

# The Wood River Trails Coalition's **TRAIL MONITORING PROGRAM**



**2022 End-of-Season Report**

# Introduction

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After a beautiful fall and great start to winter, we've reached the end of our trail monitoring program and field operations for the 2022 season. In just our second year of collecting trail use data, we were able to purchase 6 new trail counter devices, effectively doubling our fleet. We monitored 8 new locations in 2022 and collected over 1500 cumulative days of data. Our focus on ground truthing data increased, and we began to offer independent volunteer opportunities to support this data collection.

We now have trail use data for 24 locations, including 6 locations with back-to-back years of data. As we move forward, our focus for the Trail Monitoring Program is to continue collecting comparable times and locations of data, increase the precision of estimates for things like user-group breakdowns and number of user days, and continue to build the capacity of land managers and partner agencies to make data-driven decisions.

The trails in our valley are threads that stitch together the fabric of our community, in more ways than one. This free, public resource connects neighborhoods with forests, bikers with horseback riders, the human spirit with the mystery and grandeur of a vast ecosystem. WRTC is proud to be of service to this resource and our community, promoting stewardship of our trail network for all users. As the physical and social landscape of the Wood River Valley evolves, we will continue to support the resilience and vitality of the over 400 magical miles of trail that await just outside our back doors.

Ramble on, trail folk!

Emily Rodrigue  
Program Coordinator, Wood River Trails Coalition



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# 2022 Program Goals

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## GOAL #1: User Groups

Increase data precision for user-group breakdowns (Adams Gulch and Greenhorn Gulch trail systems).

## GOAL #2: Trail Use Patterns

Increase data precision for trail use patterns in longer, multi-access trail systems.

## GOAL #3: Better Data

Improve the accuracy of trail monitoring data and produce estimates with increased precision, compared to 2021.

# Partners and Support

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Effective partnerships are a key ingredient for success in fulfilling the WRTC mission. From the individual to the federal land management level, we believe in the impact of relationship-building, using funding transparently and intentionally, and leaning on local resources first.



The **Ketchum Ranger District/US Forest Service** is one of our most important partners for trail monitoring. Each winter, we work with Recreation Specialists to develop trail lists and monitoring plans that guide our summer operations. The KRD provides insight into which trails have needed additional/specialized maintenance (possibly indicating unusually high trail use), which areas are important to have yearly data for, and which future trail projects could benefit from up-to-date trail use metrics.



Both Summer Fellow Interns and staff members of the nonprofit **Environmental Resource Center in Ketchum** offered valuable human resources that allowed our data collection to expand beyond what the WRTC could do alone. ERC partners collected numerous days of both ground-truthing and parking lot count data for the Trail Monitoring Program in 2022, laying an important foundation as we build and utilize this database in years to come.



As the grateful recipients of grant-funding from the **SPUR Foundation**, WRTC was able to purchase an additional 6 trail counter devices and cover the full-time salary cost of a Program Coordinator to operate and manage our Trail Monitoring Program. This financial support catapulted 2021 monitoring operations into a program with expanded scope, increased data precision, and dedicated management.

