



# Memorandum

DATE: May 27, 2020

MEMO TO: Board of Directors

THROUGH: Ana Ruiz, General Manager *AR*

FROM: Matt Anderson, Chief Ranger

SUBJECT: Calendar Year 2019 Annual Report on Estimated Visitor Counts

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## SUMMARY

This report provides a summary of the data collected from various trail and vehicle counters installed throughout the District as part of Phase I of the Visitor Use Estimation Project. It also contains information on the purpose and status of Phase II of the project.

## BACKGROUND

In Fiscal Year (FY) 2015–16, a project was included in the Operations Department’s Action Plan to “Create a pilot project to measure the number of vehicles entering Rancho San Antonio (RSA) and other use patterns in the preserve.” As part of this plan, a vehicle counter was installed, and data collection began at RSA in August 2015.

In September 2016, an intern was hired for Phase I of the project to:

- Record observations of vehicle occupancy levels driving into RSA through the main entrance.
- Install and configure additional counters at various locations.

In October 2019, a second intern was hired for Phase II of the project to:

- Install counters at all significant entry points in RSA to collect total visitor count estimates for the park and the preserve.
- Install counters at representative preserves to estimate visitor use for the entire District.

## DISCUSSION

The following information summarizes the findings of the Visitor Use Estimation Project.

### **Rancho San Antonio**

#### Vehicle Counts

Figure 1 shows vehicle entry counts from 2016 to 2019.

(Note: The counter malfunctioned in November and December 2018. It also malfunctioned at the end of May 2019; it was repaired and reinstalled, but the down time resulted in loss of data from May 25 through July 11, 2019. Also note the counter malfunctioned for 15 non-consecutive days in August 2019. The counter was then replaced with a new one. In the chart, average monthly values have been used for months with significant data losses.)

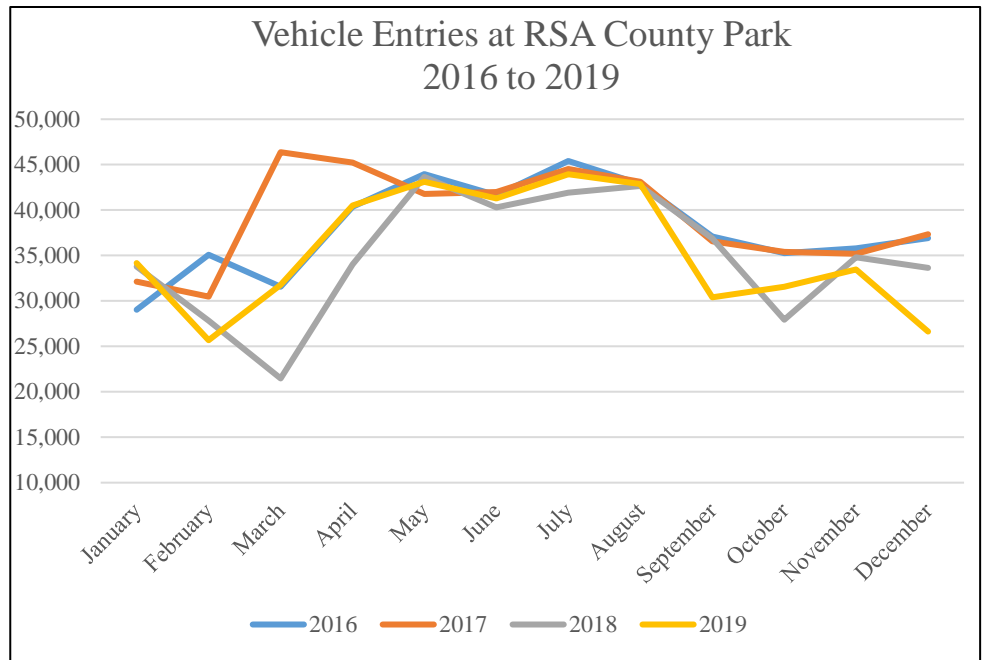


Figure 1

### Visitor and Vehicle Counts

The vehicle occupancy averages collected by the intern in 2016 and 2017 have been applied to the number of vehicle entries in Table 1 to determine total visitor counts (i.e., the number of people entering the preserve in cars). The number of vehicles entries and visitors between 2016 and 2019 are shown below in Table 1.

