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INTRODUCTION

The Tahoe Rim Trail Association

The Tahoe Rim Trail Association was founded in 1981 to address a growing need for recreational access in the Tahoe Basin. For the first 20 years of its operations, the

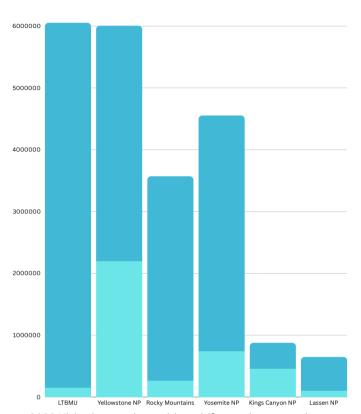
organization focused on completing a multi-use loop trail around the ridgeline circling Lake Tahoe. In 2001, the initial 165-mile Tahoe Rim Trail (TRT) loop was completed, meandering through Tahoe's iconic landscape and world-class outdoor destinations.



Today, the initial loop has expanded into a 200-mile Tahoe Rim Trail System that connects people to the outdoors on world-class trail open to hikers, bikers, and equestrians. The work of the Tahoe Rim Trail Association has evolved with the TRT as the organization focuses on protecting the trail and inspiring stewardship of recreational resources. More than just a trail-building organization, the Tahoe Rim Trail Association serves as a hub for education, recreation, and conservation efforts. From organizing guided hikes and outdoor workshops to spearheading initiatives for land protection and ecological restoration, the TRTA works to ensure the responsible enjoyment of the outdoors while safeguarding the natural resources that make the Tahoe region so special. The mission of the TRTA is to maintain and enhance the Tahoe Rim Trail system, practice and inspire stewardship, and preserve access to the natural beauty of the Lake Tahoe region.

Visitor Use Management Program

For many years, the TRTA's mission included promoting the use of the newly created Tahoe Rim Trail. Those efforts were wildly successful, and the use of the Tahoe Rim Trail has grown exponentially. Since 2001, millions of users from the region and around the world have enjoyed the trail. The Lake Tahoe Destination Stewardship released in June of 2023, reported that an estimated 17 million people visit the Tahoe Basin annually. The report states, "To put this into perspective, the region's land mass is roughly one-third the size of Yosemite National Park, yet receives approximately three times the amount of visitation." Visitation to the Lake Tahoe Basin Management Unit (LTBMU), in which the majority of the TRT travels, is estimated at over 5.9 million annually, and drilling down further, the TRTA estimates that the Tahoe Rim Trail has more than 690,000 annual users.



Size in Acres Annual Visitation

7000000

2020 Visitation numbers with park/forest size comparison

Forest	National Forest Visits*		Site Visits†	
	Visits (1,000s)	90% Confidence Interval (%)‡	Visits (1,000s)	90% Confidence Interval (%)‡
Angeles NF	3,636	16.1	4,376	15.2
Cleveland NF	641	17.0	744	15.7
Eldorado NF	899	11.7	1,128	11.0
Inyo NF	2,530	13.6	5,495	12.9
Klamath NF	145	22.6	187	21.6
Lake Tahoe Basin Mgt Unit	7,721	23.2	9,402	22.3
Lassen NF	269	23.5	323	21.3
Los Padres NF	938	12.7	1,348	10.6
Mendocino NF	254	19.4	317	19.0
Modoc NF	115	51.8	155	45.5
Plumas NF	357	22.3	403	21.6
San Bernardino NF	1,941	9.6	2,221	9.4
Sequoia NF	626	35.5	960	25.4
Shasta-Trinity NF	1,039	18.4	1,496	16.1
Sierra NF	726	20.9	1,312	19.5
Six Rivers NF	185	33.7	273	30.0
Stanislaus NF	971	27.6	1,571	22.7
Tahoe NF	1,660	17.8	1,831	17.5

^{*} A National Forest Visit is defined as the entry of one person upon a national forest to participate in recreation activities for an unspecified period of time. A National Forest Visit can be composed of multiple Site Visits.