# Methods and Tools in 2022



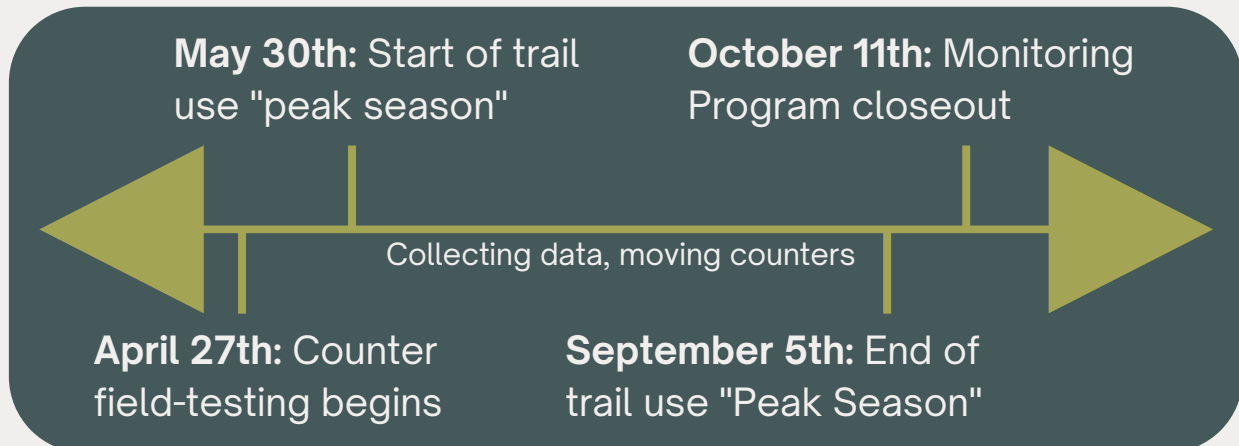
## 10 TRAFx Infrared Trail Counters

These counters record detections of all trail user types, in addition to a date and time stamp for each detection. They don't distinguish the type of user, nor the direction of travel. This is the same style of counter used by WRTC in 2021, and they are also the same devices used in the 2012 Wood River Valley Trail Study.



## 2 TRAFx Vehicle ("Bike") Counters

New to WRTC in 2022, this style of counter uses **metal-detecting capabilities to record detections of any wheeled trail traffic: mountain bikes, e-bikes, and/or dirt bikes.** By collecting data from the same location with a bike counter and an infrared counter simultaneously, we can compare data sets and create percentage breakdowns of wheeled vs. non-wheeled trail traffic.

