger presence	1.2	1.5	0.0	1.1	1.4	0.0
Open more campgrounds/ more spaces/ more amenities	9.0	2.3	0.0	15.0	1.4	14.3
Open road earlier	0.6	0.0	0.0	0.4	2.7	0.0
Open VC	2.4	4.5	0.0	1.5	2.7	0.0
Restrooms	1.8	0.8	0.0	3.0	0.0	0.0
More access: cars/ existing road (spring)	27.8	18.8	15.8	33.3	28.4	14.3
OTHER						
Unclear	0.4	0.8	0.0	0.4	0.0	0.0
Other	0.6	0.0	0.0	0.8	1.4	0.0
Not here long enough/ don't know	1.8	2.3	5.3	1.9	0.0	0.0

¹Percentages calculated with the n (participants with comments) of each zip code as the denominator.

²Cantwell to Nenana

³Trapper Creek and Talkeetna

Summer Respondents

Of the summer respondents, 1,327 provided comments. Tables 21 – 25 present the codes and the percent of summer visitors for which a given code was assigned to their comment. As explained, the codes are not mutually exclusive and, thus, the total percentages add to more than 100.

Nonetheless, the distribution of codes provides insight into aspects visitors feel need to be improved. Comments related to buses were most frequent (Table 21) followed by comments related to increasing services (

Table 24) (note, these two categories contain some of the same comments). Another area often cited for improvement was information (Table 22). Finally, there was a segment of visitors who were satisfied with the current level of development and services and desired to limit development and services (Table 25).

Results for the summer comments are presented by location of residence. It is important to note some of the zip codes had very few (< 10) visitors who provided comments (i.e., Southeast Alaska, the Kenai Peninsula and other areas of Alaska). Results are presented as percentages; it is important to note for these zip codes a reported percent such as 50% might only represent up to four comments.

Table 21. Summer Comments: Suggestions for Improvement Related to the Bus System

Code: Bus		Percentage of comments by visitor residence ¹										
		Alaska by location ²										
		Total	L-49	Int.	AK	Fai/ NP	Talk/ Nen	Mc Kinley	Gir- Was	SE	Kenai	Other
n (Total participants with comment)		1327	903	198	225	56	20	32	98	6	8	5
		%	%	%	%	%	%	%	%	%	%	%
BUS												
Information		4.3	4.3	5.1	3.6	5.4	0.0	0.0	4.1	0.0	0.0	20.0
Cater to photographers		0.5	0.3	1.0	0.9	0.0	0.0	0.0	2.0	0.0	0.0	0.0
Create park train/ rail		0.7	0.2	0.5	2.7	7.1	0.0	0.0	2.0	0.0	0.0	0.0
Different timing		1.7	1.9	2.0	0.4	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Disappointing driver		1.1	1.0	1.5	1.3	0.0	5.0	0.0	2.0	0.0	0.0	0.0
Improve comfort/ less crowding		2.8	2.9	4.0	1.3	1.8	0.0	0.0	2.0	0.0	0.0	0.0
Improve communication between buses		0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Improve fuel efficiency, quieter		1.7	1.7	3.5	0.4	0.0	5.0	0.0	0.0	0.0	0.0	0.0
Improve visibility/ road dust/ audio		3.1	3.2	4.6	1.3	0.0	0.0	3.1	2.0	0.0	0.0	0.0
Increased narration		0.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Limited return seat space		0.5	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maintenance		0.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Misc. services		1.5	1.6	1.5	1.3	0.0	5.0	0.0	2.0	0.0	0.0	0.0
More frequent bus/shuttle		1.2	1.0	0.5	2.7	0.0	15.0	3.1	2.0	0.0	0.0	0.0
More/ longer stops: hiking, viewing, shopping, rest stop		0.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other, unspecified		0.4	0.2	0.5	0.9	0.0	0.0	0.0	2.0	0.0	0.0	0.0
Private bus/ shuttle		1.1	1.4	0.0	0.9	0.0	0.0	3.1	1.0	0.0	0.0	0.0
Signs, maps		0.4	0.3	0.5	0.4	1.8	0.0	0.0	0.0	0.0	0.0	0.0

¹Percentages calculated with the n of each zip code as the denominator.

