National Park Service
U.S. Department of the Interior

Natural Resource Stewardship and Science

DENALI NATIONAL PARK AND PRESERVE YEAR IN REVIEW: 2017 VISITATION

Natural Resource Data Series NPS/DENA/NRDS—2017/XXX

On the cover: Visitors taking a survey at Eielson Visitor Center

Photo Credits: KH/NPS

On this page: Mountaineers preparing a climb on Denali

Photo Credits: Tim Raines/NPS

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Natural Resource Data Series NPS/DENA/NRDS—2017/XXX

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List of Terms

Visitor
A person who enters the park, regardless of how many times.

Visit
The entry of a person into the park. Only one entry per 24 hour calendar day is counted, i.e., if a person enters and exits multiple times between the hours of 9 a.m. and 9 p.m. it is only counted as one visit.

Visitor Hour: presence, repeat entry, activity in park aggregating to 60 minutes.

Visitor Day: 12 visitor hours

Overnight Stay: one person (not hours) in a park for a night

Recreation Visit
Visits for the purpose of recreation or use of recreation facilities. These type of visit is the focus of the park's enumeration efforts.

Non Recreation and Non Reportable Visit
Commuter, inholder, subsistence, commercial or government business traffic or NPS, concessionaire, and NPS contract/cooperator traffic.

Backcountry
The area of Denali National Park and Preserve beyond the road corridor and entrance area.

Wilderness
The congressionally designated Wilderness in Denali National Park and Preserve: OP1, 50 m from the Park Road.

Flight
Each round trip flightseeing excursion. The data is compiled by day of the year and time with passenger load and landing location for an in- and back- excursion with the same passenger load.

Passenger Load
Total passengers aboard each recorded flight.

Scenic Landings
Recognized Park location where aircraft lands in which the passengers temporarily disembark.

VISITATION OVERVIEW 2017

IN DENALI NATIONAL PARK AND PRESERVE (DENA) visitation total for the calendar year of 2017 reached **642,809 visits**[1]. This is a 9.4 % increase from the total year recreation visits reported in 2016 (N = 587,412) & a 14 % increase from the total year reported for 2015 (N = 560,757). The Murie Science and Learning Center experienced higher visitation in 2017 compared to 2016, with a total of 11,712 visitors[2]. The counting methods for DENA visitation were last updated in 2012 (see: Denali Counting Procedures 2012) and have remained consistent since then (Ziesler 2017).

DENALI BACKCOUNTRY VISITATION

BACKCOUNTRY PERMITTED USERS in DENA (North) are a small portion of Denali's total visitation that appears to be relatively stable since 2012. The number of north side permitted backcountry users for the April 15 – Sept.13, 2017 season in Denali was 4163 and 9388 accompanying user nights. This is 5.3 % increase in backcountry users from 2015, and a 2.7 % increase in backcountry user nights from 2016. Denali northside backcoutry use appears to be approaching the highest level recorded of backcountry use in 2002 (Figure 1-3). Some units, such as 4, 5, 12, 14, 20, 26, 39, 42, and 87 experienced increases of user nights since 2016. Units such as 1, 6, 28, 29, 35, 90, and 56 (campground place holder for trips with CC overnight in-between) experienced a decline in user nights since 2016 (Figure 4). Some units, 56 in particular, experienced a drop of 107 user nights in 2017 compared to 2016 (Table 1).

[1] Note: WASO records 642,809 but monthly reports for 2017 have been corrected to lower total counts due to flaw in Talkeetna Ranger Station visitor reporting from Feb. to Sept. 2017. The corrected figure is 604,479 (Ziesler, 2017).

[2] Hand counted visitors, not visits.

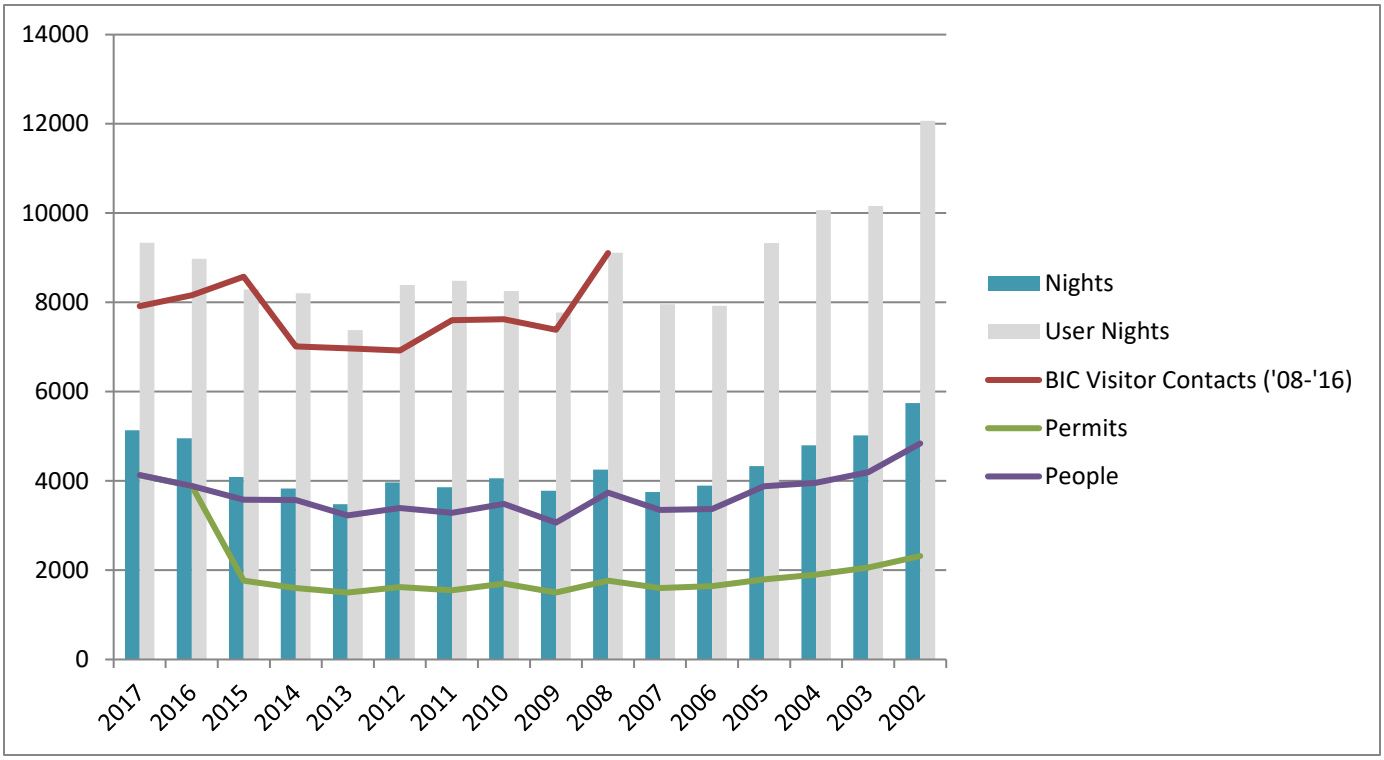
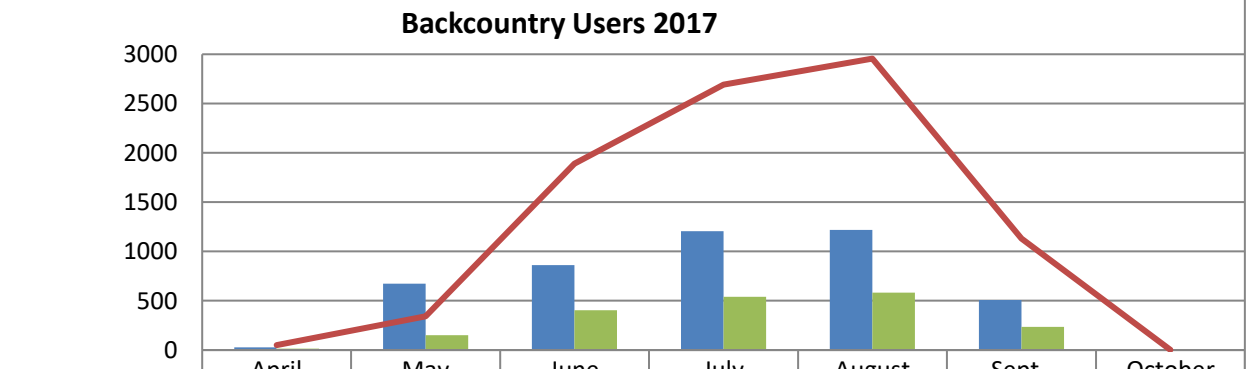