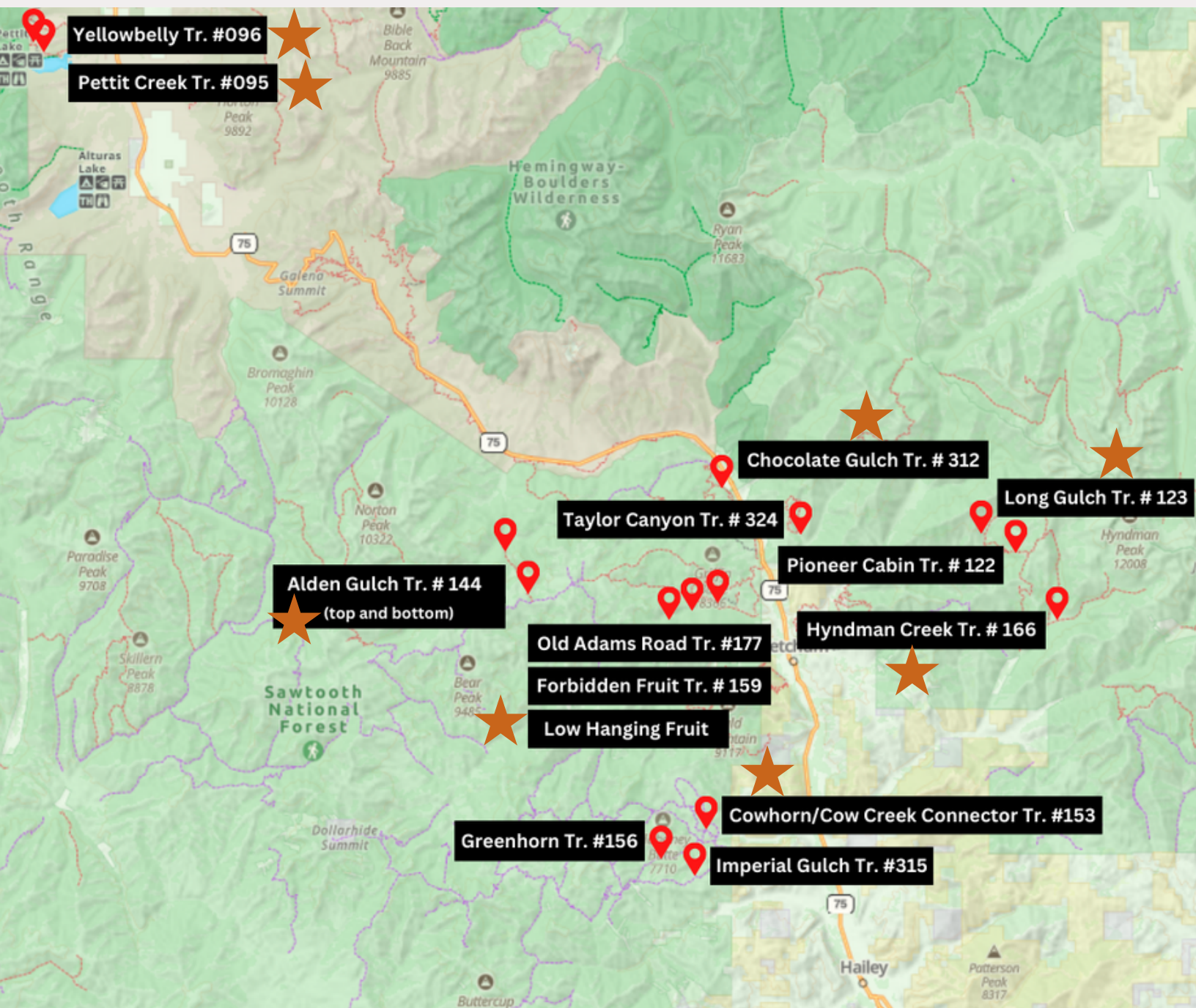


# 2022 Counter Locations

8 New  
Locations in  
2022  
(★)

1552  
Total Days  
of Data

24  
Locations  
Monitored  
to Date



Check out our [Trail Monitoring Resources](#) page for more info about 2021 counter locations

# Parking Lot Counts and Ground Truthing

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As outlined in our 2022 goals, we wanted to increase the precision and detail of trail use data being collected. Two methods used to address this included **collecting parking lot count and ground-truthing data.**

With human support from the ERC, we collected a random sampling of license-plate data from a variety of trail parking lots during the 2022 trail season. We noted the date, time, and location of recording, in addition to the Idaho vs. out-of-state plate designations.

While there are some factors that can complicate these counts (rental car plate locations, for example), some of the benefits of collecting this data include:

Helping assess balance between trailhead facilities and trail use

"Low-lift" means of collecting rough in-state vs. out-of-state trail user data

As WRTC's Trail Monitoring Program progresses each season, we hope to be able to use combinations of data sets to draw new conclusions and share a richer story of trail use in our community. Ground truthing is another data source that is guiding us toward new conclusions and deeper understanding.



# Ground Truthing:

Making direct, visual observations of trail use at trail counter locations



Comparing observation data to counter data

As our trail monitoring data is actively applied for decision-making and WRTC's program grows in scope, the importance of ground-truthing cannot be understated. There are both benefits and challenges to ground-truthing. These include:

## Benefits

- Helps assess equipment reliability
- Looks at the impact of dog detections on the data set
- Can provide detail on directionality of trail use and specific user group breakdowns

## Challenges

- Big time investment
- Requires a significant amount of data before statistically valid conclusions can be drawn