Table 1 – Visitor and Vehicle Counts from 2016 to 2019

	2016		2017		2018		2019	
	Cars	Visitors	Cars	Visitors	Cars	Visitors	Cars	Visitors
January	29,031	44,981	32,136	51,837	33,774	54,209	34,150	54,051
February	35,099	52,391	30,476	47,995	27,844	44,523	25,679	40,154
March	31,564	44,133	46,370	70,839	21,471	33,751	31,761	50,638
April	40,349	57,916	45,238	70,266	34,011	52,182	40,505	61,818
May	43,952	64,413	41,768	64,365	43,651	66,523	25,370	37,960
June	41,618	58,670	41,978	63,276	40,278	61,040		
July	45,401	66,923	44,517	69,105	41,916	63,979	28,478	43,200
August	42,875	60,411	43,106	64,209	42,640	63,672	11,247	16,553
September	37,096	54,583	36,571	56,353	36,888	57,793	30,406	47,476
October	35,272	50,615	35,408	54,328	27,950	42,232	31,548	48,233
November	35,802	54,744	35,190	55,471	15,758	24,328	33,453	54,773
December	36,920	53,508	37,351	58,232	21,232	34,046	26,627	40,415
Total	454,979	663,289	470,109	726,276	387,413	598,278	319,224	495,270

### Conclusions

Because of the data loss due to counter malfunctions, it is difficult to know if the visitation at Rancho San Antonio is declining or leveling off. If the visitation numbers for the months of May, June, July, and August are averaged between 2016 and 2018, with the data inputted for those

same months in 2019 to compensate for the lost data, 2019 visitation levels show a slight increase from 2018, but are still lower than 2016 and 2017.

As part of Phase II of this project, several more counters (including trail counters and bike counters) are planned for deployment by late 2020 at all of the main entrances/exits at Rancho San Antonio. This will provide a more comprehensive count of all visitors to the park and preserve.

**Mt. Umunhum**

A vehicle counter was placed on a post adjacent to Mt. Umunhum Road in the area of Gate SA39 in May 2017. A trail counter was placed on the Mt. Umunhum Trail in August of 2017.

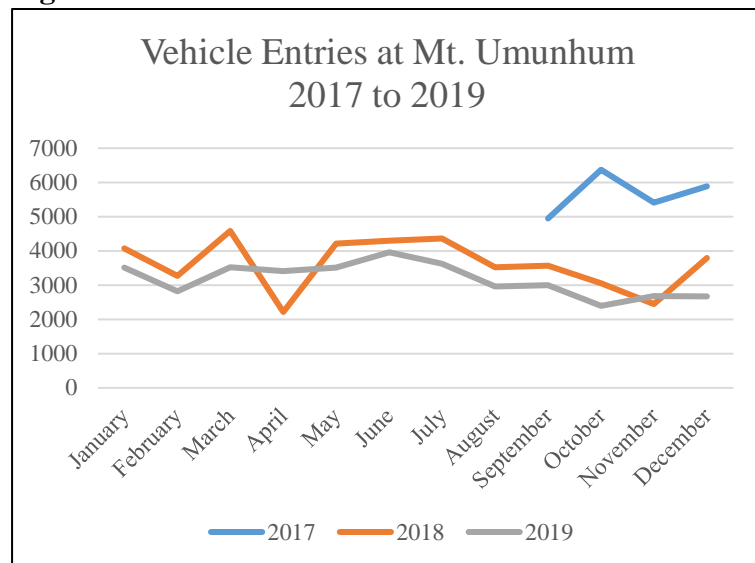
Vehicle Counts

Table 2 and Figure 2 reflect the number of vehicles for each month and year. Occupancy levels for vehicles have not been measured, so the number of visitors in those vehicles is not known.

**Table 2**

Sum of Vehicles Entering	2017	2018	2019
January		1213	3513
February		1481	2820
March		4584	3527
April		2217	3412
May		4217	3517
June		4300	3960
July		4360	3621
August		3521	1920
September	4948	3569	
October	6371	3052	2396
November	5407	2448	2684
December	2781	3796	2669
Total	19,507	38,758	34,039

**Figure 2**



*(Note: The vehicle counter malfunctioned from late December 2017 through February 2018, and the last half of April 2018, resulting in inaccurately low counts. In mid-August 2019, a vehicle damaged the post where the counter was installed. The counter was removed, repaired and reinstalled, but it resulted in a loss of data from August 18 through October 3, 2019. In the chart, average monthly values have been used for months with significant data losses.)*

