



Indiana Forestry 2018 Trail Report



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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.

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 60-mile backcountry trail. A total of 30.5 miles of the trail are in Clark State Forest, while approximately 3.5 miles are located in the Elk Creek Public Fishing Area (a Fish and Wildlife property) and the remaining 26 miles are located in 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 Pixley Knob Road, Elk Creek, and Oxley Memorial counters were excluded because they were either missing too much data for accurate analysis or there was something else wrong with the data.

Deam Lake Trailhead Counter

A total of 2,562 people were counted using the Deam Lake Trail over the course of 364 days in 2018, resulting in an average of around seven people per day. Friday, Saturday, and Sunday were the busiest days of the week, with Saturday being the most popular day, and Tuesday being the least popular (Figure 1). Overall monthly traffic in this area was spread throughout the year with half the months being busy and half not. The most popular months for use of this section of the trail were April and May, with January and October not far behind. The least busy months were February and August (Figure 2).

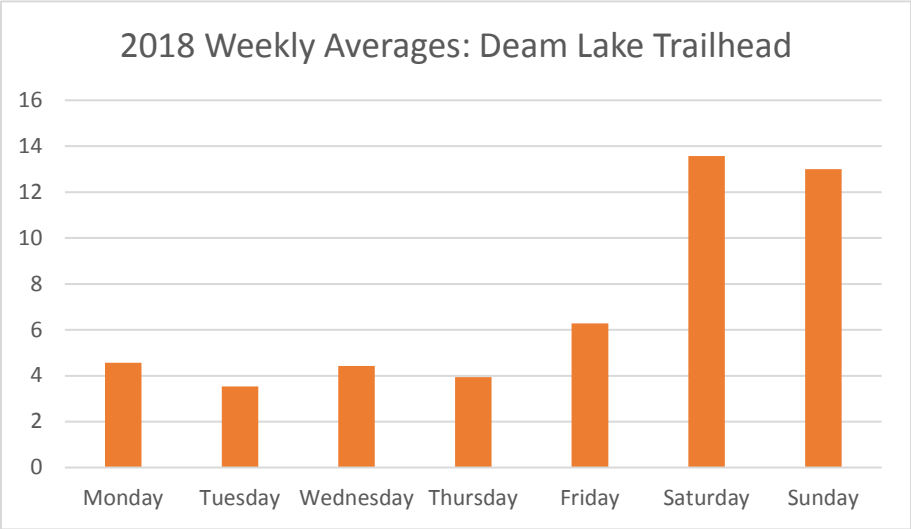


Figure 1: Average number of people recorded for each day of the week.

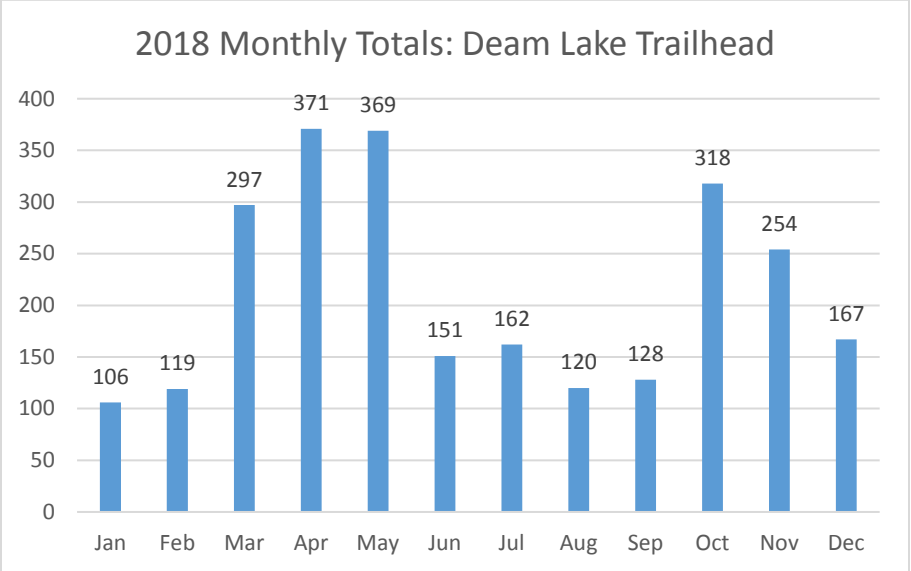


Figure 2: Total number of people recorded organized during each month.

Jackson Road Trailhead

The counter placed at the Knobstone Trail’s intersection with Jackson Road recorded 2,026 people over the course of 361 days in 2018. Here, the average daily total was six people. Surprisingly, Thursday was the busiest day, followed by Saturday. Wednesday and Sunday had the fewest people on average (Figure 3). Monthly, May and June had the highest numbers of people by a significant margin, with January and February having the lowest (Figure 4).

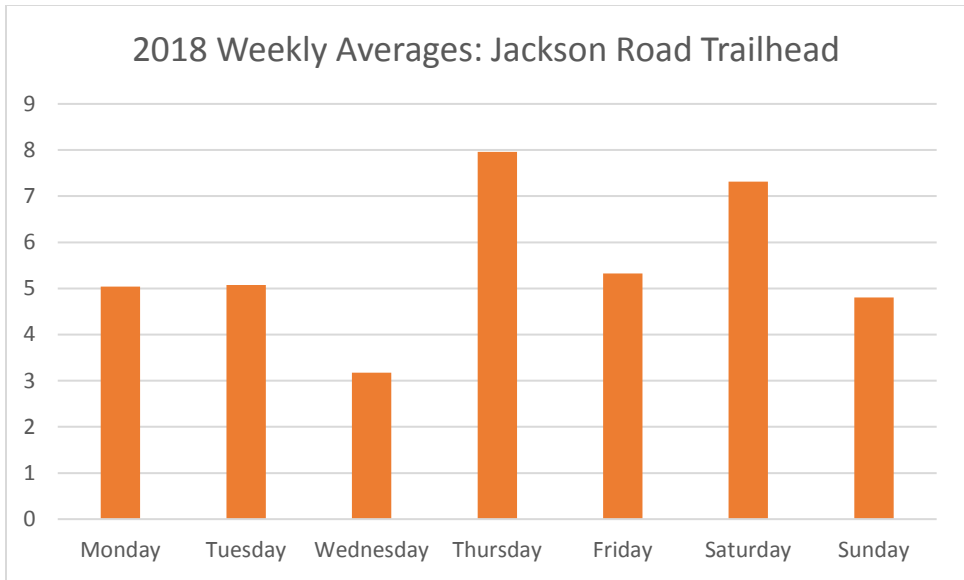


Figure 3: Average number of people recorded for each day of the week.

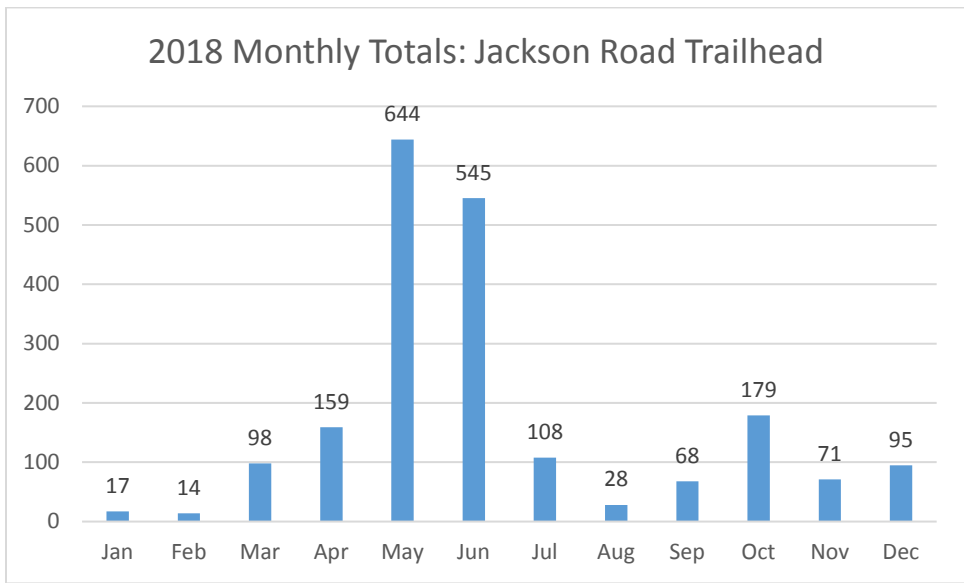


Figure 4: Total number of people recorded during each month.

New Chapel Trailhead Counter

The counter at New Chapel recorded 729 people over 333 days with an average of around two people per day. Weekly, Saturday had the highest average number of people, followed by Sunday and Friday (Figure 5). Additionally, April and May were the months the trail was used the most, while January, June, and July were the months the trail was used the least (Figure 6).

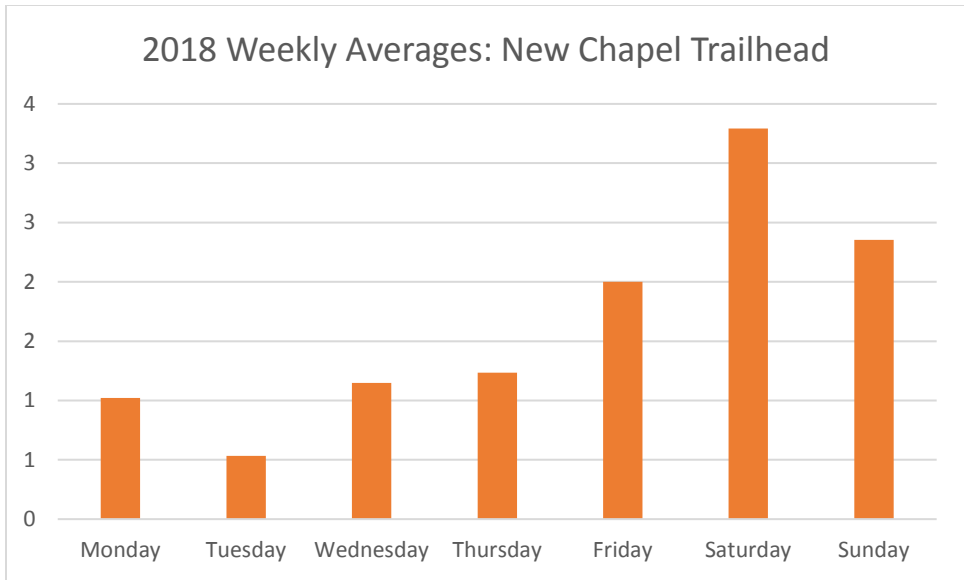


Figure 5: Average number of people recorded for each day of the week.

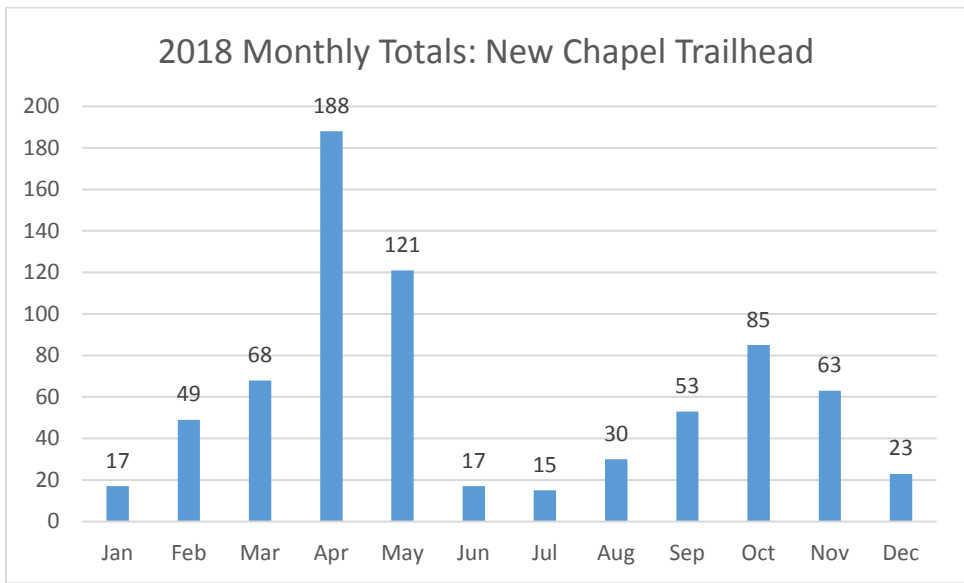


Figure 6: Total number of people recorded during each month.

Leota Trailhead Counter

The Leota counter recorded 1,863 people over 364 days, an average of five people per day. On average, the weekends were the busiest days of the week for this section of the trail (Figure 7). In May, the trail counter recorded far more people (406) than in any other single month, with the next most popular month being October (238 people). February and December were the months with the fewest people counted (Figure 8).

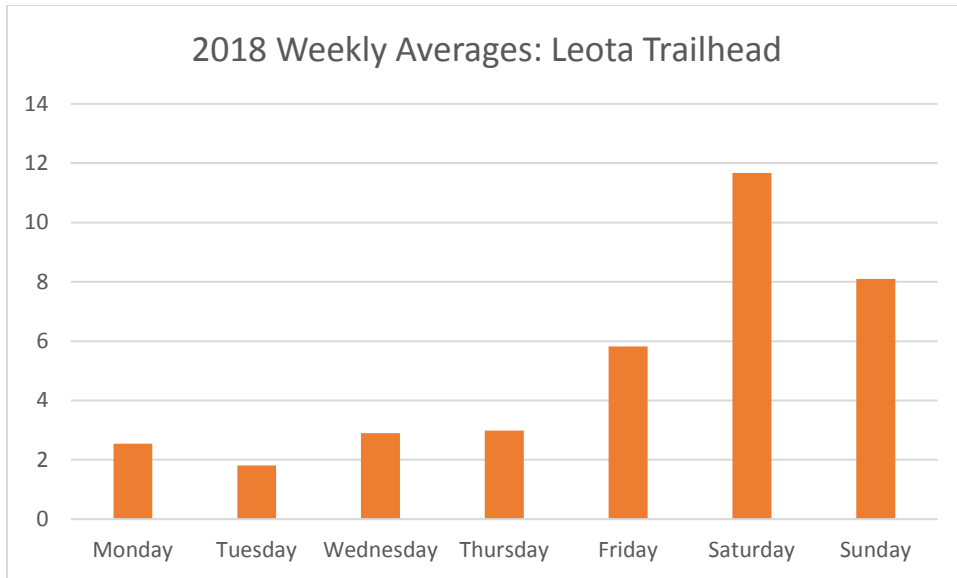


Figure 7: Average number of people recorded for each day of the week.