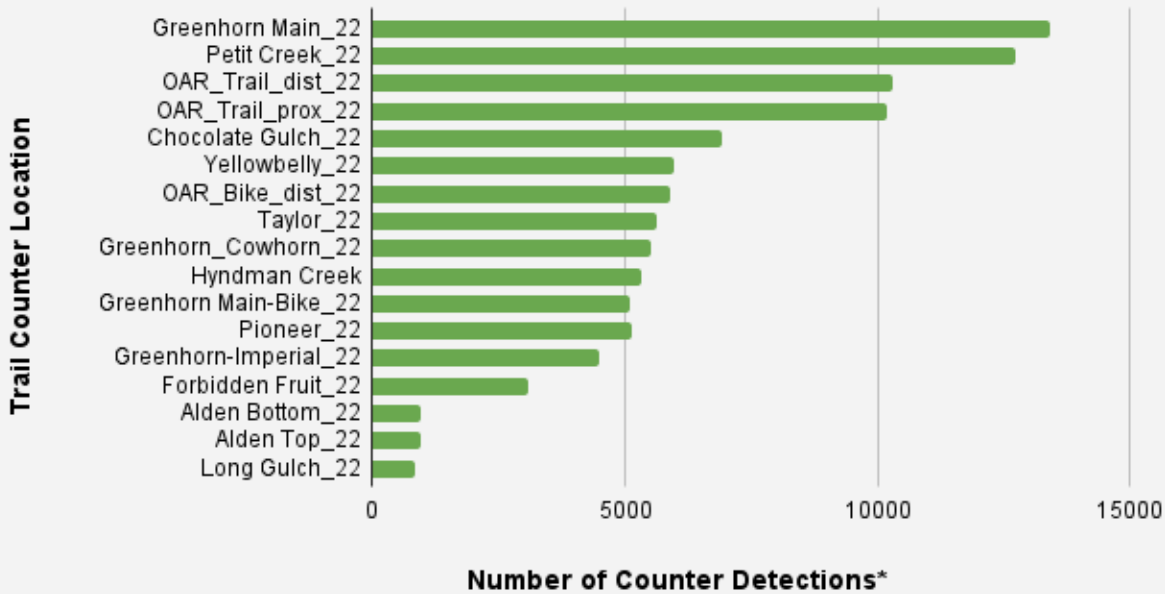
With the help of our partners at the Environmental Resource Center, in addition to members of our new Ground Truthing Volunteer Program in 2022, **we collected over 30 hours of ground truthing data** and laid a solid foundation for drawing new conclusions in the future. These conclusions could include things like the specific number of individual user days for complex, stacked-loop trail systems, user group breakdowns beyond wheeled vs. non-wheeled trail traffic, or even remotely estimating trail use using parking lot counts in the absence of trail counters. Follow along with us next summer as we expand on this work!

**Interested in getting involved with ground-truthing volunteer opportunities?**

**Send a message to [erodrigue@woodrivertrailscoalition.org](mailto:erodrigue@woodrivertrailscoalition.org) to learn more about becoming a ground-truthing volunteer in 2023!**

# 2022 TOTALS

## 2022 Peak Season Trail Traffic Totals



What do these totals represent?

Counter Location's Average Daily Traffic rate  
X  
100 Days in "Peak Season"

Sum of all locations' "Peak Season" totals

**=102,426 Counter Detections**

**2022 Peak Season**

Trail counters do not distinguish direction of travel. Trail users can choose to travel "out and back" or loop on sections of trails. This affects how we calculate the number of individual users from our data. Using your own understanding of trail use, consider these estimates for 2022 Peak Season trail user days.

For a more detailed explanation of this concept and these estimates, please refer to the Appendix.

