

# Indiana Division of Forestry 2020 Trail Report



**DNR**  
Indiana Department  
of Natural Resources



The trailside shelter in the backcountry at  
Yellowwood State Forest.

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## Project Overview

The objective of this project was to collect data from trail counters to better understand how and when the trails on state forest properties are used.

## Summary

The trails on state forest properties were an important part of Hoosier life in 2020 as the total projected traffic for all properties increased 92% from 2019 to 2020 compared to a 6% increase in traffic from 2018-2019. Additionally, traffic seemed to increase following the lockdown at the beginning of the COVID-19 pandemic because many trails saw a sharp increase in traffic starting in March and April. As in previous years, the weekends continued to be the most popular days for trail use. In 2020, Salamonie River and Morgan-Monroe/Yellowwood State Forests had the highest average traffic while Harrison-Crawford had the lowest. Of the three major trails (Adventure Hiking, Knobstone, and Tecumseh), the Tecumseh Trail had the highest overall traffic average while the Adventure Hiking Trail had the lowest.

## Methods

Starting in 2015, TRAFx trail counters were placed in key spots on trails, roads, and campgrounds on state forest property. However, because this project is primarily concerned with trail traffic, only the counters on trails were included in the analysis. Once the trail counters were placed, they used infrared technology to count and record how many people used the trail. The data from these counters were then collected on the TRAFx website and interpreted.

Issues:

Due to the nature of infrared technology, counters may record an artificially high number of people on the trails. For example, if someone stands in front of the counter, it will record a new person every three seconds. Animals walking by might also be recorded. Because of this, large spikes in data were excluded from the analysis for this report.

Additionally, malfunctions with the counters sometimes resulted in hours, days, and months of no data. For the totals of months that are missing data, the report used projected totals instead of actual numbers.

## Results

### Knobstone Trail

The Knobstone Trail is a 59-mile backcountry trail. A total of 32 miles of the trail are in Clark State Forest, while the remaining 27 miles are located in the Elk Creek Public Fishing Area and Jackson-Washington State Forest. Eight trail counters were placed at varying points throughout the Knobstone Trail, starting in the south at Deam Lake, then following the trail north and west with points at Jackson Road, Pixley Knob Road, New Chapel, Leota, Elk Creek, Oxley Memorial, and ending at Spurgeon Hollow.

Of the eight trail counters placed, the counter at Oxley Memorial was excluded because it was missing too much data for accurate analysis.

## Knobstone Trail: Deam Lake Trailhead Counter

The counter at the Deam Lake Trailhead of the Knobstone Trail recorded 6,658 people over the course of 366 days with an average of 18 people per day in 2020. The weekends were the most popular days for this section of the trail with Sunday being the busiest day. Meanwhile, Tuesday was the day with the fewest people on average (Figure 1). Monthly, April was the month with the highest number of people, with June and July having the lowest (Figure 2).

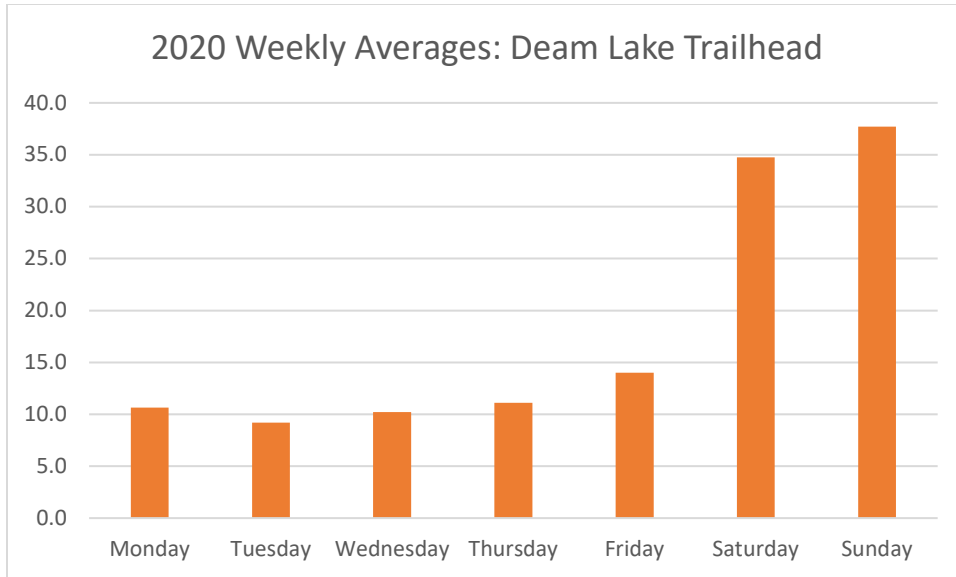


Figure 1: Average number of people recorded for each day of the week.

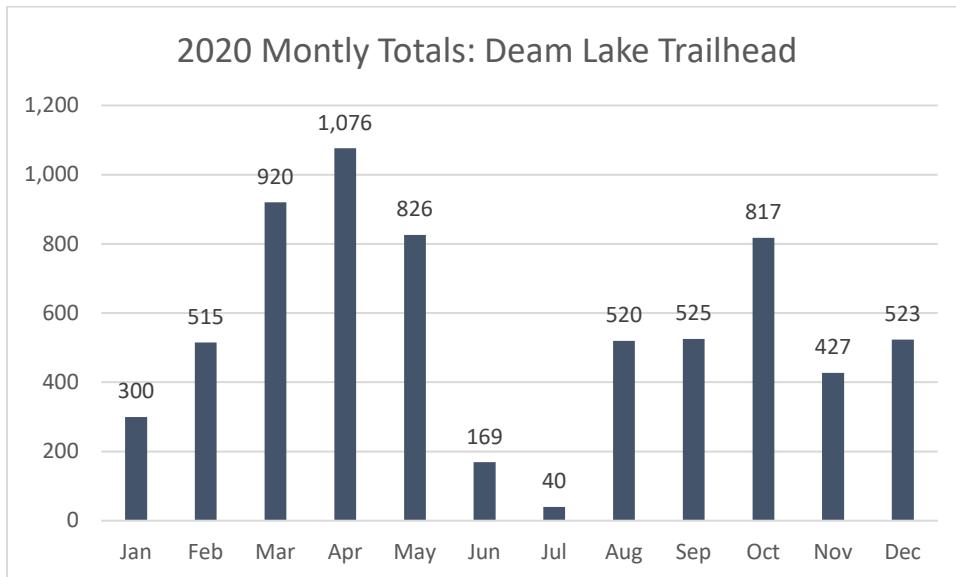


Figure 2: Total number of people recorded during each month.

## Knobstone Trail: Jackson Road Trailhead Counter

The counter placed at the Knobstone Trail's intersection with Jackson Road recorded 1,950 people over the course of 362 days in 2020. Here, the average daily total was five people. Sunday was the busiest day. Friday and Tuesday had the fewest people on average (Figure 3). Monthly, January and February had the highest numbers of people, with July and August having the lowest (Figure 4). Data was missing for September.

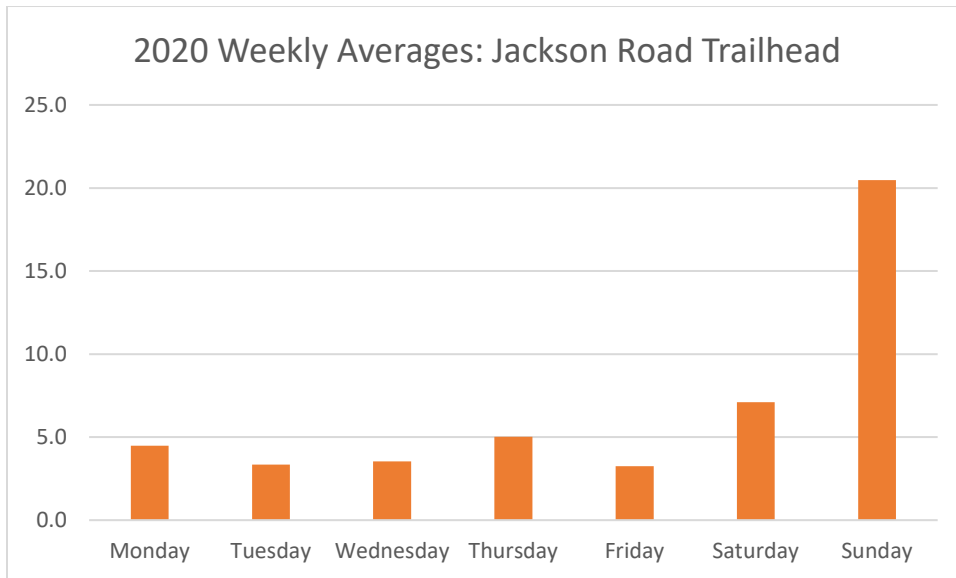


Figure 3: Average number of people recorded for each day of the week.

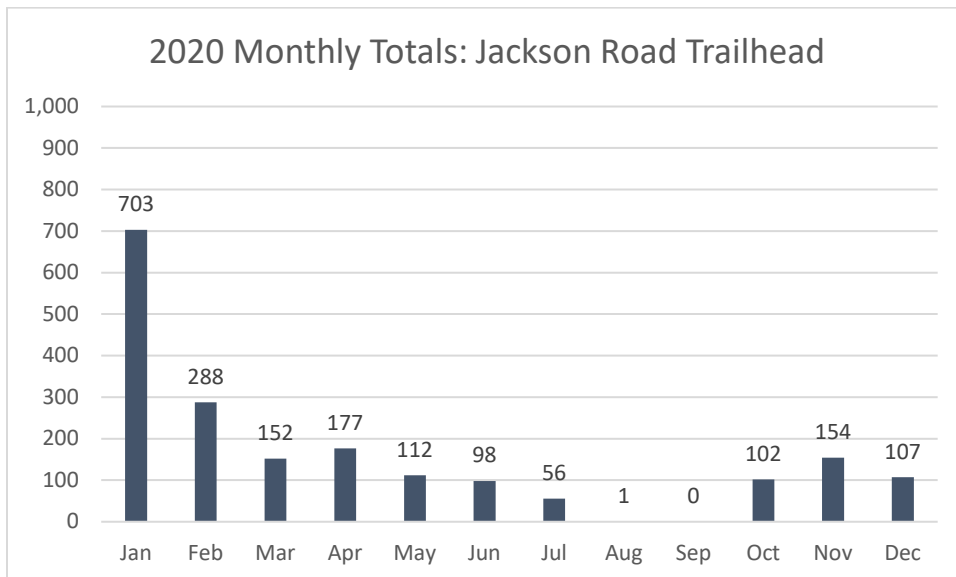


Figure 4: Total number of people recorded during each month.

## Knobstone Trail: Pixley Knob Road Trailhead Counter

The Pixley Knob counter recorded 4,575 people over 316 days, an average of 14 people per day. Saturdays and Sundays were the busiest days of the week for this section of the trail with Tuesday being the least busy day of the week (Figure 5). The counter recorded the highest number of people in October. July and December were the months with the fewest people counted (Figure 6).

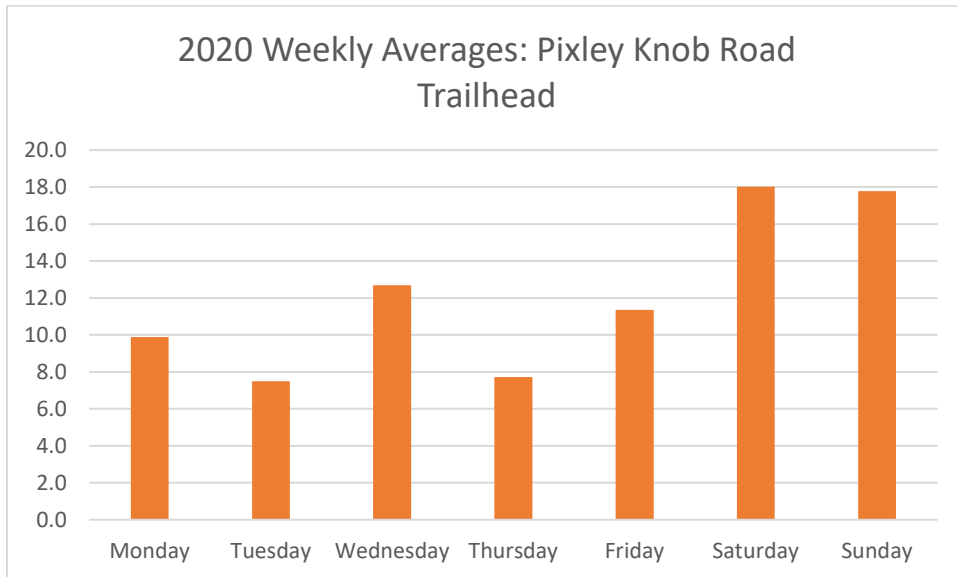


Figure 5: Average number of people recorded for each day of the week.

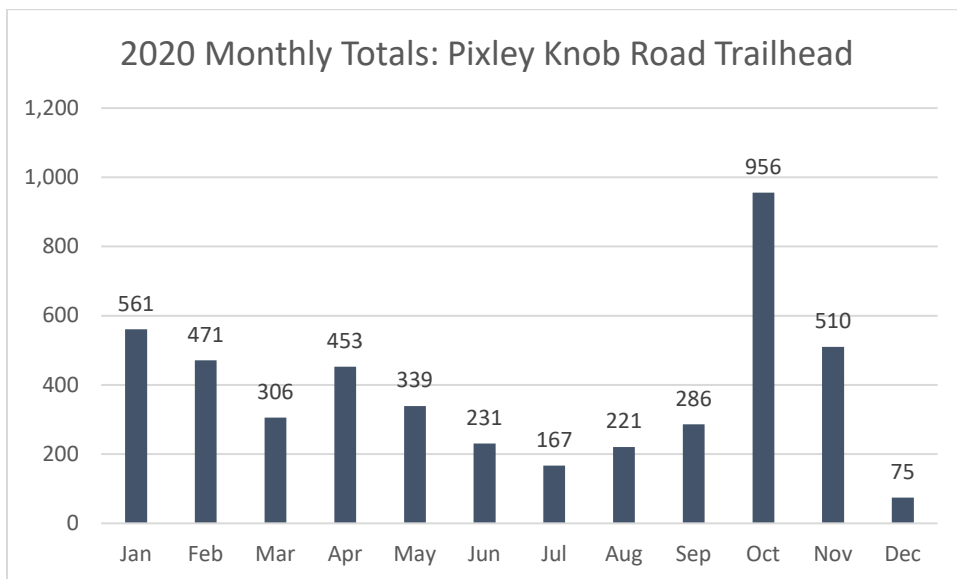


Figure 6: Total number of people recorded during each month.

## Knobstone Trail: New Chapel Trailhead Counter

The counter at New Chapel recorded 670 people over 323 days with an average of around two people per day. Weekly, Sunday had the highest average number of people, followed by Saturday with Tuesday, Wednesday, and Thursday being the days with the lowest average number of people (Figure 7). Additionally, October was the month this portion of the trail was used the most, while the trail was used the least in January and February (Figure 8).

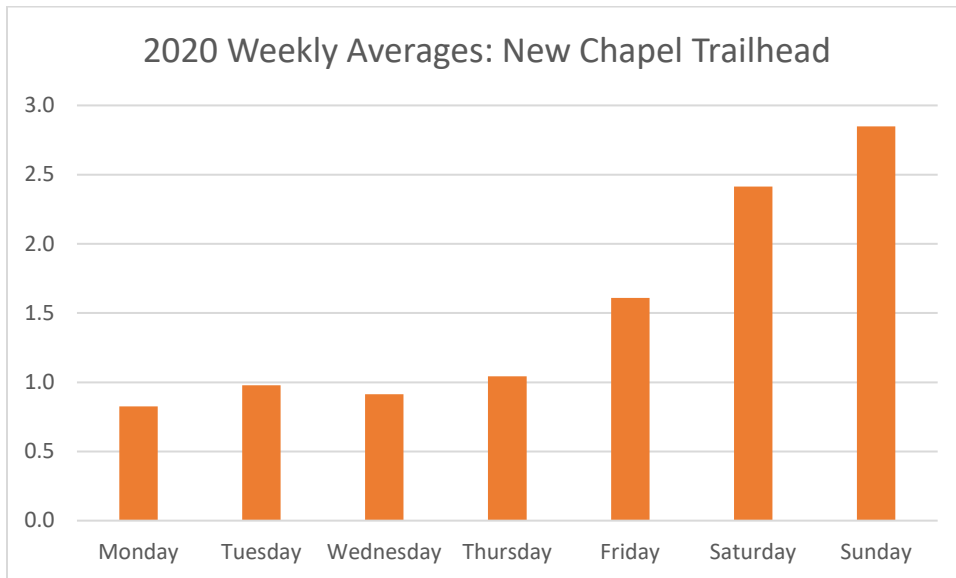


Figure 7: Average number of people recorded for each day of the week.

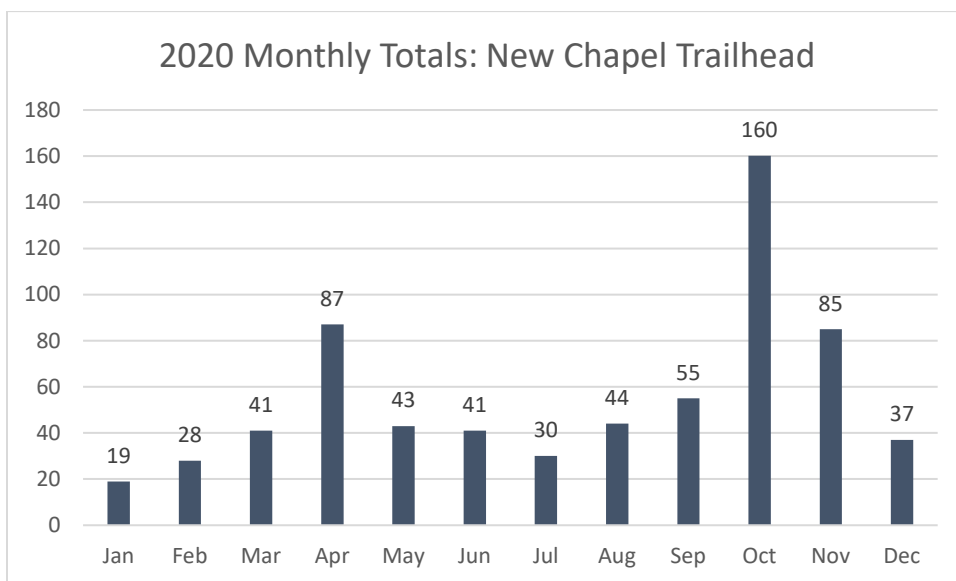


Figure 8: Total number of people recorded during each month.



## Knobstone Trail: Leota Trailhead Counter

The Leota counter recorded 2,566 people over 366 days, an average of seven people per day. On average, the weekends were the busiest days of the week for this section of the trail with Saturday being the busiest day while Wednesday was the slowest day of the week (Figure 9). The counter recorded the highest number of people in September with April and May being the next busiest months. January and February were the months with the fewest people counted (Figure 10).

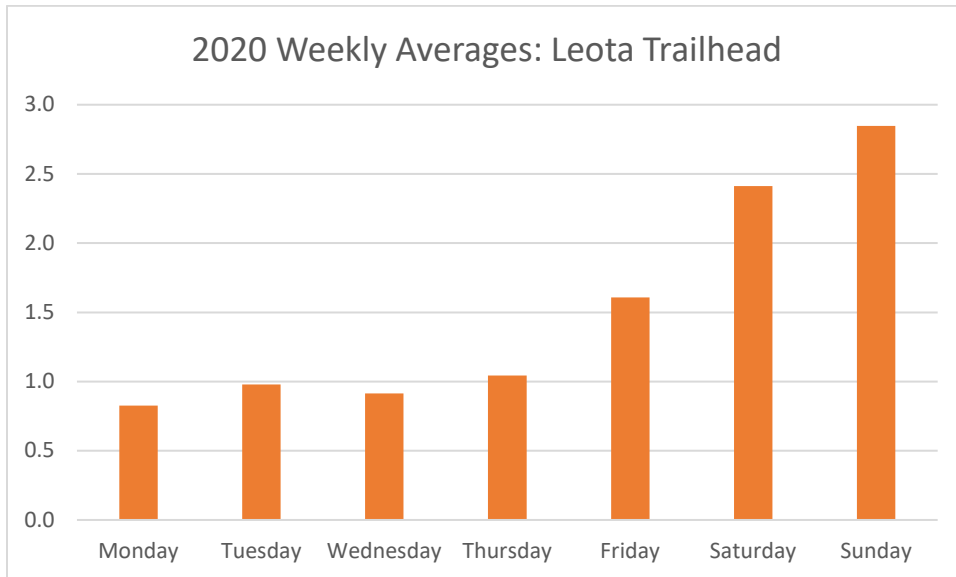


Figure 9: Average number of people recorded for each day of the week.

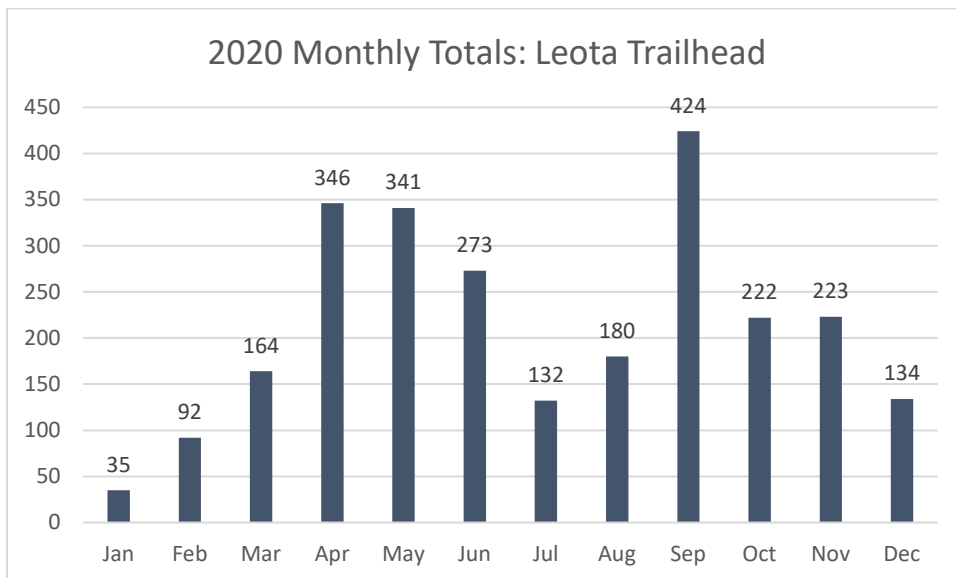


Figure 10: Total number of people recorded during each month.

## Knobstone Trail: Spurgeon Trailhead Counter

The Spurgeon Hollow trail counter recorded 3,765 people over the course of 223 days in 2020 for an average of seventeen people per day. The average weekly data show Saturday and Sunday were the most common days for hiking this section of the trail while Wednesday was the least popular day (Figure 11). April was the most popular month, with January and February being the least popular (Figure 12). Both May and December had no data.

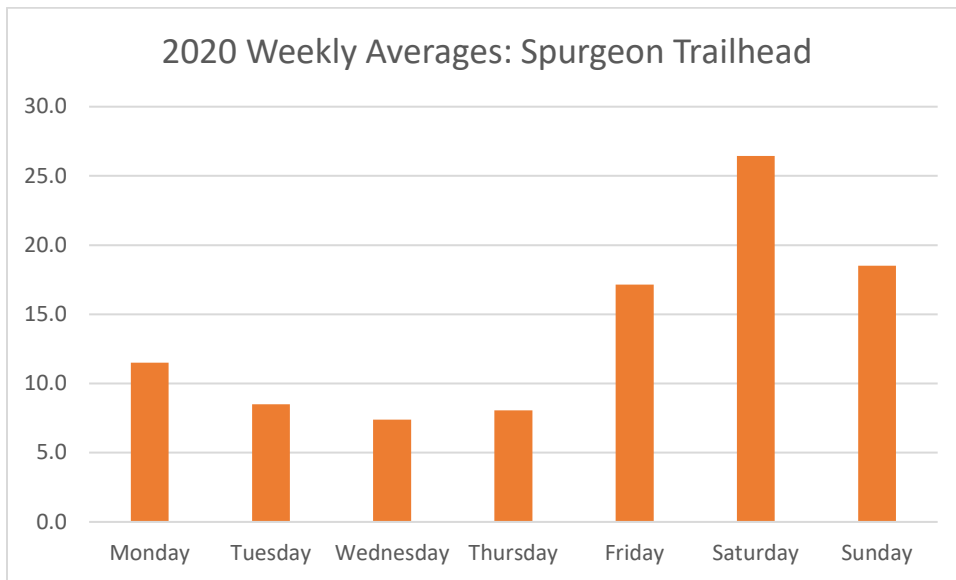


Figure 11: Average number of people recorded for each day of the week.