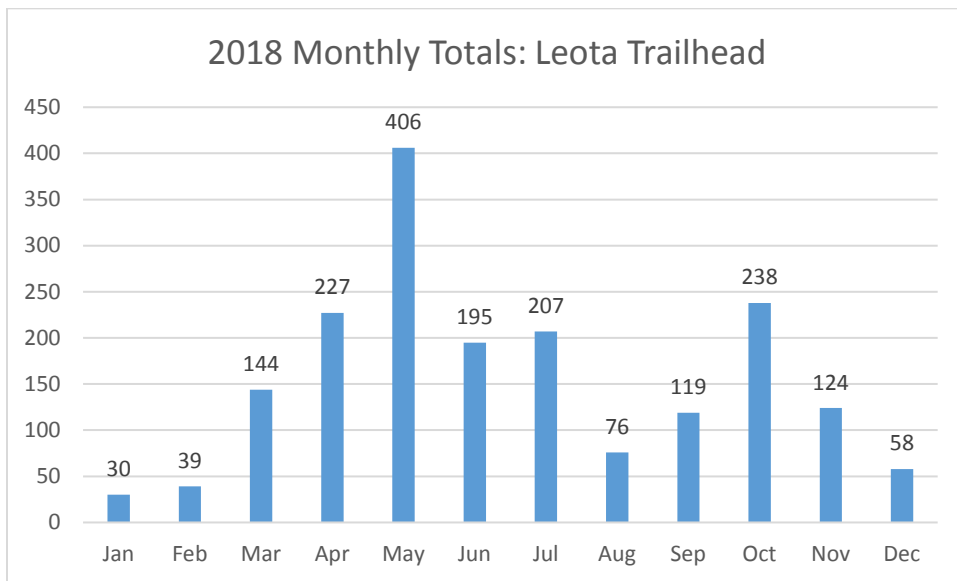


Figure 8: Total number of people recorded during each month.

Spurgeon Trailhead Counter

The Spurgeon Hollow trail counter recorded 2,831 people over the course of 315 days in 2018 for an average of eight people per day. The average weekly data show Saturday and Sunday were the most common days for hiking this section of the trail (Figure 9). April, May, and October were the most popular months, with February, March, and December being the least popular (Figure 10). However, February's low numbers are likely due to fewer days in which data were collected.

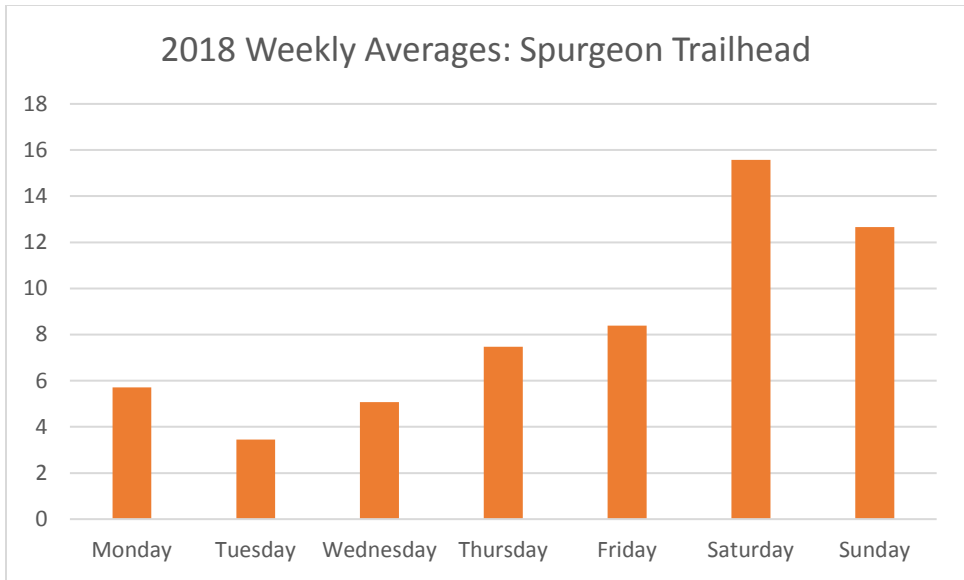


Figure 9: Average number of people recorded for each day of the week.

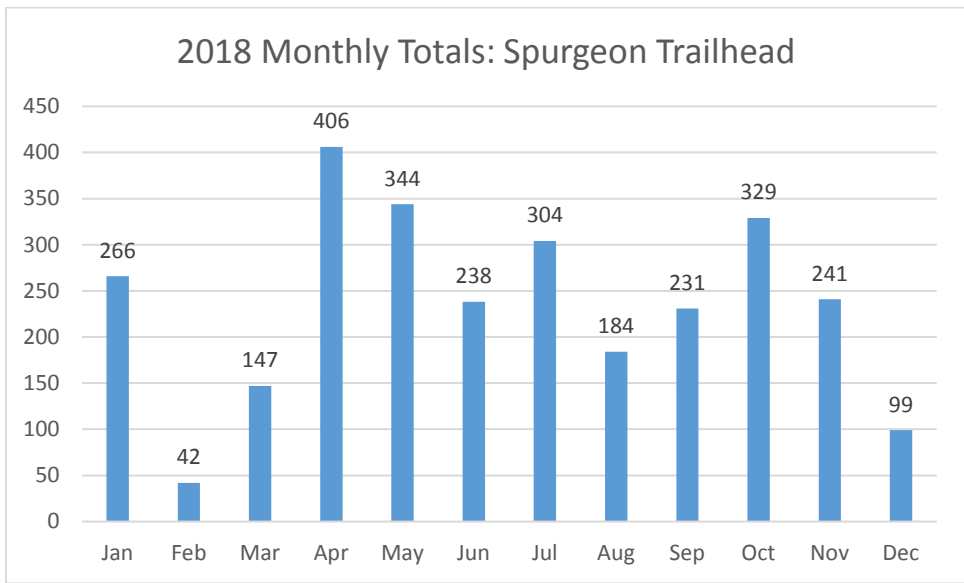


Figure 10: Total number of people recorded during each month.

Deam Lake Trails

Lake Vista Trail

The Lake Vista Trail (estimated 2.5 miles) is the most scenic and rugged of the Deam Lake trails. The trail winds through bottomlands, which can be muddy or even submerged during wet times or after a heavy rain. There are steep and rolling hills overlooking the lake. At the apex of the trail, a large rock cutout has a nice view of the lake. This trail is clearly marked with red blazes on brown Carsonite posts.

One trail counter was placed near the southern entrance to the trail. Over the course of 364 days in 2018, it counted 1,928 people, an average of five people per day. The largest concentration of people was counted on Saturdays and Sundays, with the lowest number on Mondays (Figure 11). Monthly, the largest number of people used the trail between April and November, with the highest spikes in usage occurring during May, July, and October (Figure 12).

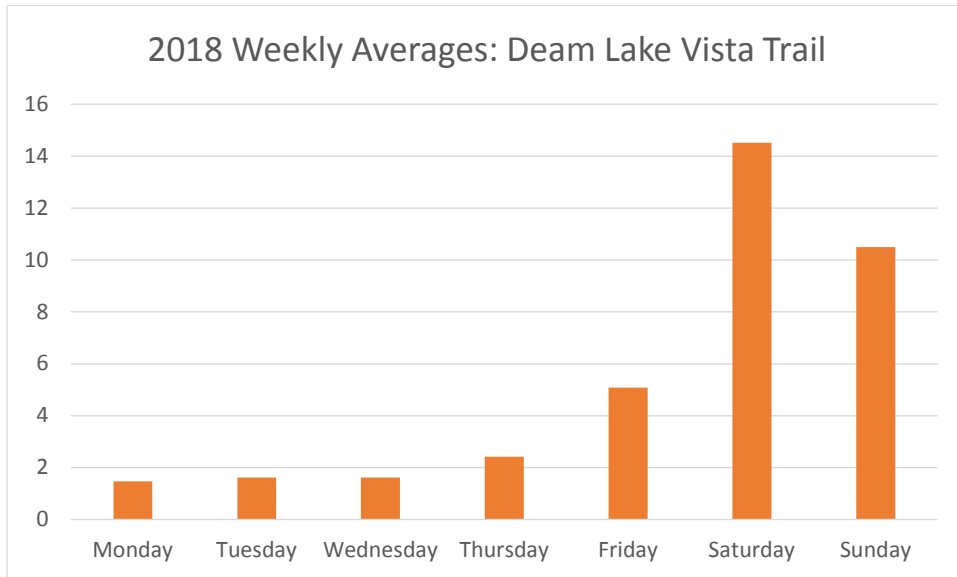


Figure 11: Average number of people recorded for each day of the week.

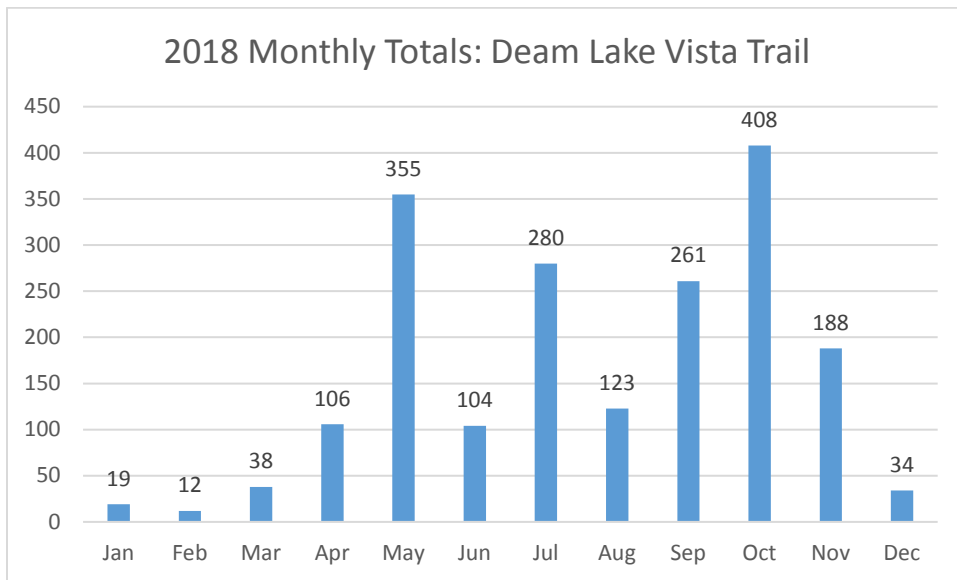


Figure 12: Total number of people recorded during each month.

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. Please be courteous to both the animals and riders. Horses may startle easily, so be careful.

The trail counter was placed on the eastern part of the trail and recorded 1,330 people over 365 days in 2018. During that time, about four people per day used the trail. As is expected, Saturday and Sunday were the most popular days of the week, with Tuesday and Wednesday having the least amount of traffic (Figure 13). Additionally, over the course of the year, spring and fall were the most active seasons, with October and November having the highest number of people. January, February, August, and December were the least popular months (Figure 14).

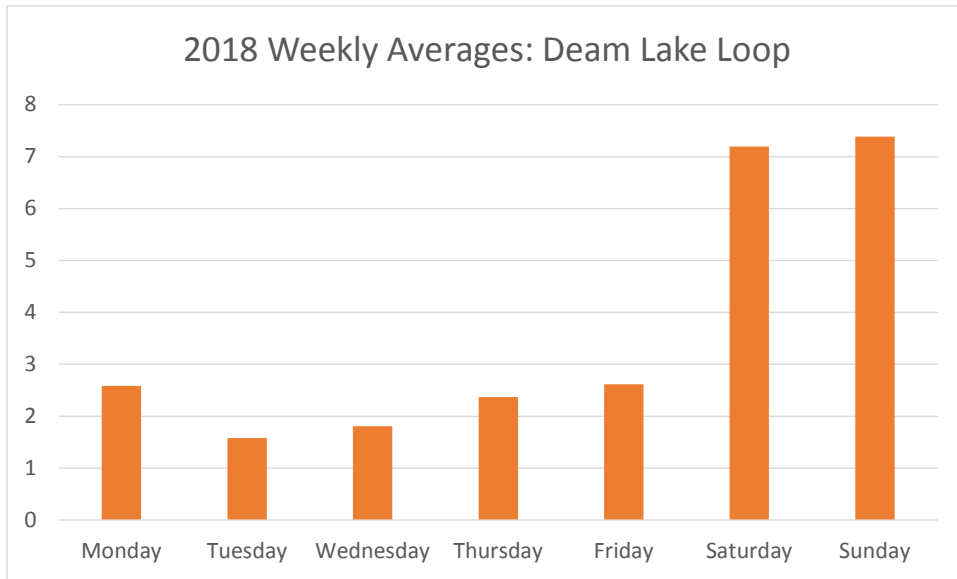


Figure 13: Average number of people recorded for each day of the week.

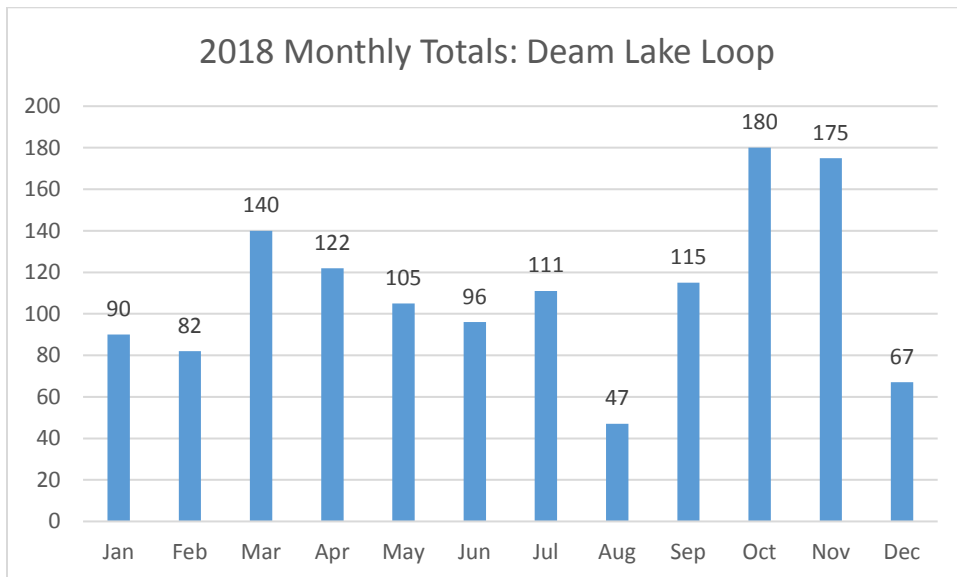


Figure 14: Total number of people recorded during each month.

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 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 at the trail's intersection with State Road 462, Old Forest Road, Cold Friday Road, and at the Pioneer Shelter.

State Road 462 Counter

The trail counter at State Road 462 recorded 456 people over all of 2018 (365 days), resulting in an average of around one person per day. Like other trails, a larger amount of people were counted on Saturday and Sunday, with much smaller numbers during the week (Figure 15). May was the most popular month for this section of the trail, with 100 people counted. April and November were the second and third most popular months, respectively, although there were far fewer people counted during these months than in May. The months with the lowest number of people recorded were February (eight) and July (14) (Figure 16).

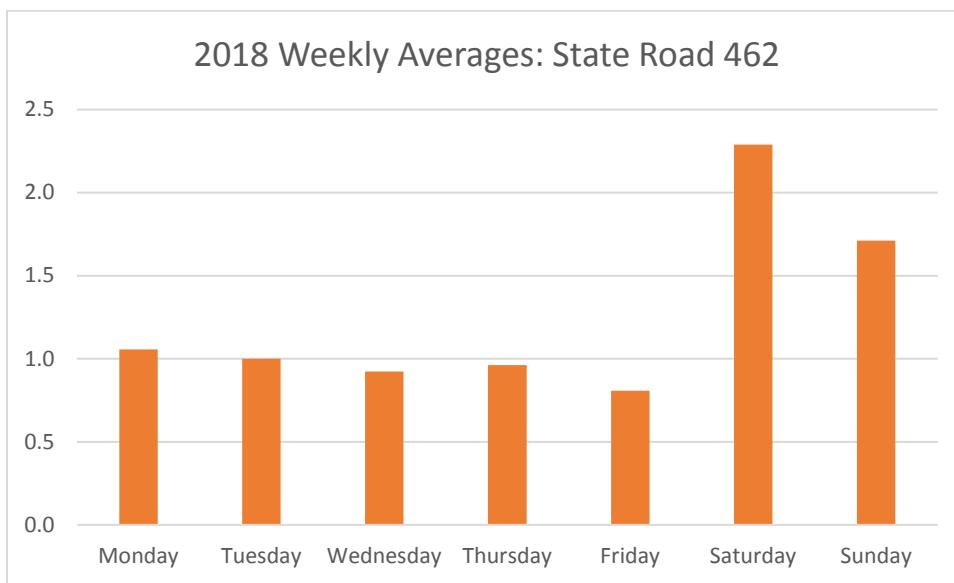


Figure 15: Average number of people recorded for each day of the week.