Figure 1. Denali Backcountry Visitation 2002-2017



	April	May	June	July	August	Sept.	October
People	29	673	861	1204	1219	508	2
Permits	15	151	405	541	581	235	1
User Nights	49	342	1889	2691	2956	1130	2

Figure 2. Denali Backcountry Use 2017

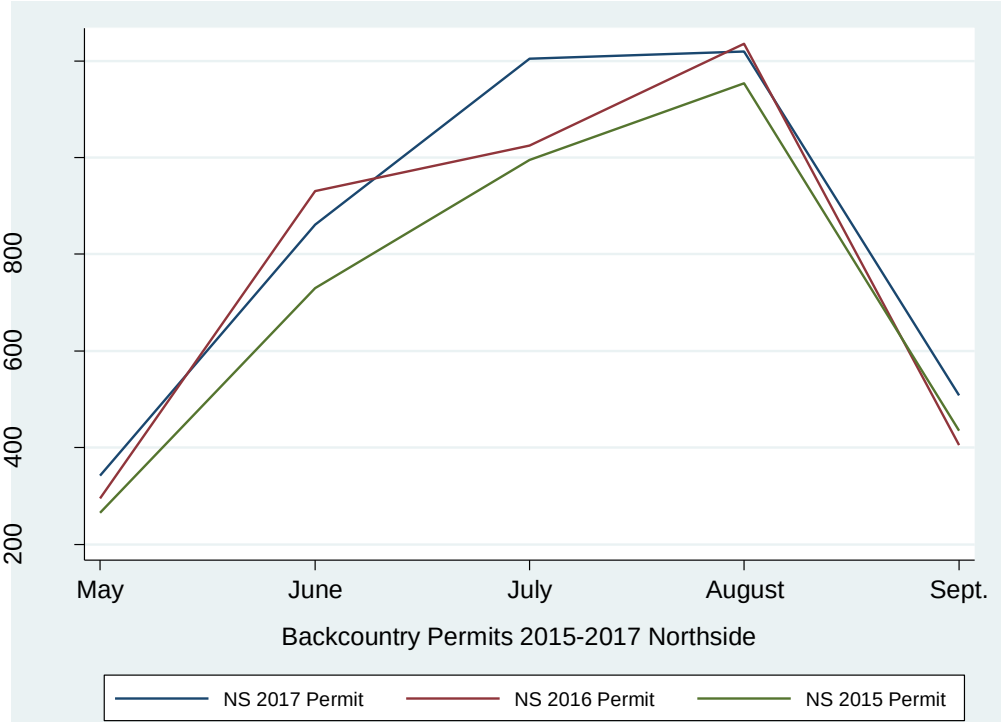


Figure 3. Denali Backcountry Permits 2015 - 2017

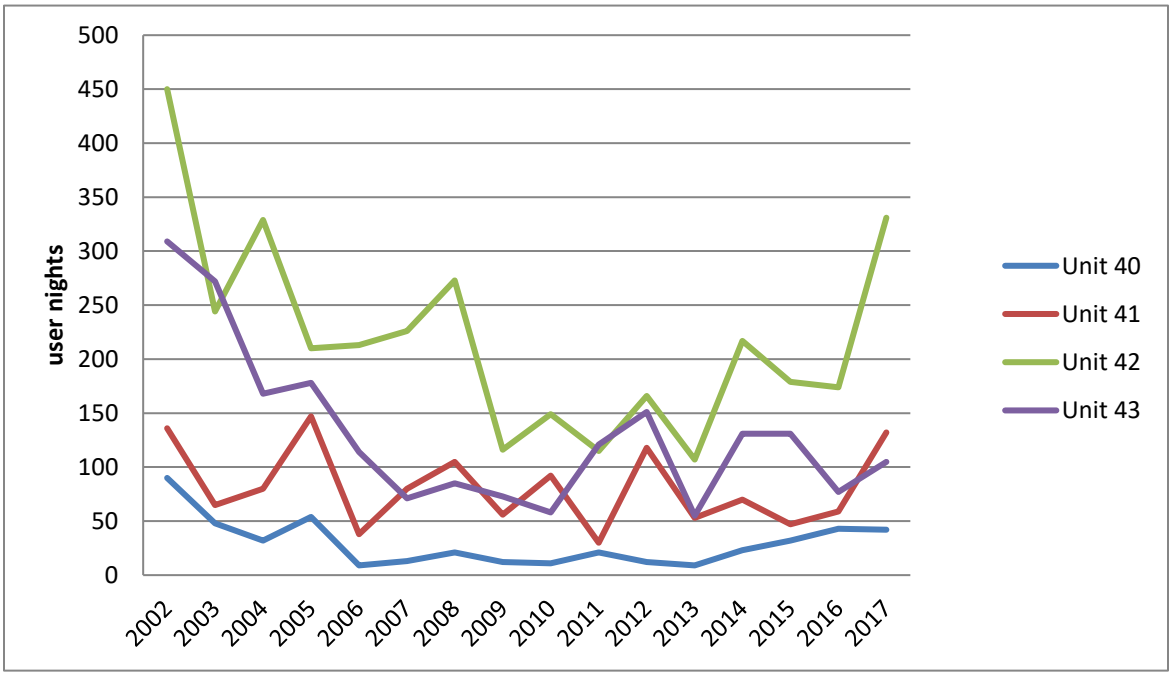


Figure 4. User Nights 2002 – 2017 Units 40 - 43

Table 1. Change in User Nights by Unit 2016 - 2017

Units	*Unit user nights 2016*	*Unit user nights 2017*	% Change
1	319	272	-14.7
3	115	92	-2.0
4	281	321	14.2
5	292	328	12.3
6	584	530	-9.2
7	272	296	8.4
10	576	598	3.8
12	379	410	8.1
14	126	197	56.3
20	65	98	50.7
24	52	22	-57.6
26	161	209	29.8
28	164	102	-37.8
29	312	265	-15.1
30	142	164	15.4
31	472	452	-4.2
35	136	106	-22.1
38	38	61	60.5
39	171	206	20.1
41	59	132	80.1
42	174	331	90.0
43	77	105	3.6
55	90	12	-4.8
56	169	62	-66.8
64	0	22	22.0
87	27	52	9.2

Backcountry use data in 2016 was gathered from backpacking visitors who participated in a visitor values survey conducted by a team from the University of Illinois in 2016, and agreed to carry a GPS tracker during their trip. The trackers functioned up to 48 hours of individual trips; which covers the total trip time of 32% of backcountry overnight users (Stamberger et al., 2017). Distance varied among backcountry users. On average, visitors traveled nearly six miles (M=5.94, SD=6.37), though mileage was right-skewed given that the majority of trips were under 3.5 miles (Median=3.31). The range of backcountry trips extended from 0.39 to 37.34 miles (10 days). On average, groups ventured a straight-line distance of 1.63 miles (SD=1.73). From the entrance area where groups received permits and boarded the shuttle bus, groups traveled a mean distance of 36.0 miles (SD=14.51). The most remote group, relative to the entrance area, traveled 68.70 miles from the entrance while the closest backcountry group was only 2.61 miles from the entrance area at the furthest point (Stamberger et al., 2017). The greatest densities of campsites occurred within 1 mile of the park road (Figure 5). Toubman (2017) found most guided hiking educational groups averaged a 3.5 – 4.0 miles away from the Park Road, with the most popular area for guided hiking being the Highway Pass area of the Park: popular with NPS Discovery Hikes, Alaska Geographic and Camp Denali/Northface guided off-trail hiking (Figure 6). Hikes vary in length and time – options of moderate and strenuous for NPS, foray (3 walks, ¼ to ½ mile each), moderate (3-5 miles), and strenuous (4 – 6 miles). Camp Denali/Northface & NPS continue to cooperative effectively in preventing two sets of large groups in one hiking area per day in the busy areas of Thorofare Pass and Highway Pass (Toubman/NPS, 2017).