²The specific locations in Alaska are a breakdown of the "AK" column. Note the *ns* for several locations are small and corresponding percentages might only represent one or two respondents. McKinley includes season employees living in the area.

Table 22. Summer Comments: Suggestions for Improvement Related to Campgrounds and Information

Codes: Campground, Information		Percentage comments by visitor residence ¹										
		Alaska by location ²										
		Total	L-49	Int.	AK	Fai/ NP	Talk/ Nen	Mc Kinley	Gir- Was	SE	Kenai	Other
n (Total participants with comment)		1327	903	198	225	56	20	32	98	6	8	5
		%	%	%	%	%	%	%	%	%	%	%
CAMPGROUND												
Expand/ new campgrounds		3.1	2.7	3.0	4.9	3.6	0.0	3.1	7.1	0.0	12.5	0.0
Amenities		2.6	2.4	4.6	1.8	0.0	0.0	0.0	3.1	0.0	12.5	0.0
Maintenance		0.7	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rules/ registration/ other		1.6	1.2	1.0	3.6	3.6	0.0	0.0	4.1	33.3	0.0	0.0
INFORMATION (lack of/ confusing)												
Bus/ shuttle (excl. Website)		3.8	4.0	3.5	3.1	5.4	0.0	0.0	3.1	0.0	0.0	20.0
NPS onsite/ advertise activities		5.1	6.2	3.5	2.2	1.8	5.0	3.1	1.0	0.0	12.5	0.0
Website (incl. Bus)/ pre-trip planning		3.1	2.9	2.5	4.4	7.1	0.0	0.0	6.1	0.0	0.0	0.0
Hotel or train coordination of info/ shuttles		1.7	2.1	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Inaccurate/ outdated		0.8	0.6	2.0	0.4	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Post weather/ mountain visibility, wildlife sightings		0.5	0.6	0.5	0.4	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Information: more/ better signs, maps, wildlife info ³		13.6	13.7	15.7	11.1	12.5	5.0	15.6	8.2	16.7	12.5	40.0
Trail signs		4.6	4.3	6.6	4.0	3.6	5.0	6.3	2.0	16.7	0.0	20.0
Trail maps		2.9	2.6	4.0	3.1	3.6	0.0	6.3	1.0	16.7	0.0	20.0
Signs on park ROAD/ finding facilities around entrance area		3.6	4.1	3.5	1.8	1.8	0.0	3.1	1.0	0.0	12.5	0.0
Signs on parks Hwy/ EXIT		0.6	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interpretive signs/ plants/ view		1.1	1.3	1.0	0.4	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Bus		0.4	0.3	0.5	0.4	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Other/ general/ non-specific		1.8	2.0	1.0	1.8	1.8	0.0	0.0	3.1	0.0	0.0	0.0

¹Percentages calculated with the n of each zip code as the denominator.

²The specific locations in Alaska are a breakdown of the "AK" column. Note the *ns* for several locations are small and corresponding percentages might only represent one or two respondents. McKinley includes season employees living in the area.

³Codes in this category were expressed by a relatively large percentage of respondents. As such, a breakdown of the more specific themes that constituted this code is shown in italics.

Table 23. Summer Comments: Suggestions for Improvement Related to Infrastructure and Access