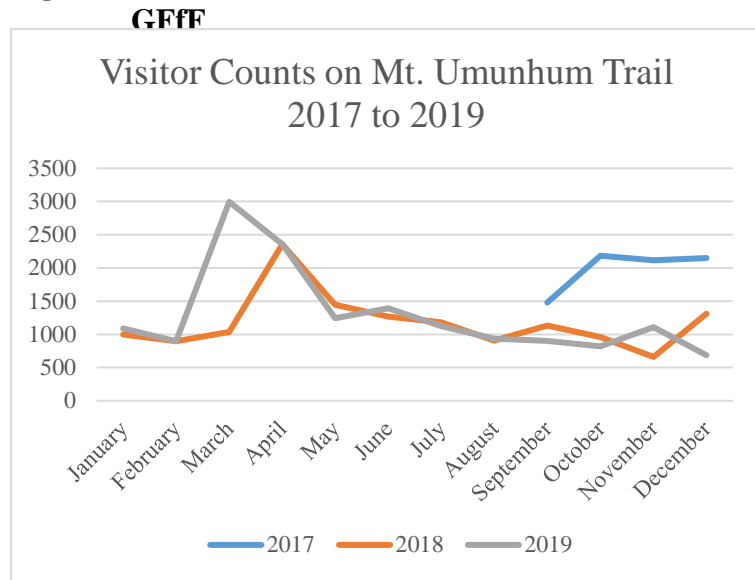
Visitor Counts

Table 3 and Figure 3 below reflect the number of visitors who were detected on the Mt. Umunhum trail.

**Table 3**

Sum of Trail Visitors	2017	2018	2019
January		259	1091
February		899	
March		1036	2995
April		173	2356
May		1448	1246
June		1270	1395
July		1181	1124
August	25	906	936
September	1480	1133	902
October	2184	958	818
November	2114	660	1111
December	787	1312	686
<b>Total</b>	<b>6590</b>	<b>11235</b>	<b>14660</b>

**Figure 3**



*(Note: The trail counter malfunctioned for the first half of December 2017 through mid-February 2018, resulting in a loss of data during that time. It also malfunctioned during the months of April 2018 and February 2019. Average monthly values have been used for months with significant data losses.)*

**Conclusions**

After the Grand Opening in September 2017, visitation was very high but dropped off with the winter weather. Visitation steadied in 2018 and seems to have remained steady in 2019. The data collected so far is insufficient to draw conclusions about long-term visitation. Trends will need to be observed over several years to get a true picture of the visitation patterns.

**Bear Creek Redwoods Preserve**

In June of 2019, a vehicle counter was installed at the Bear Creek Redwoods parking lot, and a trail counter was installed on the Alma Trail.

**Parking Area Vehicle Counts**

Table 4 and Figure 4 show vehicle entries to Bear Creek Redwoods preserve parking lot off Bear Creek Road from early June 2019 through December 2019. Occupancy levels for vehicles have not been measured, so the number of visitors in those vehicles is not known.

**Table 4**

Sum of Vehicles Entering	2019
January	
February	
March	
April	
May	
June	3053
July	3231
August	2513
September	2089
October	2202
November	1779
December	1360
<b>Total</b>	<b>16227</b>

Figure 7

**Figure 4**

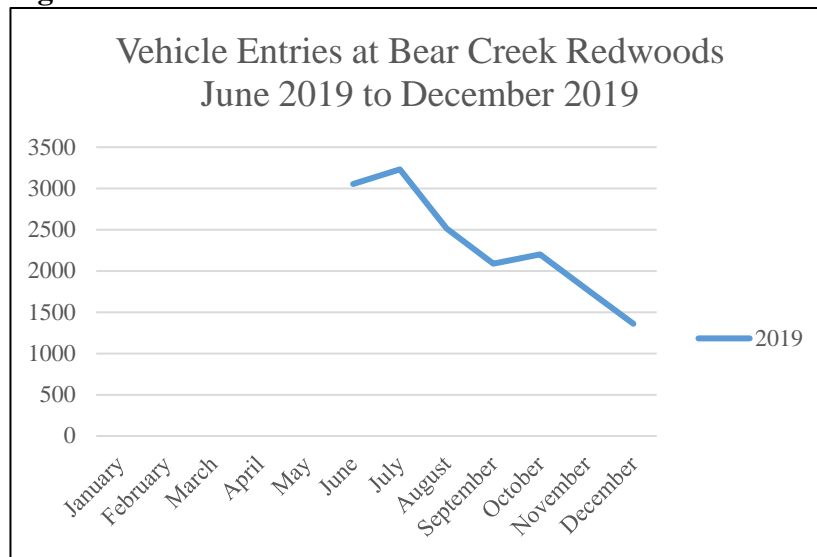


Figure 8

(Note: There were no malfunctions of the counter during this time.)

Alma Trail Visitor Counts

Table 5 and Figure 5 show trail visitors on the Alma Trail from late June 2019 through December 2019.