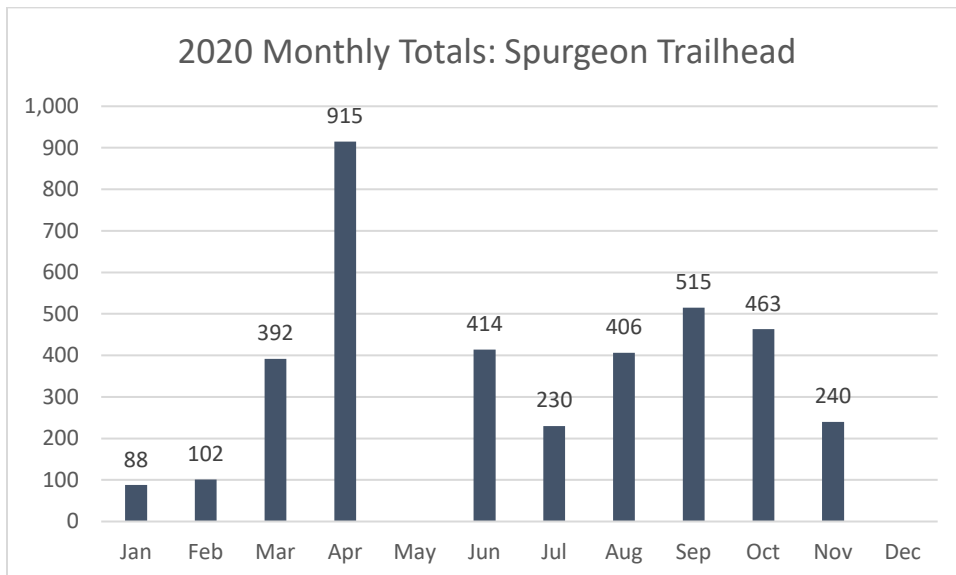


Figure 12: Total number of people recorded during each month.

## Knobstone Trail: Elk Creek Trailhead Counter

The Elk Creek counter recorded 5,104 people over 365 days, an average of 14 people per day. On average, the weekends were the busiest days of the week for this section of the trail with Sunday being the busiest day while Tuesday and Wednesday were the slowest days of the week (Figure 13). The counter recorded the highest number of people in April and May. January and February were the months with the fewest people counted (Figure 14).

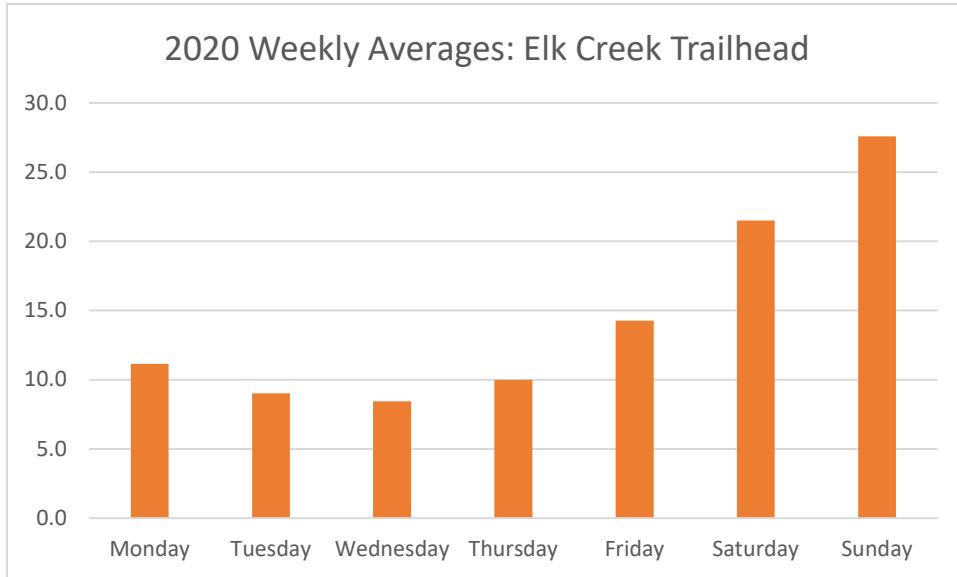


Figure 13: Average number of people recorded for each day of the week.

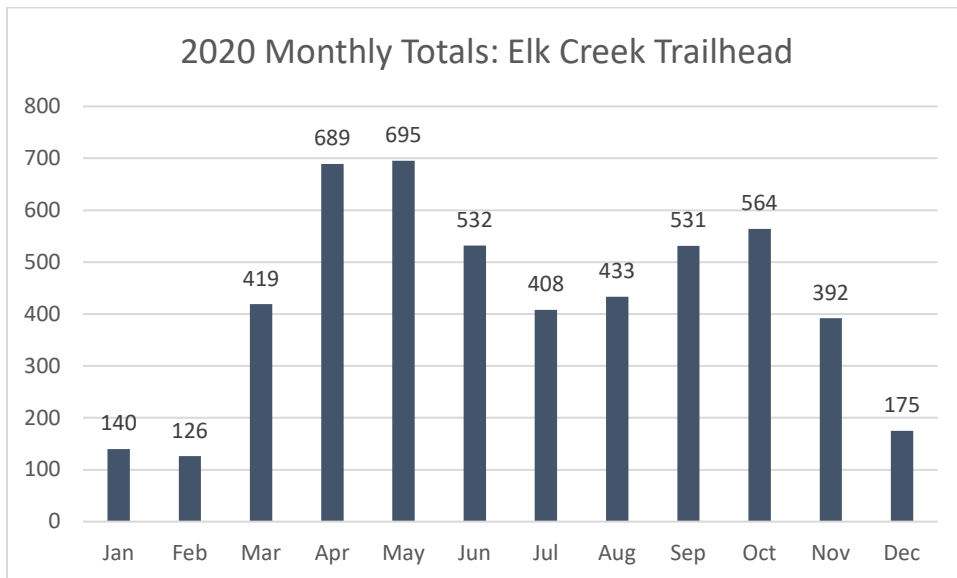


Figure 14: Total number of people recorded during each month.

## Deam Lake Loop

The Deam Lake Loop is a 6-mile trail around the lake. It is the longest trail at Deam Lake SRA and the only multi-purpose trail. This scenic hike is a complete circle around the lake and much of the property. Several other trails branch off. Most users access the trail from the parking lot beside the wood barn at the campground entrance or from the horse day-riding area parking lot. Hikers may encounter horse riders and mountain bikers on this trail.

The trail counter was placed on the eastern part of the trail and recorded 2,224 people over 366 days in 2020. During that time, about six people per day used the trail. As is expected, Saturday and Sunday were the most popular days of the week while Tuesday and Wednesday had the least amount of traffic (Figure 15). Additionally, March and November had the highest number of people. January and September were the least popular months (Figure 16).

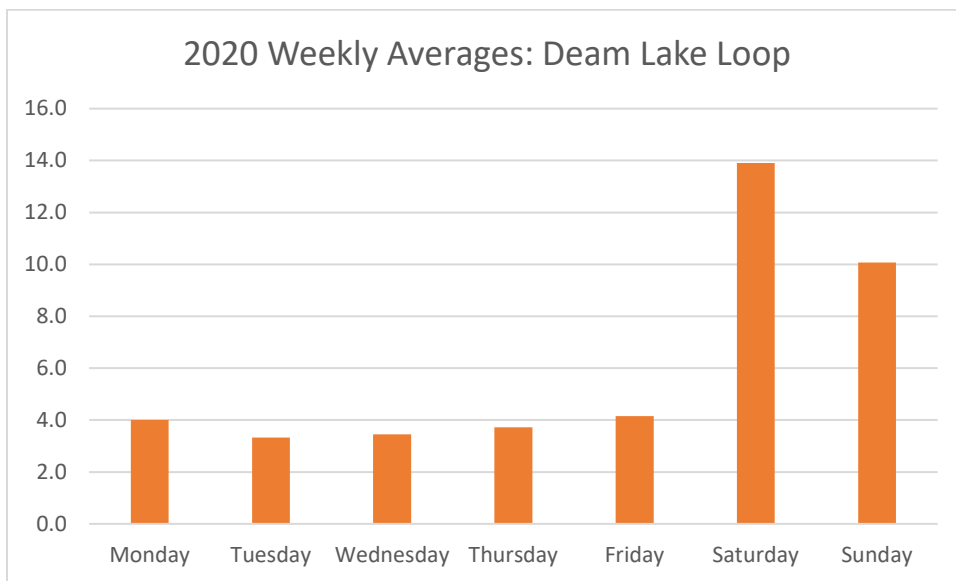


Figure 3: Average number of people recorded for each day of the week.

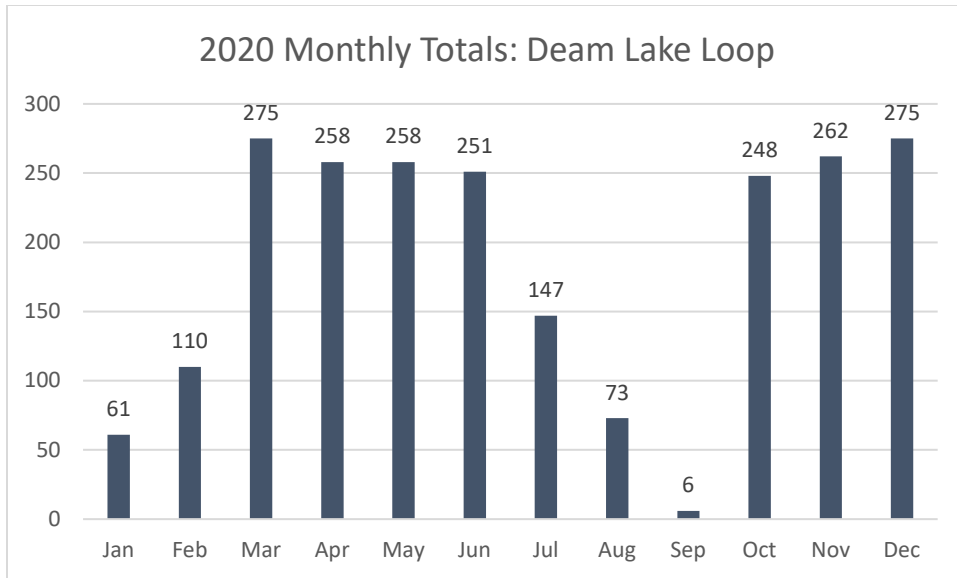


Figure 4: Total number of people recorded during each month.

## Adventure Hiking Trail

The Adventure Hiking Trail (AHT) runs through Harrison-Crawford State Forest and O’Bannon Woods State Park. It is a roughly 25-mile loop trail that takes about three days to complete. Overnight backpack camping is permitted (the Adventure Hiking Trail is the only trail at these properties along which camping is permitted). There are five shelters, two primitive sites, and four road crossings along the trail. Four trail counters were placed at different points along the trail, including Pioneer Shelter, Old Forest Road, Cold Friday Road, and at the trail’s intersection with State Road 462. The counter at State Road 462 was excluded due to lack of data.

### Adventure Hiking Trail: Pioneer Shelter Counter

The trail counter at Pioneer Shelter recorded 2,513 people over all of 2020 (334 days), resulting in an average of around eight people per day. Like other trails, a larger amount of people was counted on Saturday, with much smaller numbers during the week, especially Wednesday (Figure 17). April and May were the most popular months for this section of the trail. The months with the lowest number of people recorded were January and February (Figure 18).

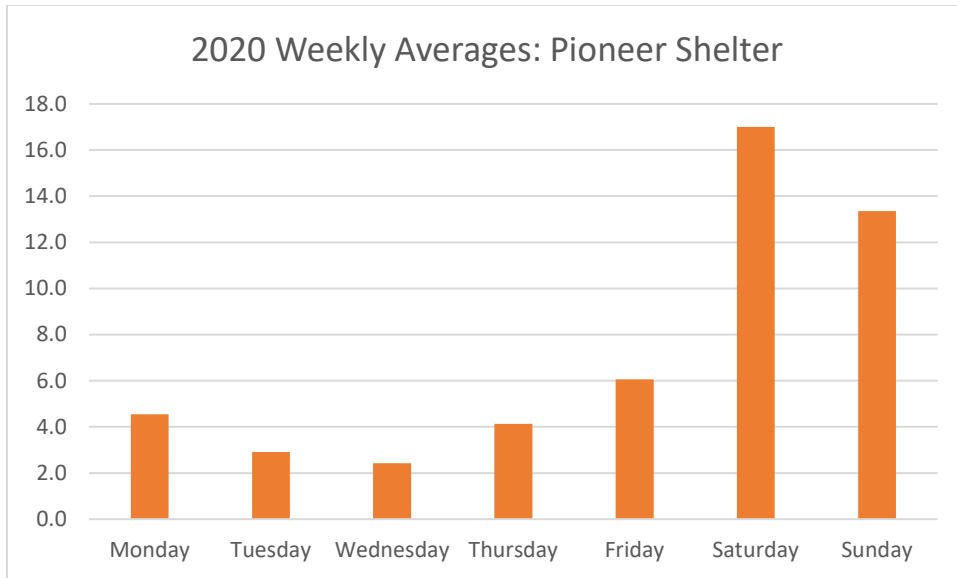


Figure 5: Average number of people recorded for each day of the week.

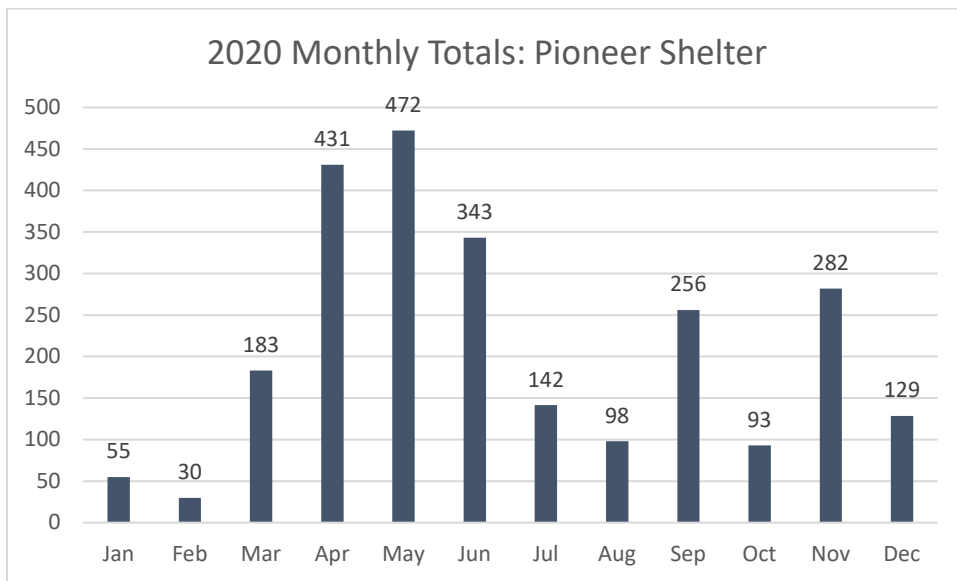


Figure 6: Total number of people recorded during each month.

### Adventure Hiking Trail: Old Forest Road Counter

The Old Forest Road trail counter only recorded 320 people during the year (304 days) for an average of one person per day. The weekend had the most traffic with Saturday being the most popular day. The least popular days were Monday and Thursday (Figure 19). On a monthly basis, the highest number of people used this section of the Adventure Hiking Trail in March and December. January and September were the months with the least traffic (Figure 20).

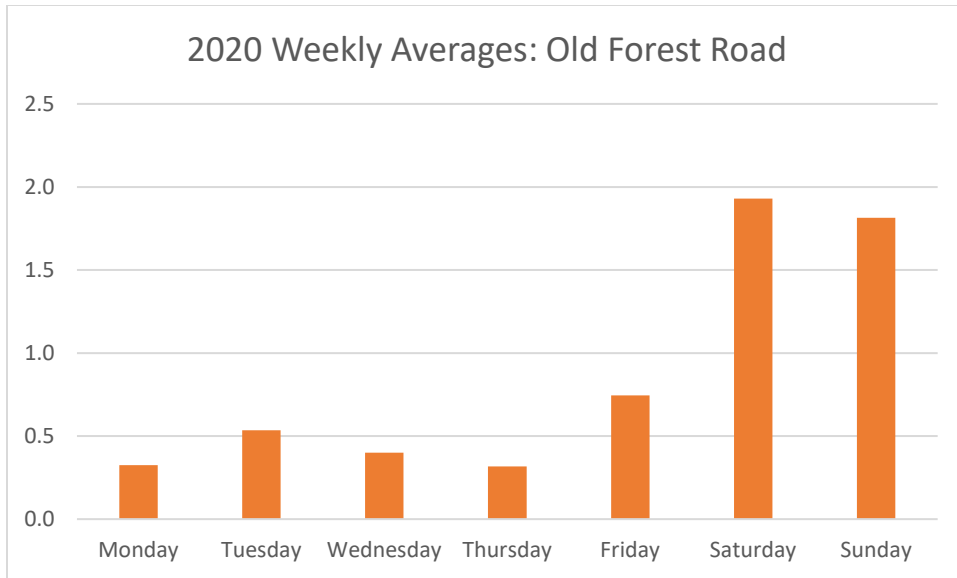


Figure 7: Average number of people recorded for each day of the week.

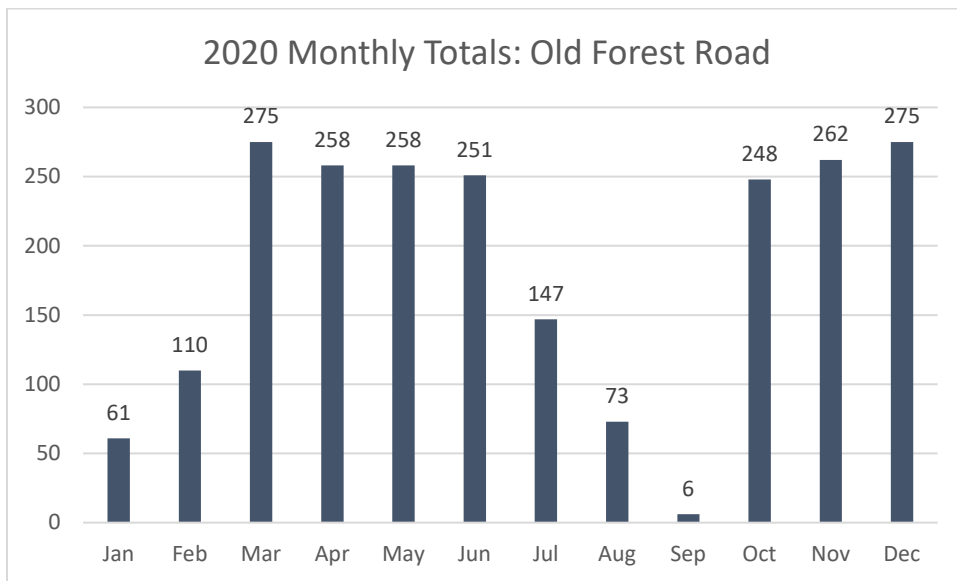


Figure 8: Total number of people during each month.

### Adventure Hiking Trail: Cold Friday Road Counter

The Cold Friday Road trail counter recorded a total of 1,699 people over the course of the year (366 days), with an average of five people per day. A larger number of people chose Saturday to hike this portion of the trail, with an average of about 11 people. The next most common day was Sunday while the least frequented day was Wednesday (Figure 21). November was the most popular month by far with 300 people counted. January, February, and December were the months with the least amount of traffic (Figure 22).

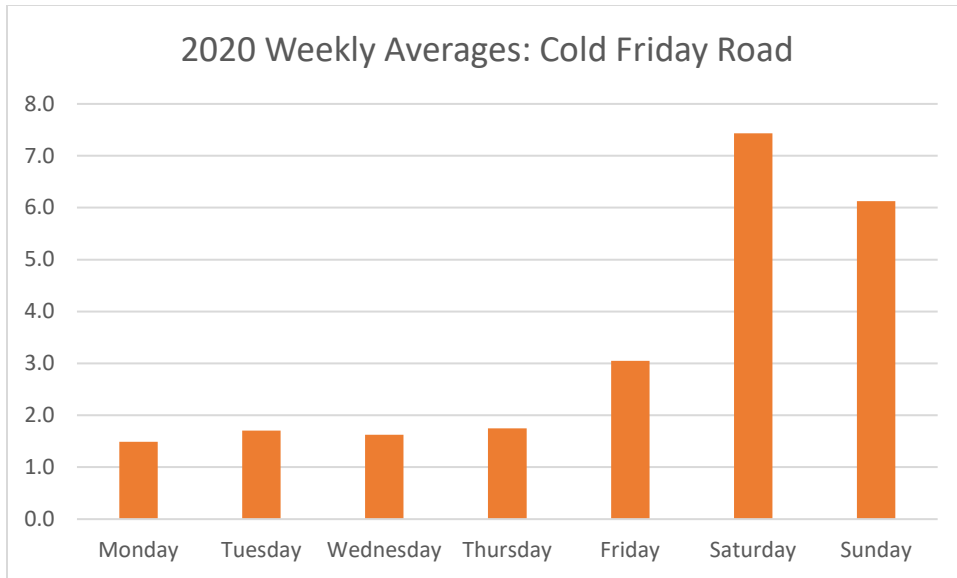


Figure 9: Average number of people recorded for each day of the week.

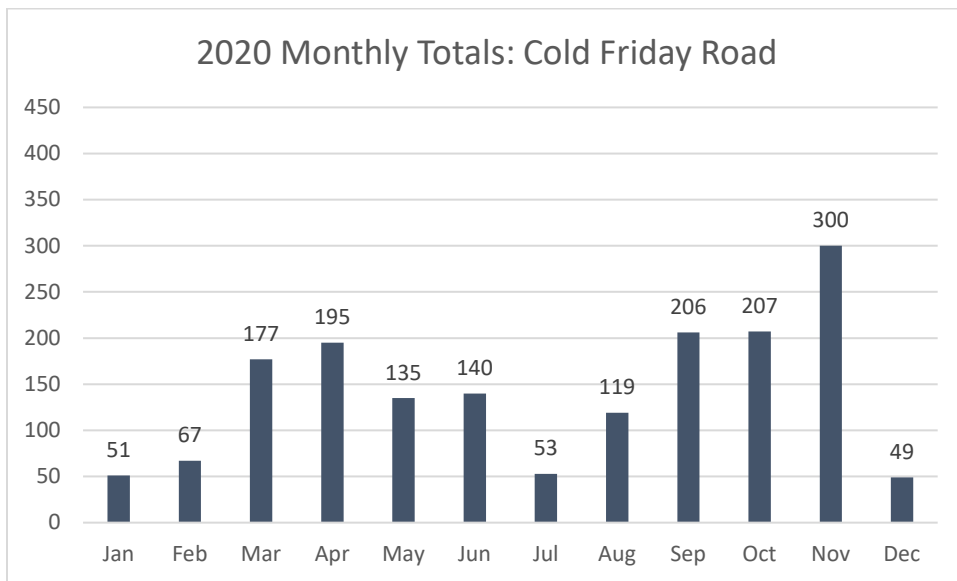


Figure 10: Total number of people recorded during each month.

## Mason Ridge Trail

The Mason Ridge Trail is 2.7 miles and circles the main forest road in Morgan-Monroe State Forest. The counter was placed near the northern tip of the loop. Over the course of 295 days in 2020, the counter recorded 4,350 people. This amounts to just over 15 people per day. During the year, people used the trail most on Saturdays and Sundays, with Wednesdays having the lowest attendance (Figure 23). October was the most popular month for the Mason Ridge Trail, while January had the lowest numbers (Figure 24). No data was recorded for November or December.