[†] A Site Visit is the entry of one person onto a national forest site or area to participate in recreation activities for

This high level of recreational use creates a host of challenges to protect the landscape and the trail user experience. The Tahoe Rim Trail Association has responded to this need by creating a Visitor Use Management Program to monitor use levels on the TRT and address the impacts of trail users on recreational infrastructure and other users. The Tahoe Rim Trail Association has been monitoring the use of the Tahoe Rim Trail since 2007 through a growing system of infrared counters, bike counters, user intercept surveys, and trail user counts. The TRTA's goal with this data collection is to inform smart management decisions that the



organization can recommend to land managers. The TRTA monitors and evaluates a wide array of visitor use management concerns, from how user arrive at trailheads to how they cross highways within the TRT System. As the organization continues to evaluate the data procured from these monitoring efforts, the impacts of overnight users on the trail has stood out as a priority to address because of both the significant negative environmental impacts monitoring has revealed and the availability of potential solutions some of which can be implemented in the short-term.

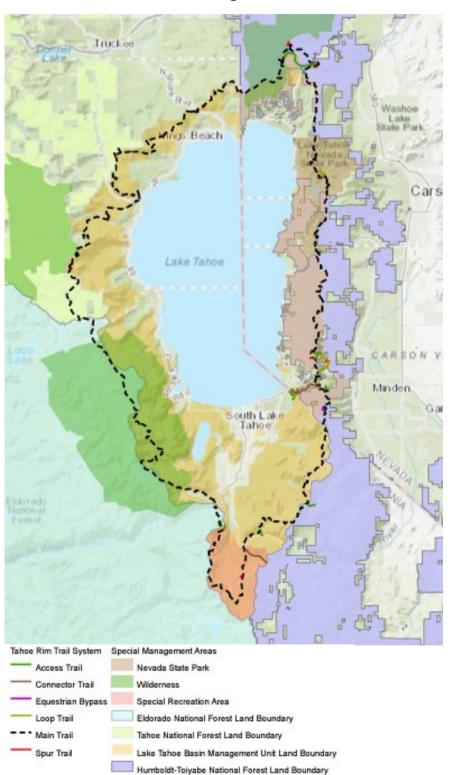




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CURRENT CONDITIONS

The Tahoe Rim Trail wanders 176 miles (give or take depending on project work) around the Tahoe Basin crossing through both California and Nevada; four national forests:



the Lake Tahoe Management Unit (LTMBU), the Eldorado National Forest, the Tahoe National Forest, the Humboldtand Toiyabe National Forest (HT); three wilderness Desolation areas: Wilderness, Granite Chief Wilderness, Mt. Rose Wilderness; one state park: Lake Tahoe Nevada State Parks (LTNSP); one special management area: Meiss County Roadless Area; and six counties: Douglas, County of Carson City, Placer, Washoe, Dorado, and Alpine. The loop trail is designated as National Recreation a Trail and the approximately 50 miles of trail co-located with the Pacific Crest Trail are designated as a National Scenic Trail. Needless to there sav, are many different stakeholders regulations impact the trail and its users.

Management decisions for the Tahoe Rim Trail are generally formalized as follows:

- LTBMU: Within the Tahoe watershed on USFS Land
- HT: Outside the Tahoe Basin in Nevada on USFS Land
- LTNSP: Within Lake Tahoe Nevada State Parks
- LTBMU/Eldorado National Forest: Desolation Wilderness

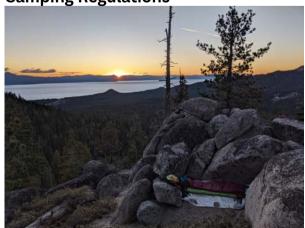
The trail is open to nonmotorized including users hikers, bikers, and equestrians. Bikes are prohibited recreating in wilderness areas, on the Pacific Crest Trail, and a short segment of trail north of Spooner Summit to Hobart Class-1 Road. e-bikes allowed on the TRT on bikeable sections of Nevada State Parks only. A few short segments prohibit equestrians for safety reasons.



As much as possible, these various jurisdictions attempt to create regulations that can be implemented throughout the entire system. Where there are differences in regulations, the TRTA messages to users these differences. If users won't be able to easily differentiate while on the trail which jurisdiction they are in, the TRTA promotes the more conservative regulation.

Below are details on current conditions for the TRTA's three main focus areas for visitor use management: Camping Regulations, Overnight User Impacts, and Human Waste.