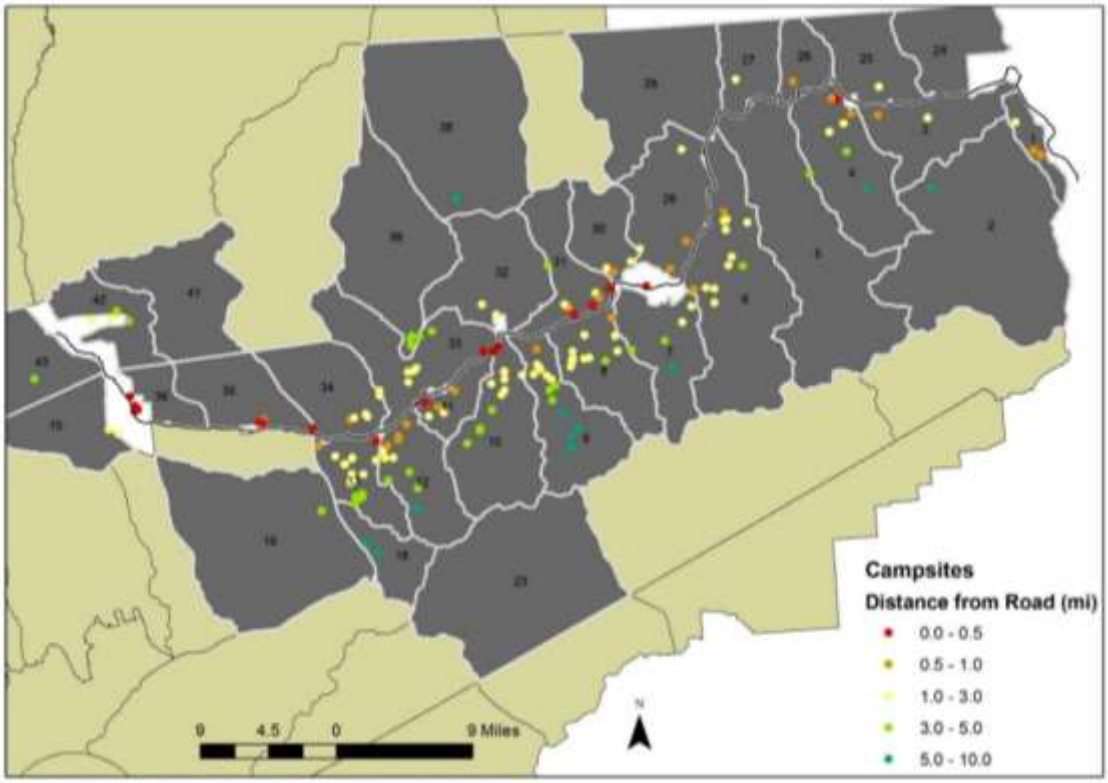


Figure 5. Distribution and distance of campsites for Unguided Independent Travelers in 2016 (n=203)

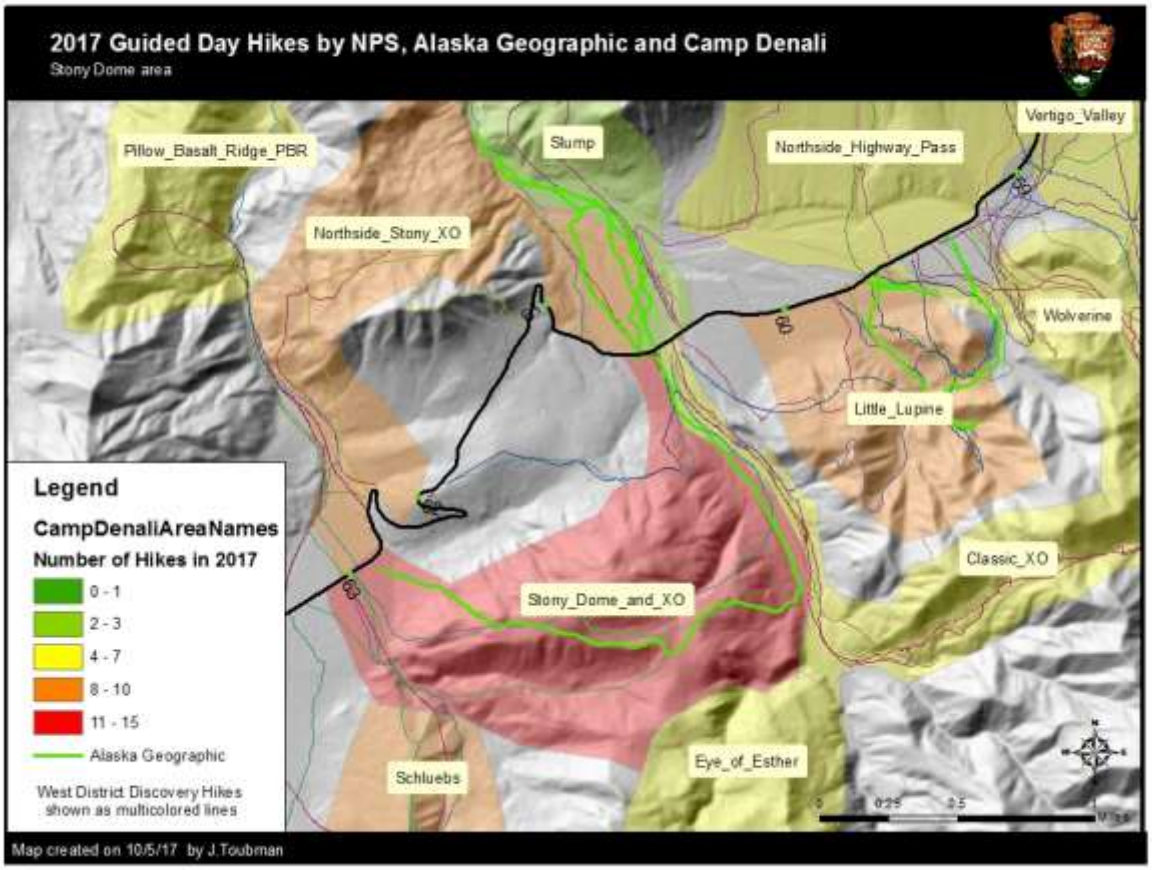


Figure 6.Guided Hikes in Stony Dome and Highway Pass area in 2017. Camp Denali hikes are geographic areas while AK Geo and NPS hikes are shown as GPS tracks.

DENALI VISITOR CENTER

VISITORS TO THE DENALI VISITOR CENTER (DVC) were counted using automated door counters stationed at each visitor entrance door during the DVC operating period of May 15 through September 19, which includes the Road Lottery days (Sept. 15 – 19). The counters were taken down on Sept. 19, in order to have consistency in counting methods and sample period as the previous years. This was the third year in which solely automated counters were used to count each door. Previous to 2014, visitor counting was done manually and only for the front two doors. While this data is entered in the NPS Monthly Public Use Reporting database, it is simply recorded and is not used to calculate total Park visitor numbers. For further information on the methods used to calculate Denali Visitor Center visitors, refer to the Visitor Counting at DVC Sampling Report from 2013.