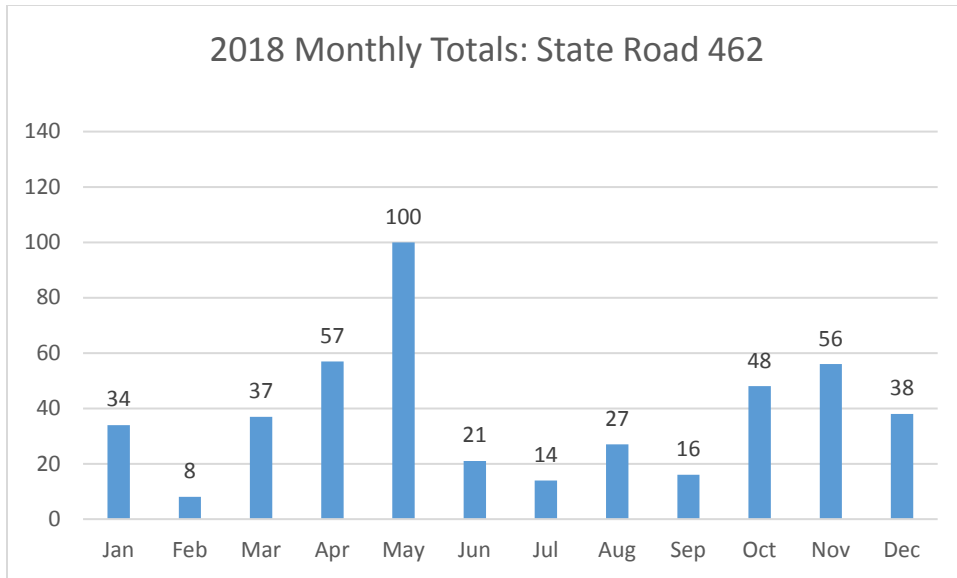


Figure 16: Total number of people recorded during each month.

Old Forest Road Counter

The Old Forest Road trail counter only recorded a few more people over the course of the year (365 days) than the State Road 462 counter. During this period, 508 people used this portion of the trail, equaling just over one person per day. Most people used the trail on Saturday, with a daily average of around four people. The next most popular day was Sunday, with an average of about three people per day (Figure 17). On a monthly basis, the highest number of people used this section of the Adventure Hiking Trail in the spring with March (74 people) and May (73 people) being the most popular months. Mid-to-late fall was also a popular time, with 64 people using this portion of the trail in October and 58 in November. January, February, and December were the months with the least traffic (Figure 18).

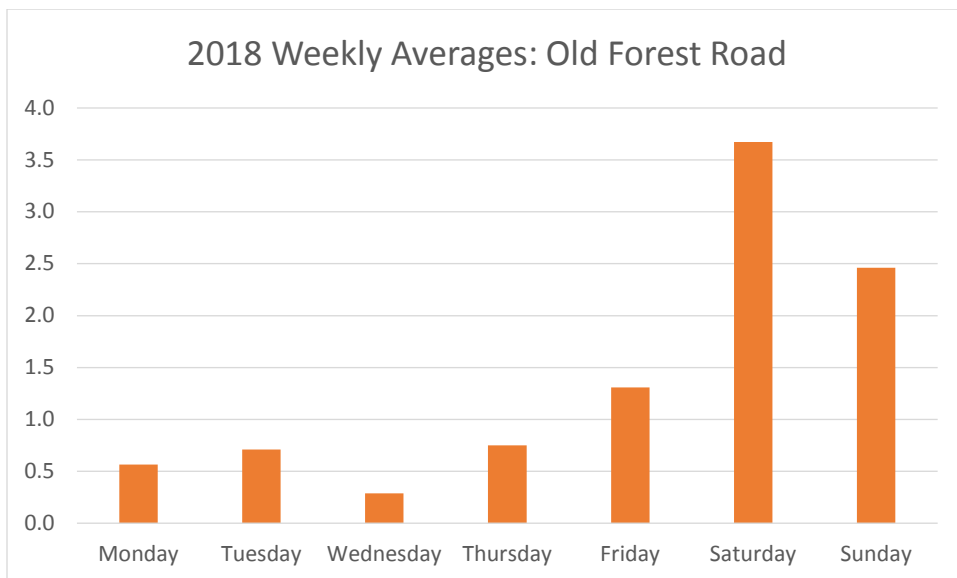


Figure 17: Average number of people recorded for each day of the week.

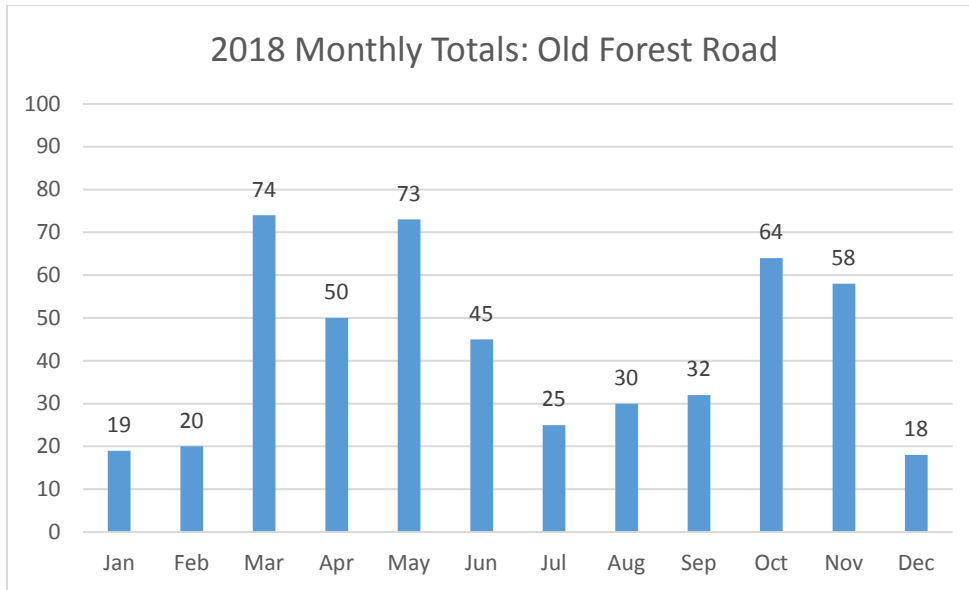


Figure 18: Total number of people during each month.

Cold Friday Road Counter

The Cold Friday Road trail counter recorded a total of 959 people over the course of the year (364 days), with an average of just over two people per day. A larger number of people chose Saturday to hike this portion of the trail, with an average of about seven people. The next most common day was Sunday (about three people), followed closely by Friday. The least frequented days were Wednesday and Thursday (Figure 19). Late summer to mid-fall was the most popular time for this portion of the trail, with the trail counter recording 200 people in September, 159 people in October, and 192 people in November. There was also a smaller spike between March and May. The months with the least traffic were June (16 people) and July (14 people) (Figure 20).

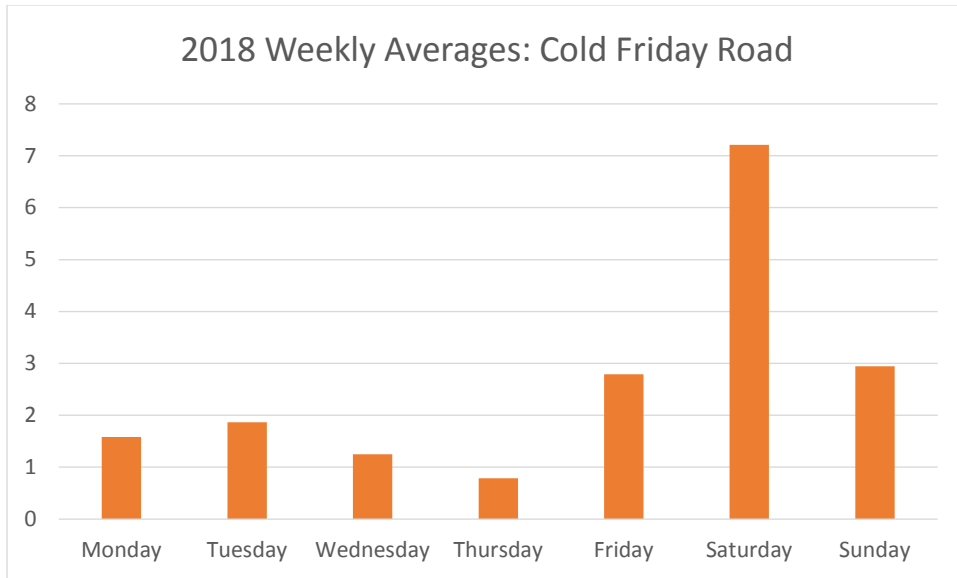


Figure 19: Average number of people recorded for each day of the week.

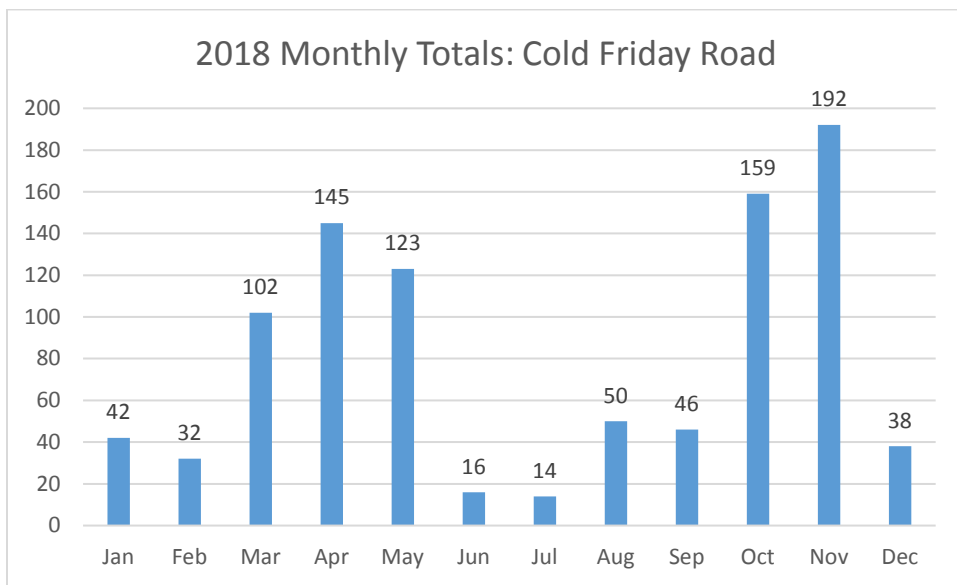


Figure 20: Total number of people recorded during each month.

Pioneer Shelter Counter

The Pioneer Shelter trail counter was located almost halfway between the Cold Friday Road and Old Forest Road counters and recorded 808 people over 365 days. Around two people per day used the trail, with the majority of people visiting this section of the trail on Saturdays and Sundays (Figure 21). Looking at the monthly view, late winter to mid-spring was the most popular time of year for this part of the Adventure Hiking Trail. March, April, and May were the most popular months, with 149 people recorded in March, 114 people recorded in April, and 136 people recorded in May. December was the least popular month by a significant number, with only 14 people counted (Figure 22).

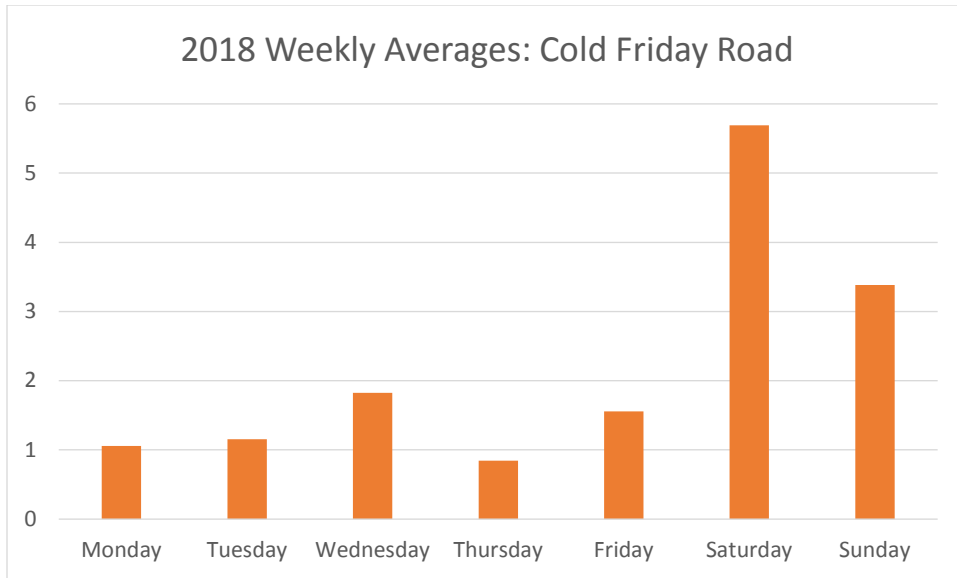


Figure 21: Average number of people recorded for each day of the week.

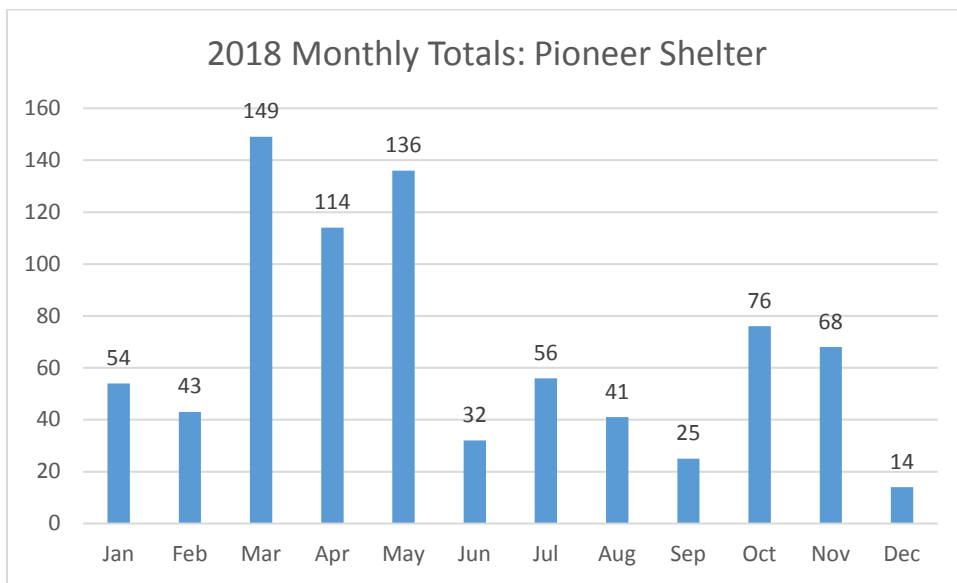


Figure 22: Total number of people recorded in each month.