Codes: Infrastructure, Access	Percentage comments by visitor residence ¹										
	Total	L-49	Int.	AK	Alaska by location ²						
					<i>Fai/ NP</i>	<i>Talk/ Nen</i>	<i>Mc Kinley</i>	<i>Gir- Was</i>	<i>SE</i>	<i>Kenai</i>	<i>Other</i>
n (Total participants with comment)	1327	903	198	225	56	20	32	98	6	8	5
	%	%	%	%	%	%	%	%	%	%	%
INFRASTRUCTURE											
Build hotels/ facilities in park	0.3	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Create park train/ rail	0.7	0.2	0.5	2.7	7.1	0.0	0.0	2.0	0.0	0.0	0.0
Expand trail system	4.4	3.8	4.6	6.7	5.4	10.0	6.3	5.1	33.3	12.5	0.0
Expand/ new campgrounds (same as in campground)	3.1	2.7	3.0	4.9	3.6	0.0	3.1	7.1	0.0	12.5	0.0
New road access into park	0.6	0.8	0.0	0.4	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Other	0.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pave/improve road/ more pull-offs, parking	3.5	3.1	5.1	4.0	5.4	10.0	3.1	2.0	0.0	0.0	20.0
Repair and maintenance of road/ trails	0.7	0.6	0.5	1.3	0.0	0.0	9.4	0.0	0.0	0.0	0.0
ACCESS											
Bikes	1.7	0.9	1.0	5.8	0.0	15.0	15.6	4.1	0.0	12.5	0.0
AK resident special access/ discount	0.9	0.3	0.0	4.0	3.6	5.0	0.0	5.1	0.0	0.0	20.0
Cars/ existing road	5.3	5.1	3.5	7.6	8.9	5.0	6.3	8.2	0.0	0.0	20.0
Disabled	0.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pets	1.0	0.4	0.5	3.6	7.1	0.0	0.0	4.1	0.0	0.0	0.0
Other	1.0	1.1	0.0	1.3	1.8	0.0	0.0	1.0	0.0	12.5	0.0

¹Percentages calculated with the n of each zip code as the denominator.

²The specific locations in Alaska are a breakdown of the "AK" column. Note the *ns* for several locations are small and corresponding percentages might only represent one or two respondents. McKinley includes seasonal employees living in the area.

Table 24. Summer Comments: Suggestions for Improvement Related to Services and Other Issues

Codes: Services, Other issues	Percentage comments by visitor residence ¹										
	Total	L-49	Int.	AK	Alaska by location ²						
					<i>Fai/</i> <i>NP</i>	<i>Talk/</i> <i>Nen</i>	<i>Mc</i> <i>Kinley</i>	<i>Gir-</i> <i>Was</i>	<i>SE</i>	<i>Kenai</i>	<i>Other</i>
n (Total participants with comment)	1327	903	198	225	56	20	32	98	6	8	5
	%	%	%	%	%	%	%	%	%	%	%
SERVICES											
Activities	3.3	3.3	2.0	4.4	7.1	10.0	9.4	0.0	16.7	0.0	0.0
Bus	4.6	4.9	3.5	4.4	0.0	20.0	3.1	5.1	0.0	0.0	0.0
Campground amenities (same as in campground)	2.6	2.4	4.6	1.8	0.0	0.0	0.0	3.1	0.0	12.5	0.0
Extended hours	2.4	2.4	1.5	3.1	3.6	0.0	3.1	3.1	0.0	0.0	20.0
Facility services/ amenities	0.8	0.8	0.5	1.3	1.8	0.0	0.0	1.0	0.0	0.0	20.0
Food and drink	3.5	4.2	1.5	2.2	0.0	0.0	3.1	3.1	0.0	12.5	0.0
Kids	1.4	1.3	1.0	2.2	1.8	0.0	3.1	3.1	0.0	0.0	0.0
Other	2.3	2.4	2.5	1.8	0.0	10.0	0.0	1.0	0.0	12.5	0.0
Trash management	0.7	0.7	1.0	0.4	0.0	0.0	3.1	0.0	0.0	0.0	0.0
OTHER ISSUES											
Air traffic	1.1	1.3	1.0	0.4	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Cost	2.3	2.1	2.0	3.6	1.8	0.0	0.0	6.1	16.7	0.0	0.0
Hiring staff	0.7	0.8	0.5	0.4	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Inconvenient distances between facilities	1.1	1.2	1.5	0.4	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Lack of cleanliness	0.6	0.6	0.5	0.9	1.8	0.0	0.0	1.0	0.0	0.0	0.0
Lack of wildlife/ view/ bad weather	0.8	0.4	2.5	0.9	0.0	0.0	0.0	2.0	0.0	0.0	0.0
More/ less enforcement	0.7	0.4	0.0	2.2	1.8	0.0	0.0	4.1	0.0	0.0	0.0
Other	2.4	2.3	3.0	2.2	1.8	5.0	0.0	2.0	0.0	0.0	20.0
Park personnel (NPS)	0.6	0.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Park personnel (Aramark, Canyon, Unclear)	2.0	1.7	3.0	2.2	1.8	5.0	0.0	3.1	0.0	0.0	0.0
Reservation issues/ refunds	1.1	1.1	1.0	0.9	1.8	0.0	0.0	1.0	0.0	0.0	0.0