## Estimating User Days from Detection Totals

### Low Estimate

80% of detections="out and back" travel

**61,455 trail user days**

### Mid Estimate

50% of detections="out and back" travel

**76,819 trail user days**

### High Estimate

20% of detections="out and back" travel

**91,183 trail user days**

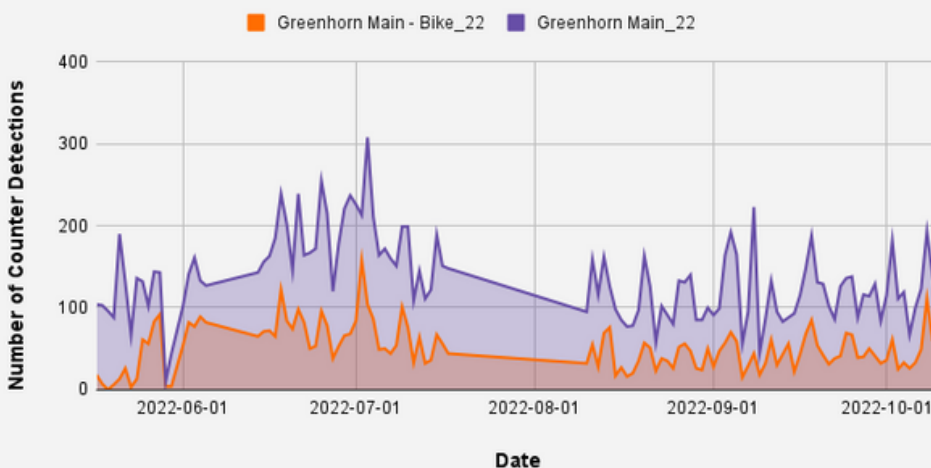
# NEW TECHNOLOGY

# NEW UNDERSTANDINGS

In 2022, we purchased 2 new "bike" counters to supplement our infrared counters and monitor trail use. By combining data sets from both counter types, we are able to track the proportions of user groups at certain locations.

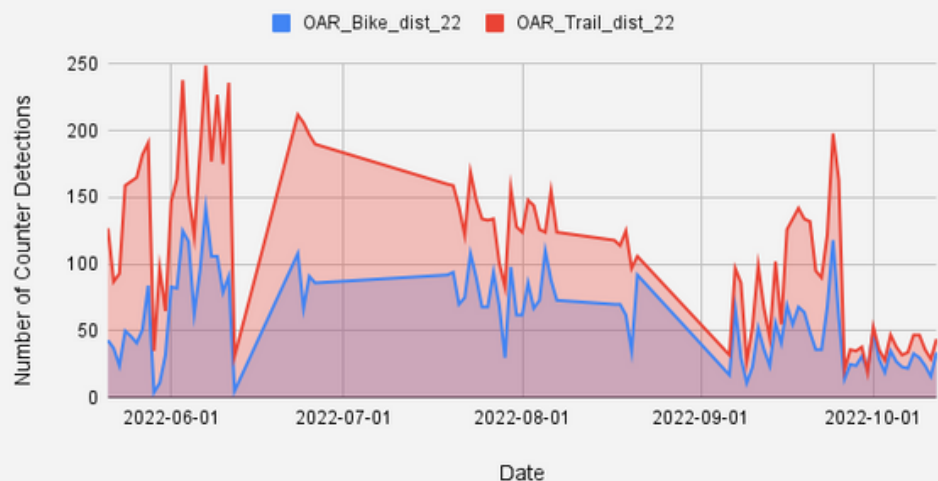
## Wheeled vs. Non-wheeled Trail Traffic in 2022