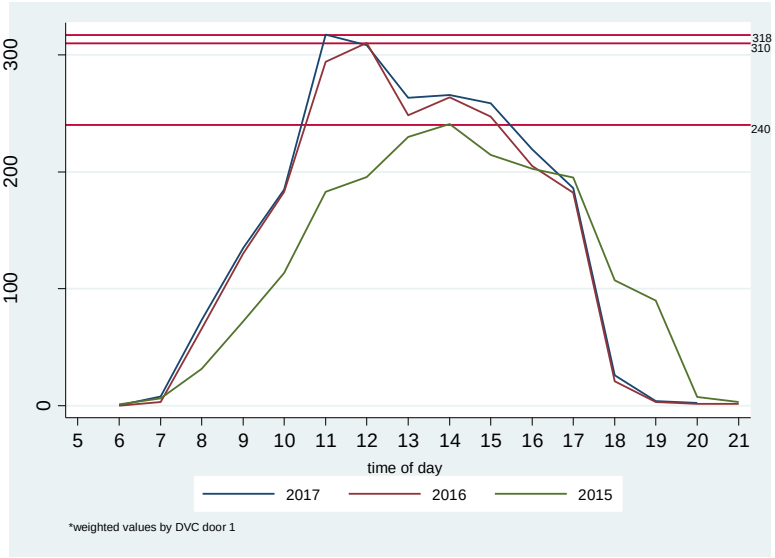
Table 2. DVC Door Counter Adjusted Stats

May 15 – September 19, 2017	Total Visitation	Weighted Hourly Mean	Daily Mean
Total DVC count -All doors	326,377 ± 11,034	112 ± 9	2,002 ± 213

	Counting Method	2013	2014	2015	2016	2017
DVC Top Doors	Automated Calibrated Count	194,292^	187,254	198,179	265,290	223,672
All Doors	Automated Calibrated Count	230,918	223,353	237,931	350,118	326,377

^Backcasted using regression coefficient multiplied by manual count

In addition to overall DVC visits, the calibrated mean daily traffic for the DVC is significantly higher than 2015 ($t = 3.291$, $df = 120$, ∞) and earlier, though lower than what the DVC experienced in 2016. The average daily DVC traffic by hours of the day (Figure 7) shows that there is a significant uptick in visitors beginning at 10:00 peaking at 11:00, dropping at 12:00, and remaining a stable high flow through 15:00. Weekdays peak earlier, but drop more slowly throughout the day, whereas weekends grow in visitation until 12 noon, and drop off relatively more than weekdays after 17:00. Peak hours over the last three years (Figure 7) correspond with train arrivals in 2017 and 2016, but 2015 peak times do not relate to train arrivals (at least of the last two years).



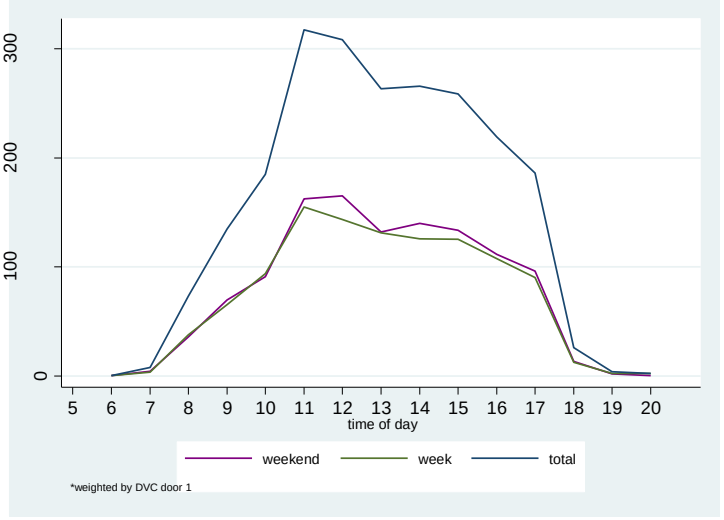


Figure 7. Average Daily Visitor Traffic to DVC

BUS RIDERSHIP: VTS, TOURS & LODGE BUSES

Coincident with the rise in Park visitation since 2013, the ridership on the VTS shuttle service also experienced a very slight increase in 2017 from 2016 (less than 0.5% : 92,452 vs. 92,436 in 2016). The Princess/Holland America tours, operated by Doyon/Aramark, had an overall decline in passengers in the Tundra Wilderness Tour (2% drop from 2016), though passengers on the Natural History Tour and VTS Kantishna Experience increased (13.5% and 25.8% , respectively). In sum, the total (Doyon/Aramark) bus passengers rose from 283,426 in 2016 to 293,763 in 2017, a 3.6 % increase (Figure 8).