Camping Regulations

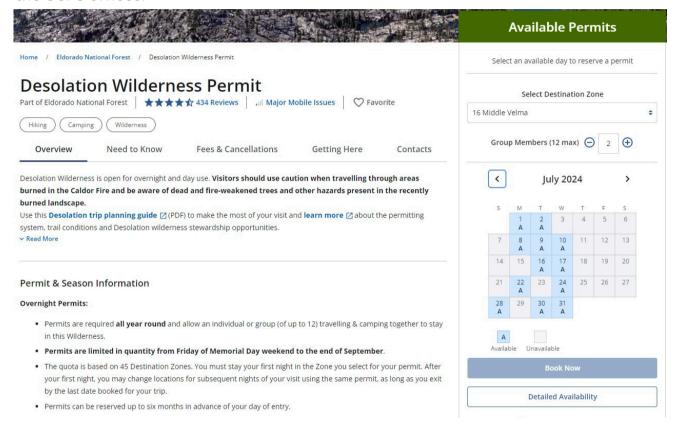


Dispersed Camping Site on the Tahoe Rim Trail

There are three main regulations for overnight users on the Tahoe Rim Trail based on land ownership or wilderness designation. On the Tahoe Rim Trail outside of Desolation Wilderness and LTNP, users may disperse camp within 300 feet of the Tahoe Rim Trail. No fees or reservations are required.



Overnight users in Desolation Wilderness are required to have a permit. There are two types of overnight permits for Desolation Wilderness – A regular Desolation Wilderness Permit (for non-thru hikers) and a TRT Thru-Hike permit (for thru-hikers). Non-thru hiker Desolation Wilderness Permits are issued for 45 different zones through a quota system for a fee and can be reserved through recreation.gov up to six months in advance. 30% of the quote is available in person on the day of entry at the USFS offices.



Desolation Wilderness Permits through Recreation.gov



TRT Thru-Hike permits are free and issued by the LTBMU Supervisors Office by calling or visiting the office within seven to ten days of a user's trip into Desolation Wilderness. These permits require users to camp within 300 feet of the TRT. They also provide more flexibility on entry dates and do not impact quote numbers established in the Desolation Wilderness Management Plan.



Finally, users entering Lake Tahoe Nevada State Parks must camp in designated campgrounds. The Marlette Peak campground is adjacent to the trail and the North Canyon Campground is within 1.5 miles of the trail. Both designated campgrounds are fee, first-come-first-served, and have pit toilets and bear bins.



Designated campsite at Marlette Peak Campground

Overnight User Impacts

These camping regulations are relatively easy to navigate for users and create a very unique situation for recreational destinations in which no limits are put on the number of overnight campers. Even within Desolation Wilderness, thru-hiker permits do not have a limit. When considering the large recreational ecosystem this freedom falls within, it is both an opportunity and a major challenge.

The Tahoe Rim Trail often lands on many 'best-of' lists for hiking, biking, and backpacking. Often it is joined by a host of other recreational hotspots such as the John Muir Trail, Rae Lakes Loop, Half Dome Trail, Mt. Whitney Trail, Point Reyes National Seashore Backcountry, and Big Basin. The main difference is that these locations have reservation systems limiting use or, at a minimum, designated camping locations to concentrate impacts on more sustainable locations. Without these systems in place, the Tahoe Rim Trail is available to connect users to the outdoors when many other locations require significant pre-planning. Unfortunately, this incredibly high use can lead to negative environmental effects.

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Water availability is a major factor for trail users when determining where they plan to overnight on the TRT. Popular camping locations have access to water and the TRT's most popular and concentrated camping locations are adjacent to alpine lakes. The two locations where the TRTA has observed significant camping impacts outside of Wilderness Areas are Star Lake and Showers Lake.