Morgan-Monroe State Forest Trails

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 364 days in 2018, the counter recorded 3,086 people. This amounts to just over eight people per day. During the year, people used the trail most on Saturdays and Sundays, with Wednesdays and Thursdays having the lowest attendance

(Figure 23). Monthly, March, April, and May were the most popular months for the Mason Ridge Trail, while use dipped in the summer months and was at its lowest in January and December. However, trail use picked up in the fall (Figure 24).

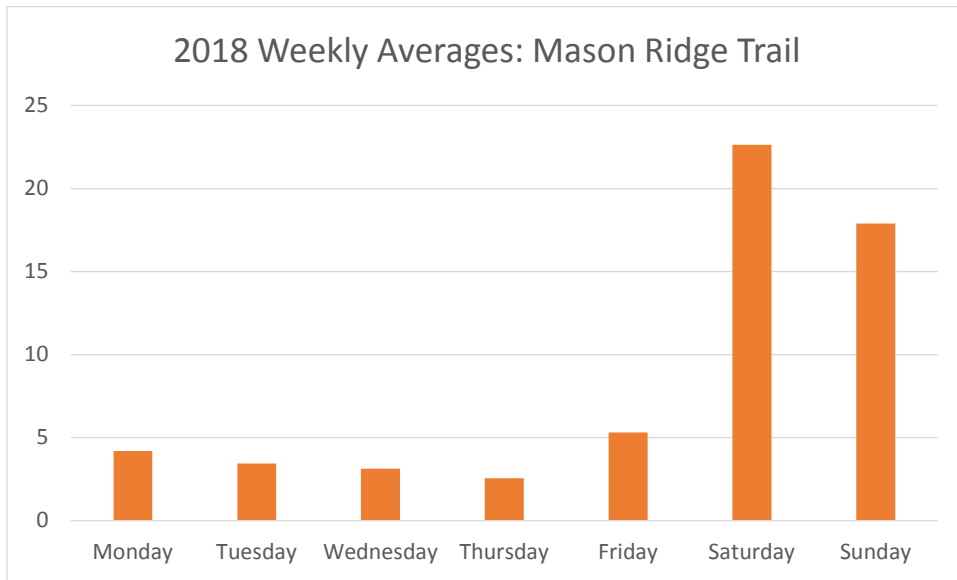


Figure 23: Average number of people recorded for each day of the week.

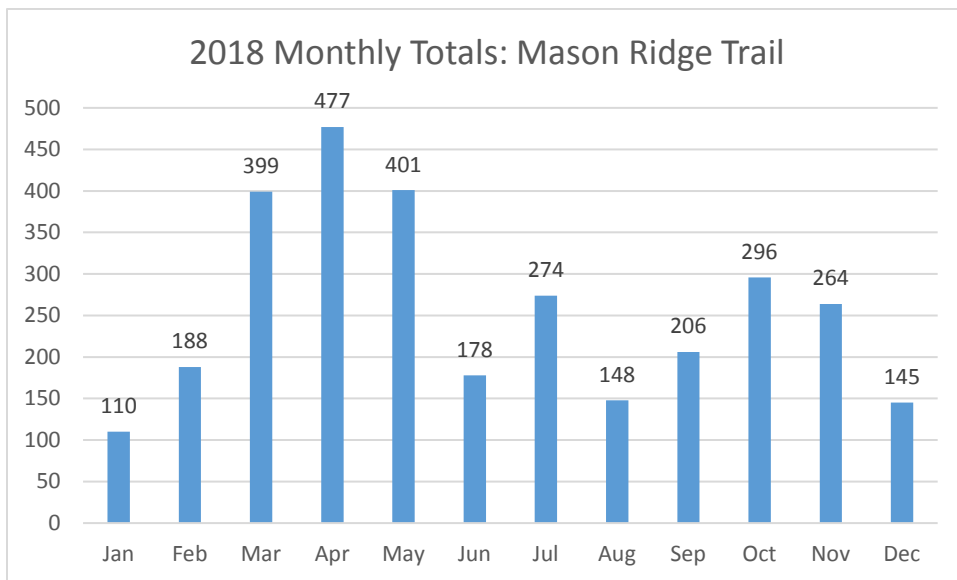


Figure 24: Total number of people recorded in each month.

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 636 people over the course of 237 days in 2018. In this case, the reduced number of days with data is due to the absence of

data for the months of August, November, and December. Based on the available data, the average number of people using the trail per day was just over two.

Similar to the other trails, the Low Gap Trail was primarily used during the weekends, with Sunday being the most popular day, and Wednesday being the least popular (Figure 25). Over the course of the year, March, April, and May were the months in which the trail had the most traffic, followed closely by January. The least popular months were September and October (Figure 26).

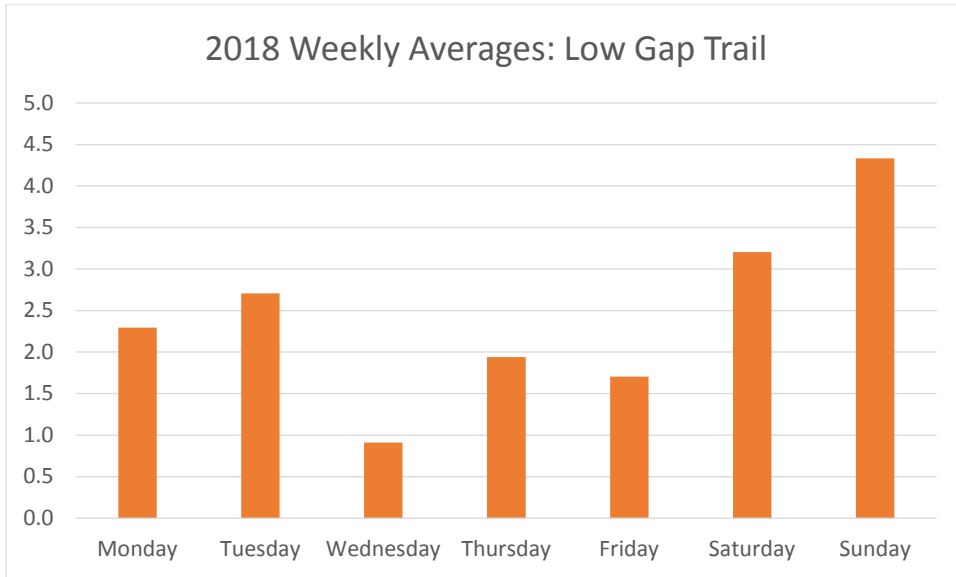


Figure 25: Average number of people recorded for each day of the week.

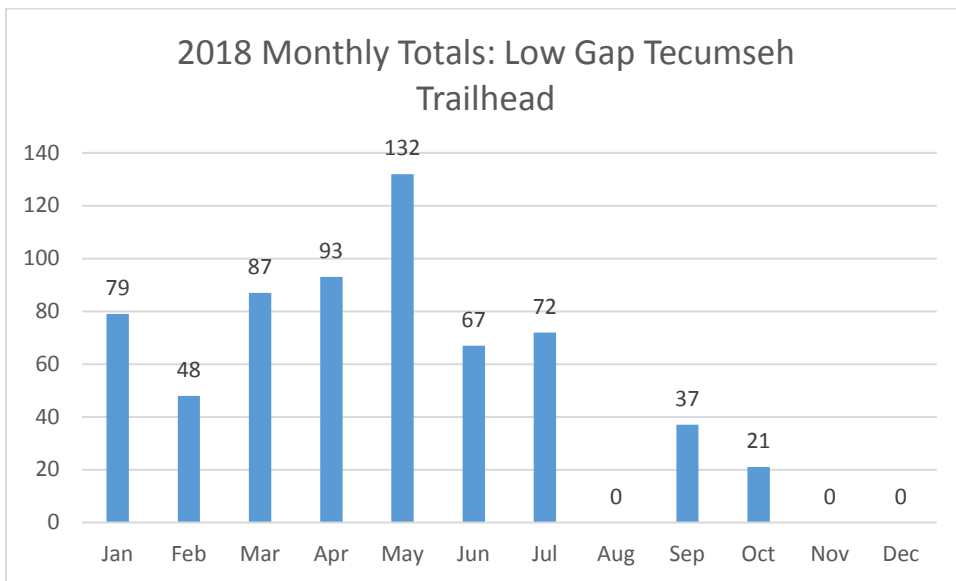


Figure 26: Total number of people recorded during each month.

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 all 365 days of 2018, the counter recorded 2,746 people, with an average of around eight people per day. Like most other trails, the most popular days for the use of the Rock Shelter Trail are Saturday and Sunday. Meanwhile, Mondays and Tuesdays are its least used days (Figure 27). October and November were the most popular months for the trail. More than 250 people used the trail in October, November, December, March, and April. Additionally, May and August were the only months with less than 100 people having used the trail (Figure 28).

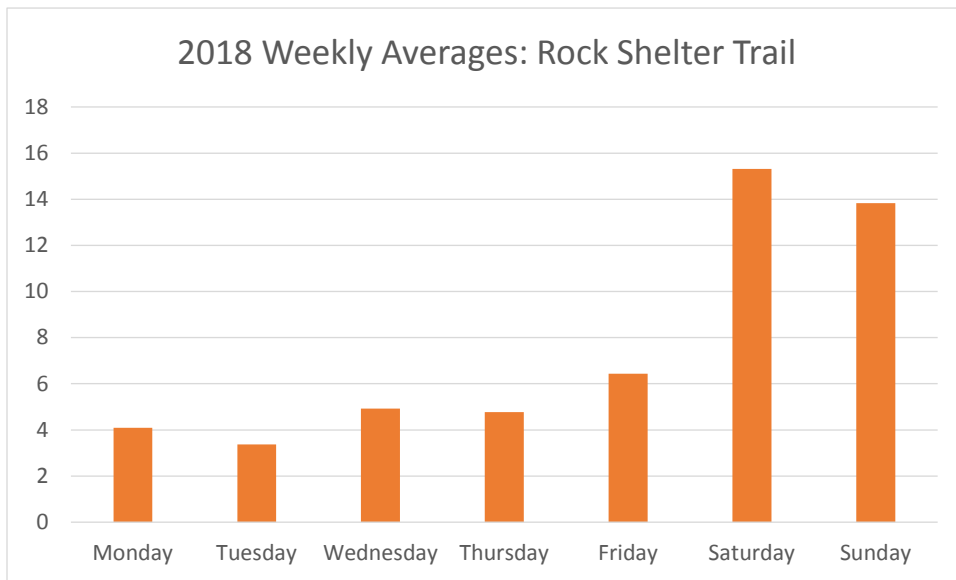


Figure 27: Average number of people recorded for each day of the week.

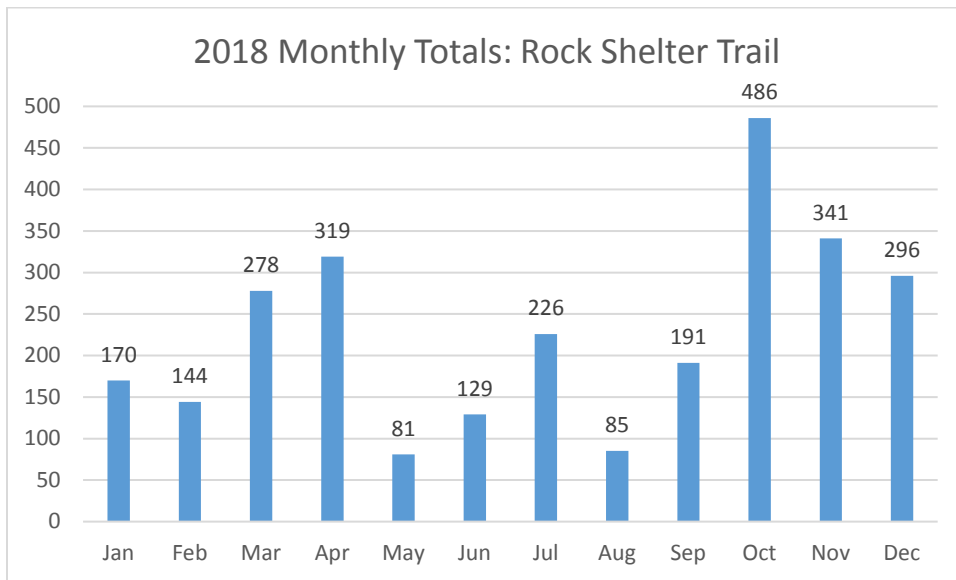


Figure 28: Total number of people during each month.

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. The counter is set up near Cherry Lake toward the northeastern part of the Three Lakes Trail. For 334 days in 2018, the counter recorded 1,914 people, resulting in an average of around six people per day. On a weekly basis, the days with the highest average usage were Saturday and Sunday (Figure 29). Monthly, September was the busiest month, with May and April being the next most popular. January was the least popular month (Figure 30).

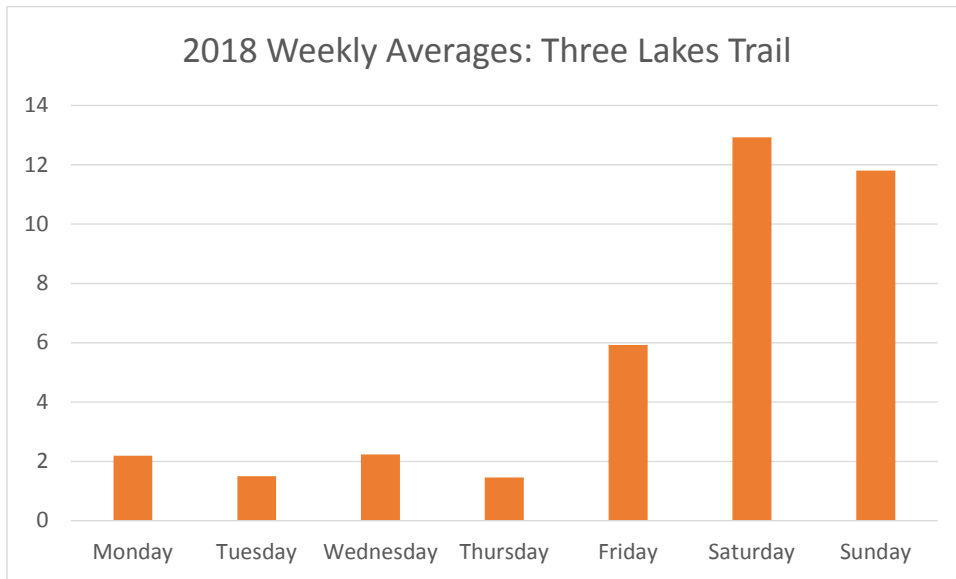


Figure 29: Average number of people recorded for each day of the week.