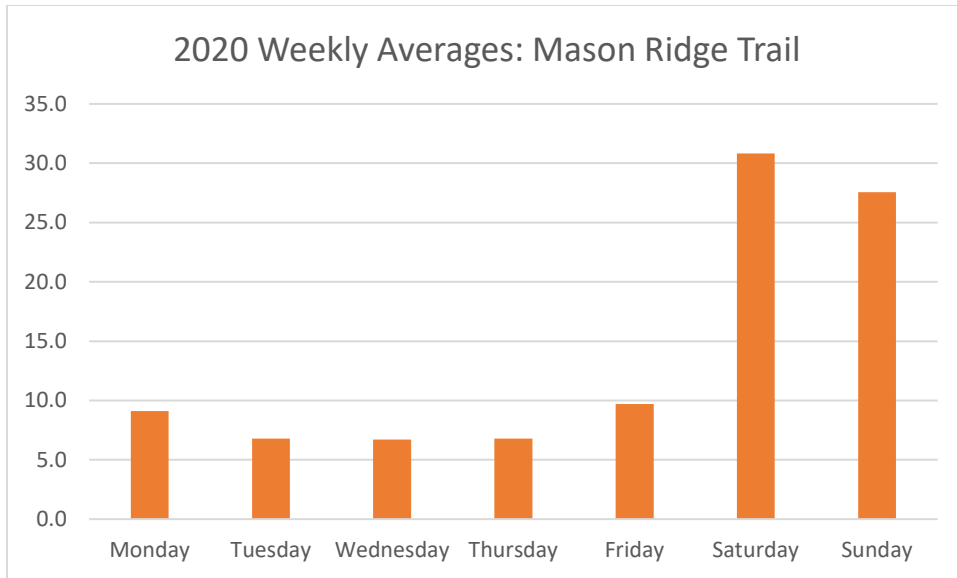


Figure 11: Average number of people recorded for each day of the week.

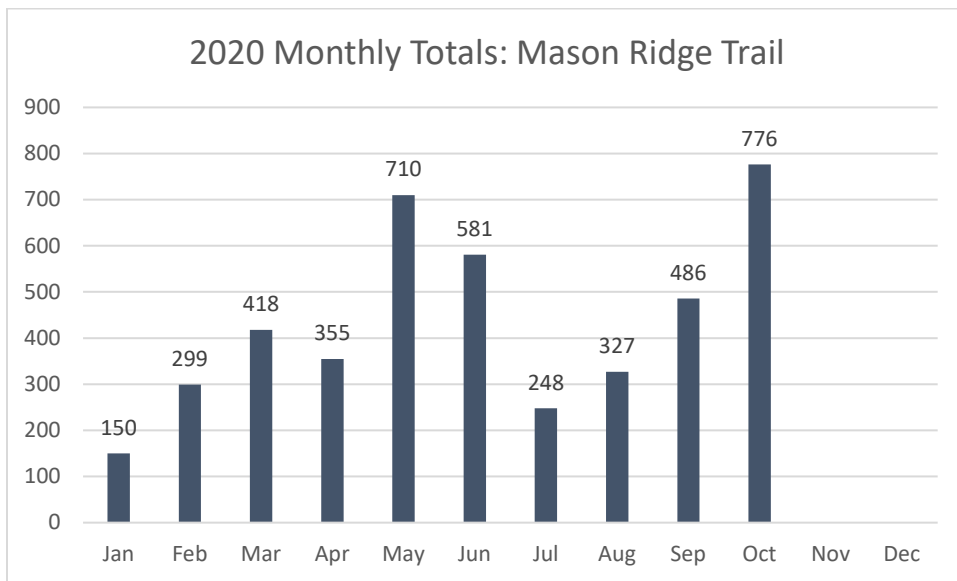


Figure 12: Total number of people recorded in each month.

## Low Gap Trail

This trail is a rugged 10 miles located east of the Mason Ridge Trail in the eastern portion of Morgan-Monroe State Forest. Placed on the southern portion of the trail, the counter recorded 7,636 people over the course of 351 days in 2020. The average number of people using the trail per day was 22. Similar to the other trails, the Low Gap Trail was primarily used during the weekends with Saturday being the most popular day and Tuesday being the least popular (Figure 25). Over the course of the year, May and June

were the months in which the trail saw the most traffic followed closely by September and October. The least popular months were April, August, and December (Figure 26).

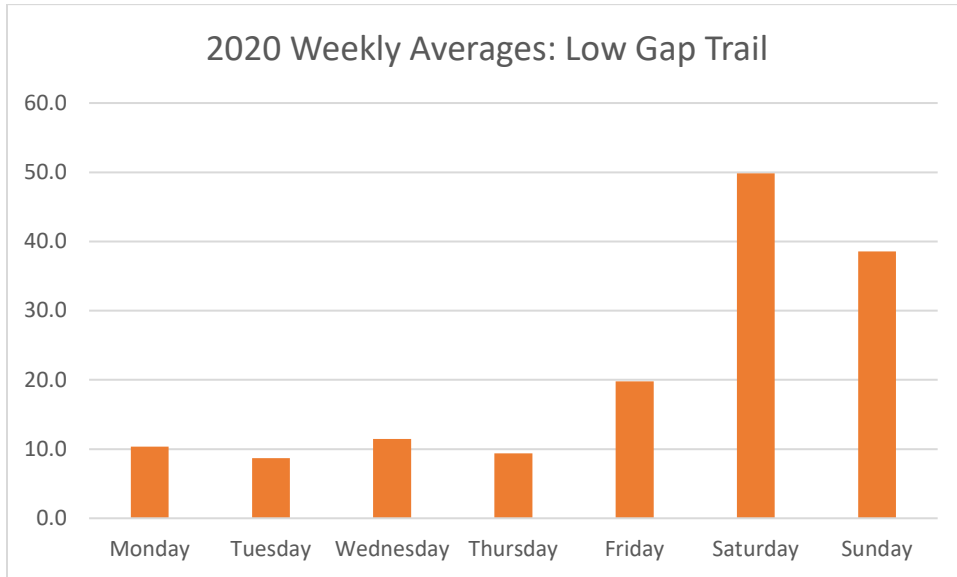


Figure 13: Average number of people recorded for each day of the week.

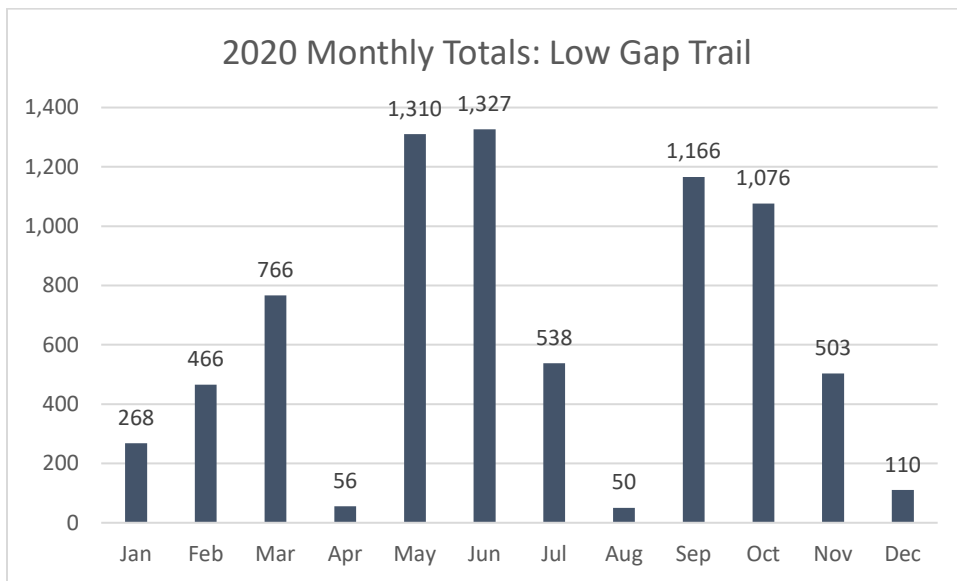


Figure 14: Total number of people recorded during each month.

## Rock Shelter Trail

The Rock Shelter Trail is a 3-mile moderate loop attached to the southwestern part of the Low Gap Loop in Morgan-Monroe State Forest. The counter is located on the northwest part of the trail near its intersection with the Low Gap and Mason Ridge trails. Over the course of 337 days in 2020, the counter recorded 6,426 people, with an average of around nineteen people per day. Like most other trails, the

most popular days for the use of the Rock Shelter Trail were Saturday and Sunday. Meanwhile, Tuesday was its least popular day (Figure 25). April and May were the most popular months for the trail while January and December were the months with the least traffic (Figure 26).

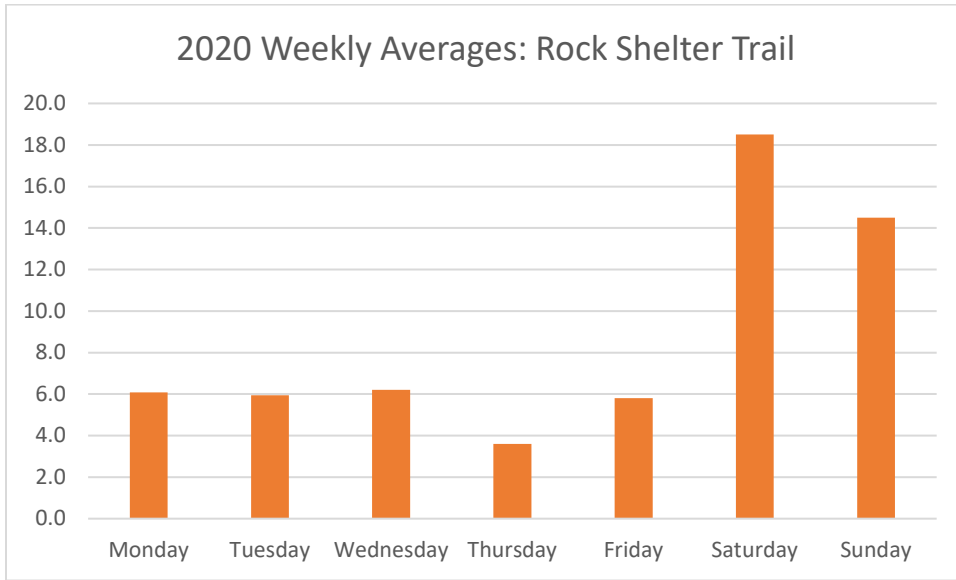


Figure 15: Average number of people recorded for each day of the week.

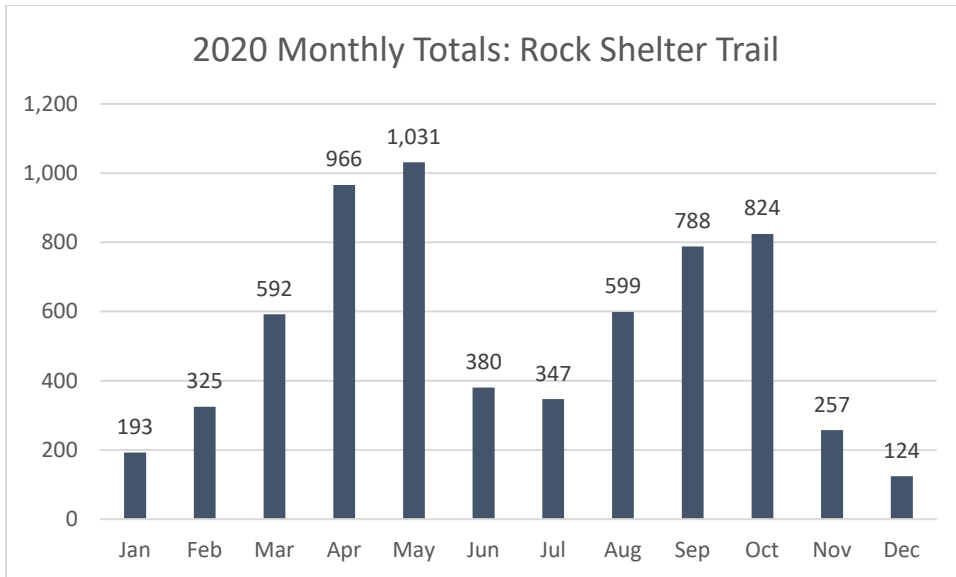


Figure 16: Total number of people during each month.

### Three Lakes Trail

The Three Lakes Trail is a rugged, 10-mile trail with trailheads at the south end of Cherry Lake and at the Bryants Creek Lake shelter in Morgan-Monroe State Forest. Two counters were placed on this trail

including the Three Lakes Trailhead counter and the counter at Stepp Cemetery. The Stepp Cemetery counter was not included due to missing data.

### Three Lakes Trailhead Counter

The counter is set up near Cherry Lake toward the northeastern part of the Three Lakes Trail. For 321 days in 2020, the counter recorded 4,268 people, resulting in an average of around 13 people per day. On a weekly basis, the days with the highest average usage were Saturday and Sunday (Figure 27). Monthly, May and April were the busiest months with January and February being the least popular months (Figure 28).

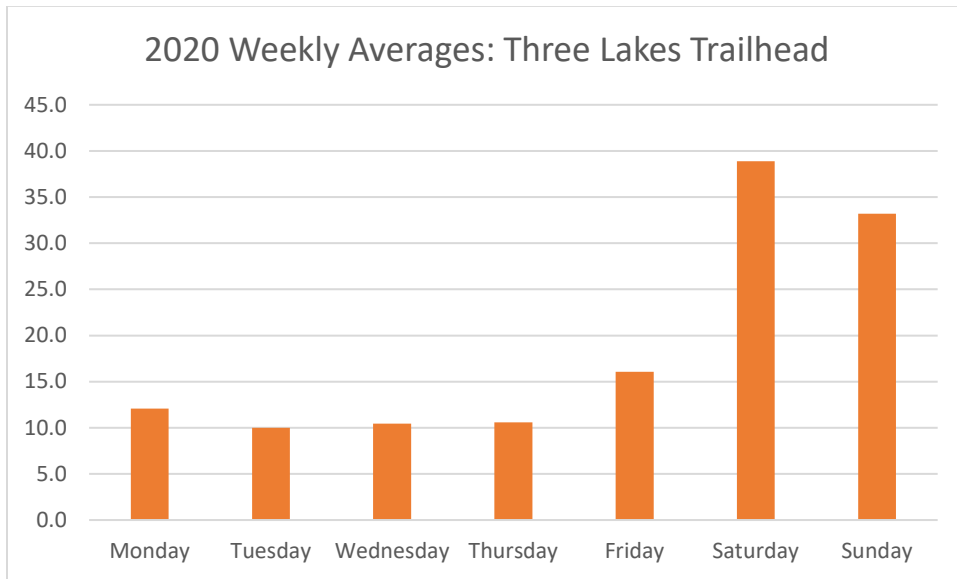


Figure 17: Average number of people recorded for each day of the week.

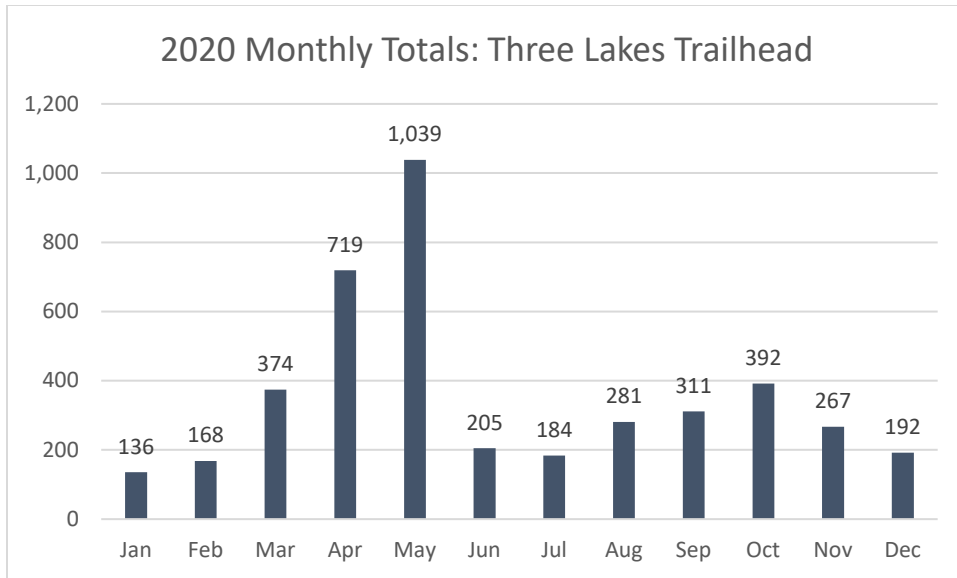


Figure 18: Total number of people during each month.

### Tree Identification Trail (Interpretive Trail)

The Tree Identification Trail is a one-mile self-guided trail in the Morgan-Monroe State Forest. There are 27 trees marked along the trail, each featuring a different species. Some stations include descriptions of how different species are identified or how humans benefit from trees and forest products. The trail head is located at the forest office parking area where a tree identification booklet is available in the office.

For 337 days in 2020, the Tree Identification Trail counter recorded 1,317 people, resulting in an average of around four people per day. On a weekly basis, the day with the highest average usage was Saturday and Sunday (Figure 31). Monthly, April and May were the busiest month while January and February were the least popular months other than December for which no data is available (Figure 32).

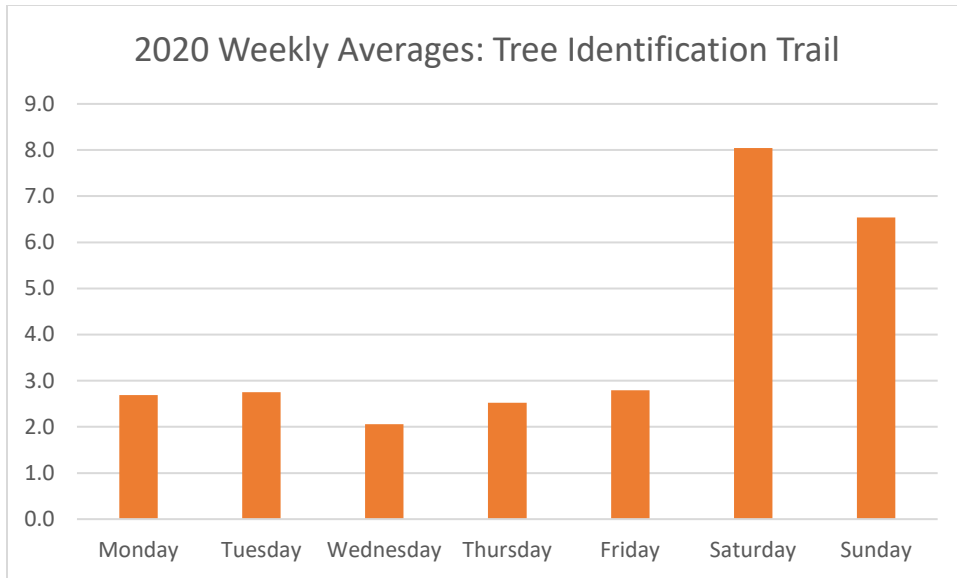


Figure 31: Average number of people recorded for each day of the week.

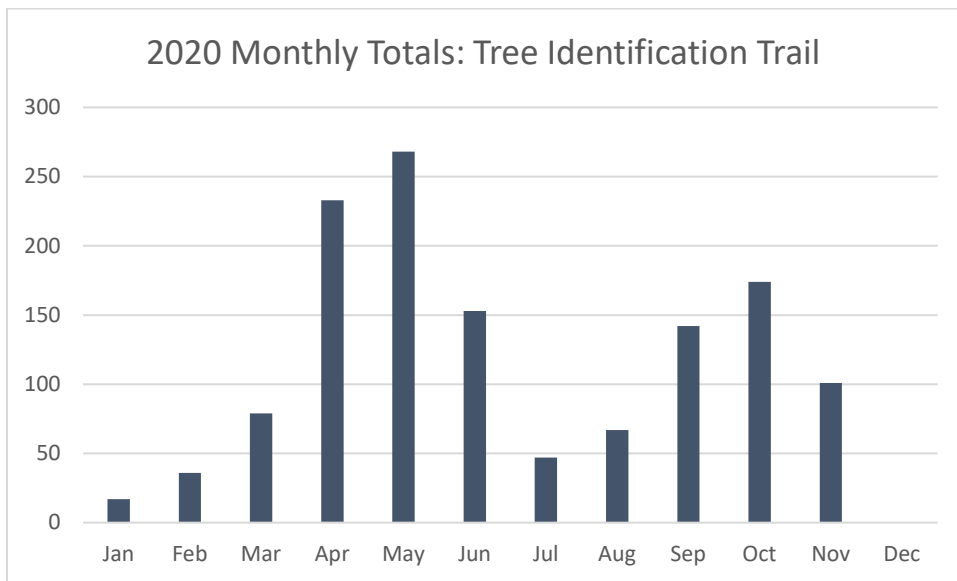


Figure 32: Total number of people during each month.

## Tecumseh Trail

The Tecumseh Trail is a 42-mile long trail that begins near the head of Panther Creek and ends at the Morgan-Monroe office. Trailheads are located near Crooked Creek Lake, the north boat ramp at Yellowwood Lake, at Prange Pond on Dubois Ridge Road, at Bear Lake, and at the Morgan-Monroe office. Camping is allowed in the backcountry area along the Low Gap Trail, at the north end of Yellowwood Lake, and where the trail begins/ends at the Hoosier National Forest. Flooding may block several sections of trail during wet weather.

A total of five counters were placed on this trail; however, two of the counters are located at the junction of the Tecumseh and another trail. These adjacent trails include the Jackson Creek Trail and the Scarce O' Fat Trail. The three counters not connected to other trails are located at Bear Lake, Crooked Creek, and another point north of the Jackson Creek Trailhead (Tecumseh Trailhead counter). The Tecumseh Trailhead counter was not included due to lack of data.

### Tecumseh Trail: Bear Lake Counter

Starting in the northern section of the trail, the first counter at Bear Lake recorded 1,463 people over 366 days. Based on these data, on average, four people used the trail per day. Out of all the days of the week, Saturdays were the most popular day with Sunday being the next busiest day (Figure 33). April was the most popular month for this section of the trail. January and February had the least traffic (Figure 34).

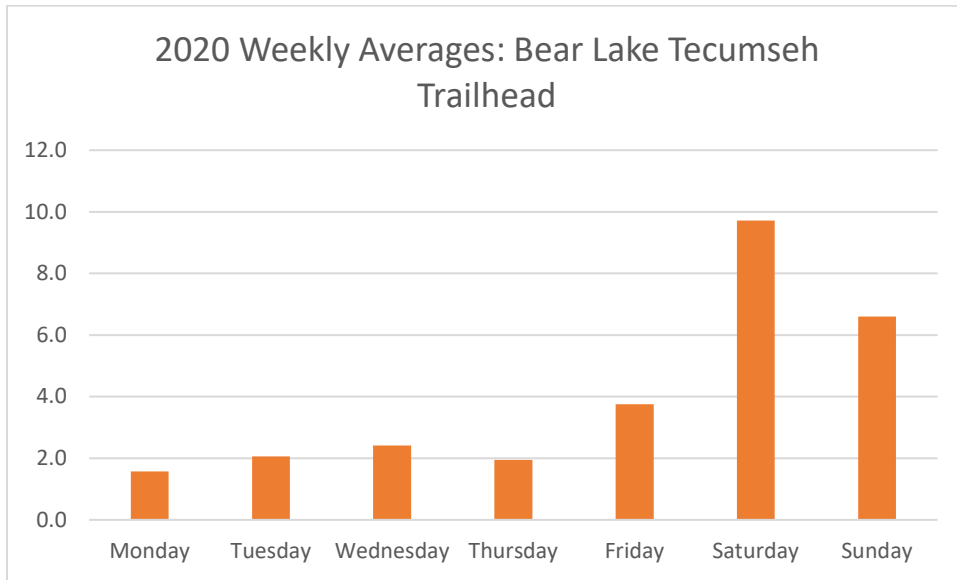


Figure 33: Average number of people recorded for each day of the week.