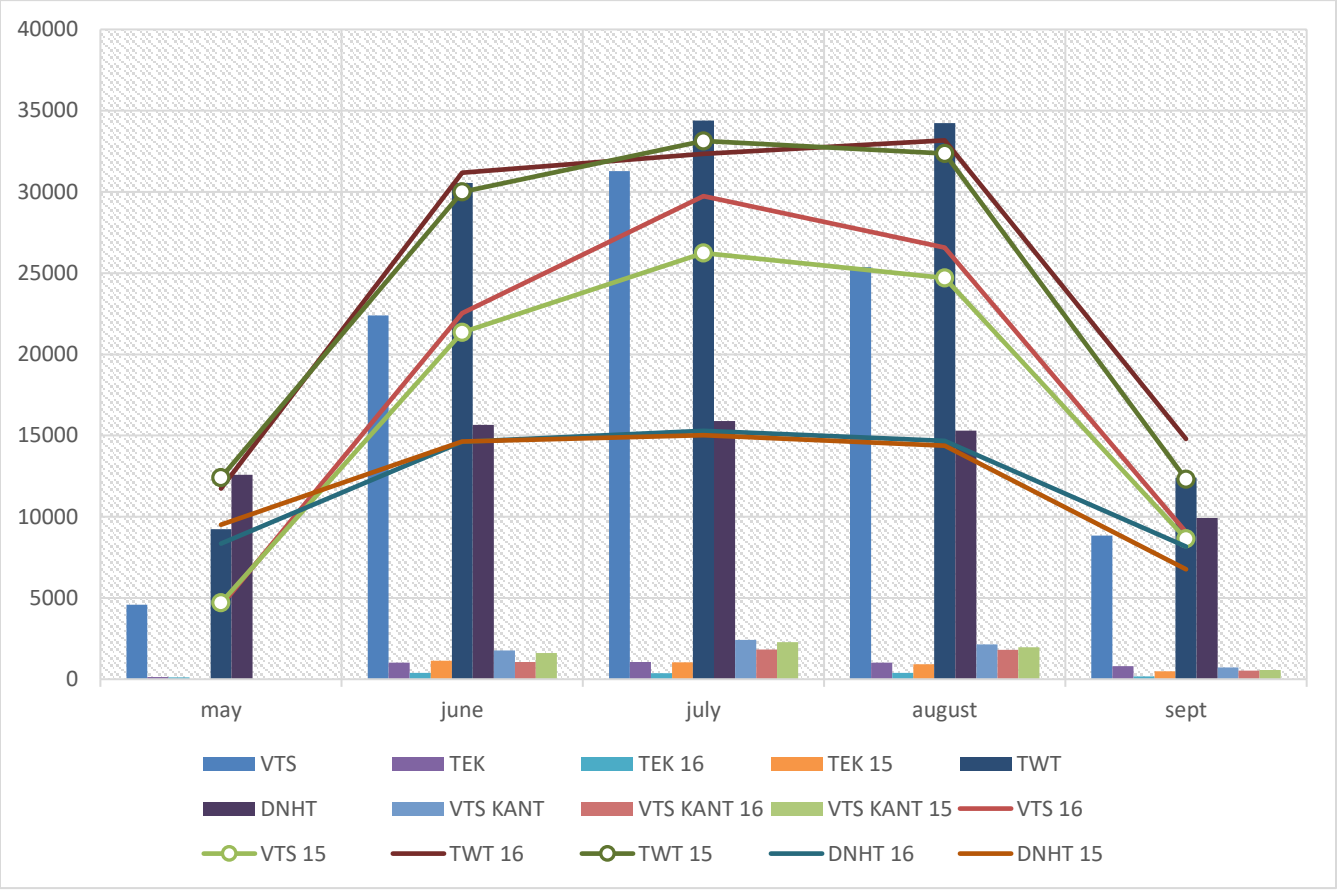


Figure 8. Bus Visitation 2015 - 2017

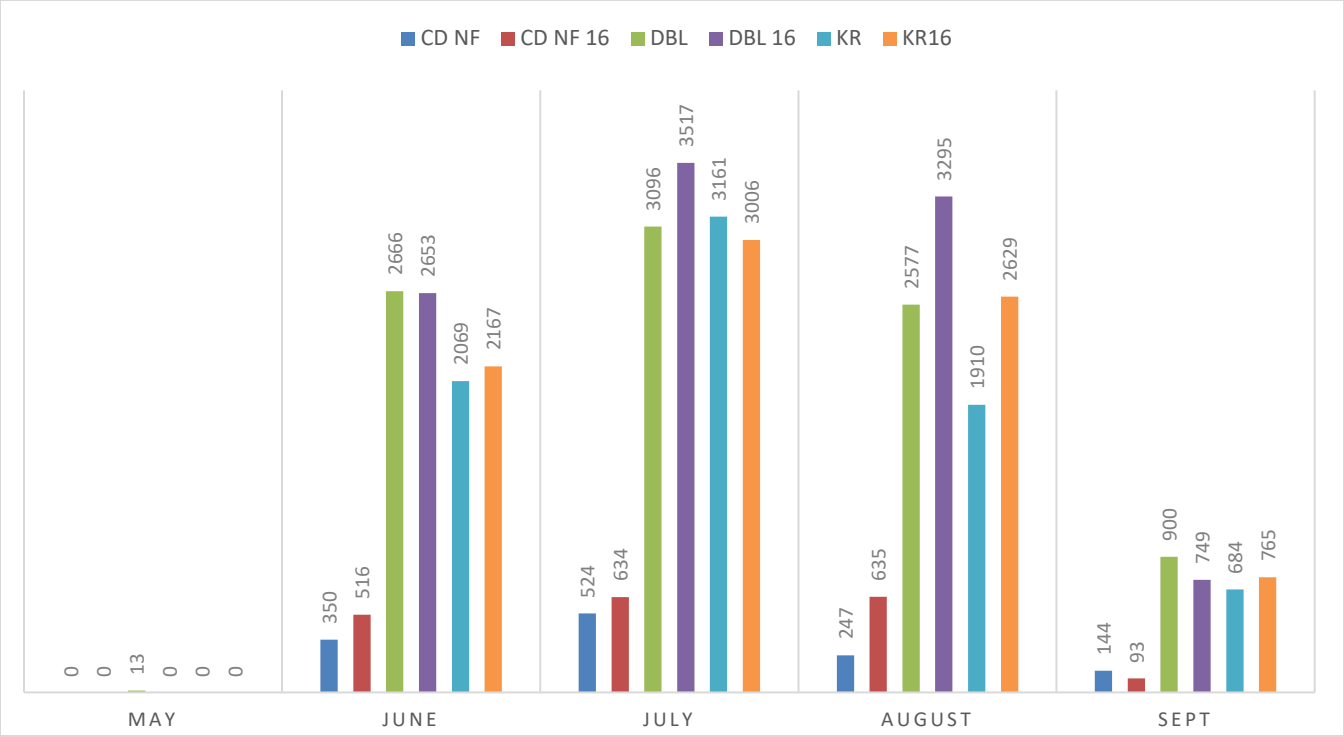
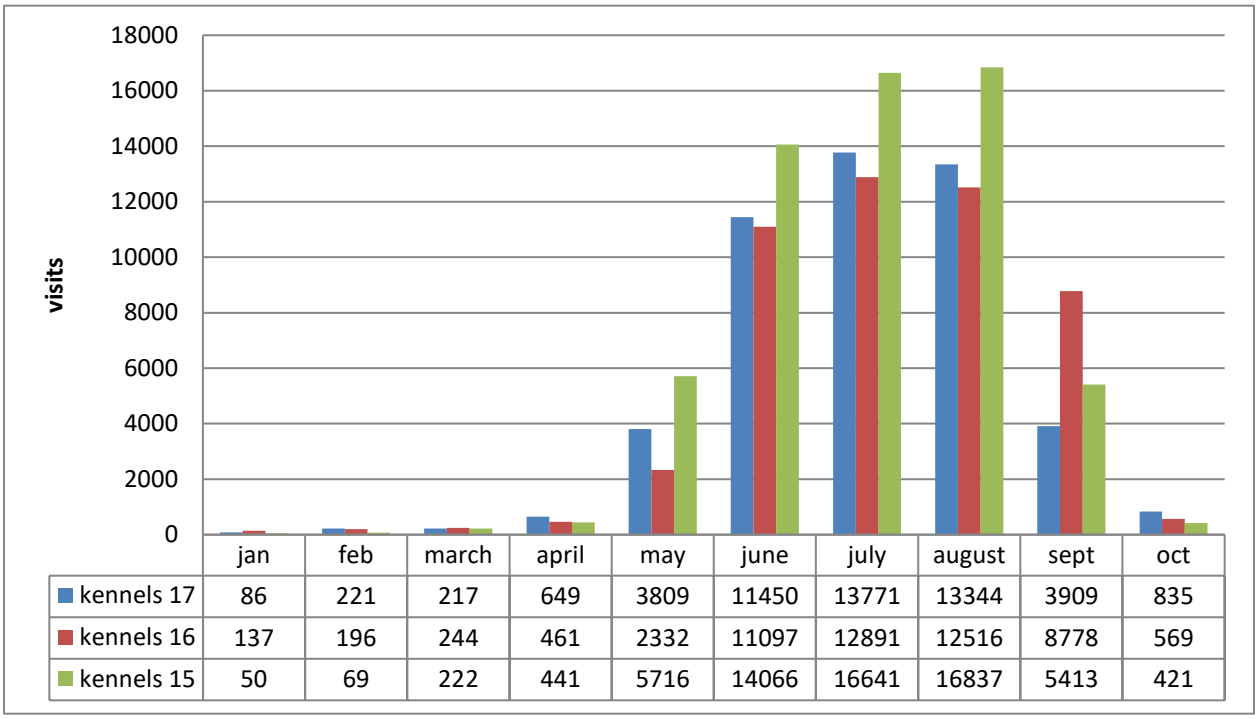


Figure 9. Kantishna Lodge Bus Ridership 2016-2017

Visitors to Camp Denali/North Face Lodge, Denali Backcountry Lodge, and the Kantishna Roadhouse reflected last year's visitation rate with an overall slight decrease. Denali Backcountry Lodge did transport 13 passengers in May this year – which was the first time a May DBL passenger load was recorded by Savage check station (Figure 9).

The visits to the Kennels have remained fairly steady from Jan. 2015 – October 2017. Kennels visits are recorded as dog demo bus passengers in the summer, and hand counts of visitors in the winter and shoulder seasons. Visits to the kennels decreased slightly from this time period in 2016 to 2017: a drop of 1.8%. Both 2016 & 2017 experienced extreme drop in visits from 2015, however, 2015 counts are less reliable, given the protocol of **not** including both passengers on dog demo buses and hand counts that the kennels staff reports was not followed. Kennels visits have likely increased overall since 2015, as evidenced by the continual rise in visitation to the kennels during the shoulder and winter months (Figure 10).



	jan	feb	march	april	may	june	july	august	sept	oct
kennels 17	86	221	217	649	3809	11450	13771	13344	3909	835
kennels 16	137	196	244	461	2332	11097	12891	12516	8778	569
kennels 15	50	69	222	441	5716	14066	16641	16837	5413	421

Figure 10. Kennels Visitors: Dog Demo & Winter Contacts, 2015 - 2017

ROAD LOTTERY visitors have steadily increased since 2015. Visitors in the military appreciation day have especially grown: over 22% higher than last year's military visitation (Figure 11).