**Table 5**

Sum of Trail Visitors	2019
January	
February	
March	
April	
May	
June	1903
July	4336
August	2747
September	2023
October	1810
November	1741
December	1182
<b>Total</b>	<b>15742</b>

Figure 9

**Figure 5**

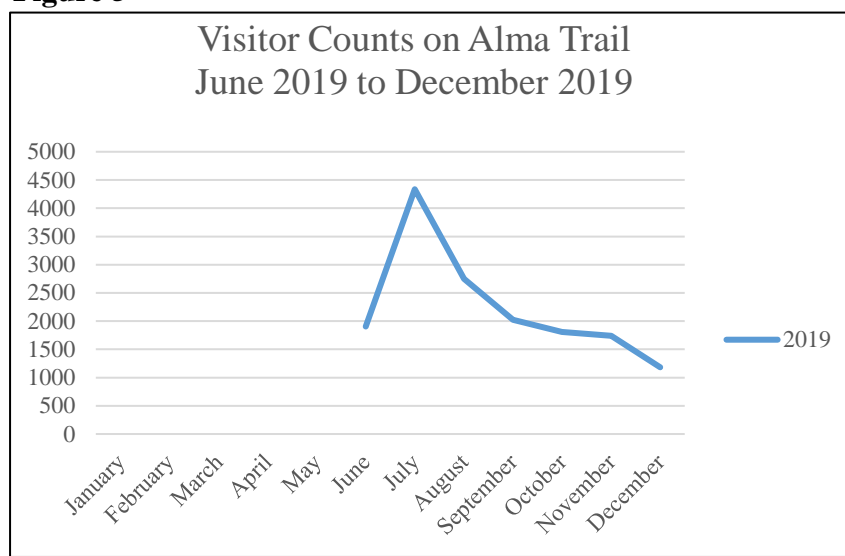


Figure 10

(Note: There were no malfunctions of the counter during this time.)

Conclusions

The data represent high levels of visitation right after opening and a drop off after that. The data collected so far is insufficient to draw conclusions about long-term visitation at the preserve. Trends will need to be observed over several years to get a true picture of the visitation patterns.

## Next Steps

### Collection Frequency

Effective 2020, the counter data is collected twice a month, instead of only once a month. The increase in collection frequency will help identify malfunctions much more quickly and reduce the amount of lost data and inaccurate counts.

### Phase II

Phase II of the project consists of two primary goals.

- Goal 1:** Install counters at all significant entry points in Rancho San Antonio to assist with other District projects and to obtain total visitor counts for the park and the preserve.
- Goal 2:** Classify and group preserves according to agreed-upon categories and criteria to identify groups of preserves with similar characteristics. Select representative preserves in each classification and then deploy infrared counters at (all or most of) those preserve entrances. Determine multipliers from representative preserves to apply to the other preserves in the same class to achieve approximate visitation for all preserves.

These goals are mostly completed as of the writing of this report with the exception of a series of visitor surveys to collect information on use patterns and visitor activities. Full phase completion was originally expected by June of 2020 and is now postponed to May of 2021 due to social distancing restrictions related to COVID-19. The ability to ground truth preserve multipliers is compromised until restrictions are lifted sufficiently to allow for in-person survey work.

An overview of what has already been implemented is provided below.

#### **Goal 1 (COMPLETED):**

- All Rancho San Antonio entrances deemed to have significant visitation are outfitted with infrared sensors. Two entrances are also outfitted with bicycle counters. Nine total counters have been installed, not including the vehicle counter at the main entrance, which was installed in 2016.

#### **Goal 2 (IN PROGRESS):**

Four preserve classifications were determined based on the factors below:

- Controlled ingress/egress both for parking lots and trail entrances
- Concrete/predictable use patterns (loop vs. in/out)
- Characteristics such as urban interface, interconnection with other trails/parks/roads, remoteness, trail use types, preserve features, parking availability, trail characteristics, elevation/seasonal conditions, visitation levels, etc.
  - As a result, the four representative preserves were identified:
    - St. Joseph's Hill
    - Monte Bello
    - El Sereno
    - Purisima Creek Redwoods
- Infrared counters have been installed at all significant entrances at the representative preserves. Thirteen total counters have been installed across these preserves.
- Three infrared counters were preexisting at the representative preserves.
- Ten counters—a mix of vehicle, bicycle, and infrared—were preexisting at other preserves (excluding Rancho San Antonio) and are being used to modify established

multipliers. Some of these counters have been relocated to other preserves based on where they are needed.

The primary work needed to complete Goal 2 is the continued monitoring and potential relocation of the ten counters installed outside of the representative preserves (excluding Rancho San Antonio). This will improve the accuracy of our estimates for nonrepresentative preserves.

Once Phase II is fully completed, staff can start acquiring more comprehensive visitor counts, which, over time, will allow more accurate estimates of visitation across the entire District.

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