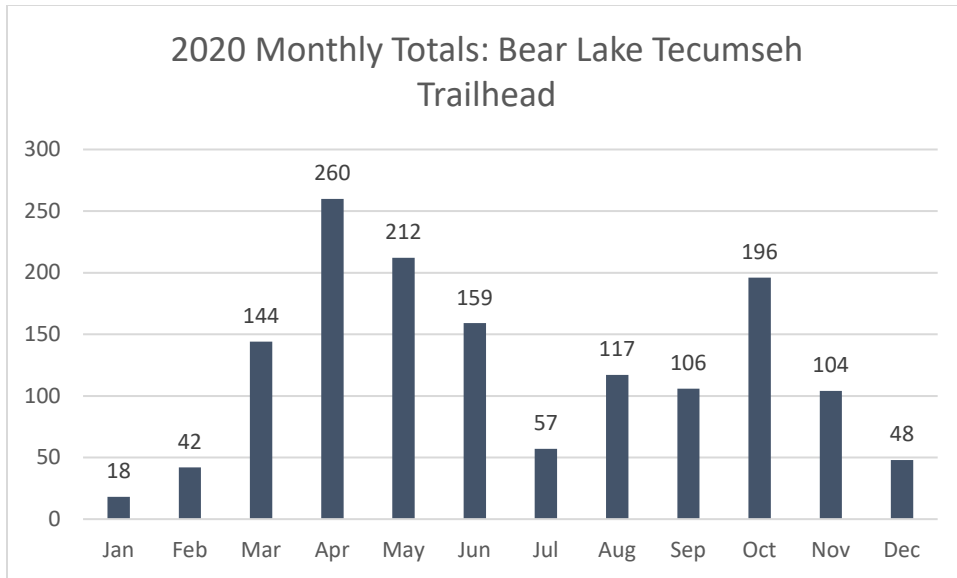


Figure 34: Total number of people recorded during each month.

### Tecumseh Trail: Jackson Creek Trail Counter

The Jackson Creek Trail is a 1.5-mile, self-guided interpretive trail that traverses a variety of terrain and forest types. This trail wanders through a variety of habitat types, including marsh, pine forests, and central hardwood forest. The trail begins  $\frac{3}{4}$  mile north of the state forest office. The counter for this trail was placed at its convergence with the Tecumseh Trail on the eastern side of the loop.

9,998 people were counted using the trail over the course of 318 days in 2020, an average of about 31 people daily. As expected, the daily averages indicate most people use the trail on Saturday and Sunday, with other days showing significantly less traffic (Figure 35). October was the most popular month with January and February being the least popular (Figure 36).



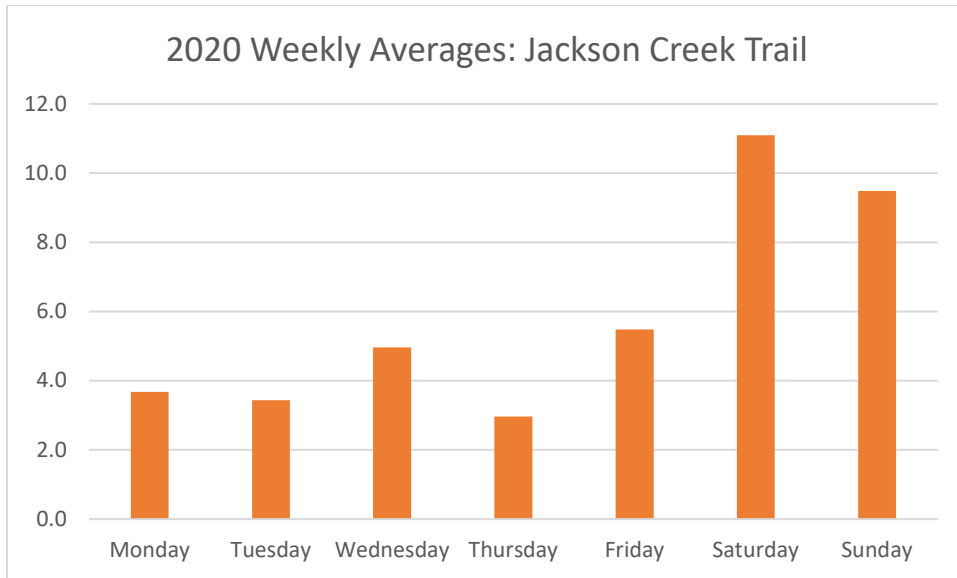


Figure 35: Average number of people recorded for each day of the week.

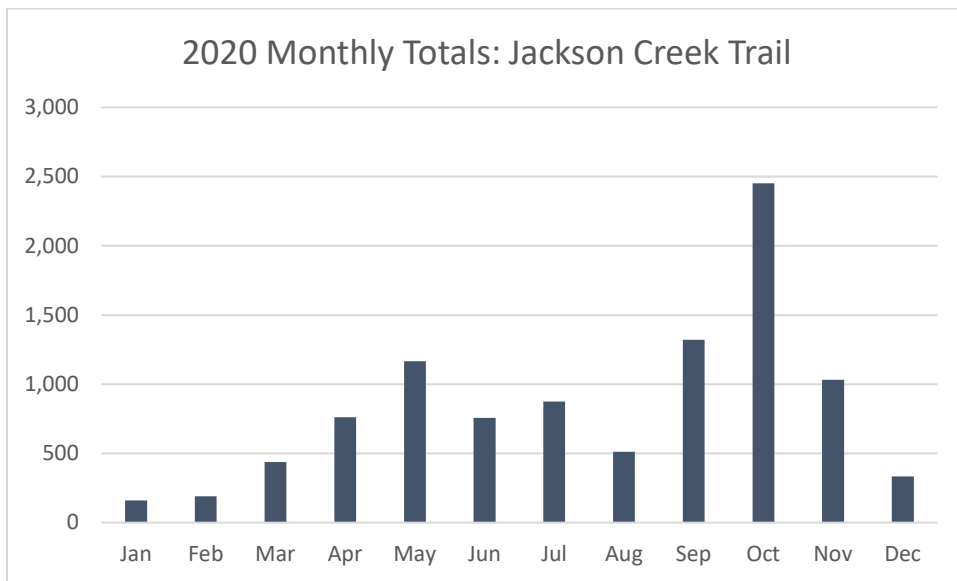


Figure 36: Total number of people recorded during each month.

### Tecumseh Trail: Scarce O' Fat Trail Counter

The Scarce O' Fat Trail is a 4-mile trail that spurs off the Tecumseh Trail. Like the Jackson Creek Trail, the counter for this trail was located at its convergence with the Tecumseh Trail. Over all of 2020 (366 days), 5,500 people were counted by the trail counter, making the average daily total about 15 people. The weekends tended to be the most popular days, with an average of about 34 people on Saturdays and 25 people on Sundays (Figure 37). A monthly view of the data shows that October, April, and May were the months in which the trail was used most heavily. January and February were the months with the least traffic (Figure 38).

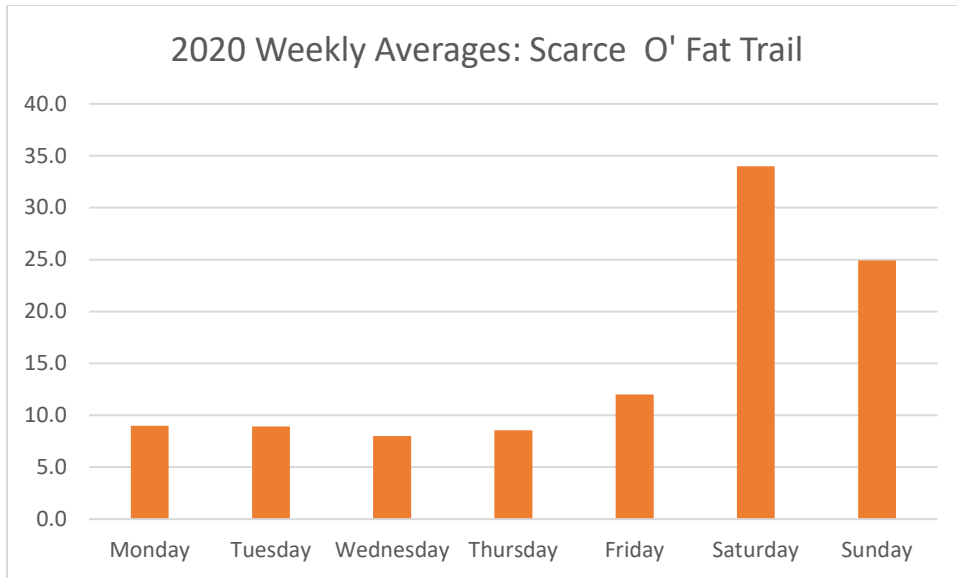


Figure 37: Average number of people recorded for each day of the week.

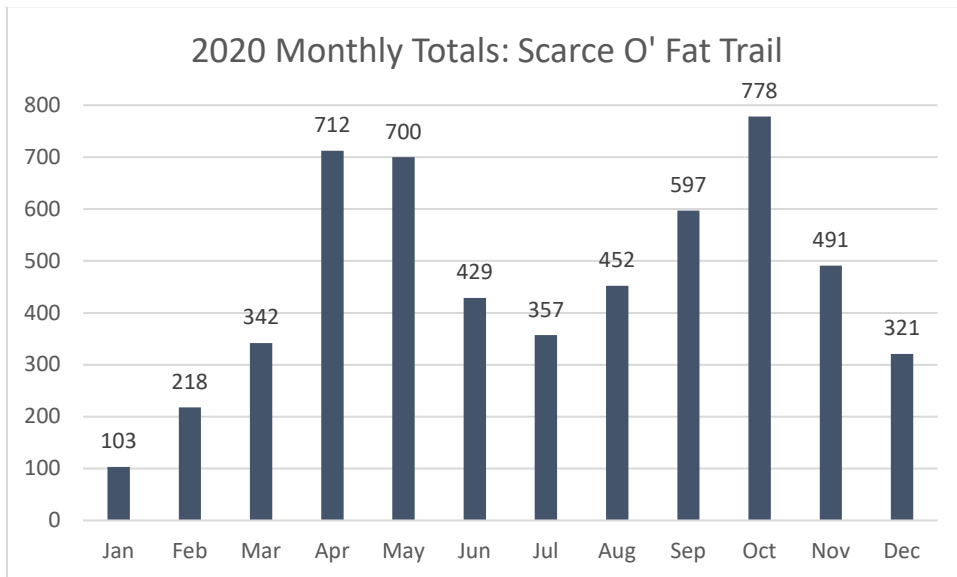


Figure 38: Total number of people recorded during each month.

### Tecumseh Trail: Crooked Creek Counter

The Crooked Creek counter is the southern-most counter on the Tecumseh Trail and is located near the trail's crossing of Crooked Creek. Over the course of 366 days in 2020, 501 people were recorded using the trail for an average of one person per day. The weekends were the most popular days for visitors to the trail with Saturday having the highest numbers. Tuesday was the day with the least amount of traffic (Figure 39). April and October were the two most popular months for the trail while January and July were the months with the least amount of traffic (Figure 40).

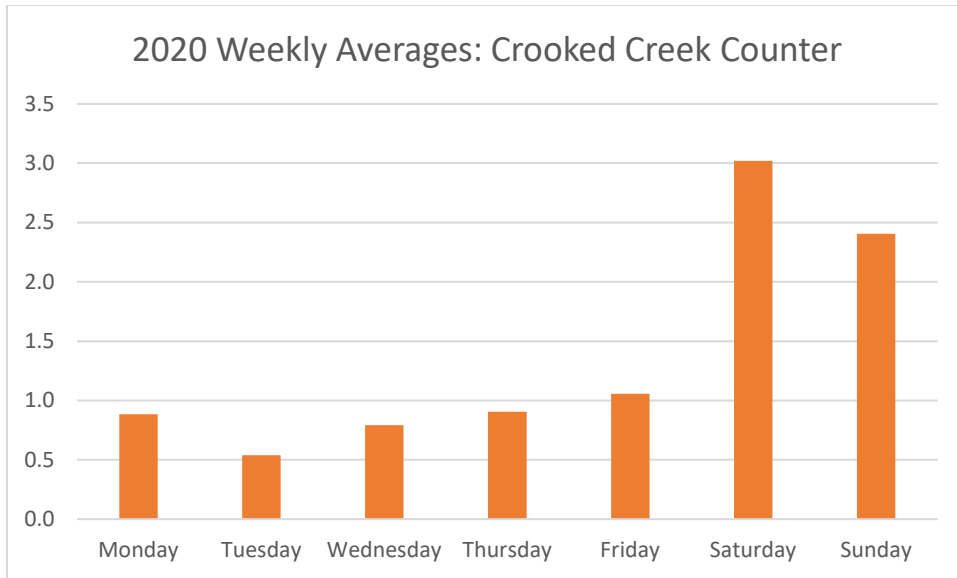


Figure 39: Average number of people recorded for each day of the week.

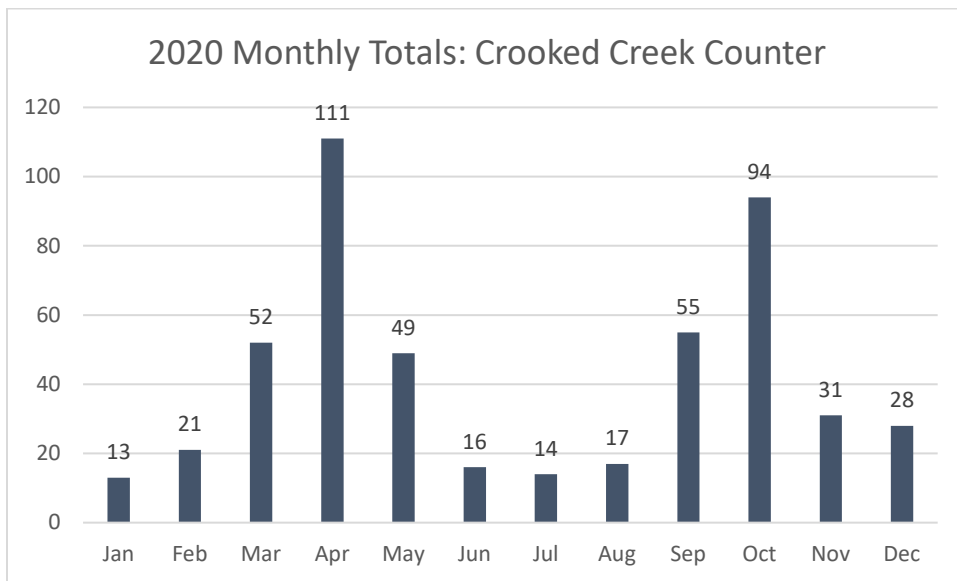


Figure 40: Total number of people recorded during each month.

## Resource Management Loop

The Resource Management Trail is a 1.5-mile loop located east of the Tecumseh Trail in Yellowwood State Forest. The trailhead is located across the road from the State Forest office. The trail counter was placed at the entrance to the loop on the southern portion of the trail. Over the course of 324 days in 2020, 6,009 people were counted using the trail for an average daily total of 19 people. The weekends were the most popular days of the week with Saturday being the most popular day. Thursday was the least popular

day (Figure 41). Monthly, the largest number of people used the trail in the spring with May being the most popular month. January, February, and July were the months with the least traffic (Figure 42).

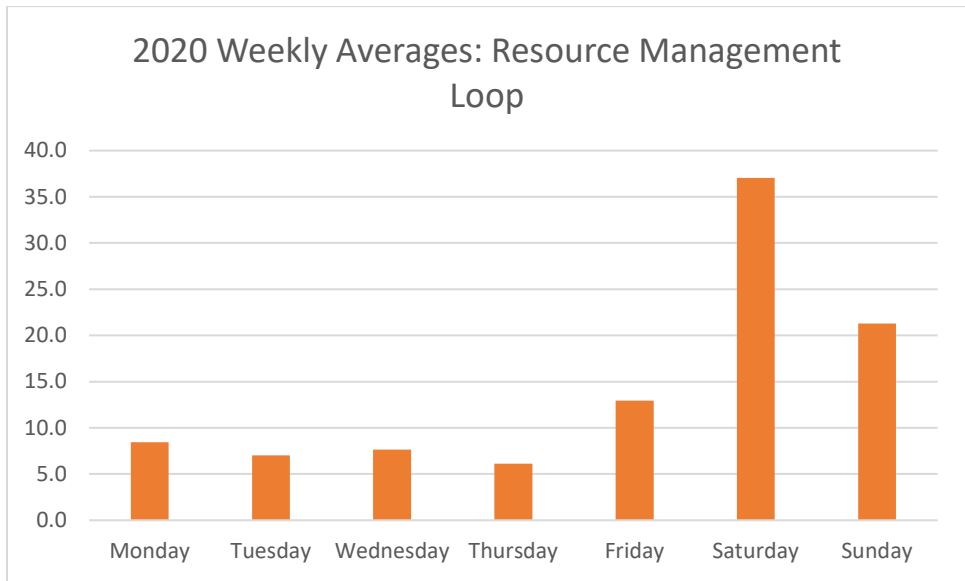


Figure 41: Average number of people recorded for each day of the week.

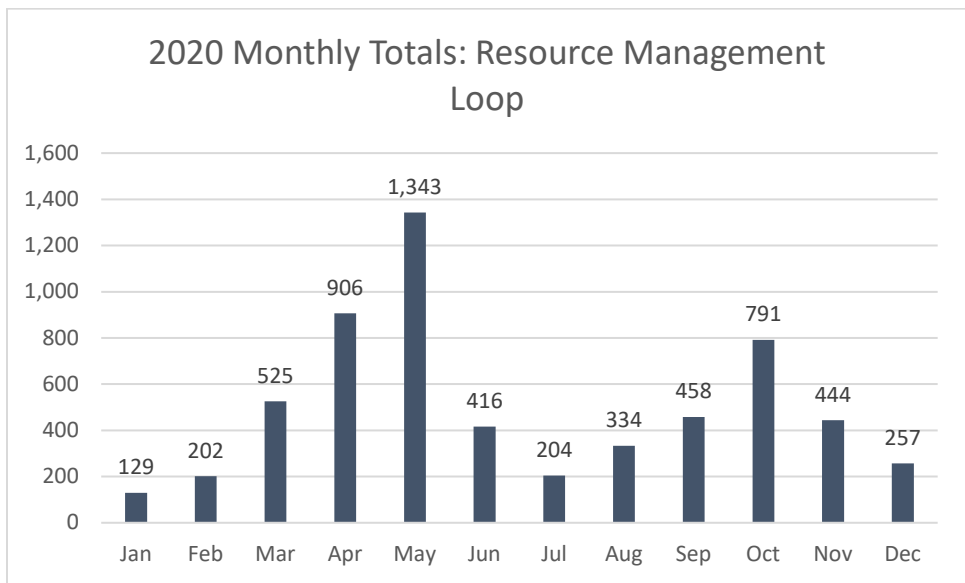


Figure 42: Total number of people recorded during each month.

## Twin Lakes Trail

The Twin Lakes Trail is a 2.3-mile hiking trail of moderate difficulty that runs north and south along the eastern edge of Ferdinand State Forest passing by Coyote Hollow and Fossil Lake. The majority of the trail passes through scenic hardwood and pine forests before ending at the Sycamore Shelter. The trail counter is located near the southern trailhead and recorded 2,587 people using the trail over the course of

366 days in 2020 for an average of seven people per day. As expected, the daily averages indicate most people used the trail on the weekends, with Saturday being the most popular day and Tuesday being the day with the least amount of traffic (Figure 43). April and May were the two most popular months with January and July being the least popular (Figure 44).

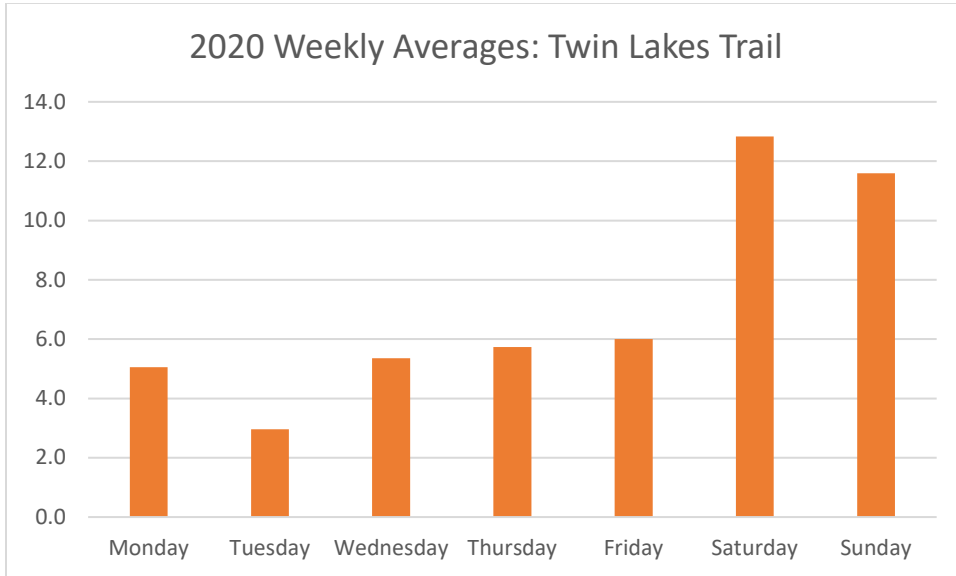


Figure 43: Average number of people recorded for each day of the week.

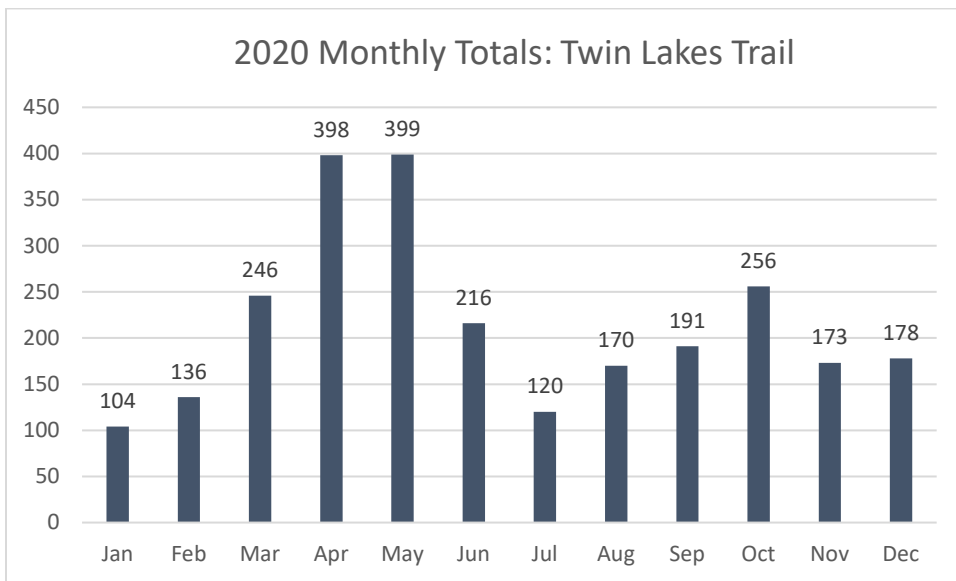


Figure 44: Total number of people recorded during each month.

## Pike River Trail

The Pike River Trail is a 2.6-mile loop in the northeast corner of Pike State Forest. Over the course of 366 days in 2020, 638 people were recorded for an average of about 2 people per day. The weekends were the most popular days of the week with Saturday being the day with the highest averages. The other days of the week had much lower averages (Figure 45). May and September were the most popular months for the trail with January and February being the months with the lowest amount of traffic (Figure 46).

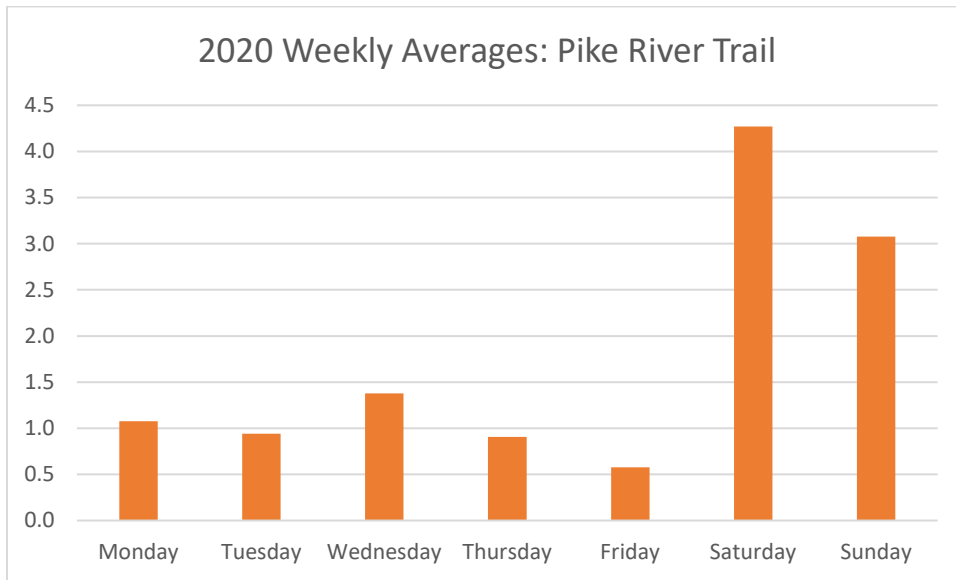


Figure 45: Average number of people recorded for each day of the week.