Proportion of Bike Traffic vs. All Trail Traffic - Greenhorn 2022



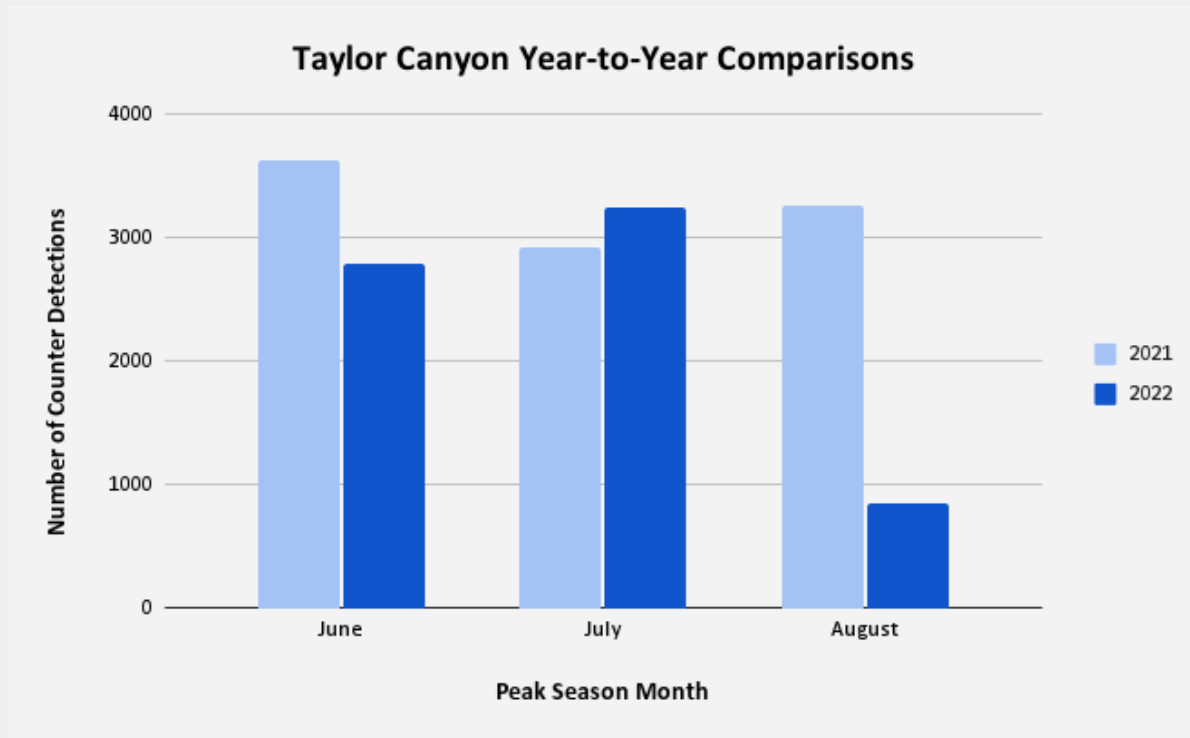
**Bike traffic = 37%**  
(avg) of all trail traffic  
on **Greenhorn Tr.**  
**#156** in 2022