¹Percentages calculated with the n of each zip code as the denominator.

²The specific locations in Alaska are a breakdown of the "AK" column. Note the *ns* for several locations are small and corresponding percentages might only represent one or two respondents. McKinley includes seasonal employees living in the area.

Table 25. Summer Comments: Suggestions for Improvements: Satisfied, Keep it the Same, Other

Codes: Satisfied/ Limit, Other	Percentage comments by visitor residence ¹										
	Total	L-49	Int.	AK	Alaska by location ²						
					Fai/ NP	Talk/ Nen	Mc Kinley	Gir- Was	SE	Kenai	Other
n (Total participants with comment)	1327	903	198	225	56	20	32	98	6	8	5
	%	%	%	%	%	%	%	%	%	%	%
SATISFIED/ LIMIT											
Limit services/ access/ development	4.8	4.7	7.1	3.1	0.0	5.0	3.1	5.1	0.0	0.0	0.0
Other perspectives: satisfied/ stay the same	11.9	12.5	14.7	6.7	5.4	10.0	6.3	5.1	0.0	25.0	20.0
OTHER											
Not here long enough/ don't know	3.0	4.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.9	1.1	0.5	0.4	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Unclear	1.4	1.4	1.5	0.9	1.8	0.0	3.1	0.0	0.0	0.0	0.0

¹Percentages calculated with the n of each zip code as the denominator.

²The specific locations in Alaska are a breakdown of the "AK" column. Note the *ns* for several locations are small and corresponding percentages might only represent one or two respondents. McKinley includes seasonal employees living in the area.

Discussion

This is the first study to estimate the Denali visitor population throughout the spring and summer seasons and it is the first to combine responses from visitors utilizing the north, main entrance area, with those fly-in visitors entering the park via Talkeetna. The visitor attribute information included basic demographics of visitors and the activities they participated in on their visits into the park. The survey was designed to collect information on *visits* and characteristics of *visits*, making it consistent with the reporting protocol of Director's Order 82. The information collected also more clearly illustrates the patterns of visitation and visitor activities engaged in by different groups of visitors throughout their stay in the park and its surrounding areas.

Activity Participation

This analysis focused on the characteristics of visits into the park. Results show that visitors engage in different sets or groupings of activities on different visits into the park and that these sets of activities change from day to day. For example, a visit that includes a bus trip beyond mile 15 on a particular day will be largely dominated by the sightseeing and wildlife viewing set of activities typically associated with that bus trip. This information on characteristics of *visits* provides a different perspective on use, and more accurately reflects how visitors spend their time in the park. In contrast, a study of *visitors* might show the average visitor engages in a wide range of activities, but such an analysis does not illustrate how visitors divide those activities across time. Results of this study on visits and how different sets of activities are often combined by visitors can help guide interpretation, facility, and infrastructure development.

Not surprisingly, the primary activity of 51% of visits into the park was sightseeing and wildlife viewing from a bus. While this a large percentage of Denali visitors, it also highlights that on any given day 43% of visits are NOT associated with a bus trip, and therefore the park needs to remain focused on recreational opportunities for the non-bus riding visitor. Twenty-five percent of the bus riding visits also included stays in a campground or hiking on trails in the entrance area and/or beyond mile 15 of the park road. These visits average approximately 13 hours in length. These results indicates a significant proportion of bus riders are at least somewhat active (i.e., hiking) and spend some additional time in the park other than on a bus, and may provide opportunities to target this group with in-park, outdoor learning activities on the same day (or different day) as their bus trip.