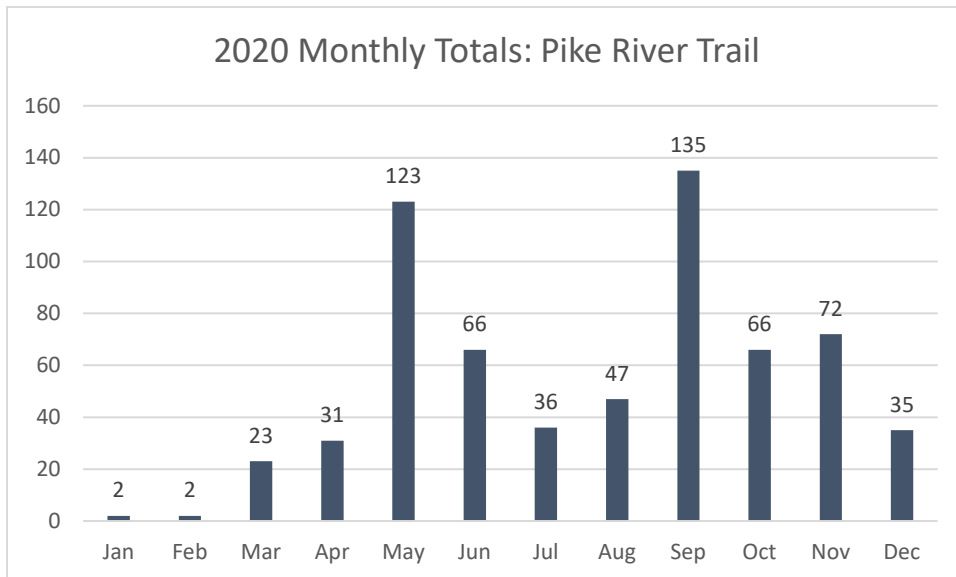


Figure 46: Total number of people recorded during each month.

## Firelane Five Trail

The Firelane Five counter is located on the Green Horse Trail north of Salamonie River Road. A total of 2,632 people was recorded by the counter over the course of 281 days in 2020. The average daily total was nine people. The weekends were the most popular days with Saturday having the most traffic and Wednesday having the least (Figure 47). September and October were the most popular months for the trail while March and December were the months with the least traffic (Figure 48). No data was available for January and February.

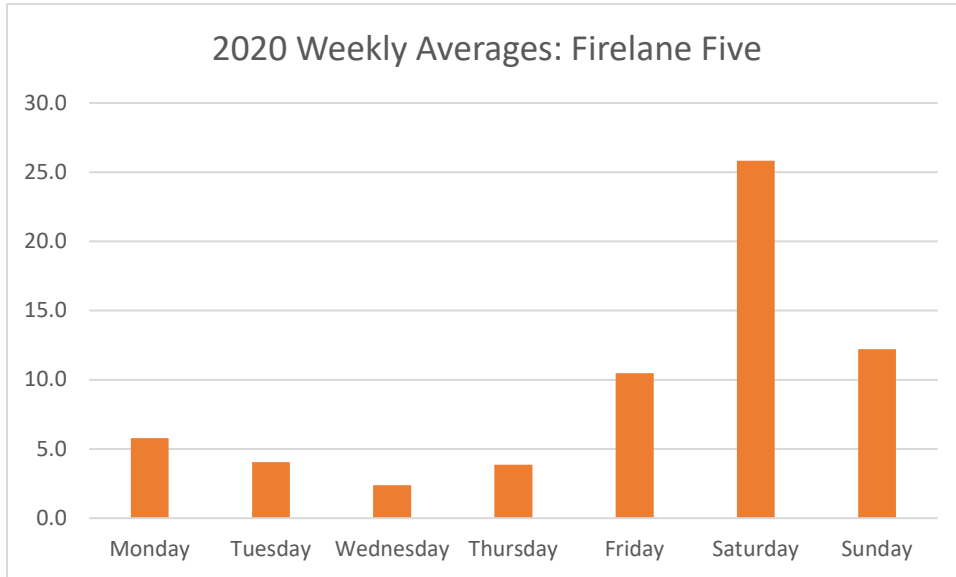


Figure 47: Average number of people recorded for each day of the week.

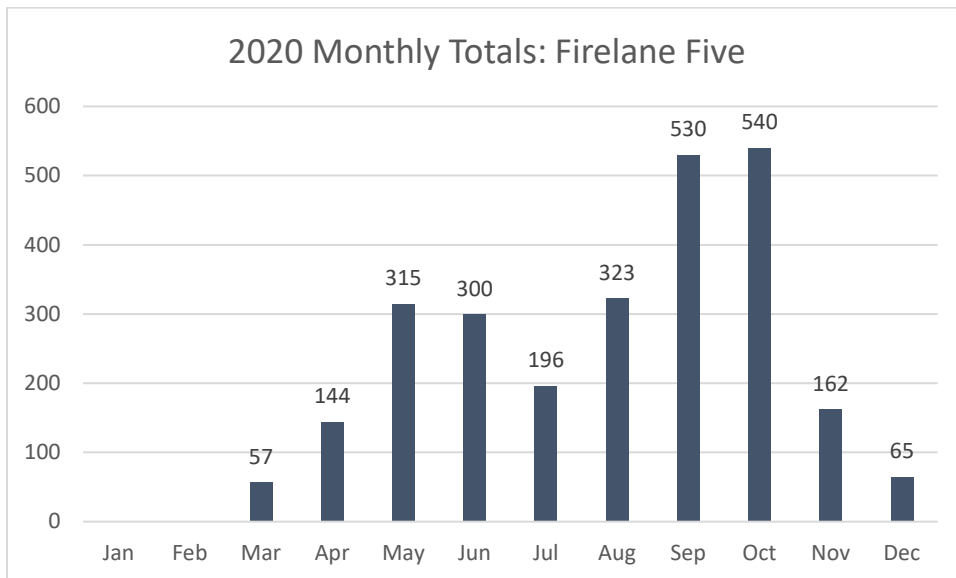


Figure 48: Total number of people recorded during each month.

## Hominy Ridge

The Hominy Ridge counter is located north of the Hominy Ridge Picnic Area parking lot along the foot path leading back to the Hominy Ridge Shelter House. The counter's location explains its high numbers compared to the other counters. In 2020, 15,507 people were counted over the course of 281 days for an average of 55 people counted per day. The weekends were the most popular days of the week for this counter with Saturday having the most traffic followed closely by Sunday. Tuesday and Wednesday were the least popular days (Figure 49). April and May were the most popular months while December was the least popular month (Figure 50). No data was available for January and February.

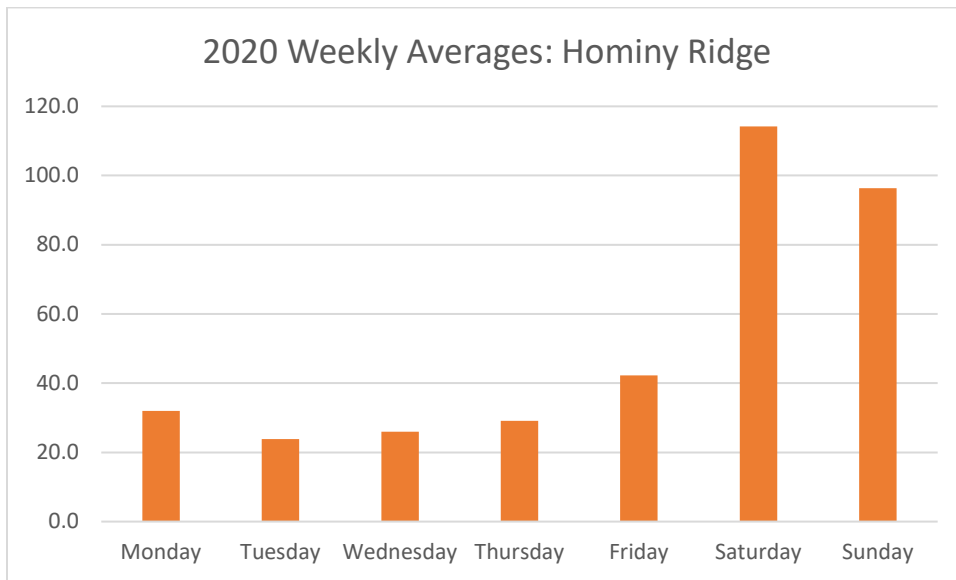


Figure 49: Average number of people recorded for each day of the week.

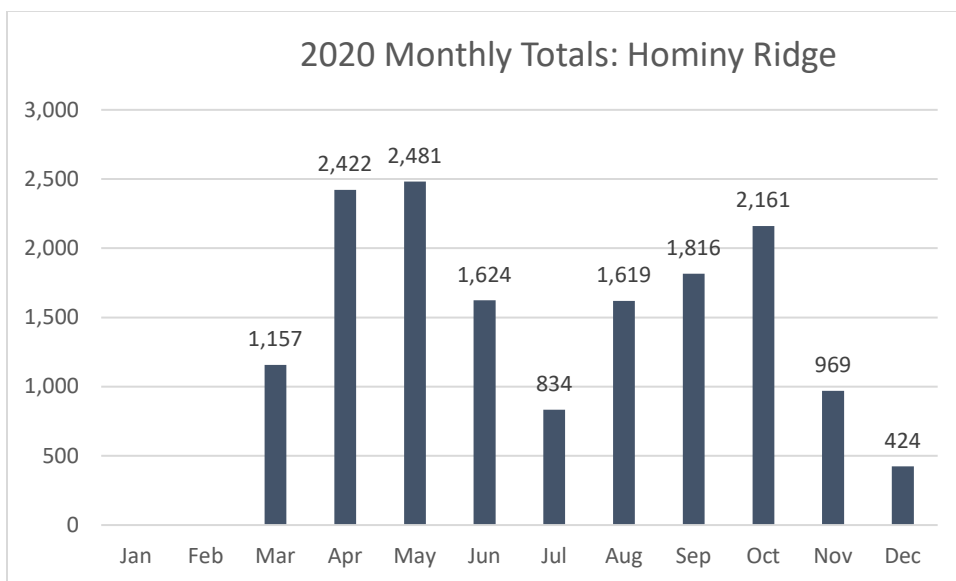


Figure 50: Total number of people recorded during each month.



## Overview of All Trail Counters in 2020

### Trail Counter Totals

The overview analysis of the trail counters was conducted using the projected number for each trail counter to standardize the number of days of data. Because 2020 was a leap year, the numbers were projected by multiplying the average daily total by 366. Of the 36 trail counters placed along trails on state forest property, only 25 counters had enough data to be useful for analysis. Out of these, the counter with the highest levels of traffic was the Hominy Ridge counter (20,198 people) because it was placed by a picnic shelter (Figure 51). The counter with the next highest level of traffic was the Jackson Creek Trail counter on the Tecumseh Trail with 11,507 people. Additionally, the Deam Lake Trailhead, Elk Creek Trailhead, Low Gap Trail, Mason Ridge Trail, Pixley Knob Road Trailhead, Resource Loop, Rock Shelter Trail, Scarce O' Fat Trail, and Spurgeon Trailhead counters all had projected numbers over 5,000. Five of the remaining counters had projected numbers over 2,000, including the Firelane Five, Leota Trailhead, Pioneer Shelter Trailhead, Three Lakes Trail, and Twin Lakes Trail counters. The Bear Lake Trailhead, Cold Friday Road Trailhead, Jackson Road Trailhead, and Tree Identification Trail counters all had projected numbers greater than 1,000 but less than 2,000. Finally, the Crooked Creek Trailhead, New Chapel Trailhead, Old Forest Road, and Pike River Trail counters each had projected numbers less than 1,000, with the Old Forest Road Trailhead counter having the smallest amount at 386. For 2020, a total of 100,878 people was recorded by the trail counters on the noted trails. Note: in the following graphs and tables, (K) stands for Knobstone Trail, (T) stands for Tecumseh Trail, (TL) stands for the Three Lakes Trail, and (AH) stands for the Adventure Hiking Trail.

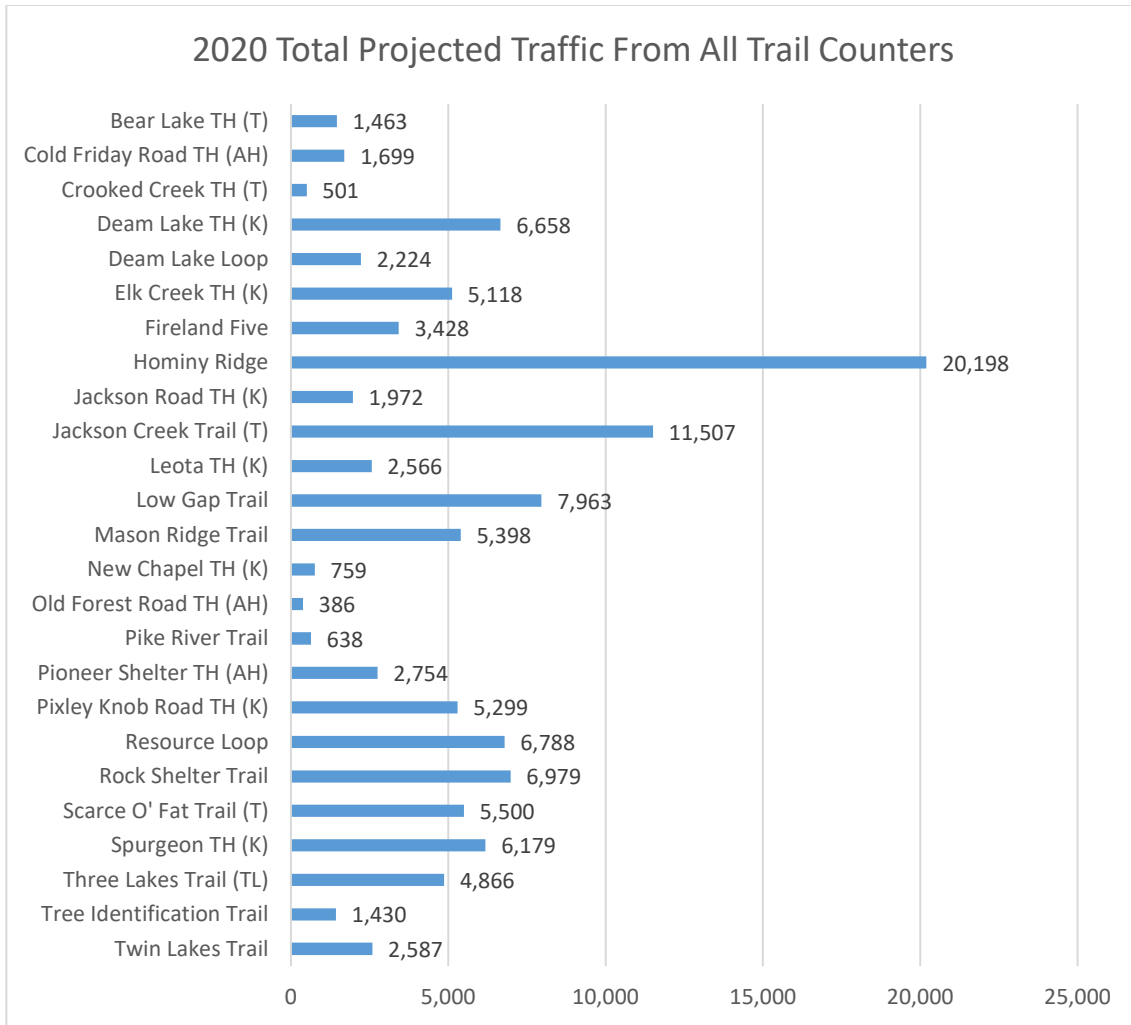


Figure 51: Projected totals for each trail counter.

### Monthly Totals for All Trail Counters

After adding the monthly totals for each of the trail counters, spring and fall were the most popular times for trail use on state forest properties (Figure 52). May had the most traffic in 2020 with 14,389 people recorded. October had a similar amount of traffic with 14,471 people recorded. Alternatively, the months with the least amount of traffic (January, February, July, and December) indicated that people are less inclined to use the trails when the weather is very hot or very cold.

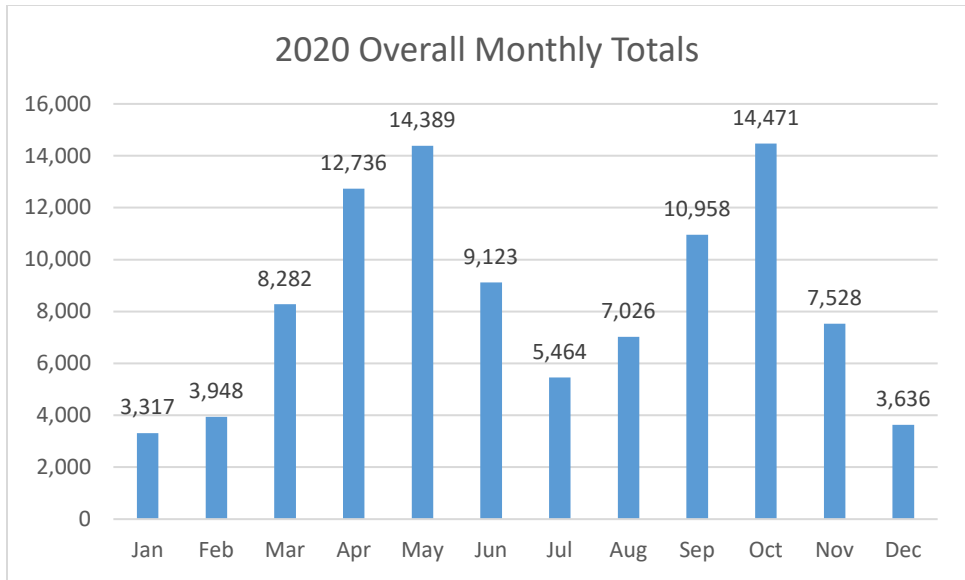


Figure 52: Sums of the monthly totals of all trail counters.

### Average Traffic by Property

To compare the average traffic for each of the properties, all of the raw traffic numbers for each counter located on a given property were added together and then divided by the number of counters. The properties with viable trail counter data in 2020 were Clark State Forest, Deam Lake State Recreation Area, Ferdinand-Pike State Forest, Jackson-Washington State Forest, Morgan-Monroe and Yellowwood State Forest, and Salamonie River State Forest (Figure 53). When comparing the averages for these properties, Salamonie River had the highest traffic average at 9,070 people counted even though it only had two counters. This is explained by the fact that the Hominy Ridge counter is located near a picnic area and has naturally higher numbers than most of the other trails. The property with the next highest average was Morgan-Monroe/Yellowwood with 4,747 people counted by ten counters. Finally, Harrison-Crawford was the property with the lowest average at 1,511 people over three counters (Figure 54).

Clark State Forest	Deam State Recreation Area	Ferdinand-Pike State Forest	Harrison-Crawford State Forest	Jackson-Washington State Forest	Morgan-Monroe/Yellowwood State Forests	Salamonie River State Forest
Elk Creek TH	Deam Lake Loop	Pike River Trail	Pioneer Shelter TH	Spurgeon TH	Low Gap Trail	Hominy Ridge
Leota TH	Deam Lake TH	Twin Lakes Trail	Old Forest Road TH		Rock Shelter Trail	Firelane Five
New Chapel TH			Cold Friday Road TH		Three Lakes Trail	
Pixley Knob Road TH					Tree Identification Trail	
Jackson Road TH					Mason Ridge Trail	
					Resource Loop	
					Scarce O' Fat Trail	
					Jackson Creek Trail	
					Crooked Creek TH	
					Bear Lake TH	

Figure 53: Trail counters at each property.

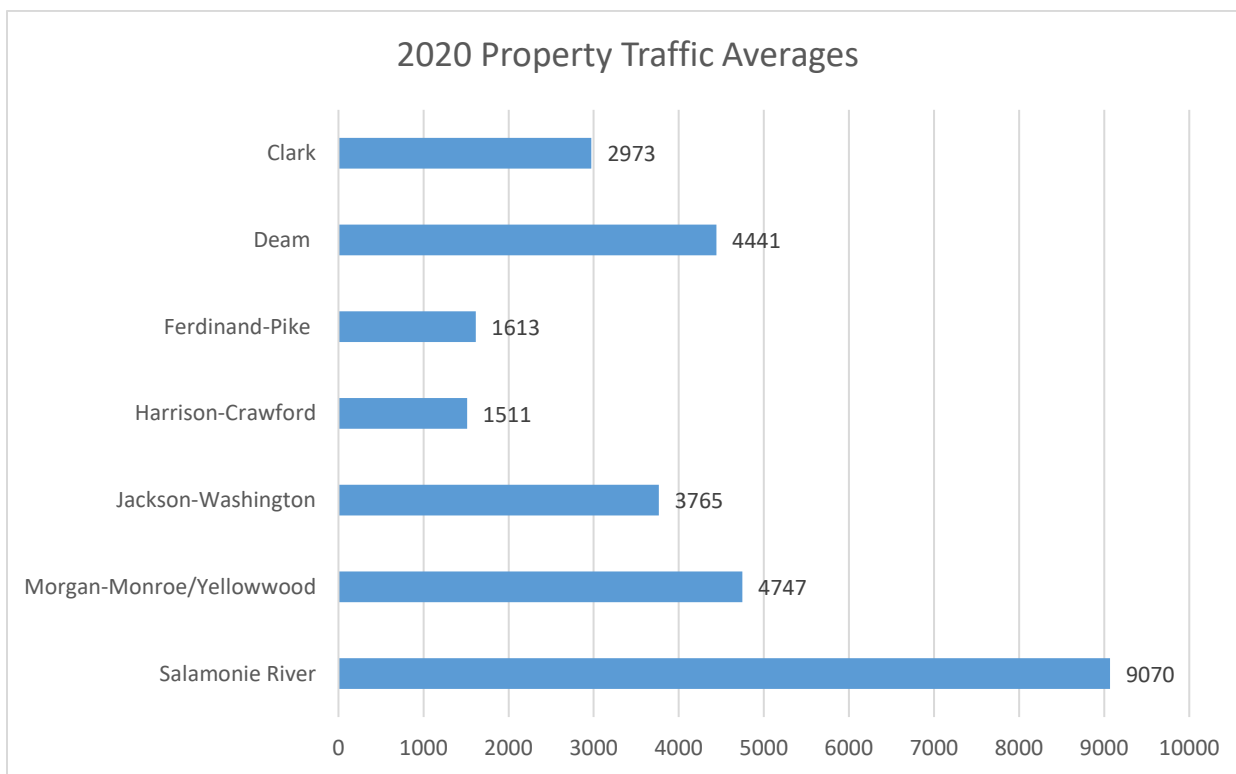


Figure 54: Total traffic averages at each property.

## Average Traffic by Major Trail

The three major trails on state forest properties are the Adventure Hiking Trail at Harrison-Crawford State Forest, the Knobstone Trail at Jackson-Washington and Clark State Forests, and the Tecumseh Trail at Morgan-Monroe and Yellowwood State Forests. The Adventure Hiking Trail had three counters with data in 2020 including the Pioneer Shelter Trailhead, the Old Forest Road Trailhead, and the Cold Friday Road Trailhead. The Knobstone Trail had seven counters with data including the Deam Lake Trailhead, the Jackson Road Trailhead, the Pixley Knob Trailhead, the New Chapel Trailhead, the Leota Trailhead, the Elk Creek Trailhead, and the Spurgeon Trailhead. Finally, the Tecumseh Trail had four counters including the Bear Lake Trailhead, Crooked Creek Trailhead, the Jackson Creek Trail, and the Scarce O' Fat Trail. The trail with the highest traffic average was the Tecumseh Trail at 4,365 people with the Knobstone Trail being the second most popular at 3,613 people counted and the Adventure Hiking Trail being the least popular at 1,511 people counted (Figure 55).