Proportion of Bike Traffic vs. All Traffic - Old Adams Road 2022

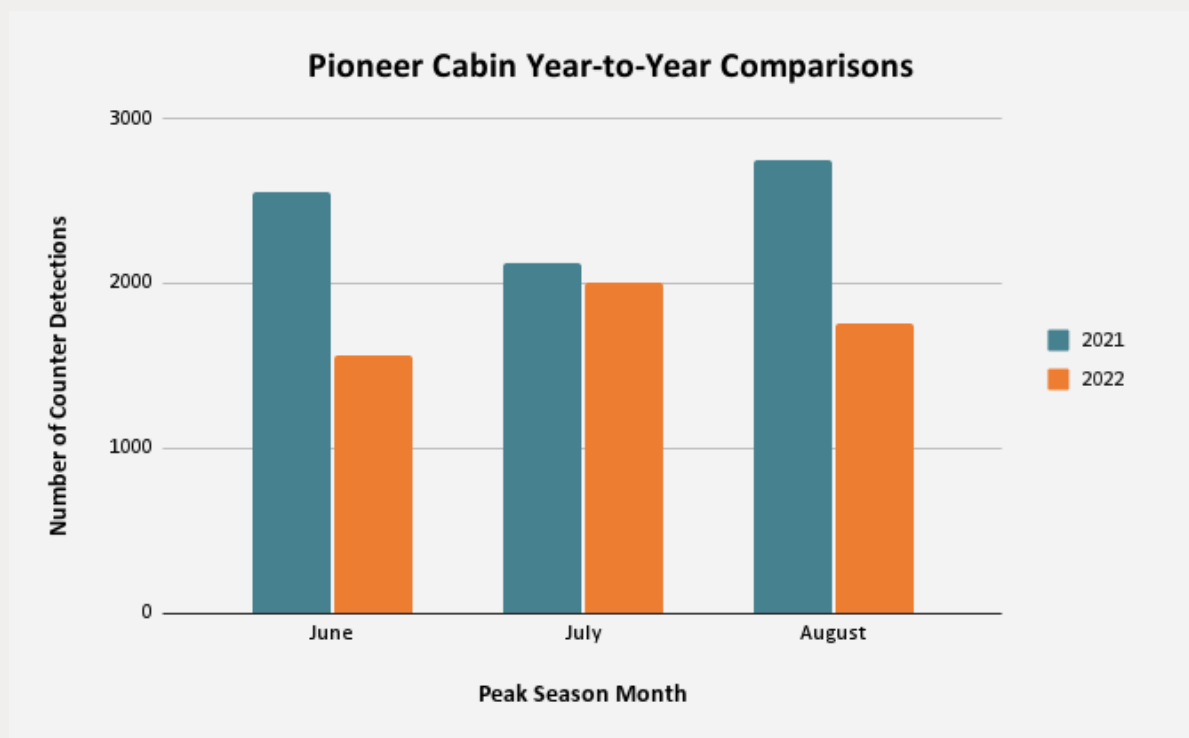


**Bike traffic = 54%**  
(avg) of all trail traffic  
on **Old Adams Road**  
**Tr. #177** in 2022

# YEAR TO YEAR COMPARISONS



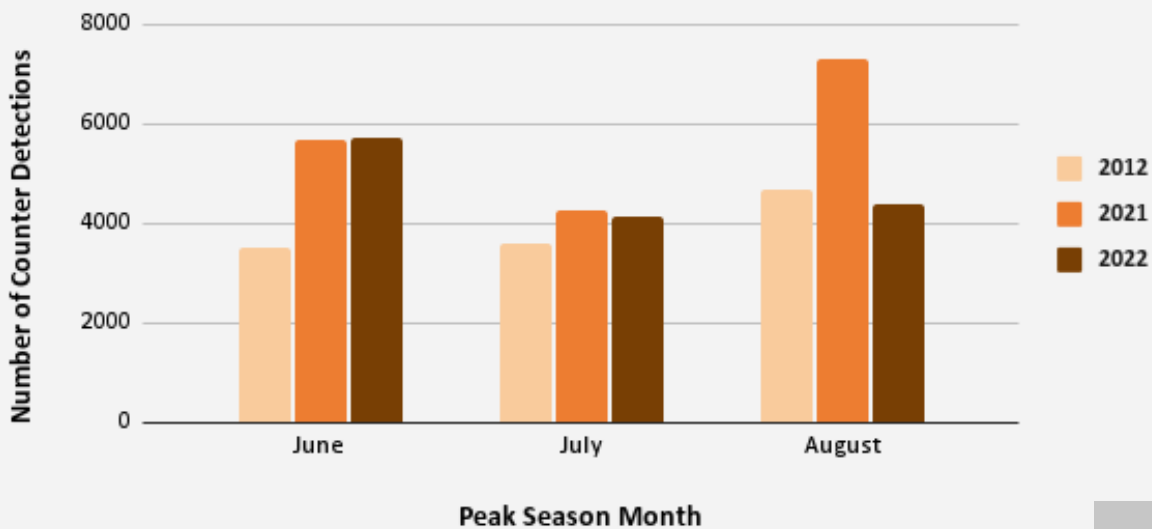
Both Taylor Canyon and Pioneer Cabin were monitored in 2021 and 2022.