The next most frequent visits were for day hiking in the entrance area (10%) and sightseeing and wildlife viewing from a private vehicle (8%). There was overlap in these activities because each was identified as another activity engaged in on the same visit. Visits with these primary activities averaged approximately 11 and 6 hours in length, respectively. This result is significant in that it provides empirical evidence that entrance area use of trails and sightseeing on the non-restricted portion of the Park Road is popular.

In contrast to these full day visits, this study revealed certain activities associated with a short period of time in the park that was not combined with other activities. For example, it appears visitors make short visits into the park specifically for the purpose of stopping at the visitor center to purchase bus tickets or make reservations for buses or other services. This group, although a minor component of overall visits, has a disproportionate impact on park

infrastructure as almost all arrived by private vehicle. A potential management implication to address this impact could include an organized bus system from the entrance area into the park combined with limiting parking spots to reduce this impact on park resources. This finding on short duration trips in combination with the often mentioned comment on the need for better information suggests that despite recent improvements in signage, there is still confusion on how and where to access park services given Denali's non-traditional park characteristics. Another alternative may be to develop a method to provide access to services that require only a short duration visit to the park outside of the park; survey data showed that a number of visitors enter the park for short periods to purchase bus tickets or other similar services and do no other activities.

Estimating Visit Population and Characteristics from Sample Data

While the main entrance on the north side of the park only has one entry/exit, there are multiple ways in which people can exit, complicating conducting a random sample. This project used available information on the known population of visits (in this case using bus ridership) to assess representation of the sample and applied weights to expand the sample to the population of visits and visitors. Future studies that estimate characteristics of the population of visits should utilize similar methodology to assess representation of their sample and apply weights as appropriate. It is important to note the population will change from year to year and the specific population information presented in this report, while providing a template for the process, will not necessarily be applicable.

To assist with future sampling efforts at the main entrance area of the park, the population of visits associated with each exit location was estimated (

Table 26). While these population values do not necessarily generalize beyond 2011, they could be updated in forthcoming years and they could provide a basis for the development of sampling plans in the entrance area as well as a check of sample representation.

Table 26. Population Estimates for Exit Locations, Summer 2011

Exit location	Population¹	% of population¹
TWT, disembark at hotel ²	74,446	0.18
DNHT, disembark at hotel ²	52,652	0.12
Park road before 9 am ³	5,707	0.01
Park road, 9 am to 1 pm	41,610	0.10
Park road, 1 pm to 5 pm	71,731	0.17
Park road, 5 pm to 9 pm	95,774	0.23
Park road, after 9 pm ³	13,316	0.03
Bus stop, 9 am to 1 pm	13,182	0.03
Bus stop, 1 pm to 5 pm	12,482	0.03
Bus stop, 5 pm to 9 pm	10,853	0.03
Jonesville trail, 9 am to 1 pm	1,964	0.00
Jonesville trail, 1 pm to 5 pm	2,387	0.01
Jonesville trail, 5 pm to 9 pm	4,885	0.01
Jonesville trail, after 9 pm ³	2,114	0.01
Denali Star, noon train	13,305	0.03
Denali Star, 4 pm train	5,952	0.01
Total	422,630	

¹Total population during the time period June 1 through September 15.

²Estimate derived from known ticket sales minus the extrapolation of respondents at the park road, bus stop, train depot, and Jonesville Trail sample locations who reported taking a TWT or DNHT.

³Estimate based on the difference between total visits estimated during the sample time blocks (401,224) and the estimate of visits from applying the “not past mile 15” correction factor to known bus ridership (422,361) (see Fix, Ackerman, & Fay 2012 more details). Based on traffic counts and observation made during the sample periods, 27%, 63%, and 10% of this difference was allocated to the park road before 9 am, park road after 9 pm, and Jonesville Trail after 9 pm locations, respectively.

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Natural Resource Stewardship and Science

1201 Oakridge Drive, Suite 150
Fort Collins, CO 80525

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