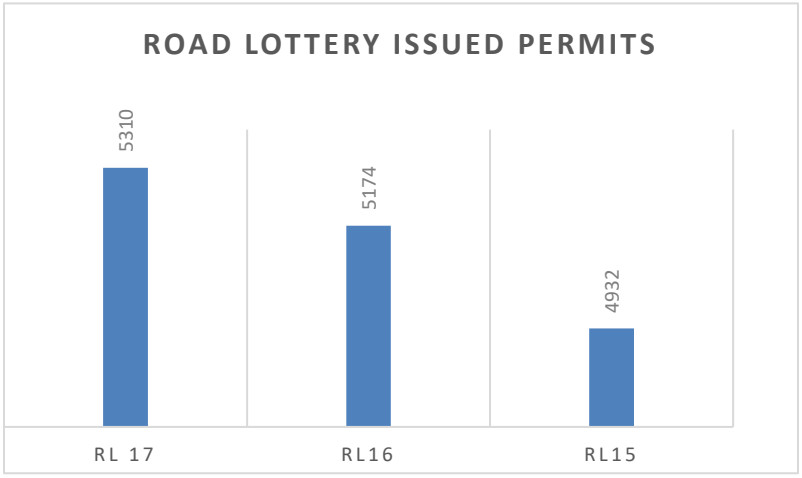


Figure 11. Issued Permits to Visitors Participating in Denali's Road Lottery

MOUNTAINEERS, GLACIAL LANDING, CAMPGROUNDS, AND BIKES

MOUNTAINEERS PERMITTED TO ATTEMPT Denali and Mt. Foraker have been relatively stable over the years- attempts being closely linked with the short climbing season's weather conditions. Foraker experienced a decline in permits this year, while Denali had a considerable uptake in permits from 2016; reflective of Denali's 2015 climbing numbers. 2017 was an abnormally long and good season, which could explain the rise from 2016 (Figure 12).

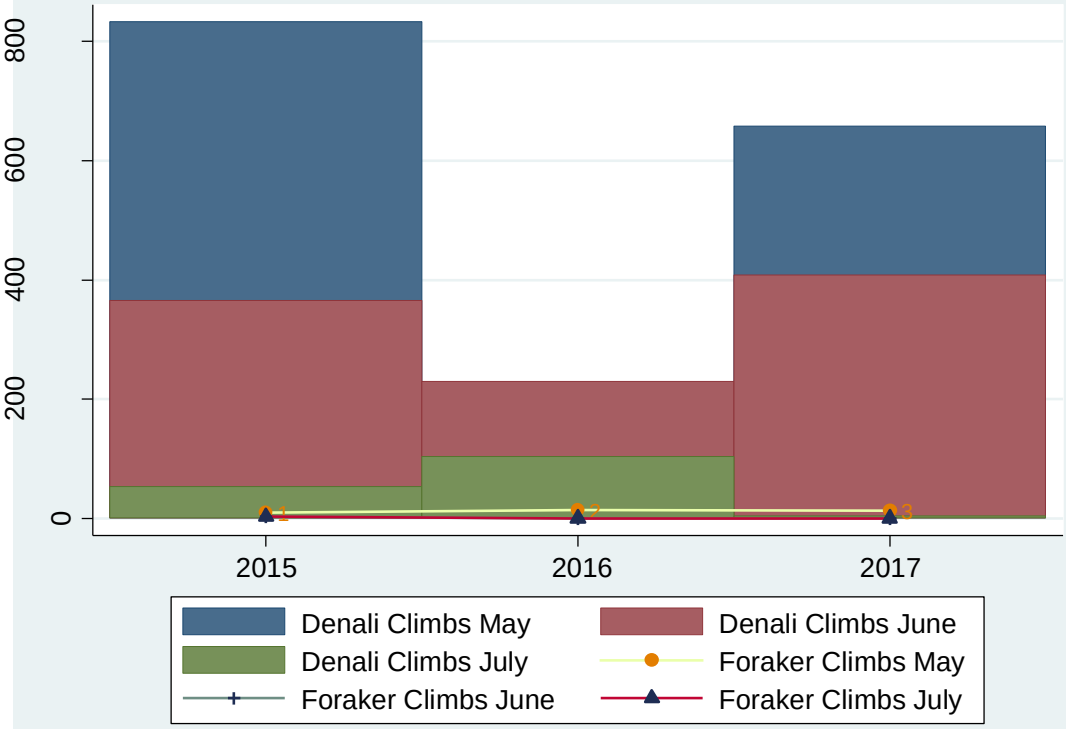


Figure 12. Mountaineers to Denali National Park and Preserve 2015 - 2017

WALTER HARPER TALKEETNA RANGER STATION (TRS) visitation has increased overall since 2015, but with lower visitation in August and September 2017 compared to those months in 2016. The largest increases in TRS visitation occurred from May – July 2017, an increase of 12% from 2016 and 8% from 2015 (Figure 13). TRS' increased visitation does not translate to more backcountry permitted users. Figure 15 shows the decline in backcountry permitted users in DENA's southside (Talkeetna) from 2016 to 2017, while DENA's northside experienced an increase in backcountry permitted users. The busy time of backcountry permitted users in DENA's southside is May & June, while DENA's northside peaks in permitted use in July & August (Figure 14).