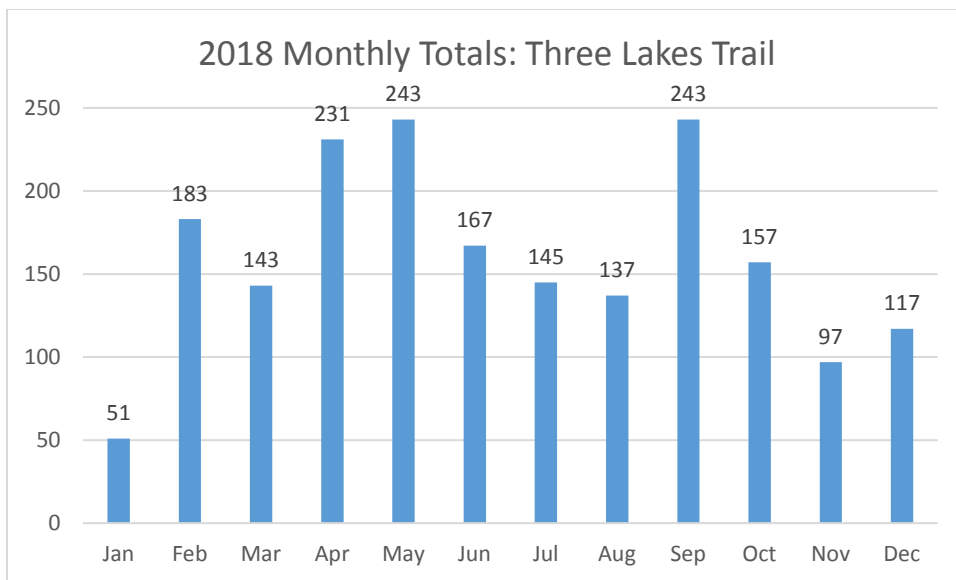


Figure 30: Total number of people during each month.

Yellowwood State Forest Trails

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 and over the course of 365 days, counted 2,171 people. Based on the number of people who used the trail during 2018, about six people per day used the trail. As was expected, in a week, most people used the trail on Saturday and Sunday, with Wednesday being the day with the lowest average usage (Figure 31). Monthly, the largest number of people used the trail between March and November, with April and October being the busiest months, and January and December being the least popular months (Figure 32).

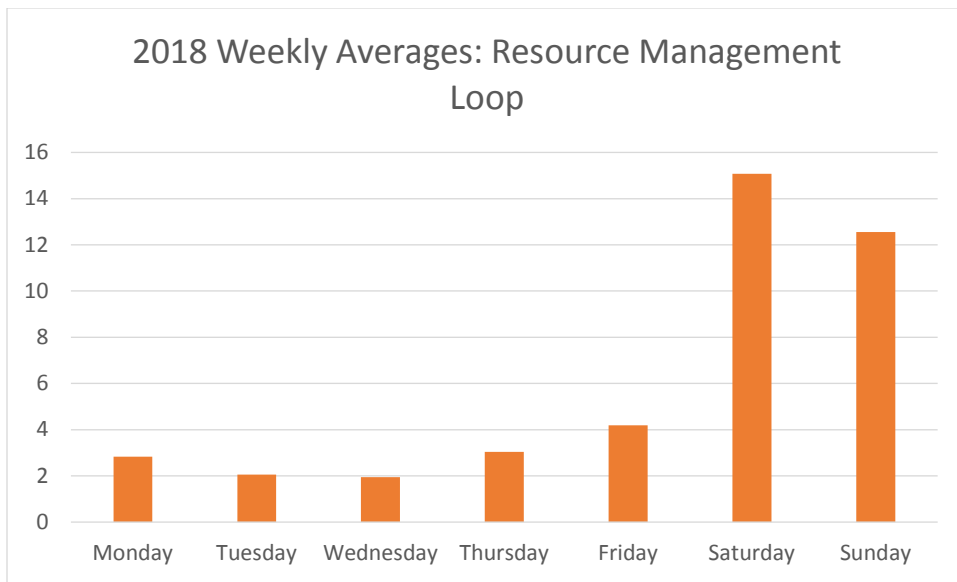


Figure 31: Average number of people recorded for each day of the week.

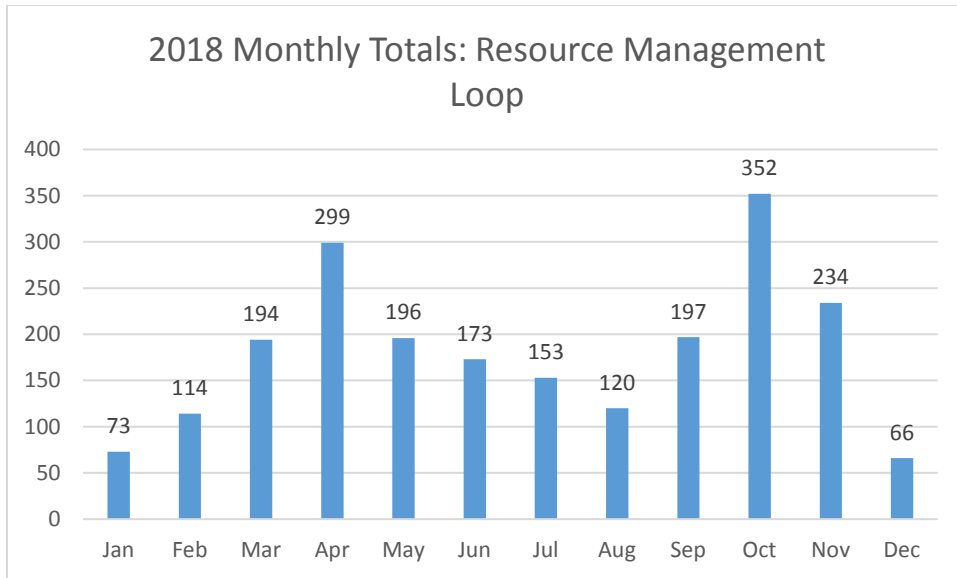


Figure 32: Total number of people recorded during each month.

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 four 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 two counters not connected to other trails are located at Bear Lake and another point north of the Jackson Creek Trailhead.

Bear Lake Tecumseh Trailhead Counter

Starting in the northern section of the trail, the first counter at Bear Lake recorded 3,123 people over 237 days (no data in February). Based on these data, on average, almost 10 people used the trail per day. Out of all the days of the week, Saturdays were the most popular day, by far, with an average of almost 27 people per Saturday and almost 14 people on Sundays, the next busiest day (Figure 33). March was the most popular month for this section of the trail, with 816 people counted on the trail. The two next most popular months were April, with 533 people counted, and October, with 385 people counted. May and November had the least traffic (Figure 34).

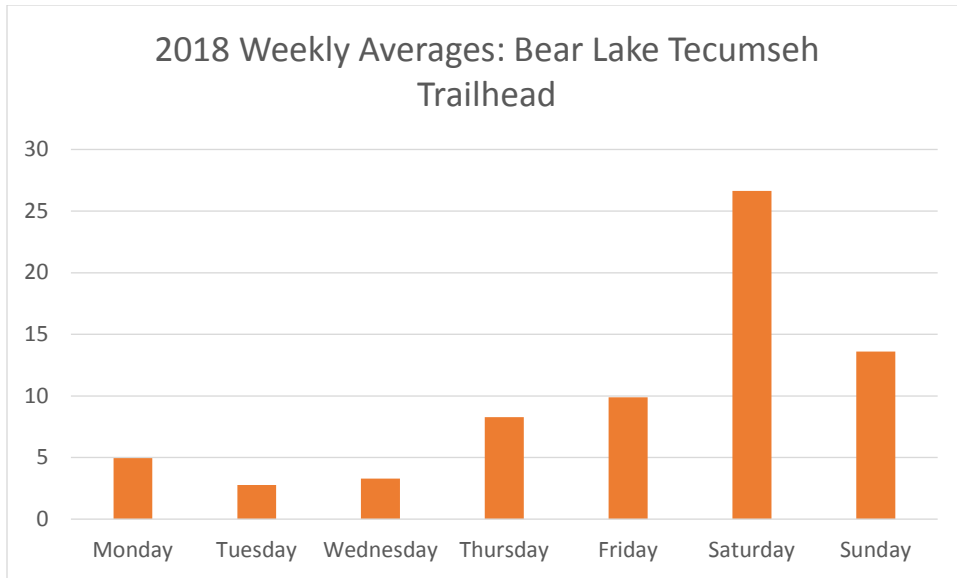


Figure 33: Average number of people recorded for each day of the week.

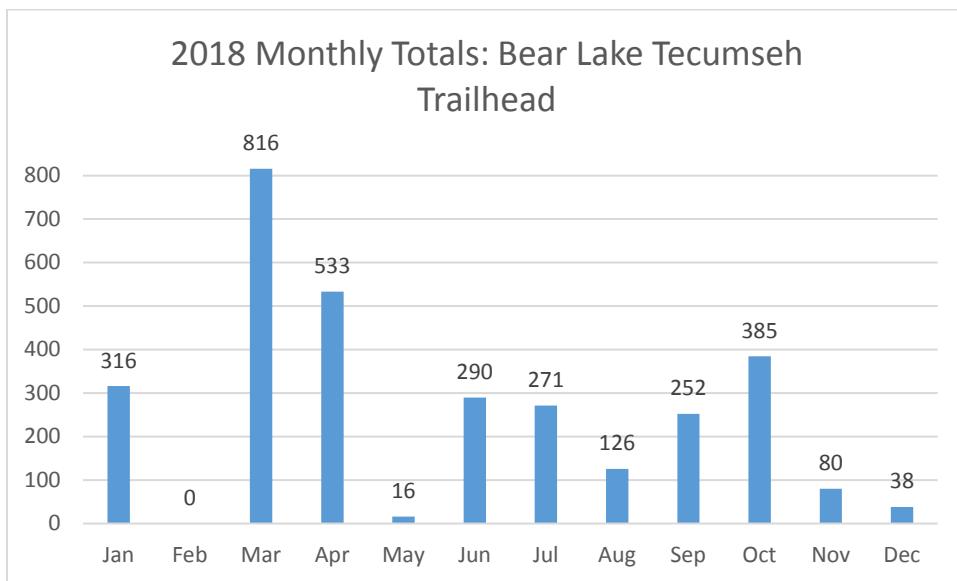


Figure 34: Total number of people recorded during each month.

Tecumseh Trailhead Counter

In addition to the Bear Lake counter, a second counter was placed farther south on the Tecumseh Trail. At this point in the trail 1,174 people were counted over 365 days, an average of three people per day. For a typical week, Saturday was the most popular day for this section of the trail, with an average of around nine people per day. Sunday was the next most popular day, with an average of about five people (Figure 35). Over 12 months, the most popular month, by a large number was October, with 342 people counted. This may be accounted for by the marathon that takes place toward the end of the month. Meanwhile, April was the next most popular, with 121 people counted over the course of the month. Finally, August was the least popular month, with 32 people counted on this section of the trail (Figure 36).

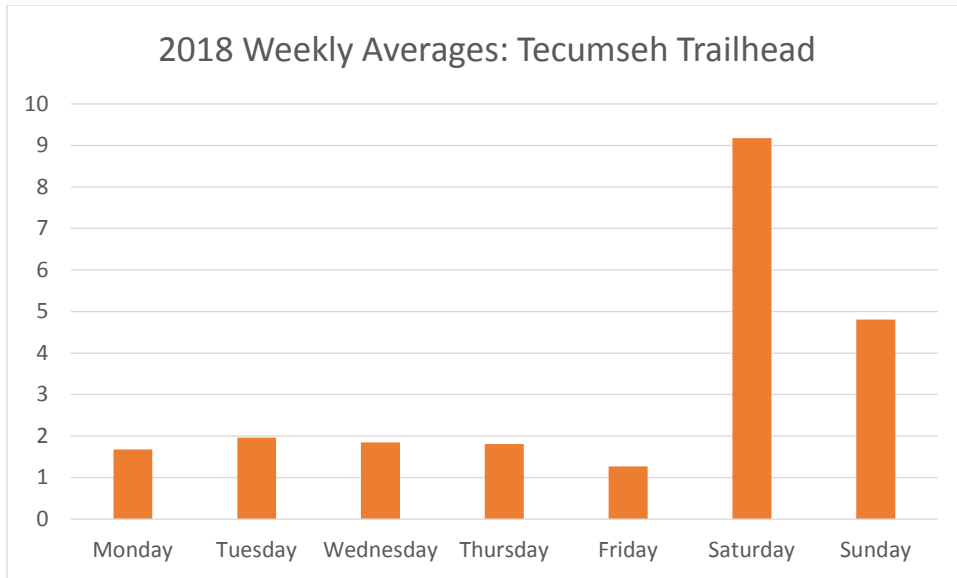


Figure 35: Average number of people recorded for each day of the week.

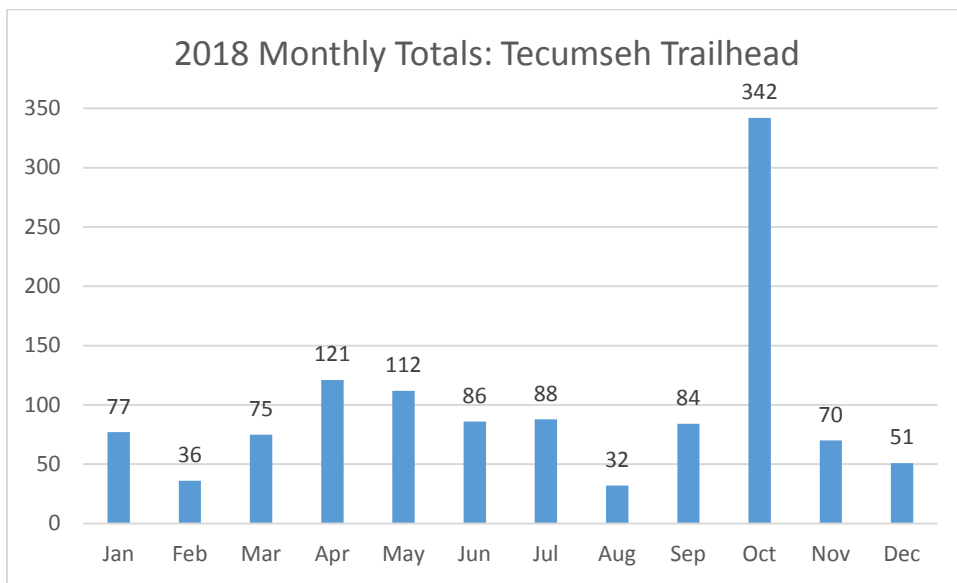


Figure 36: Total number of people recorded during each month.

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.

A total of 2,201 people were counted using the trail over the course of 365 days in 2018, an average of about six 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 37). Additionally, based on the patterns

shown in the numbers by month, more people used the trail during the fall than in any other season of the year, with October being the most popular month. February was the least popular month (Figure 38).

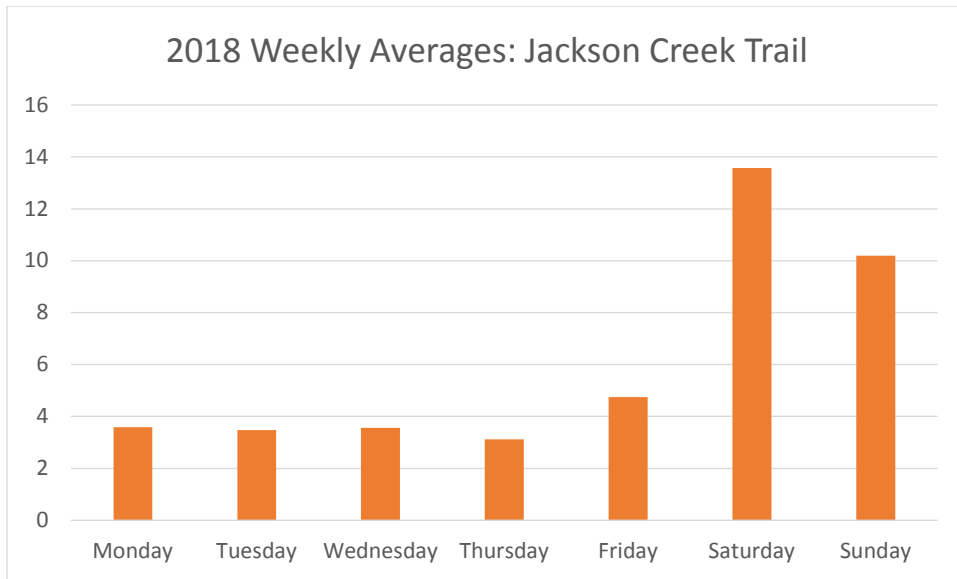


Figure 37: Average number of people recorded for each day of the week.