# Year to Year Comparisons (cont'd)

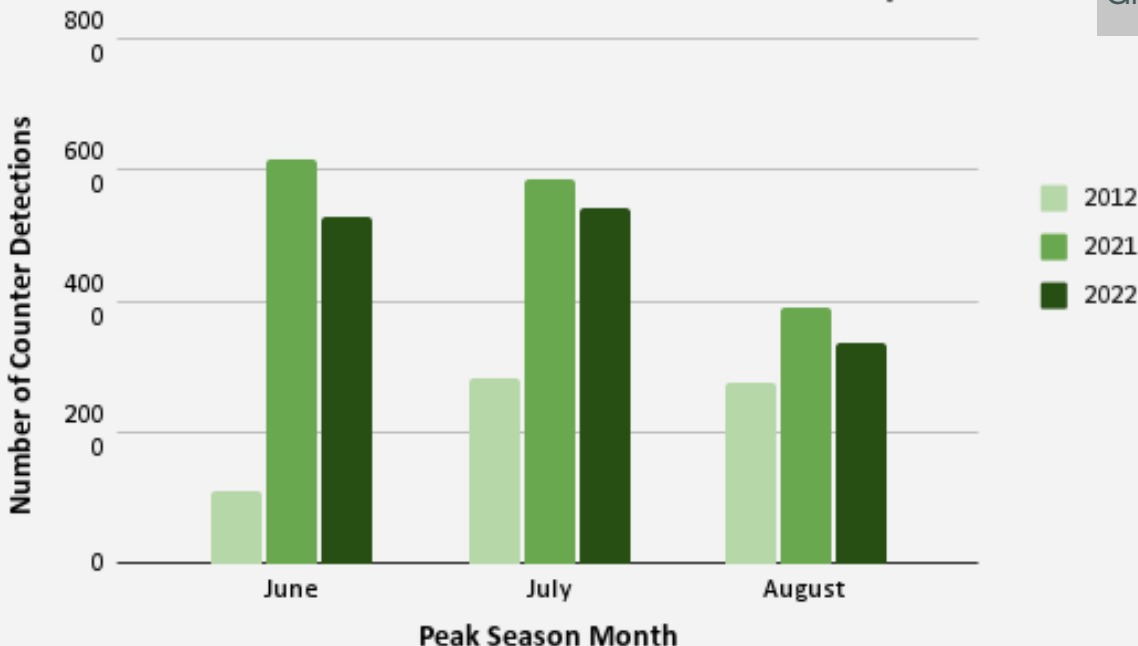
In 2012, a similar trail use study was conducted by Blaine County Recreation Department and Sun Valley Economic Development. This study used the same kind of trail counters to collect trail use data, which provides us with valuable insight into how trail use levels have evolved after 10 years.

### Adams Gulch\* Year-to-Year Trail Traffic Comparisons



\*Only includes data from Old Adams Road and main Greenhorn (#156)

### Greenhorn\* Year-to-Year Trail Traffic Comparisons



# LOOKING TO THE FUTURE

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As we approach 2023 and our third year of trail monitoring, we remain committed to expanding our trail use data set, improving the accuracy of our user day estimates, and providing a valuable resource for recreation managers to engage in data-driven decision-making.



Above all, we will continue to ensure that the Trail Monitoring Program is helping to **create, maintain, and sustain our trail network for all users.**

## Action Items for 2023:

Expand and solidify our ground-truthing data and volunteer network

Explore opportunities for creating interactive maps/applications that visualize trail use data

Create a 1-3 year monitoring rotation schedule to ensure data comparability and continuity

# APPENDIX

## Direction of travel and user day totals

Each trail user is unique in the way they navigate the trail system. Depending on the style and configuration of a trail, they may choose to travel "out and back" on the same trail, or they may complete a loop. Remembering that trail counters cannot distinguish direction of travel, a single "out and back" user would be counted twice, whereas a loop user would be counted once.

In some cases, trail design and/or travel restrictions only allow users to travel one-way. The Forbidden Fruit trail is an example of a single-direction trail. In this case, we can generally conclude that one detection = one individual day.

As we expand our ground-truthing data collection, we will be able to apply our observation counts to the counts collected by our trail counters and develop totals wither greater detail and accuracy.

For trail use data on specific locations, presentation recordings, and results from our 2021 monitoring, please visit:

<https://woodrivertrailscoalition.org/resources>