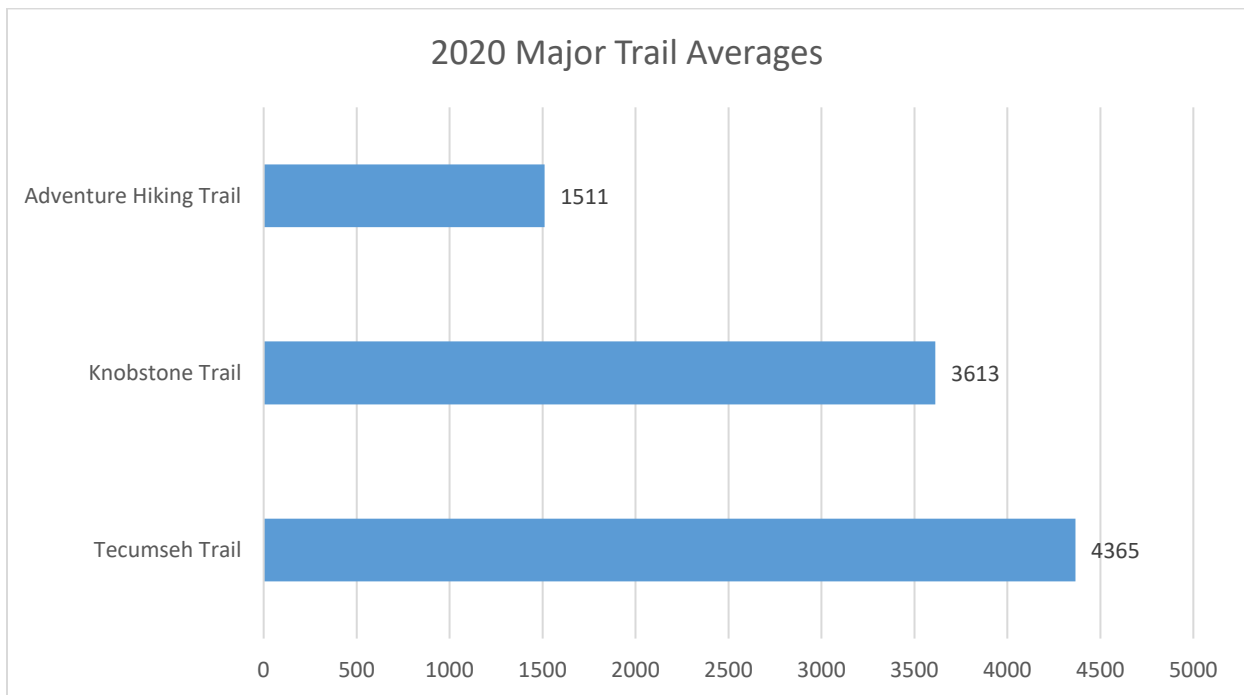


Figure 55: Total traffic averages on major trails.

## 2020 Monthly and Yearly Comparisons to Previous Years

To compare trail traffic between 2019 and 2020 only the trail counters with data from both years were used including the counters from the Bear Lake Trailhead (T), the Cold Friday Road Trailhead (AH), the Deam Lake Loop, The Elk Creek Trailhead (K), the Jackson Road trailhead (K), the Jackson Creek Trailhead (T), the Leota Trailhead (K), the Mason Ridge Trail, the New Chapel Trailhead (K), the Old Forest Road Trailhead (AH), the Pike River Trail, the Rock Shelter Trail, the Scarce O' Fat Trailhead (T), the Spurgeon Trailhead (K), the Tree Lakes Trail (TL), the Tree Identification Trail, and the Twin Lakes Trail. The remaining trails were excluded as no useful comparison could be made due to missing data in

either 2019 or 2020. The data used to compare traffic from one year to the next were the projected yearly totals while the monthly comparisons between 2019 and 2020 used the raw totals without any projection.

For the comparison of all years with sufficient data (2018, 2019, and 2020), a smaller list of trail counters was used. This list is made up of trails that had data for all three years including the counters from the Bear Lake Trailhead (T), the Cold Friday Road Trailhead (AH), the Deam Lake Loop, the Jackson Road Trailhead (K), the Jackson Creek Trail (T), the Leota Trailhead (K), the Mason Ridge Trail, the New Chapel Trailhead (K), the Old Forest Road Trailhead (AH), the Rock Shelter Trail, the Scarce O' Fat Trail (T), the Spurgeon Trailhead (K), and the Three Lakes Trail (TL).

### Comparison of Overall Monthly Totals for 2019 and 2020

Based on the trails with data for both 2019 and 2020, every month had an increase in traffic from 2019 to 2020 (Figure 56). The month with the highest increase in traffic was June with a 254% increase while May had the second highest increase at 177%. Additionally, April and May had significant increases in traffic, especially when compared to the lower increased traffic levels of January, February, and March. This fits in with the events of the beginning of 2020 when the COVID-19 pandemic forced the state to shut down in March. On the other end of the spectrum, at five percent, December was the month with the smallest increase in traffic. For more specific monthly numbers, Figures 57 and 58 have been included.

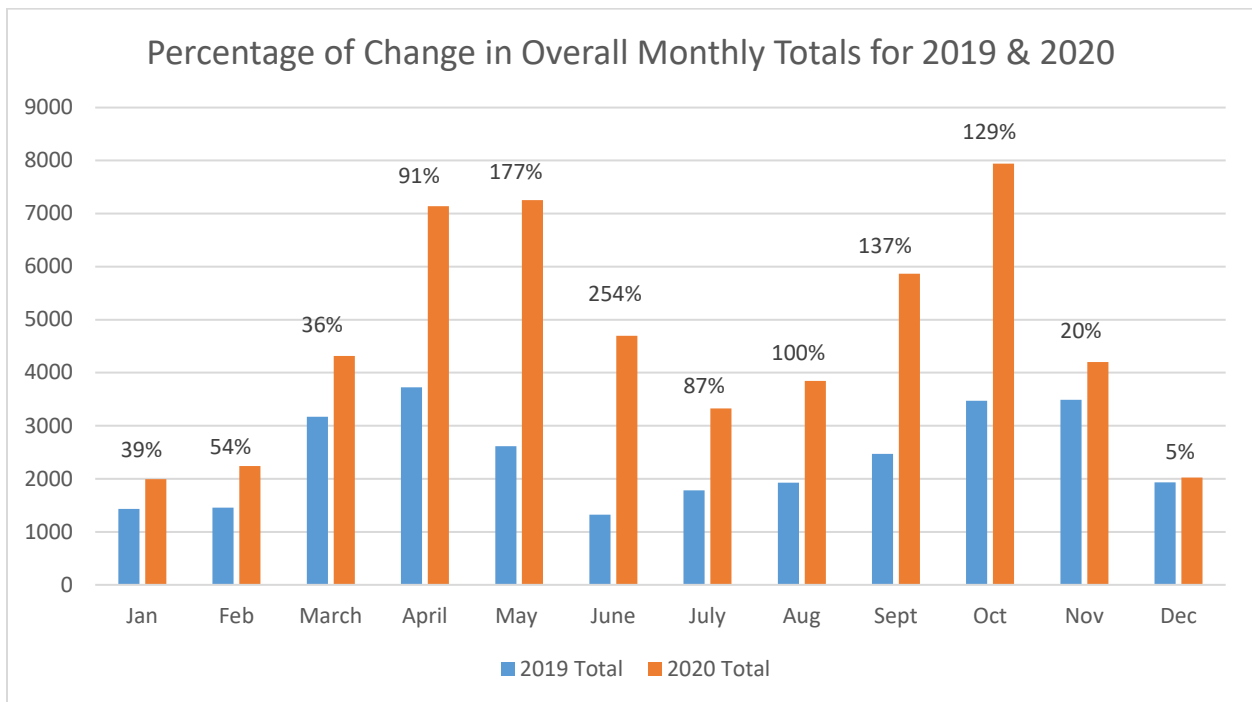


Figure 56: Percentage of change between the sums of all monthly totals for 2019 and 2020.

TRAILS	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
TWIN LAKES TRAIL	83	39	164	96	120	85	77	74	74	108	62	83
TREE IDENTIFICATION TRAIL	0	16	53	59	70	107	75	72	43	137	75	15
THREE LAKES TRAIL (TL)	96	84	231	248	0	60	92	105	172	154	168	156
SPURGEON TH (K)	69	107	207	358	398	273	232	136	230	263	219	98
SCARCE O' FAT TRAIL (T)	108	82	274	312	226	261	157	300	277	375	234	98
ROCK SHELTER TRAIL	274	368	548	672	281	87	8	60	118	254	263	186
PIKE RIVER TRAIL	0	5	11	36	39	22	11	34	39	51	9	31
OLD FOREST ROAD TH (AH)	13	24	55	85	100	32	24	15	14	64	93	0
NEW CHAPEL TH (K)	26	70	78	0	144	0	186	90	4	103	43	29
MASON RIDGE TRAIL	190	104	448	400	445	297	326	278	437	694	316	240
LEOTA TH (K)	32	34	155	127	224	0	217	85	261	304	98	69
JACKSON CREEK TRAIL (T)	141	151	170	294	199	81	180	253	156	9	225	223
JACKSON ROAD TH (K)	128	48	319	365	121	0	0	53	39	153	871	427
ELK CREEK TH (K)	97	120	208	296	43	0	31	170	364	291	179	108
DEAM LAKE LOOP	84	40	91	98	95	0	93	110	56	131	150	92
COLD FRIDAY ROAD TH (AH)	24	90	81	173	112	21	28	17	88	186	415	0
BEAR LAKE TH (T)	<b>65</b>	<b>75</b>	<b>76</b>	<b>109</b>	<b>0</b>	<b>0</b>	<b>45</b>	<b>73</b>	<b>98</b>	<b>195</b>	<b>70</b>	<b>78</b>
<b>2019 TOTAL</b>	<b>1430</b>	<b>1457</b>	<b>3168</b>	<b>3728</b>	<b>2617</b>	<b>1326</b>	<b>1782</b>	<b>1925</b>	<b>2470</b>	<b>3472</b>	<b>3490</b>	<b>1933</b>

Figure 57: 2019 monthly totals.

TRAILS	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
TWIN LAKES TRAIL	104	136	246	398	399	216	120	170	191	256	173	178
TREE IDENTIFICATION TRAIL	17	36	79	233	268	153	47	67	142	174	101	0
THREE LAKES TRAIL (TL)	136	168	374	719	1,039	205	184	281	311	392	267	192
SPURGEON TH (K)	88	102	392	915	0	414	230	406	515	463	240	0
SCARCE O' FAT TRAIL (T)	103	218	342	712	700	429	357	452	597	778	491	321
ROCK SHELTER TRAIL	193	325	592	966	1,031	380	347	599	788	824	257	124
PIKE RIVER TRAIL	2	2	23	31	123	66	36	47	135	66	72	35
OLD FOREST ROAD TH (AH)	12	13	40	34	22	0	3	16	53	62	48	17
NEW CHAPEL TH (K)	19	28	41	87	43	41	30	44	55	160	85	37
MASON RIDGE TRAIL	150	299	418	355	710	581	248	327	486	776	0	0
LEOTA TH (K)	35	92	164	346	341	273	132	180	424	222	223	134
JACKSON CREEK TRAIL (T)	160	191	438	762	1,166	758	874	512	1,320	2,452	1,031	334
JACKSON ROAD TH (K)	703	288	152	177	112	98	56	1	0	102	154	107
ELK CREEK TH (K)	140	126	419	689	695	532	408	433	531	564	392	175
DEAM LAKE LOOP	61	110	275	258	258	251	147	73	6	248	262	275
COLD FRIDAY ROAD TH (AH)	51	67	177	195	135	140	53	119	206	207	300	49
BEAR LAKE TH (T)	18	42	144	260	212	159	57	117	106	196	104	48
<b>2020 TOTAL</b>	<b>1,992</b>	<b>2,243</b>	<b>4,316</b>	<b>7,137</b>	<b>7,254</b>	<b>4,696</b>	<b>3,329</b>	<b>3,844</b>	<b>5,866</b>	<b>7,943</b>	<b>4,200</b>	<b>2,026</b>

Figure 58: 2020 monthly totals.

### Comparison of Overall Monthly Totals Between 2018 and 2020

Based on the trails with data for 2018, 2019, and 2020, over the course of the three years, each month had an increase in traffic (Figure 59). By comparing the 2018 totals to the 2020 totals, it is clear that over the course of three years, trail traffic increased for every month on these 13 trails. The month with the highest increase in traffic was August with a 143% increase while September had the second highest increase at



118%. December had the lowest increase in traffic out of all the months at 27%. Additionally, by looking at Figure 59, it is clear that there is a general pattern for trail use throughout the year in which more people use the trails in the spring and fall, while trail use dips in the winter and summer. However, in 2020, there was a significant rise in traffic from April to October that was far above the levels of traffic in 2018 and 2019. As mentioned before, this is likely due to the necessity of more outdoor activities as a result of the COVID-19 pandemic.

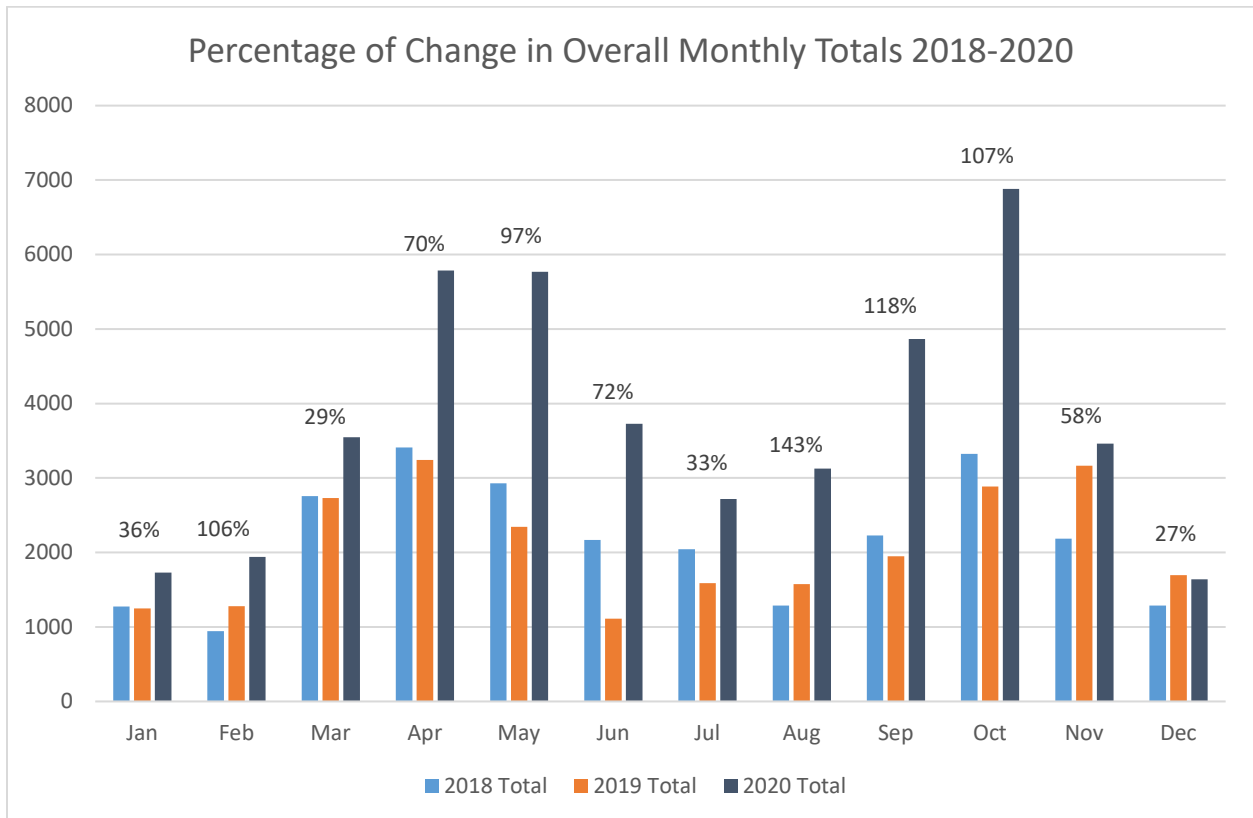


Figure 59: Percentage of change between the sums of all monthly totals for 2019 and 2020.

### Comparison of Projected Trail Counter Totals for 2019 and 2020

Of the trails with data from both 2019 and 2020, 13 trail counters showed an increase in traffic while three counters showed a decrease in traffic (Figure 60). The trails with the highest percentage of increase in traffic were the Jackson Creek Trail on the Tecumseh Trail at 453% and the Twin Lakes Trail counter at 143%. The Cold Friday Road Trailhead counter on the Adventure Hiking Trail had the lowest increase at four percent. The trails that decreased in traffic were the Jackson Road Trailhead (K) at a 43% decrease, the Old Forest Road Trailhead (AH) at a 35% decrease, and the New Chapel Trailhead (K) at a 29% decrease. The overall projected totals for the 17 trails that had data in both 2019 and 2020 indicate an 87% increase in traffic over all trails.

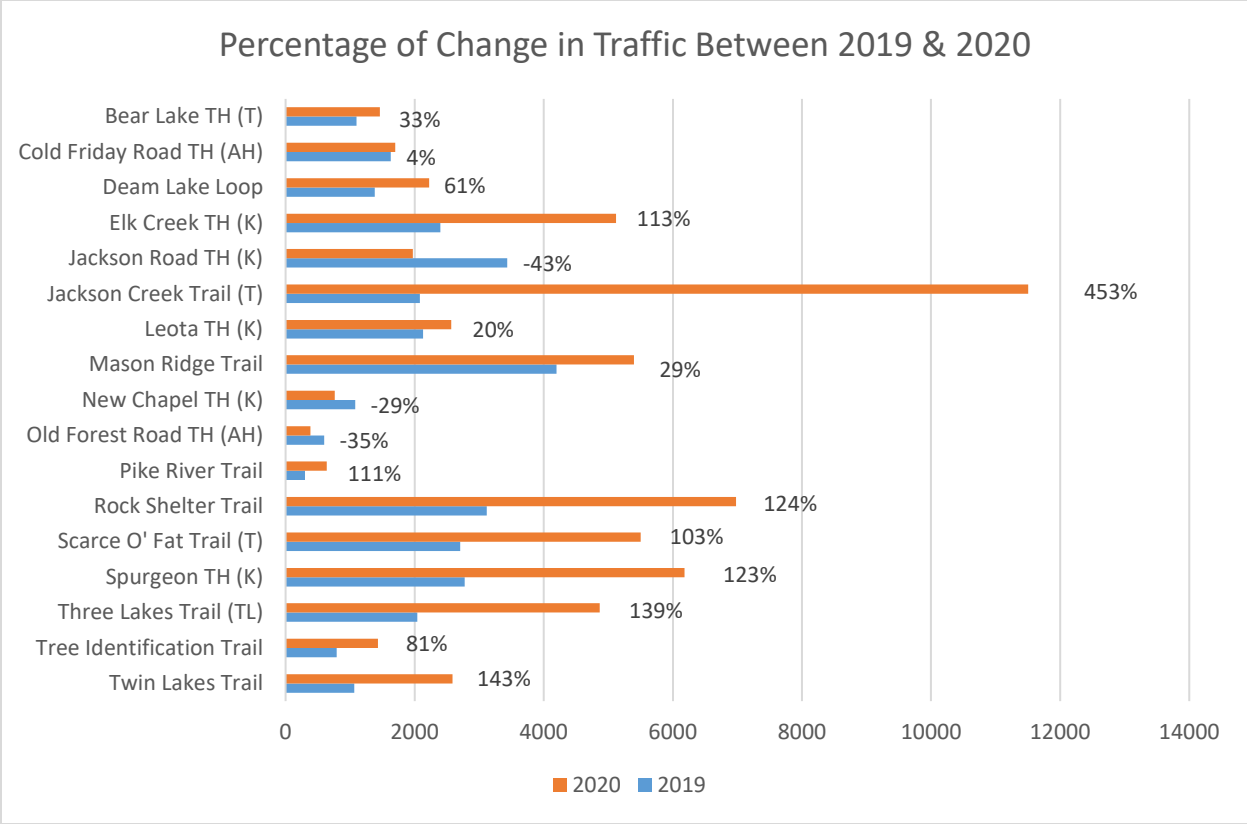


Figure 60: Percentage of change in projected totals for each trail counter between 2019 and 2020.

Total projected traffic numbers for 2019 and 2020 indicate an increase in overall trail traffic in 2020 with 54,885 people in 2019 and 114,860 in 2020. The 87% increase in projected traffic between 2019 and 2020 was partially due to the increase in trails with usable data in 2020. However, in 2020 there was only one more trail with sufficient data than in 2019, indicating that some other factor played a larger role. Based on the events of 2020, it is clear that this event was the necessity for more outdoor activity due to the spread of COVID-19.

Comparison of Projected Trail Counter Totals Between 2018 and 2020

Of the 13 trails that had data in 2018, 2019, and 2020, traffic increased at all but three of the counters, the Bear Lake Trailhead on the Tecumseh Trail, the Old Forest Road Trailhead on the Adventure Hiking Trail, and the Jackson Road Trailhead on the Knobstone Trail (Figure 61). Although the Bear Lake Trailhead counter’s traffic increased 33% from 2019 to 2020, it has decreased 60% overall since 2018. The Old Forest Road Trailhead counter increased 18% from 2018 to 2019 and decreased 35% from 2019 to 2020 for an overall decrease of 24% from 2018 to 2020. Similarly, the Jackson Road Trailhead counter only decreased by four percent between 2018 to 2020 despite the fact that it had the greatest decrease in traffic (43%) of any of the trails pictured in Figure 61 due to the 68% increase in traffic between 2018 and 2019. The remaining ten trails increased in traffic from 2018 to 2020 with the Jackson Creek Trail counter on the Tecumseh Trail showing the highest increase in traffic at 423%. The Rock Shelter Trail counter,

Scarce O' Fat Trail (T) counter, Spurgeon Trailhead (K) counter, and the Three Lakes Trail counter all had increases of traffic over 100%.

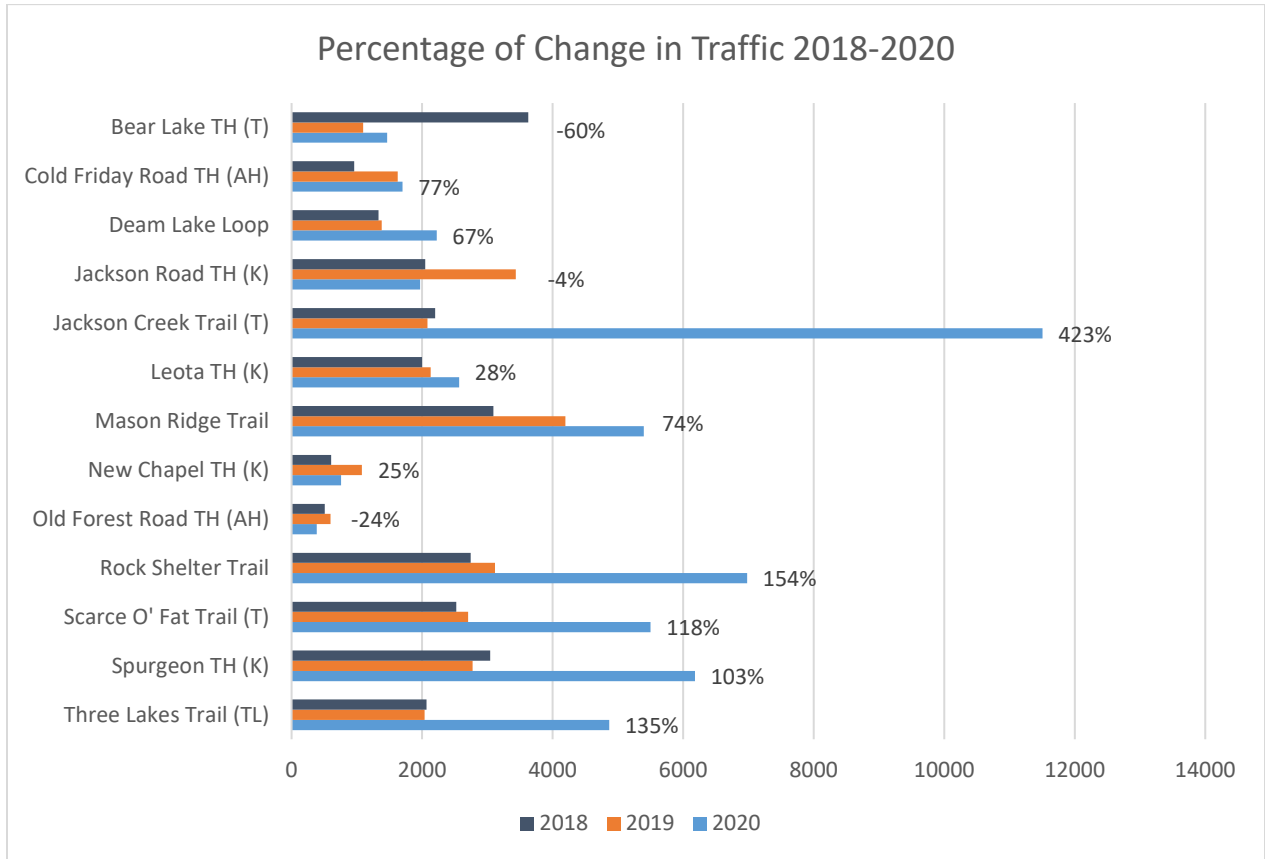


Figure 61: Percentage of change in projected totals for each trail counter between 2018 and 2020.