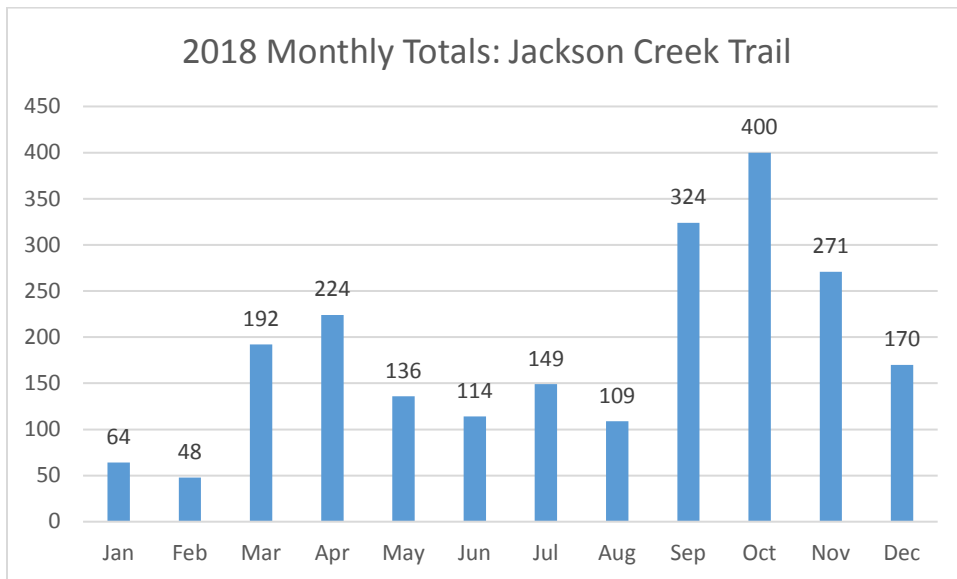


Figure 38: Total number of people recorded during each month.

Scarce O' Fat Trail

The Scarce O' Fat Trail is a 4-mile trail that spurs off of 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 2018 (365 days), 2,523 people were counted by the trail counter, making the average daily total about seven people. The weekends tended to be the most popular days, with an average of about 15 people on Saturdays and about 13 people on Sundays. A monthly view of the data shows that April, September, and

October were the months in which the trail was most heavily used. On the other hand, in January and February, the counter recorded the fewest numbers of people.

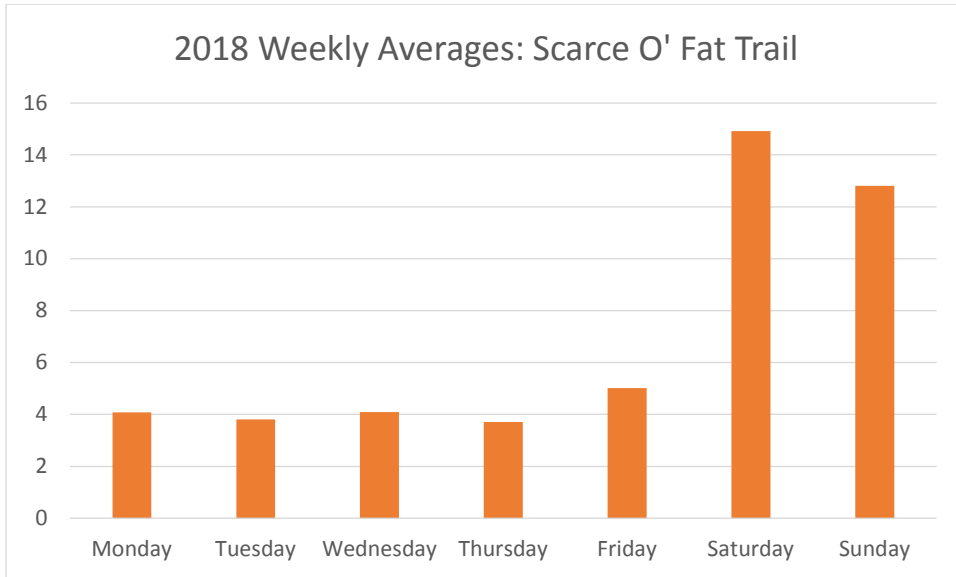


Figure 39: Average number of people recorded for each day of the week.

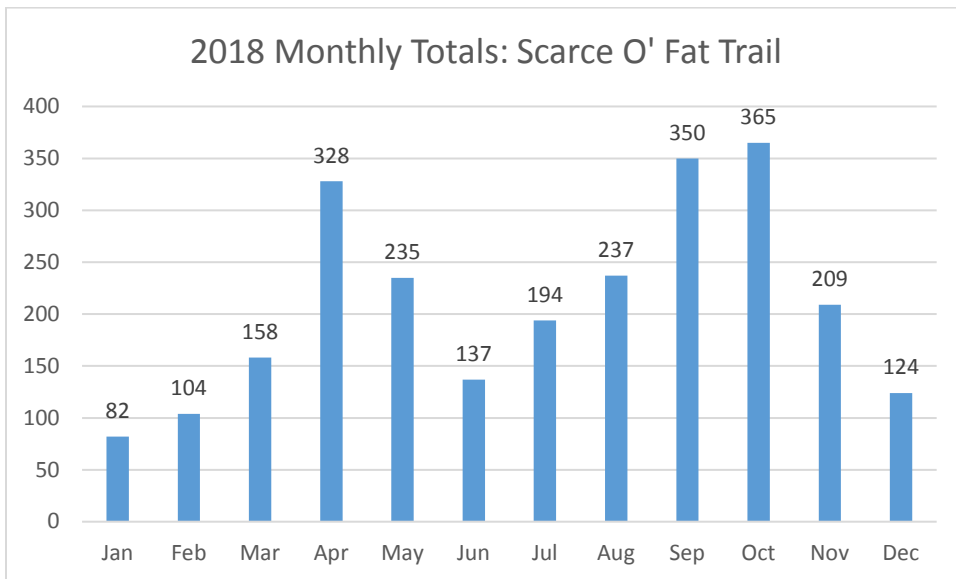


Figure 40: Total number of people recorded during each month.

Starve Hollow State Recreation Area

Starve Hollow Trail head

The Starve Hollow Trail head, located at the campground, is the starting point for the Starve Hollow Lake Loop as well as the other trails on the property. The trail counter was placed at the Starve Hollow Trail

head and over the course of 326 days, counted 5,310 people. Based on the number of people counted during 2018, about sixteen people per day used the trail. As was expected, in a week, most people used the trail on Saturday and Sunday, with Thursday being the day with the lowest average usage (Figure 41). Monthly, data for February and March were not available; however, the largest number of people used the trail between May and October, with October and July being the busiest months, and January and December being the least popular months (Figure 42).

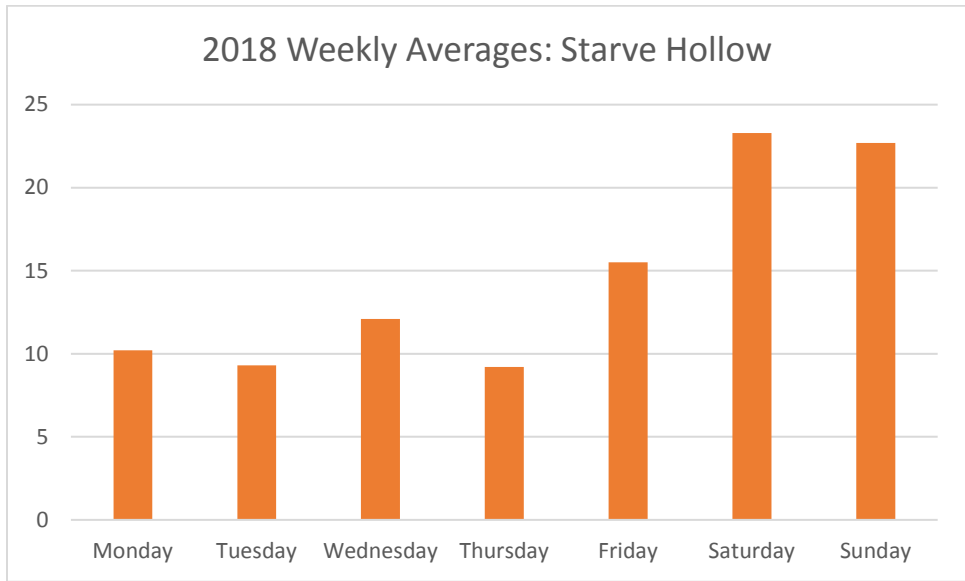


Figure 41: Average number of people recorded for each day of the week.

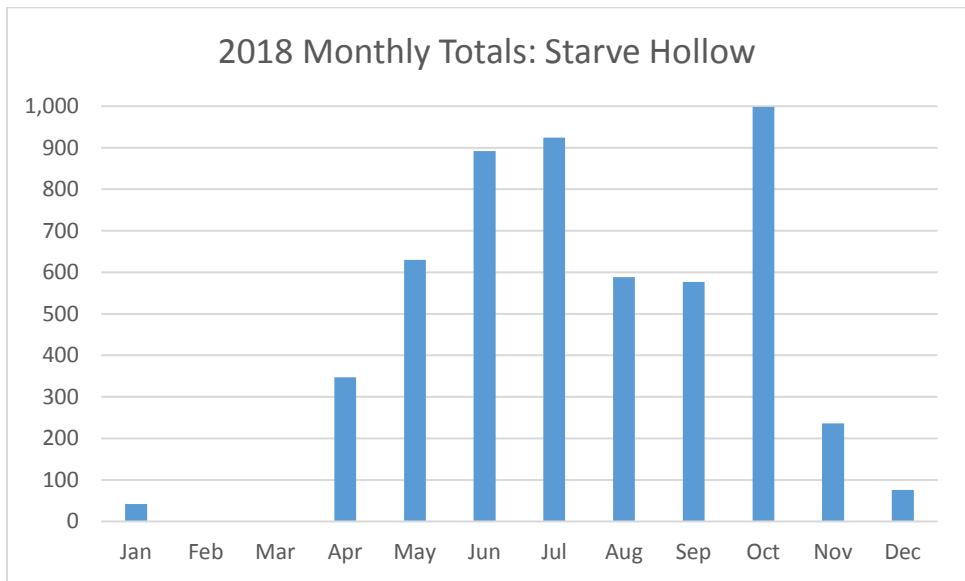


Figure 42: Total number of people recorded during each month.

Overview of All Trail Counters

Trail Counter Totals

Of the 28 trail counters placed along trails on state forest property, only 21 counters had enough data to be useful for analysis. Out of these, the counter with the highest levels of traffic (projected by multiplying the average daily total by 365 to account for counters with less than 365 days of data) was the Starve Hollow Trail head counter placed at the campground trailhead (5,945 people) followed by the Bear Lake counter on the Tecumseh Trail (3,625 people) (Figure 43). The significantly higher numbers produced by the Starve Hollow counter can be explained by its location at a trailhead in a campground. Additionally, both the Spurgeon Trailhead counter on the Tecumseh Trail and the Mason Ridge Trail counter had projected numbers over 3,000. Eight of the remaining counters had projected numbers over 2,000, including the Scarce O' Fat Trail and Jackson Creek Trail counters on the Tecumseh Trail; the Resource Management Loop counter in Yellowwood State Forest; the Rock Shelter Trail counter; the Three Lakes Trail counter; and the Leota Trailhead, Jackson Road Trailhead, and Deam Lake Trailhead counters on the Knobstone Trail. The Tecumseh Trailhead counter on the Tecumseh Trail, the Deam Lake Vista Trail counter, and the Deam Lake Loop counter all had projected numbers greater than 1,000 but less than 2,000. Finally, the Low Gap Tecumseh Trailhead counter on the Tecumseh Trail, the New Chapel counter on the Knobstone Trail, and all of the Adventure Hiking Trail counters (Old Forest Road, State Road 462, Pioneer Shelter, and Cold Friday Road) each had projected numbers less than 1,000, with the State Road 462 counter having the smallest amount at 456. For 2018, a total of 36,755 hits were recorded by the trail counters on the noted trails.

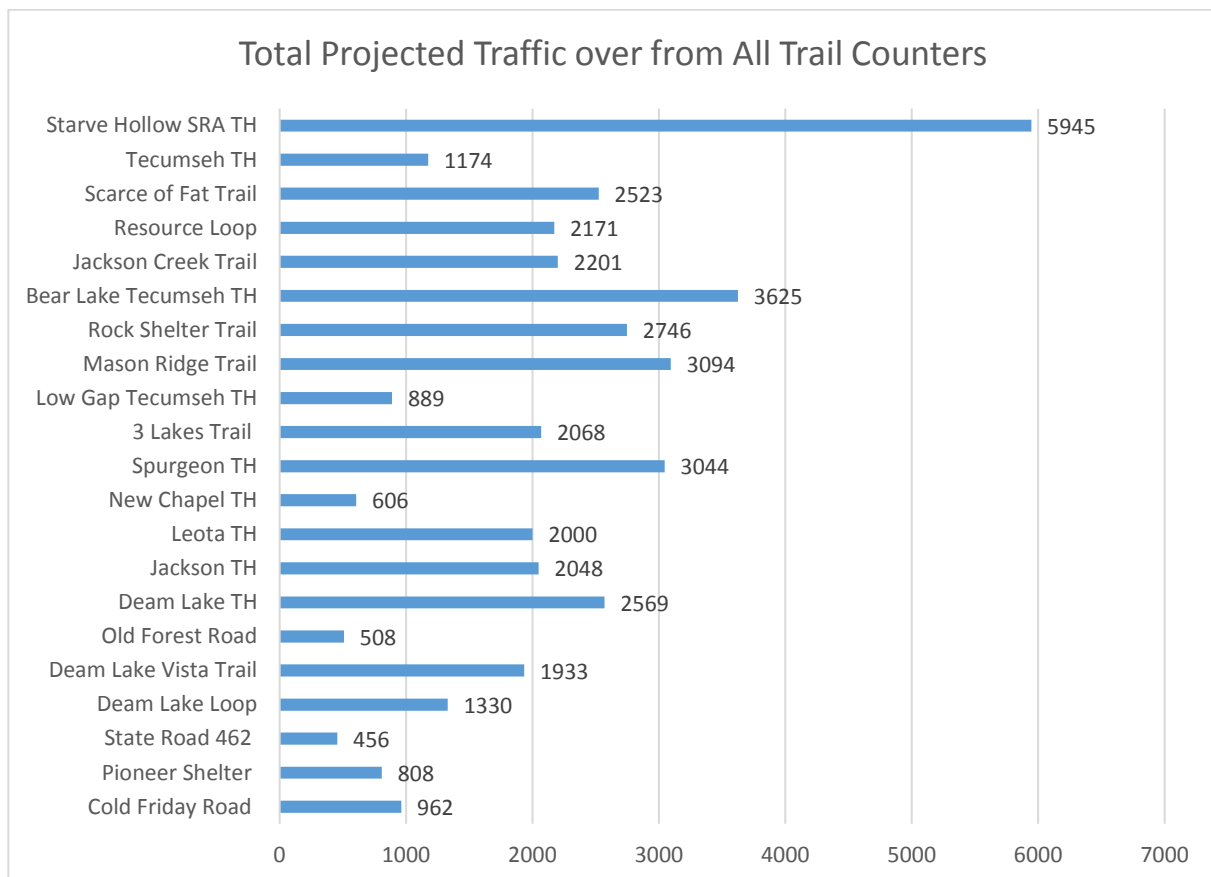


Figure 43: Projected totals for each trail counter.