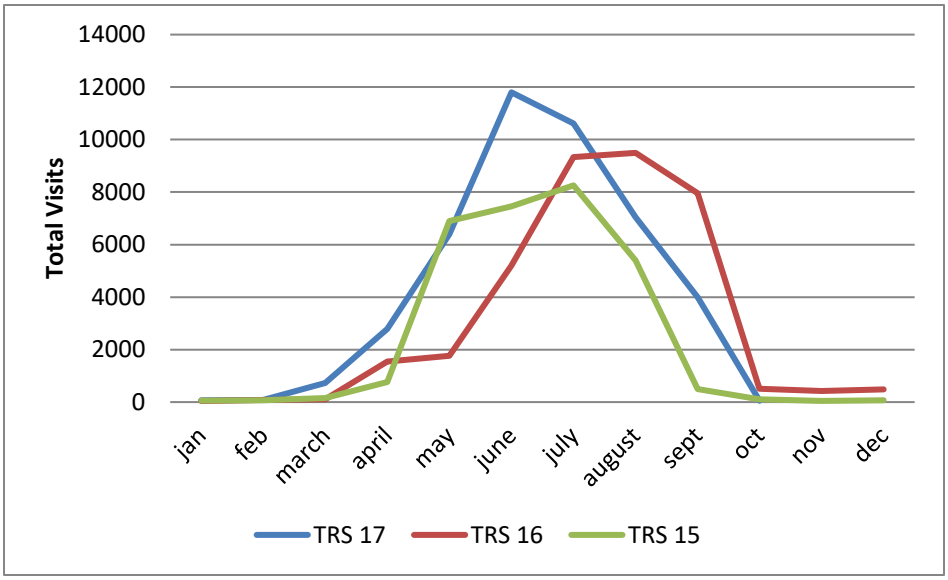


Figure 13. Talkeetna Ranger Station Total Visits 2015-2017

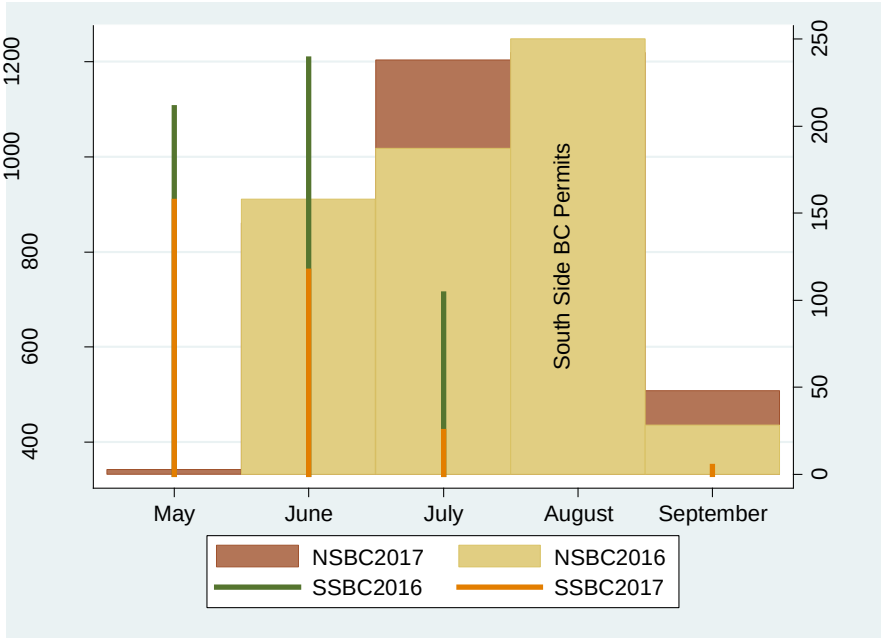


Figure 14. North and South Side Backcountry Issued Permits

Denali's campgrounds experienced a decline in both tent and RV user nights. The corresponding number of sites sold, and frequency of turn-over, does not elude to more people that stay fewer nights. Rather, this is a continuation of a relationship already noted in 2016 (compared to 2015 user night data) of the decline every year of user nights in DENA campgrounds (Figure 15).

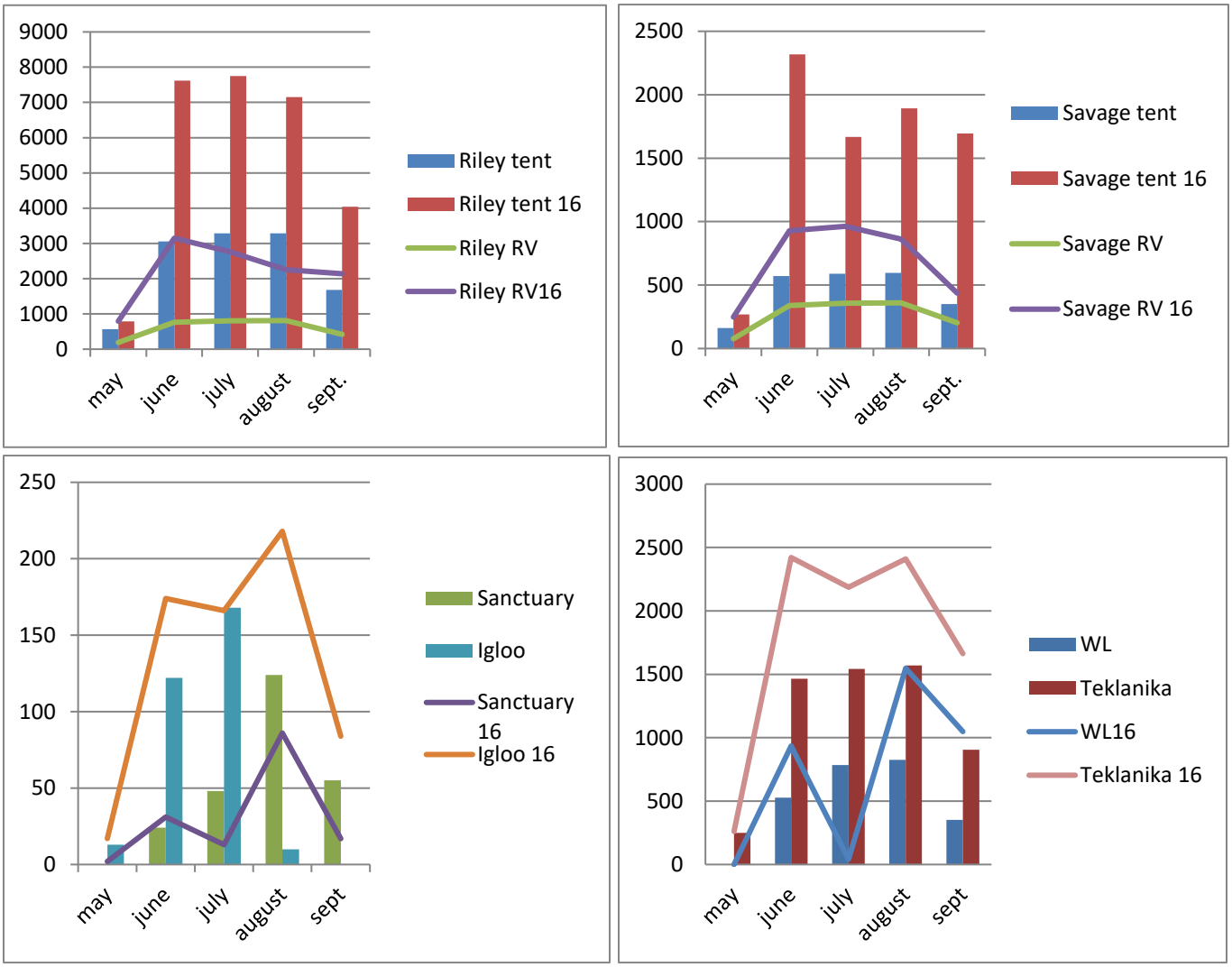


Figure 15. Denali's Campground Visitation 2016-2017, by Issued Site Permits

SCENIC GLACIAL LANDING VISITORS

Current reporting dictates that all flightseeing scenic landing events are reported to Talkeetna Ranger Station and internally distributed with the standard Scenic Flight NPS Standard Form every two weeks during the operational season (now, April through September). These forms are excel spreadsheets that track the flight passenger load, flight date, aircraft type, landing location, air-taxi passenger pick-ups, and air-taxi passenger drop-offs . From these spreadsheets, the DENA concessions and resources divisions compile the discrete flight stats from each flightseeing concessionaire into a scenic flights database. The database allows a point from which to query trends and track missing flight data not entered by the tour operators. Air taxi numbers are recorded in the same entry line as scenic landings, and sometimes may result in double counting or invalid data points.

Overlooking the landing area on the Ruth Glacier. June 9, 2016: 13: 55
Photo Credits: Rose Keller/NPS

Overall, flight operations have increased from 2013 to 2017, with some flight and passenger loads have remained fairly stable (Figure 16). While 2013 saw a total of 2,826 flights (19,333 passengers), 2015 experienced 3,727 flights (25,401 passengers). 2016 will likely experience a similar flight and passenger total as 2015, due to the rather limited days of flying this particular season has had to offer due to abnormally rainy weather conditions. Regardless, when days are good flightseeing operations can offer a flightseeing event nearly every hour, depending on location, producing a total flight and passenger count of 1,090 and 8,329, respectively, as of July 1st, 2016.

The primary landing location for flightseeing operations from 2013 to July 2016 remains the Ruth Glacier/Amphitheater. This location- a small landing area atop the Ruth Glacier at 5,400 ft elevation- has experienced 6,420 landings since 2013. These flights have brought (as of July 1 2016) about 63,855 visitors to the Ruth. Visitors to the Ruth typically wander within the landing area for about 20 minutes after arrival. On good weather days, one plane is approaching to land as soon as one leaves. One field observation conducted on June 9, 2016 noted 21 separate flights within the total 2 hour observation window. For 45 minutes (13:30- 14:15) of this observation window, one plane would arrive as soon as one would leave, culminating in a maximum of eight planes occupying the landing area. Observations from NPS mountaineering rangers have pointed to upwards of 10 planes at any given time occupying the landing area on good weather days (Robinson interview June 2016).