### Comparison of Property Averages Between 2018 and 2020.

Traffic at all of the properties increased significantly during 2020 compared to 2018 and 2019 (Figure 62). Jackson-Washington State Forest had the lowest increase at 33% between 2018 and 2020 while traffic at Deam Lake State Recreation Area increased the most at 129%.

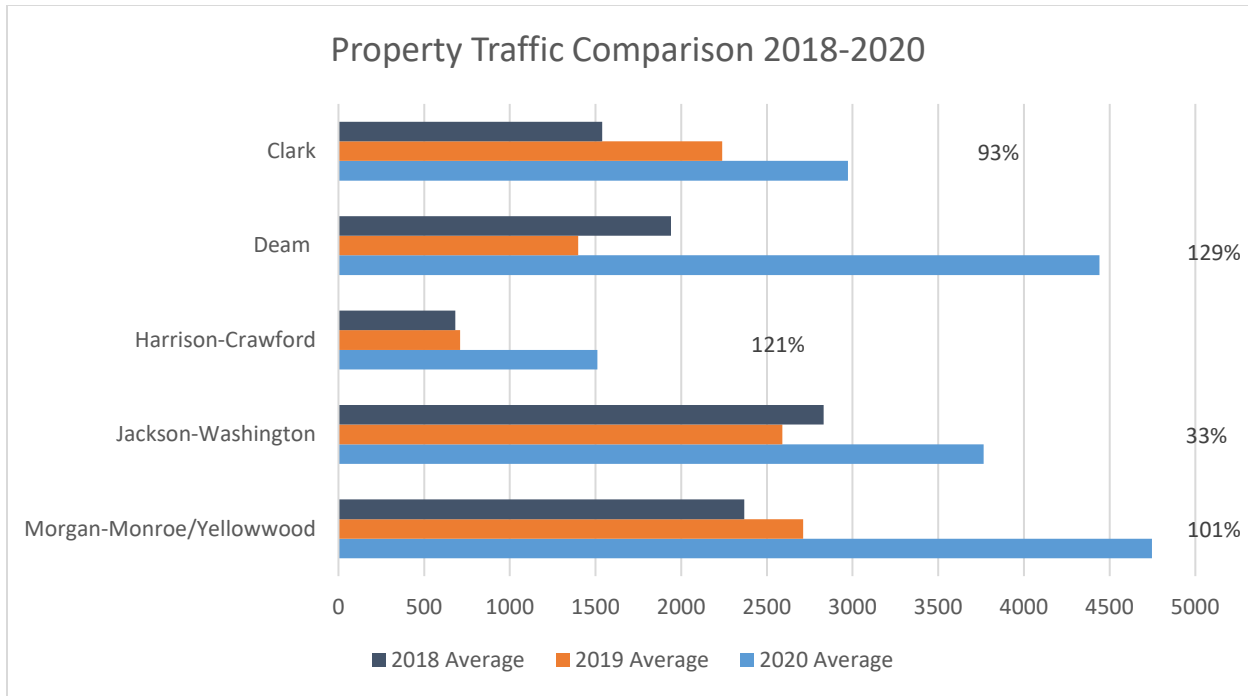


Figure 62: Percentage of change in yearly averages for state forest properties between 2018 and 2020.

### Comparison of Major Trail Averages Between 2018 and 2020

The averages for the Adventure Hiking Trail, the Knobstone Trail, and the Tecumseh Trail all show a large increase in traffic during 2020 compared to 2018 and 2019 (Figure 63). In 2018 and 2019, the Adventure Hiking Trail had yearly averages of 683 and 709, respectively. However, in 2020, the yearly average for the trail spiked to 1511 people counted, resulting in a 121% increase in traffic from 2018 to 2020. The other two major trails had similar increases in traffic with the Knobstone Trail traffic increasing 80% and the Tecumseh Trail traffic increasing 126%.

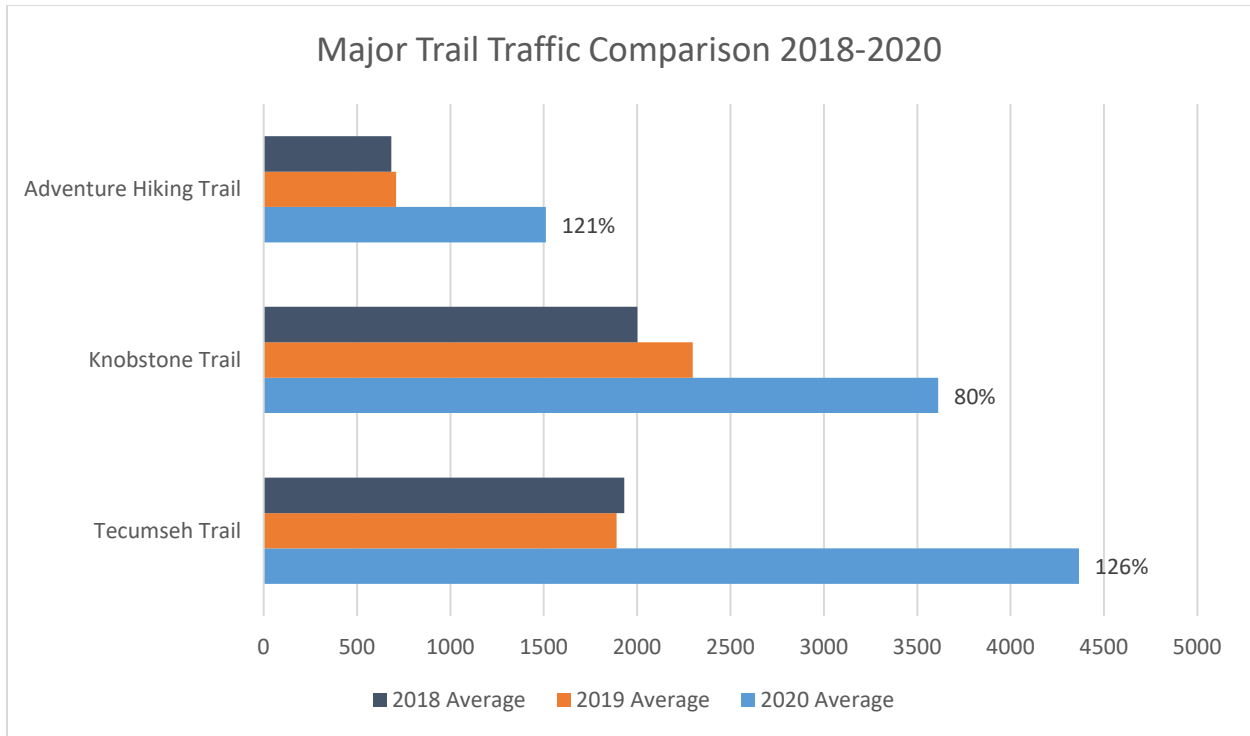


Figure 63: Percentage of change in yearly averages for major trails between 2018 and 2020.

## Comparison of Overall Trail Traffic Between 2018 and 2020

This comparison uses actual traffic numbers rather than projected numbers to compare the real total number of people counted using the trails in 2018, 2019, and 2020. Based on this data, 2020 had the highest number of people counted at 100,878 while 2018 had the lowest at 36,755 (Figure 64). Part of this increase is due to the increase in the number of trails included each year as more counters are installed across state forest properties. 2020 had a total of 25 counters while 2019 and 2018 had 24 and 21 counters respectively. However, this number increased 84% from 2019 to 2020 compared to a 49% increase from 2018 to 2019. This indicates that there was a significant increase in traffic during 2020.

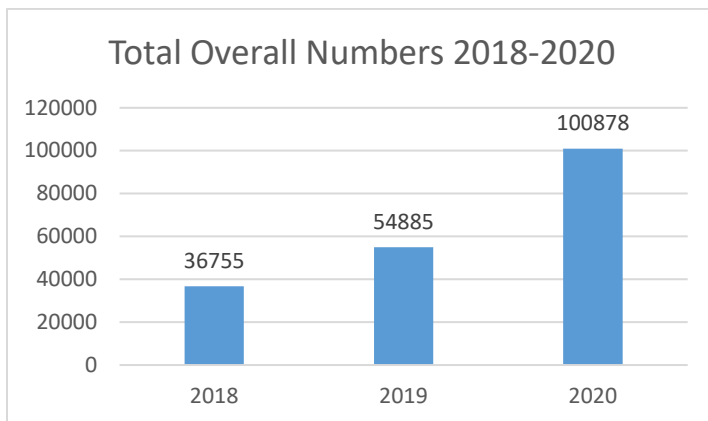


Figure 64: Totals for all trails over all properties between 2018 and 2020

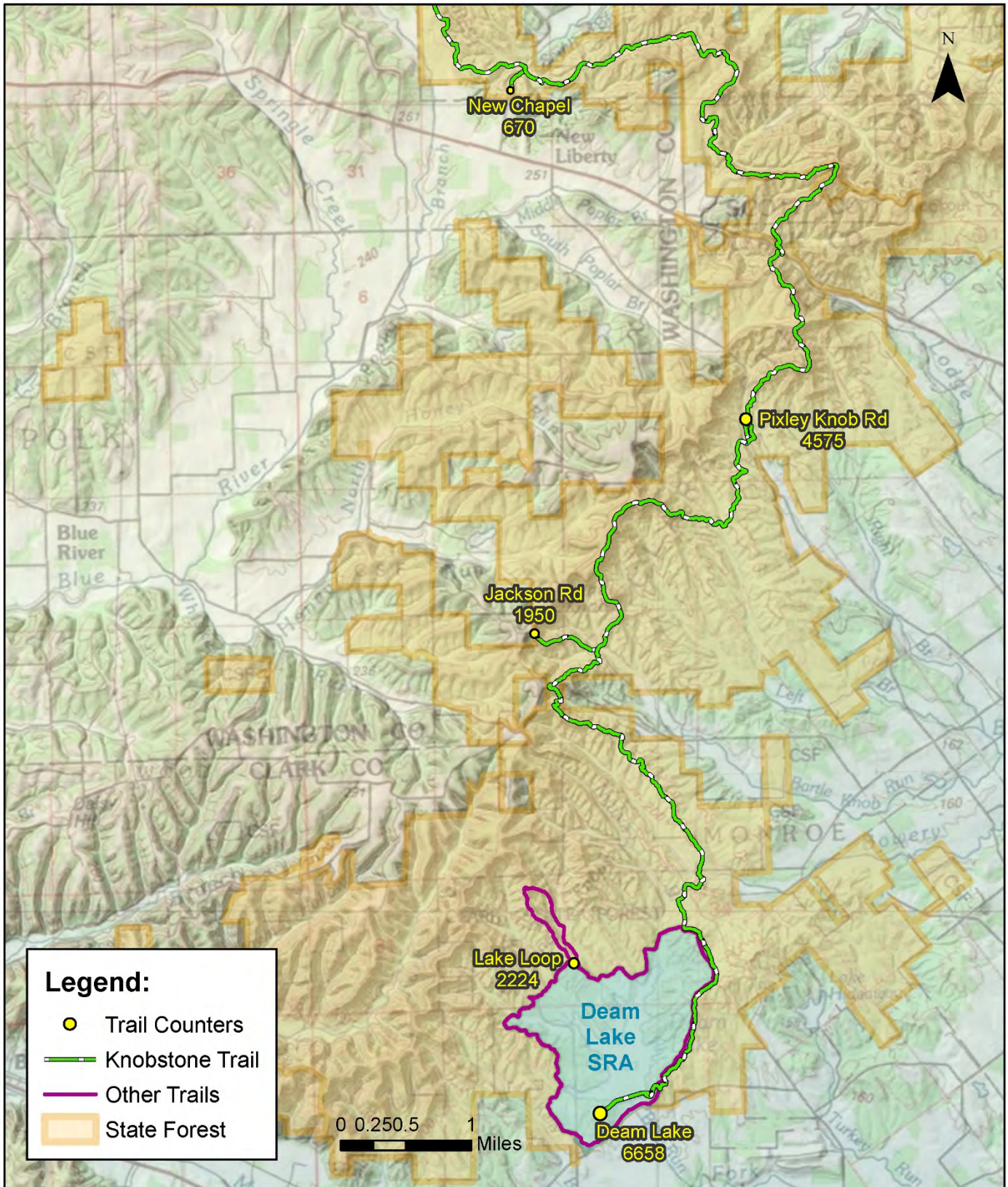
## Appendices:

- A: Harrison-Crawford State Forest 2020 Adventure Hiking Trail Counter Locations
- B: Clark State Forest Central and South 2020 Hiking Trail Counter Locations
- C: Ferdinand State Forest 2020 Hiking Trail Counter Locations
- D: Jackson-Washington and North Clark State Forest 2020 Hiking Trail Counter Locations
- E: Jackson-Washington and Clark State Forests 2020 Hiking Trail Counter Locations
- F: Morgan-Monroe and North Yellowwood State Forest 2020 Hiking Trail Counter Locations
- G: Pike State Forest 2020 Hiking Trail Counter Locations
- H: Salamonie State Forest 2020 Hiking Trail Counter Locations
- I: Tecumseh Trail 2020 Hiking Trail Counter Locations
- J: Yellowwood State Forest Central and South 2020 Hiking Trail Counter Locations
- K: Indiana State Forest 2020 Hiking Trail Counter Locations and User Count

# Harrison-Crawford State Forest 2020 Adventure Trail Counters

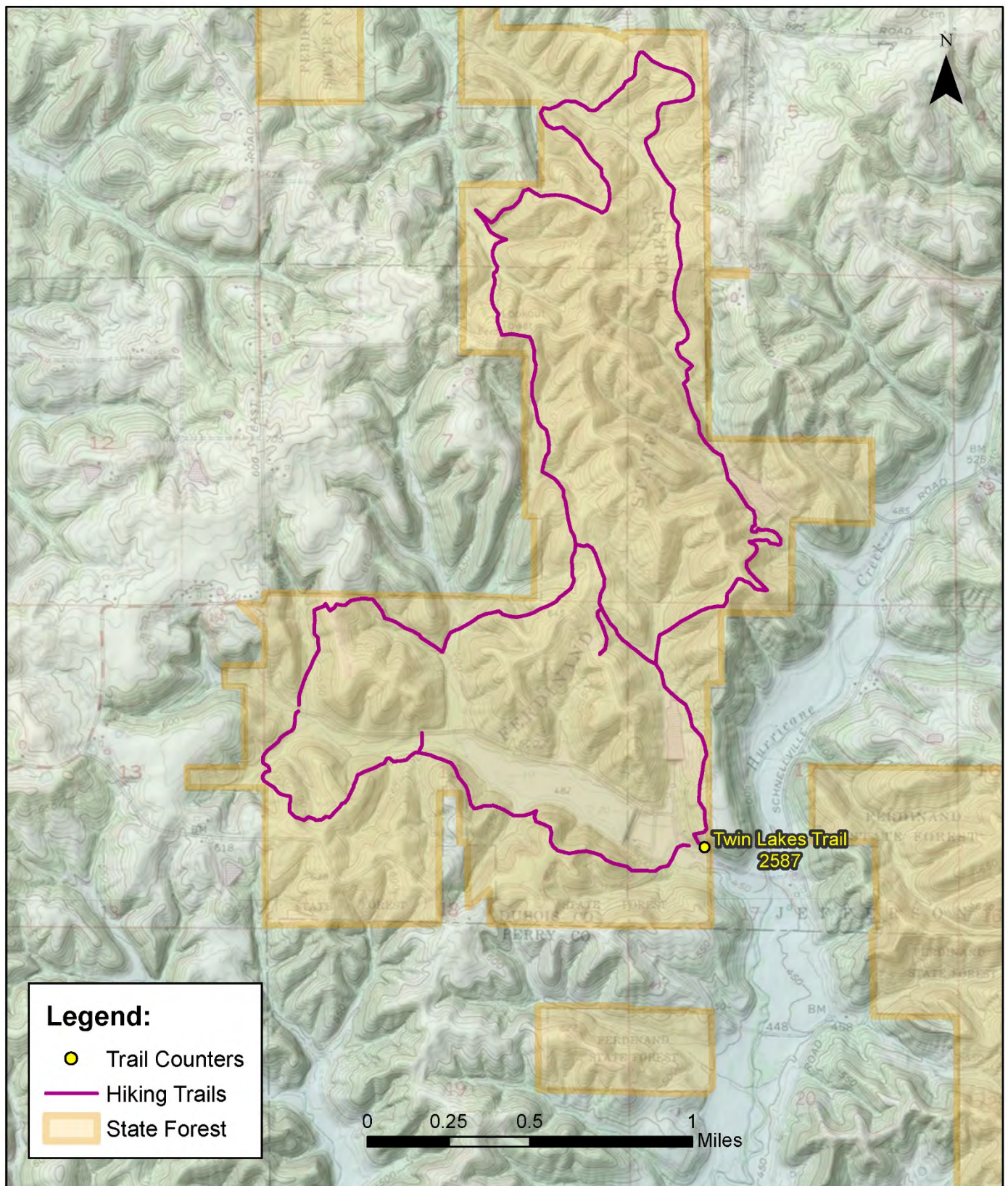


# Clark State Forest Central & South 2020 Hiking Trail Counters

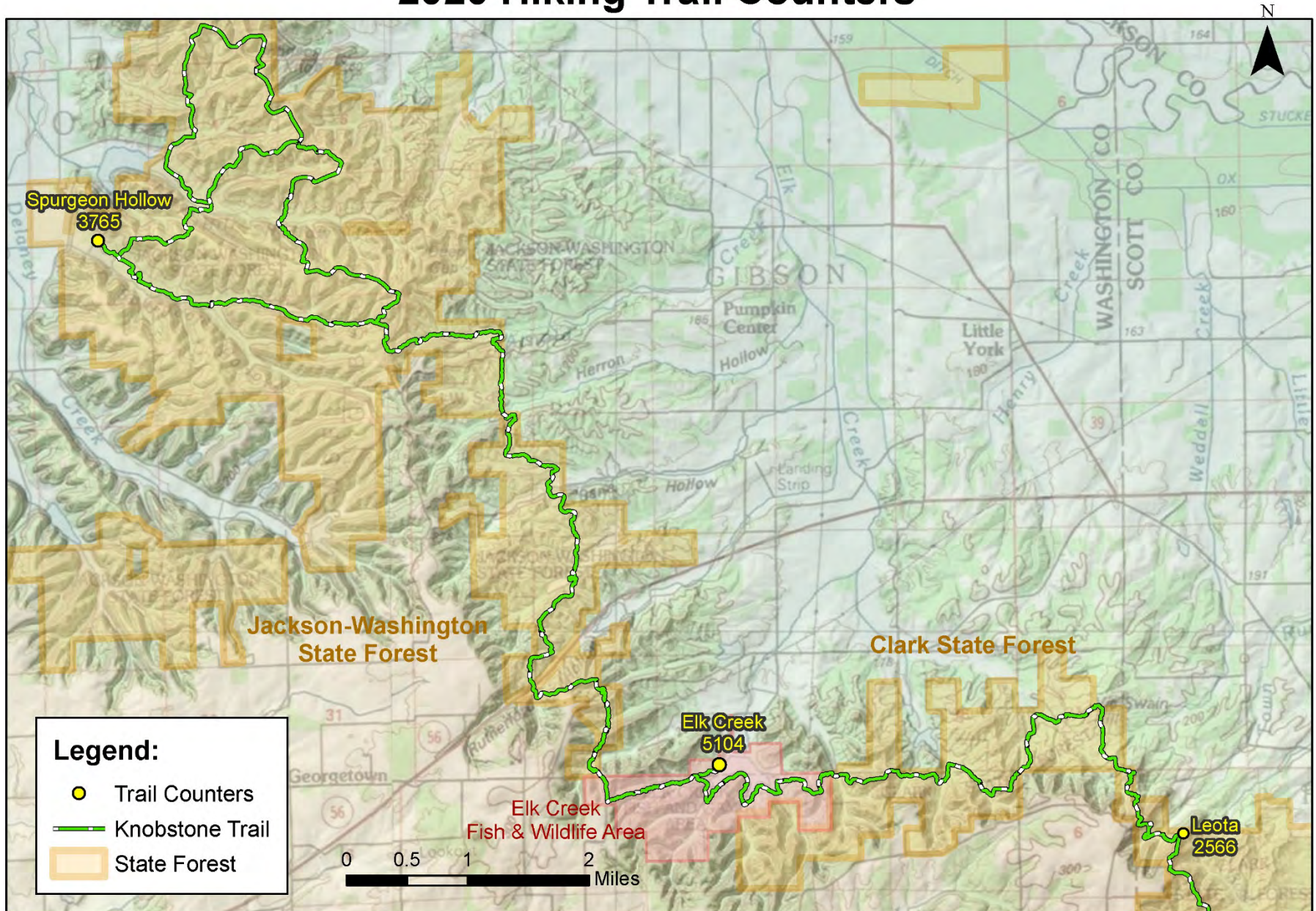




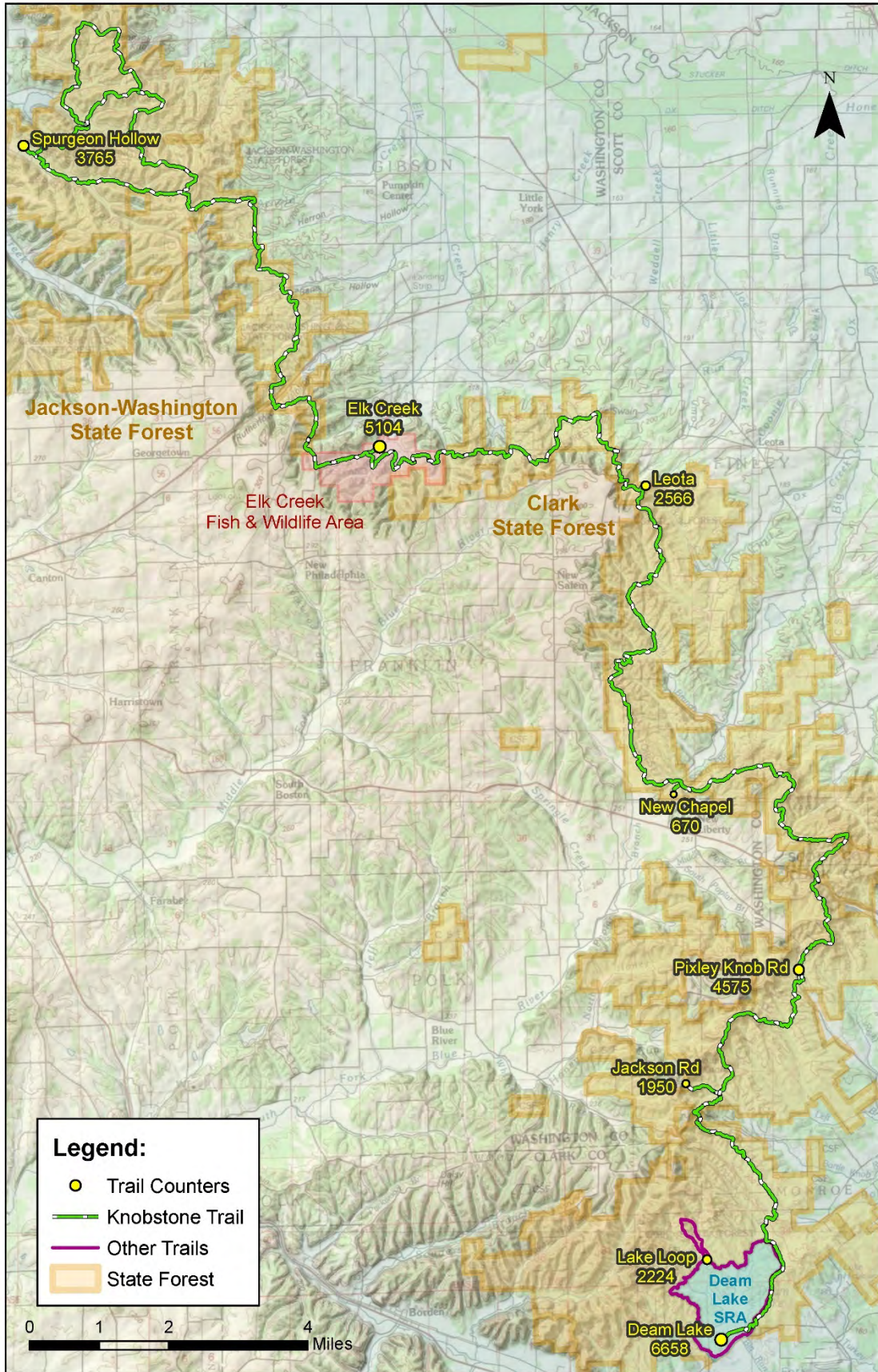
# Ferdinand State Forest 2020 Hiking Trail Counters