Monthly Totals for All Trail Counters

After adding the monthly totals for each of the trail counters, late spring, early summer, and fall were the most popular times for trail use on state forest properties. October had the most traffic in 2018 with 5,886 people recorded. June and July also had good numbers, with 3,693 and 3,792 people recorded, respectively. However, looking at March, April, and May combined, it was clear that spring was the most popular time of the year for trail use. Alternatively, the months with the least amount of traffic (January, February, August, and December) indicated that people are less inclined to use the trails when the weather is very hot or very cold.

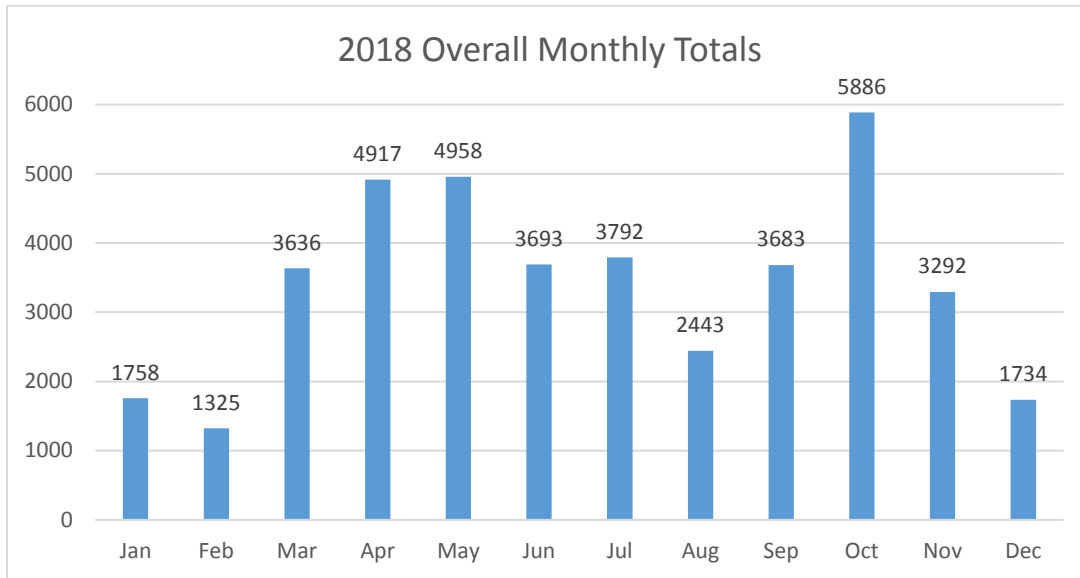


Figure 44: Sums of the monthly totals of all trail counters.

Appendix: Hiking Trail and Counter Locations Maps

Harrison-Crawford State Forest Adventure Hiking Trail and Counter Locations

Deam Lake State Recreation Areas Hiking Trail and Counter Locations

Ferdinand State Forest Hiking Trail and Counter Locations

Jackson-Washington & Clark State Forest Knobstone Hiking Trail and Counter Locations

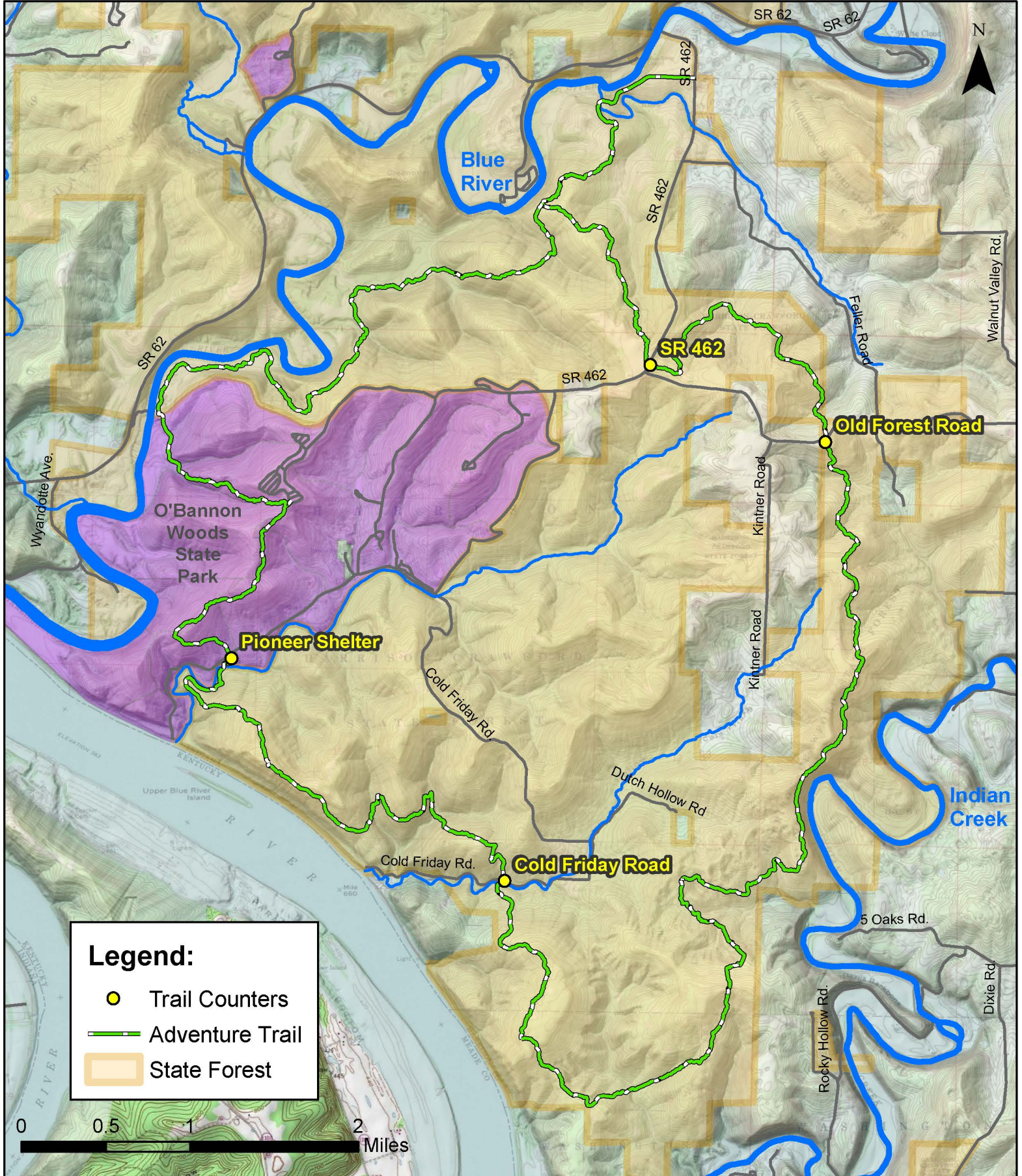
Morgan-Monroe State Forest Hiking Trail and Counter Locations

Salamonie State Forest Hiking Trail and Counter Locations

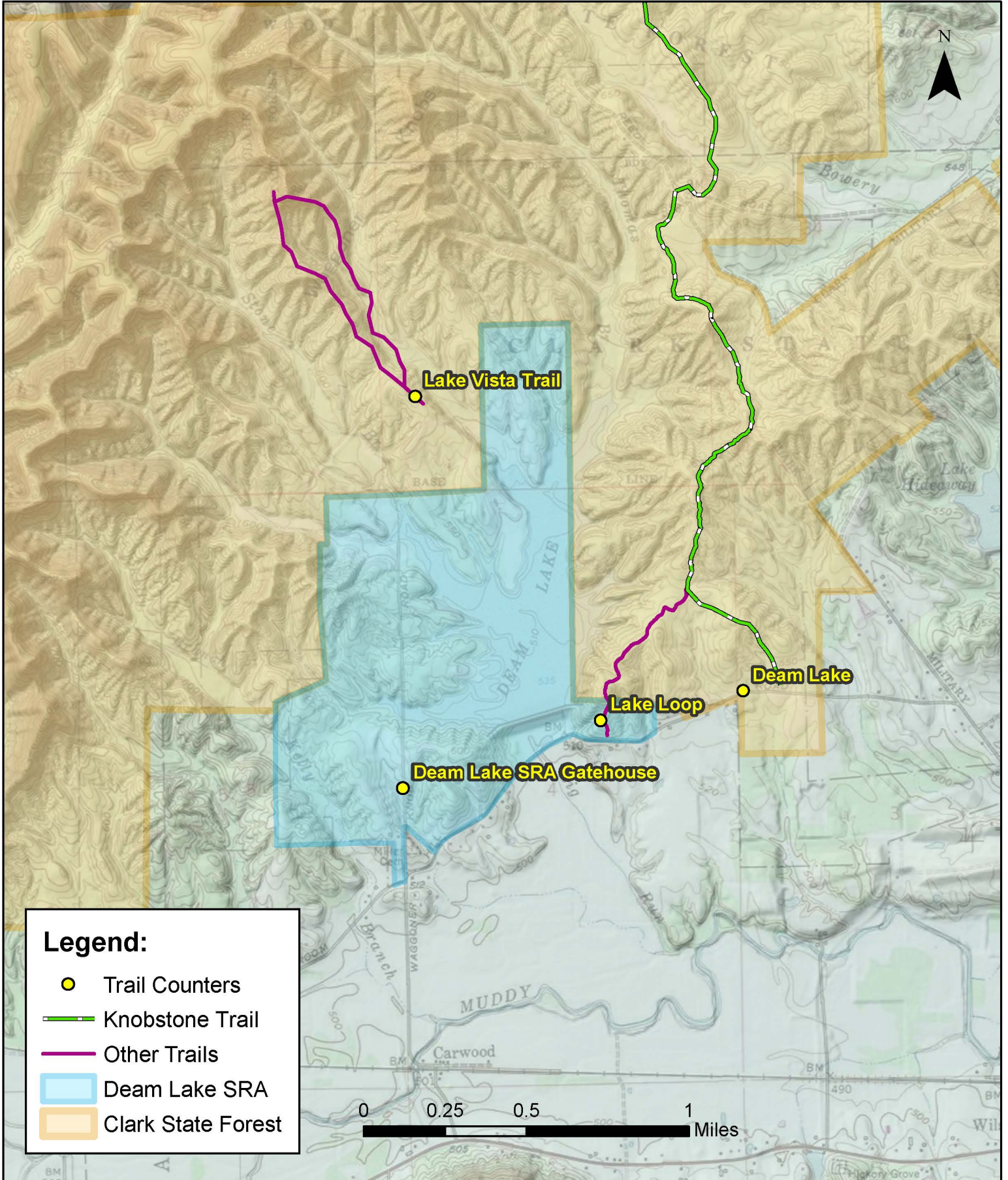
Starve Hollow State Recreation Area Hiking Trail and Counter Locations

Yellowwood State Forest Hiking Trail and Counter Locations

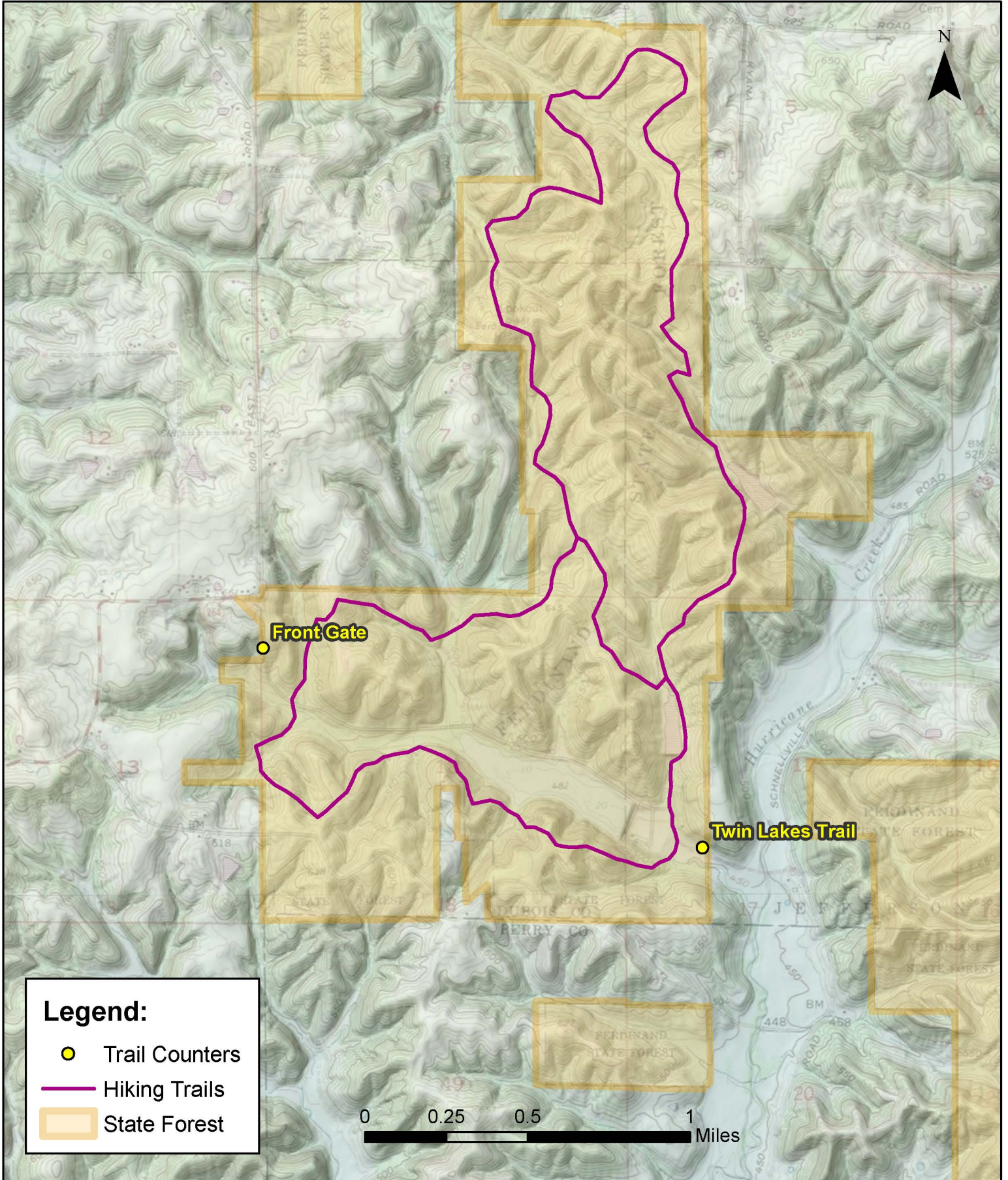
Harrison-Crawford State Forest Adventure Hiking Trail Counters