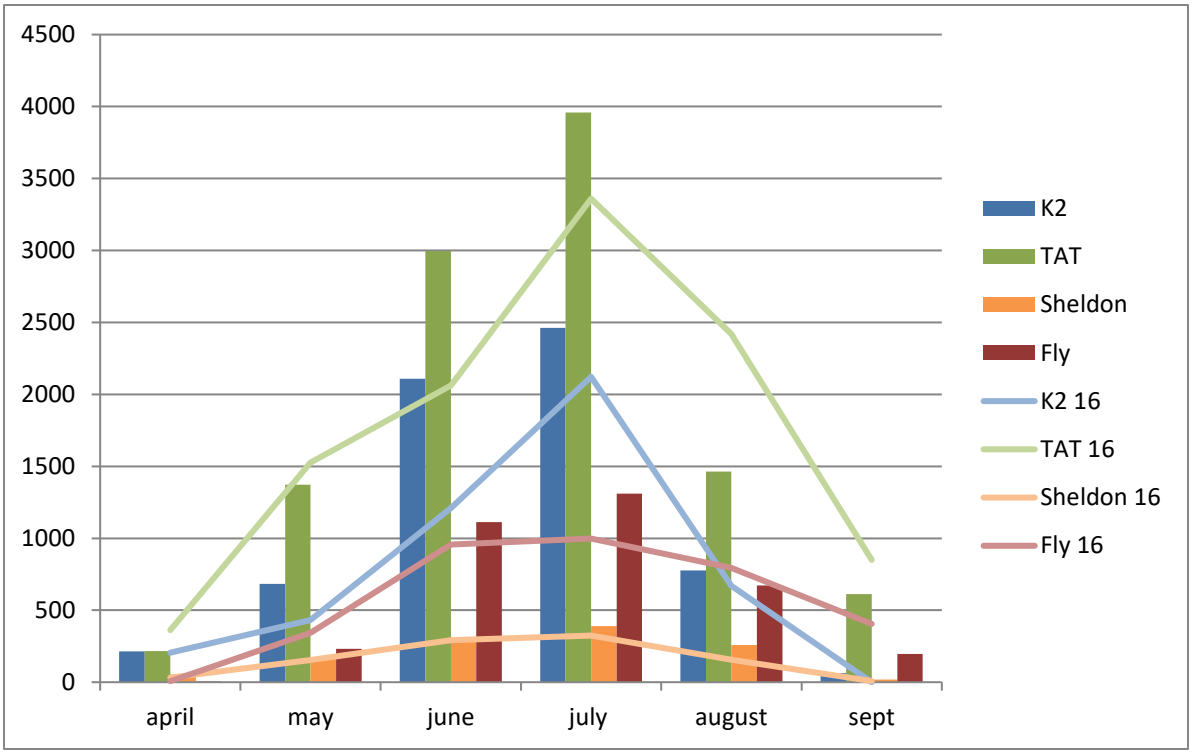


Figure 16. Flightseeing Visitors to Scenic Glacial Sites in DENA

BIKE VISITORS

BIKES VISITATION IS not a well understood trend in DENA. Since 2014, bike traveling the park road have been recorded at the Savage check station. Beginning in 2016 bikes being carried by buses were also recorded due to the rise of bike use in the park, and as a means to access the backcountry. This decision to include bikes that are carried into the backcountry by bus will improve our understanding of how many bikes actually are used within the DENA backcountry, and how many visitors' recreation needs require access and use of bike-amenable areas. There is an uptick in bike use in the Park during the start and end of the summer season in Denali, as well as a sustained climb of bike use during the three main summer months (Figure 17). The extreme drop in bikes in July 2016 corresponds with the Savage area wildlife closure when bikes were not allowed at on the road at the savage box and so were not counted passing the Savage check station. The corresponding number of bikes recorded on buses during July 2016 however, peaks. This demonstrates the importance of monitoring bikes on buses within the monthly public use statistics standard procedure. July is also the peak month for 2017, for both bikes recorded past Savage, and bikes carried on buses.

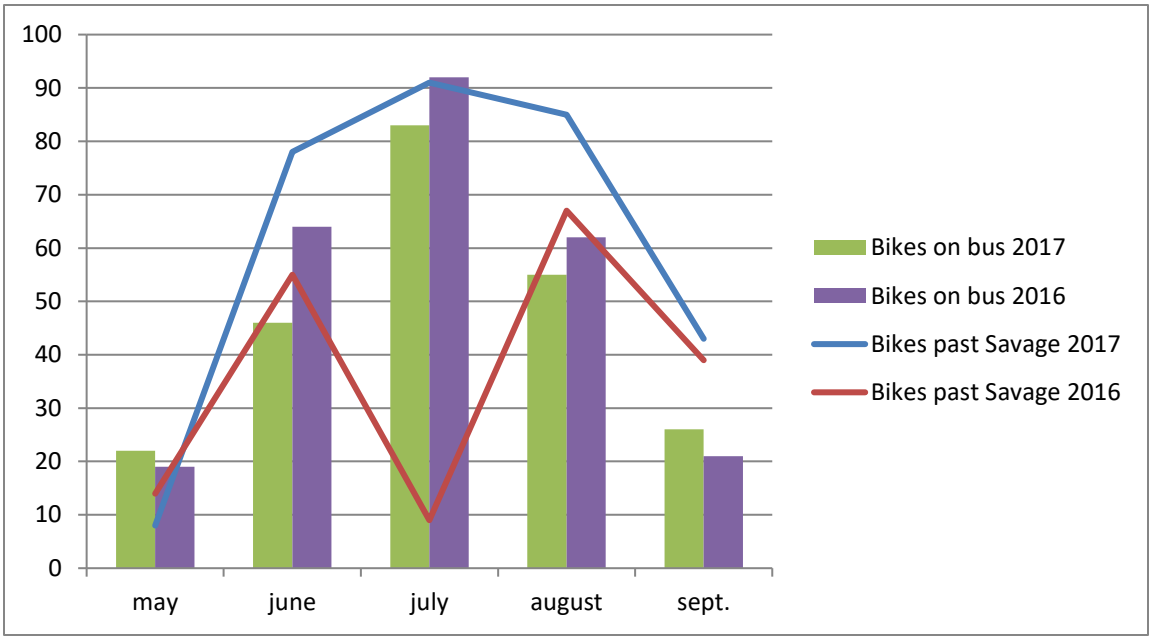


Figure 17. Bicycles Counted past the Savage Check Station and Recorded on Shuttle Buses in DENA 2016 - 2017

SUMMARY

The absolute number of visits to DENA in 2017 increased by 9.4 % from the total year recreation visits reported in 2016 (N = 587,412) & a 14 % increase from the total year reported for 2015 (N = 560,757). In part, the "centennial effect" of park visitation across the U.S. may be used to explain higher levels of visits across all park units (Ziesler, personal communication 2017). The more telling sign of visitation in DENA is given by comparing 2017 visitation levels to 2015 and years prior. An overarching rise in visitation is clearly visible. Sectors that have steadily climbed since 2014 though some less dramatically, include: bus ridership, absolute number of bikes in the park, Talkeetna Ranger Station visitors, Murie Center for Science and Learning visitors, and shoulder season visits. Increase in Denali & Foraker climbers is visible clearly from 2016 to 2017, while scenic glacial landing visitors appear steady across the 2015 – 2017 span.

Visitation patterns need to be continually monitored to determine where use becomes concentrated in the park, and where potentially new areas of use occur. Connecting visitor behavioral patterns with use patterns in the park will continue to be a focus of the social science program in DENA.

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