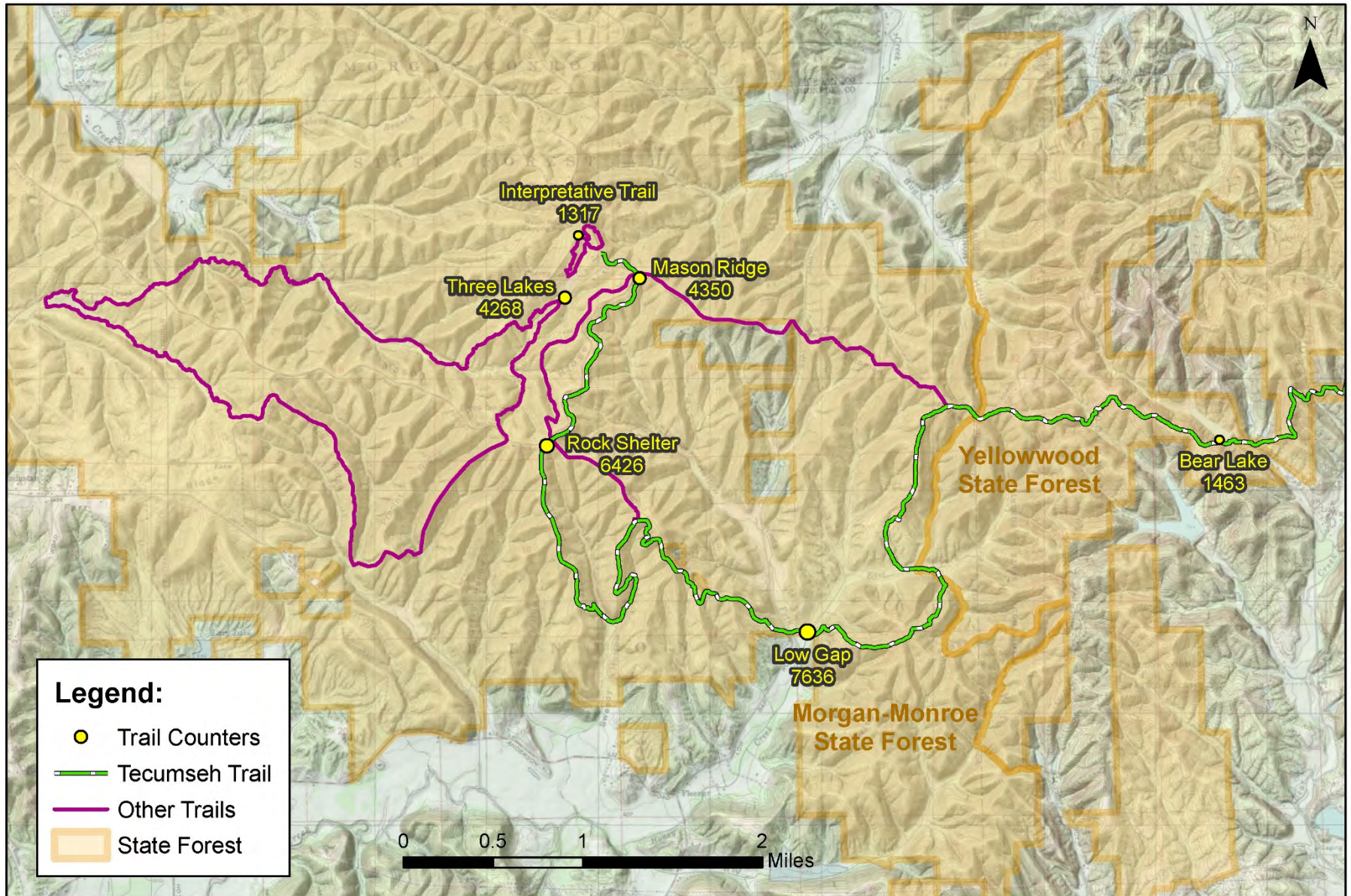
# Jackson-Washington & North Clark State Forest 2020 Hiking Trail Counters



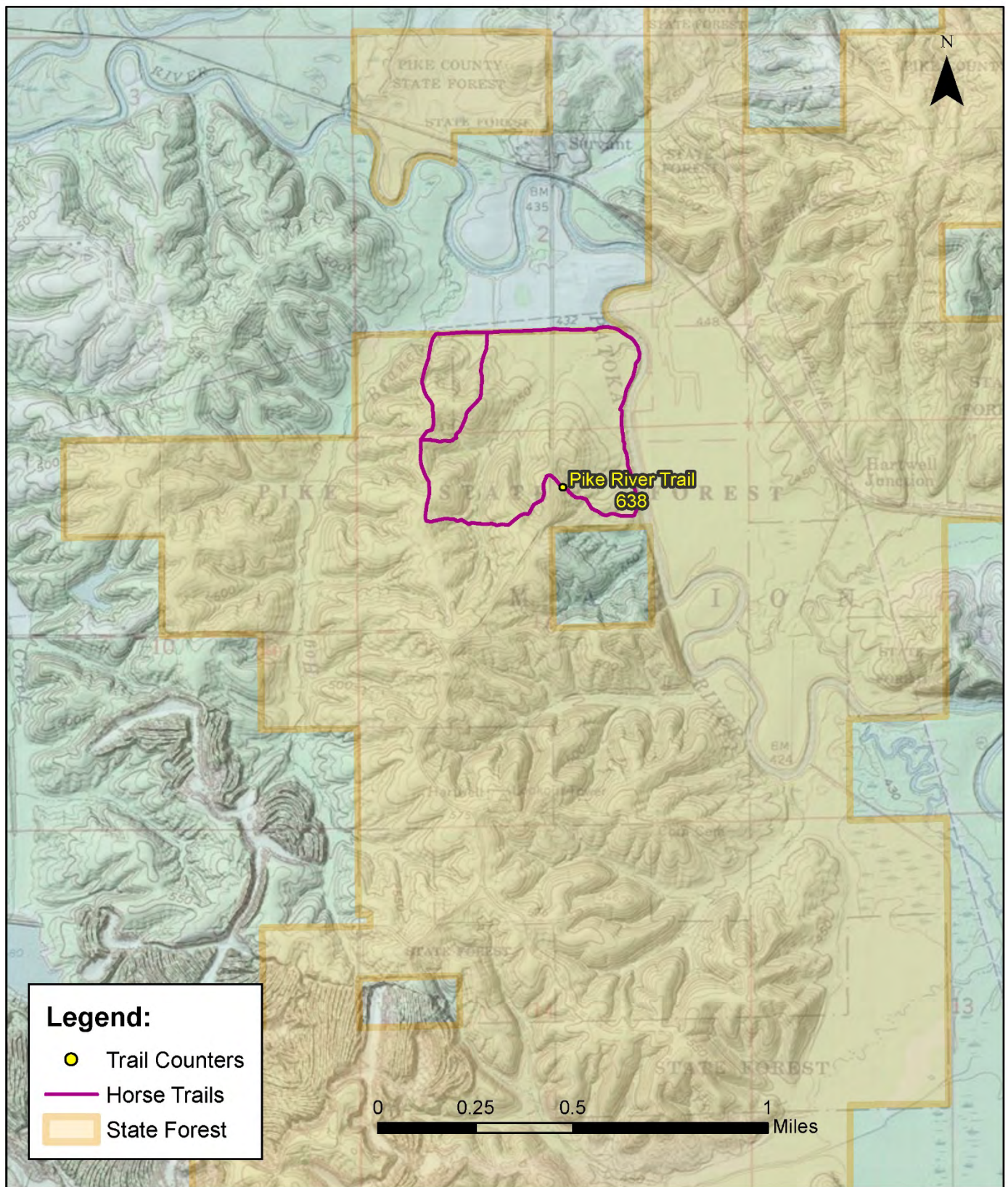
# Jackson-Washington & Clark State Forests 2020 Hiking Trail Counters



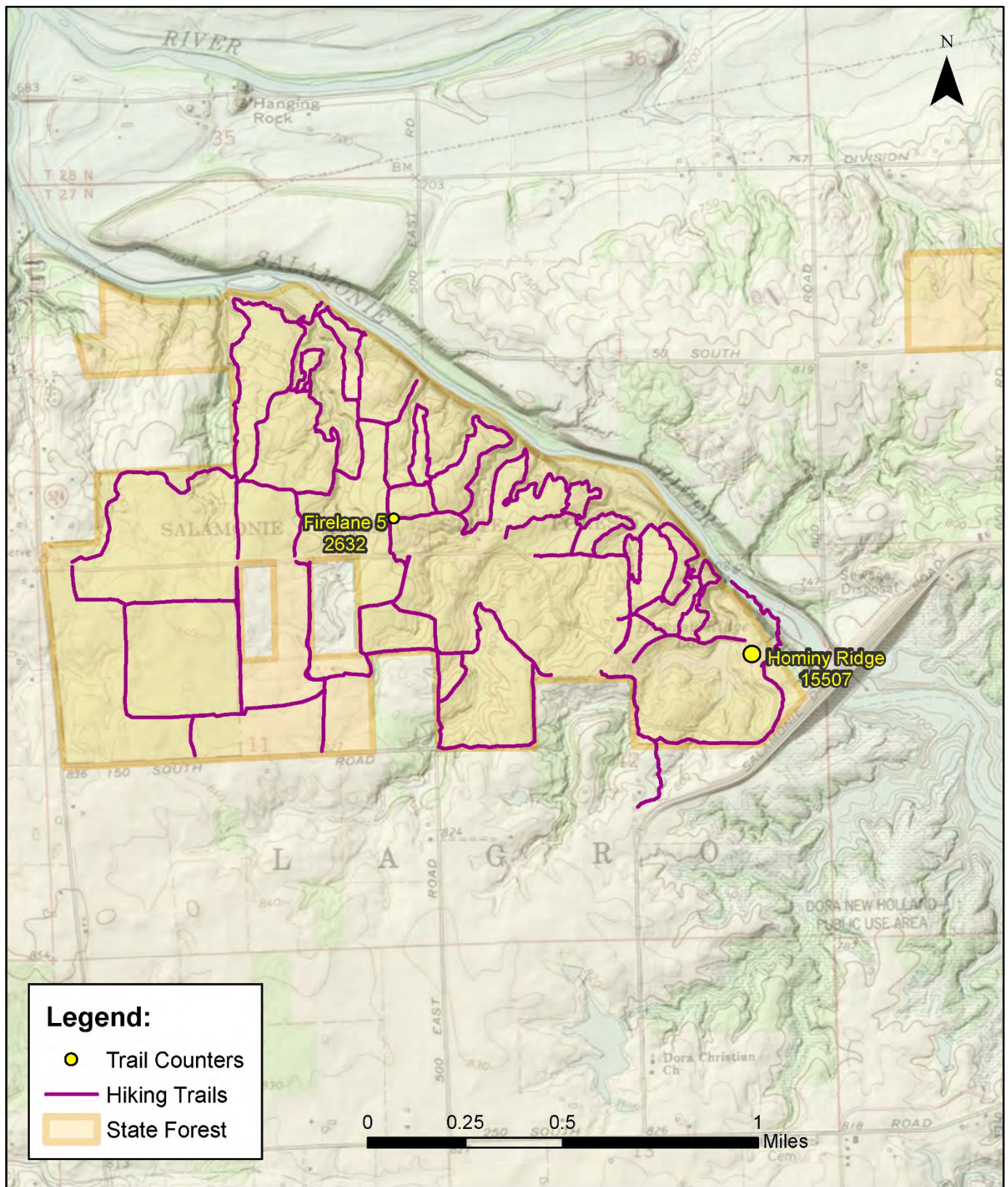
# Morgan-Monroe & North Yellowwood State Forest 2020 Hiking Trail Counters



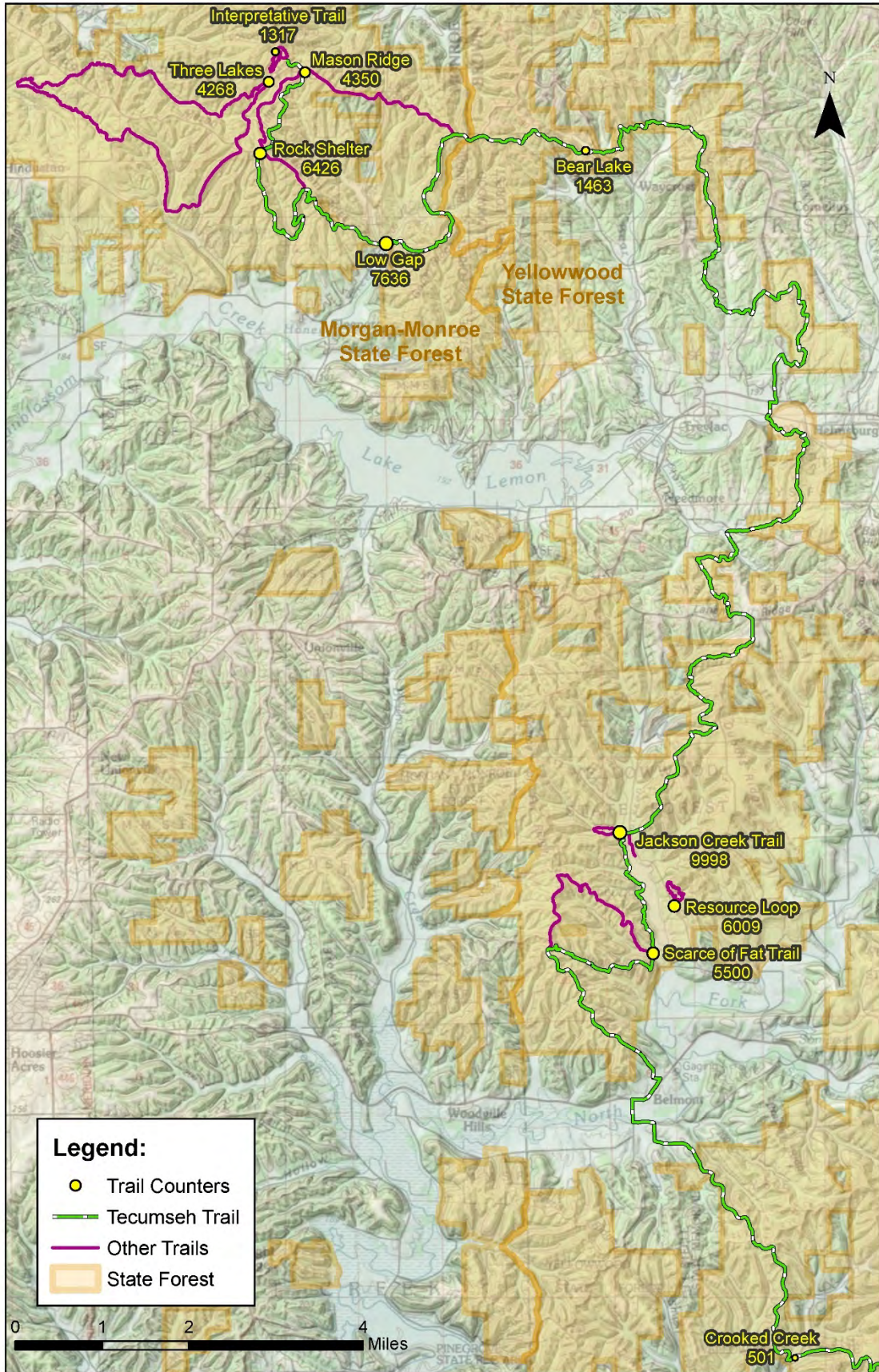
# Pike State Forest 2020 Hiking Trail Counters



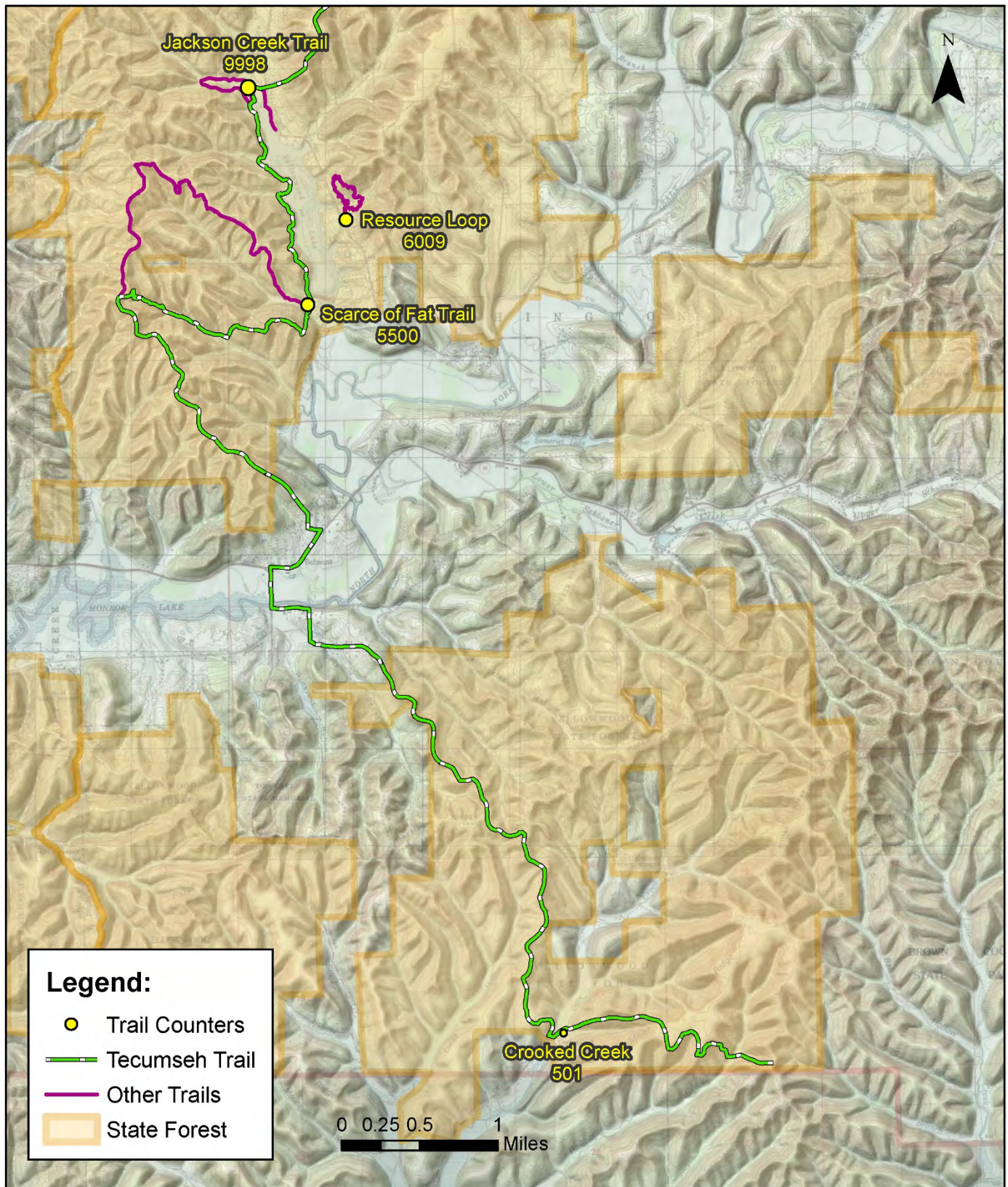
# Salamonie State Forest 2020 Hiking Trail Counters



# Morgan-Monroe & Yellowwood State Forests 2020 Hiking Trail Counters

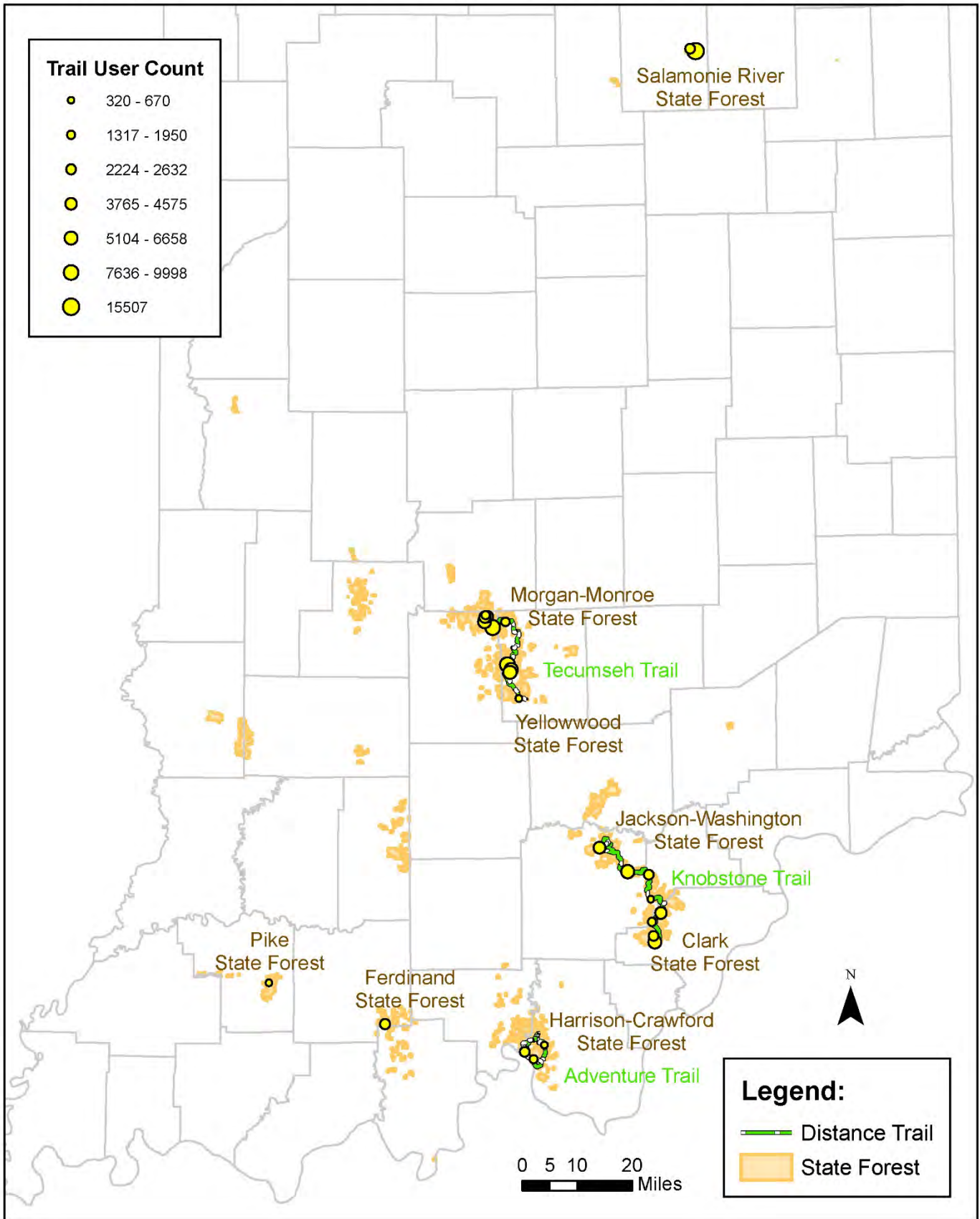


# Yellowwood State Forest Central & South 2020 Hiking Trail Counters





# Indiana State Forest 2020 Hiking Trail Counters





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