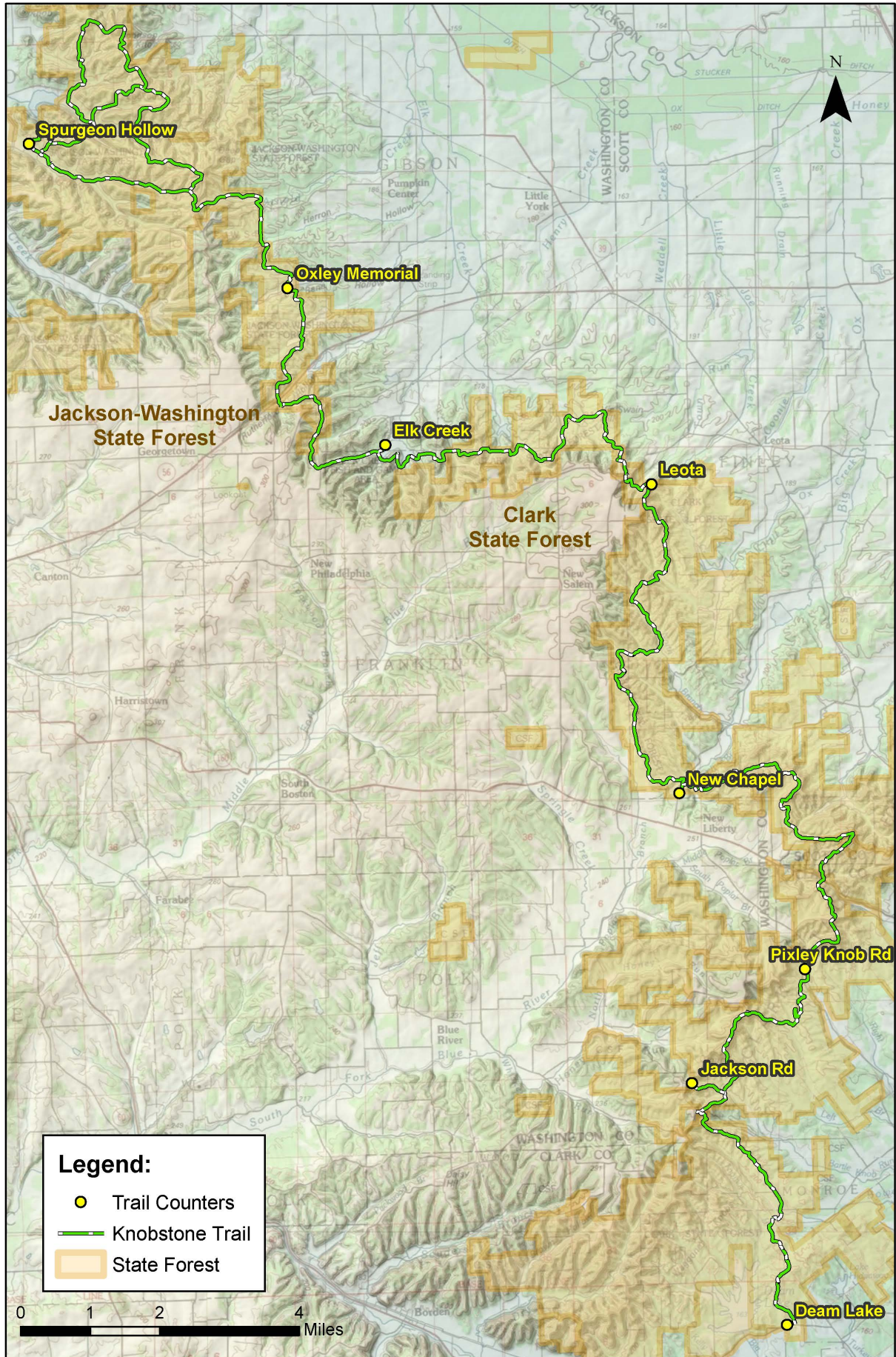
Deam Lake State Recreation Area Hiking Trail Counters



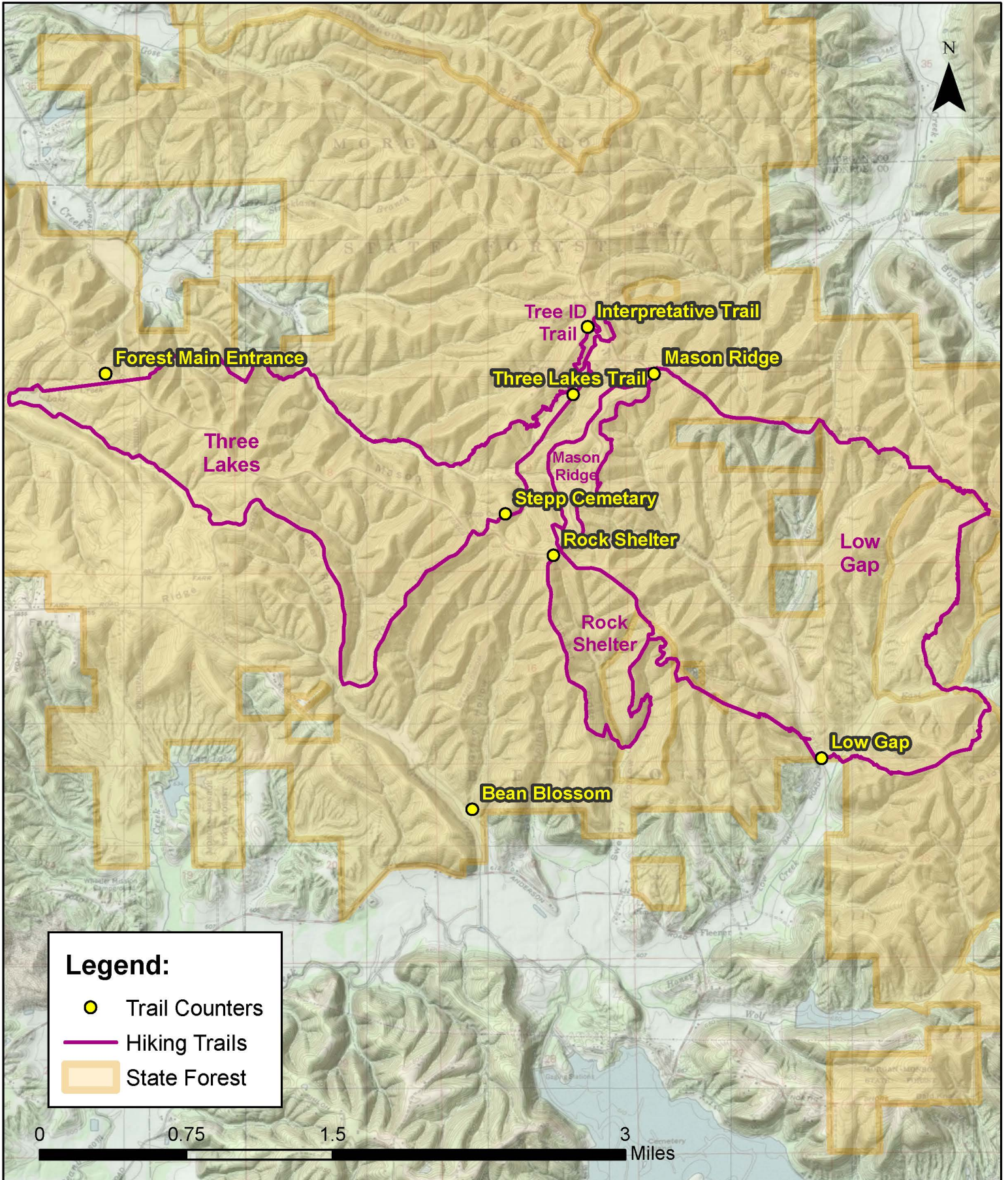
Ferdinand State Forest Hiking Trail Counters



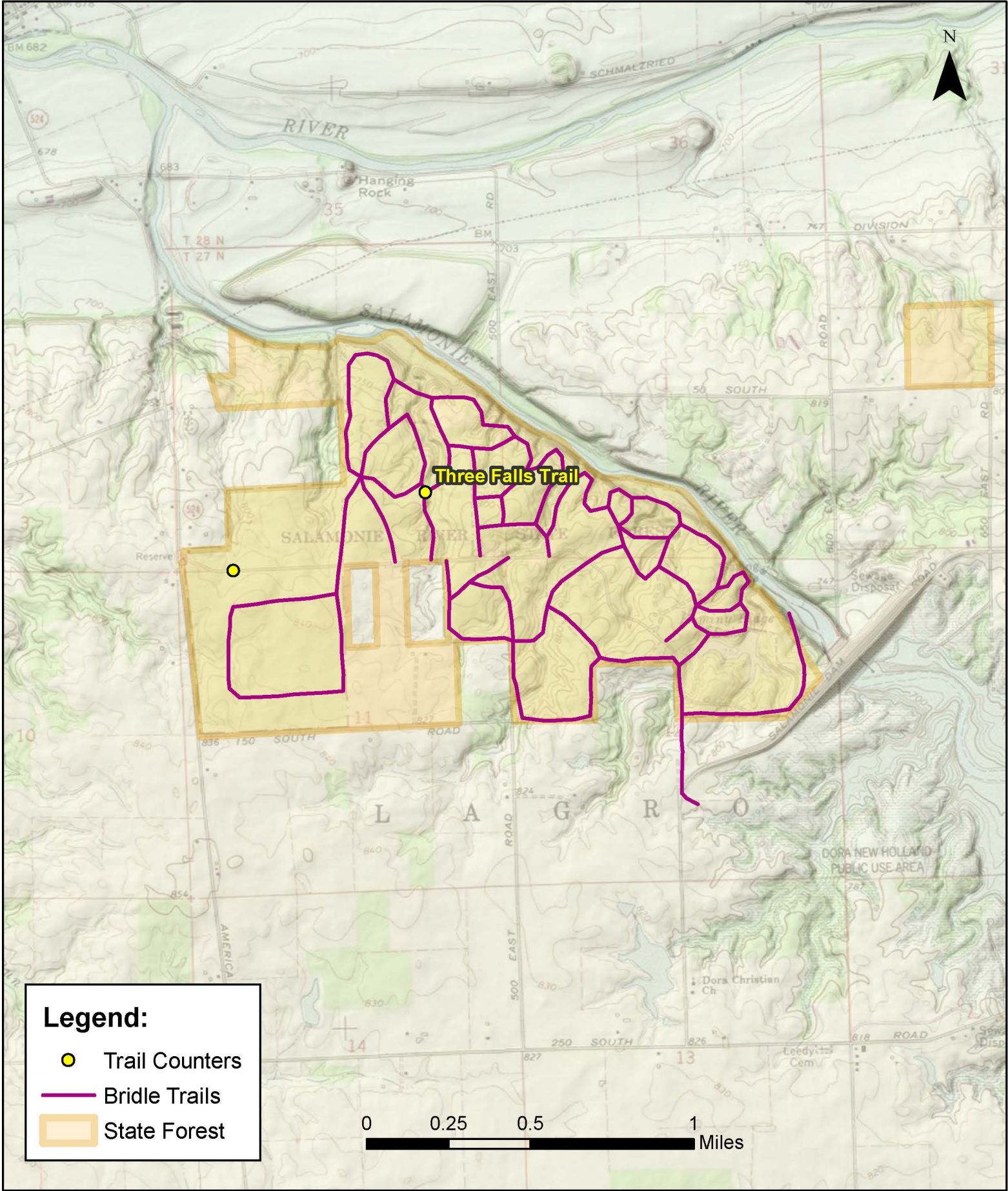
Jackson-Washington & Clark State Forests Knobstone Hiking Trail Counters



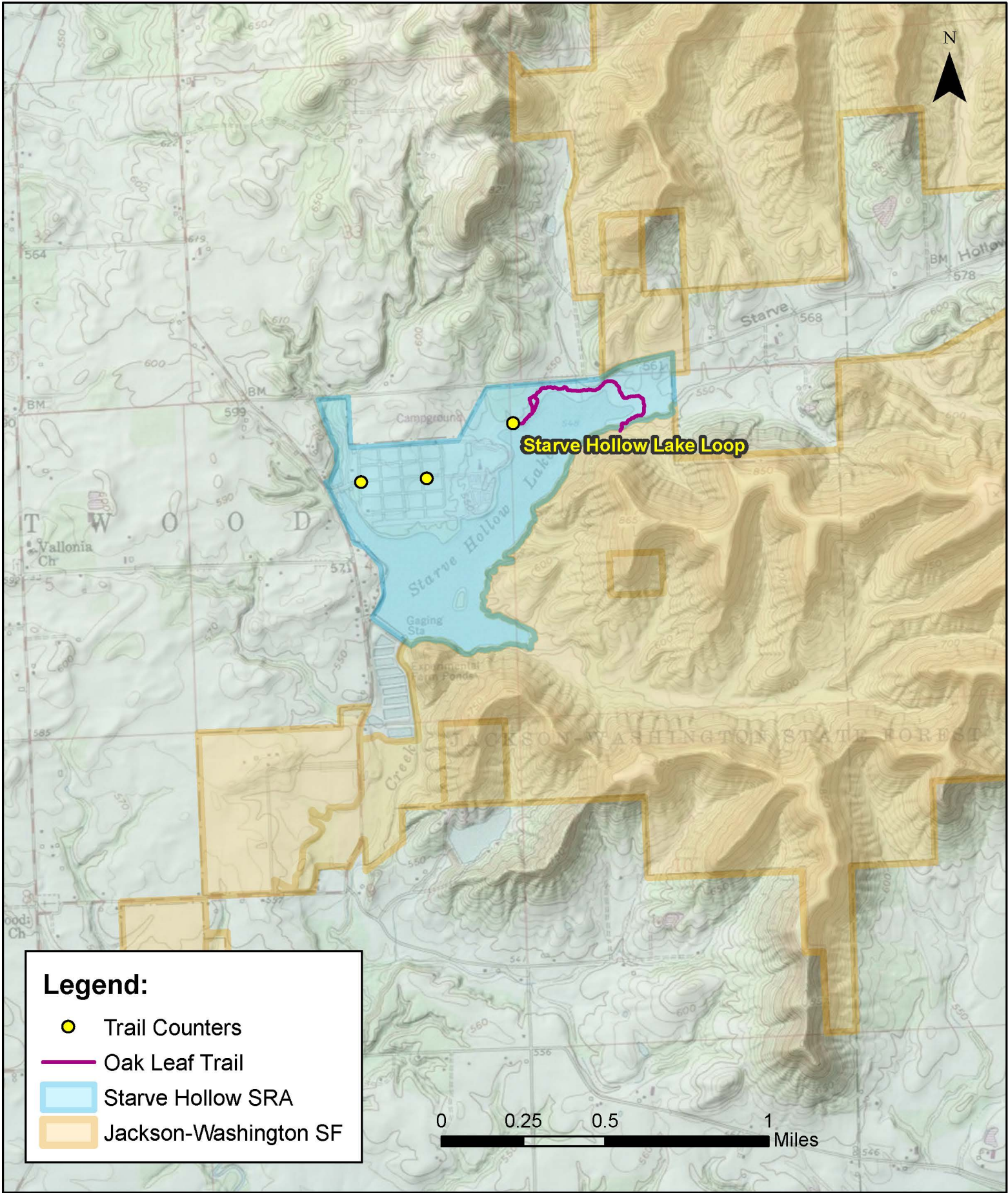
Morgan-Monroe State Forest Hiking Trail Counters



Salamonie State Forest Hiking Trail Counters



Starve Hollow State Recreation Area Hiking Trail Counters



Yellowwood State Forest Hiking Trail Counters