Star Lake at Moonrise

Both of these lakes fall within the LTBMU's dispersed camping requirements to be within 300 feet of the Tahoe Rim Trail. Leave No Trace principles and TRTA educational efforts also dictate that users camp at least 100 feet from trails and 200feet from water sources. This creates a narrow corridor for overnight users to utilize while still staying within these lake basins. The dispersed camping strategy works on the assumption that users will utilize a site to camp for a night which will not be continually reused, allowing the vegetation to recover and avoiding compacted soils and other negative impacts. Therefore, campsites aren't userestablished. Unfortunately, monitoring at both Star and Showers Lakes reveals that this is not the case. 16 campsites have been user-established at Star Lake and 25 have been user-established at Showers Lake. For the TRTA's purposes, userestablished campsites are sites in which vegetation is gone and soil is compacted marking an obvious location where users are staying. In addition, shoreline impacts have also been observed with two user-established campsites on the shoreline of the Star Lake and an additional four user-established sites impacting vegetation within 100 feet of the lake. At Showers Lake, two large user-established campsites were observed on the shoreline with another four within 100 feet of the lake.

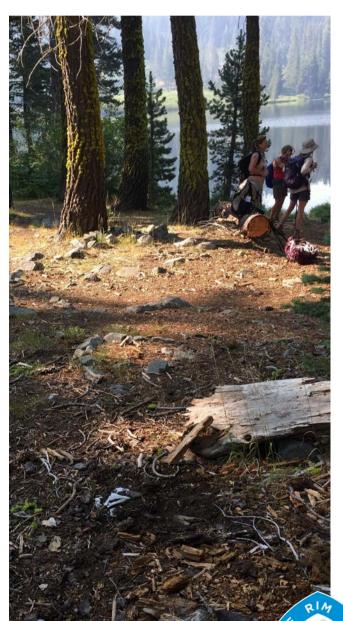
The TRTA has also observed that overnight user impacts within Desolation



Wilderness are also increasing. In addition to counting trail users within the wilderness, TRT trail crews and trail ambassadors are reporting more instances of poor campsite selection too close to water sources and user-established campsites, similar observations at Star and Showers Lakes. Additionally, human waste is becoming a growing problem, with many users not following proper human waste management protocols, mostly observed by unburied feces and toilet paper blanketing many popular backcountry camping locations. Currently, Desolation Wilderness utilizes a quota system in which each area of the wilderness is broken up into zones with a set number of permits available. Users select a zone for their first night of camping. If their chosen zone is full, they must find a different zone with availability. The zones and quotas are established in the Desolation Wilderness Management Plan from 1998. The TRT Thru Hike permit is provided outside of this system. When this permit was first created, there were a limited number issued each year. Looking at the TRTA's 165-Mile Club members show an upward trend in user numbers with 82 users reporting completion of the trail in 2003 and 200 in 2022. This number is just a small subset of thru-hike permittees that are reporting to the TRTA. Data review of the 2021 and 2022 TRTA Thru Hike Permits issued by the LTBMU paints a much different picture, lending credence to concerns around human impacts Desolation Wilderness. In 2021, 297 permits were issued for 555 trail users, and in 2022, 467 permits were issued for 822 trail users. It is also important to note that these permits are heavily concentrated during June, July, and August. Of the 1,377 users, 1,294, or 94% entered the wilderness in June, July, or August.



Jser-established campsite with fire ring within 50ft of the lake



Toilet paper left at lake shore

Human Waste

With a growing number of users, the TRT is experiencing a mounting issue around human waste. Throughout the TRT system, evidence of poor bathroom practices is rising as users fail to properly dig cat holes, bury their waste, and pack out their toilet paper and hygiene products. TRTA trail crews and ambassadors have seen an increase in human waste and toilet paper left near trails and water sources.

Additionally, of the TRTA's 13 major trailheads, only eight have bathroom facilities. An additional two pit toilets exist within the Tahoe Rim Trail System, including a new bathroom constructed in August of 2023 at the Watson Lake Campground. Watson Lake is a popular camping location that users can access via a paved road or the TRT. During the summer season, the campground is generally occupied by several groups each night. The campground is also adjacent to Watson Lake. Without a bathroom in the vicinity, users were required to dig cat-holes 200 feet from water sources, campsites, and the trail. Due to the geography of the site, most users who followed these rules were funneled into a similar area creating significant impacts.

Unlike Watson Lake, most of the TRT's popular camping destinations are not accessible by vehicle which makes a pit toilet requiring regular pumping impossible. Further complicating this issue of accessibility, effluent from the Tahoe Basin must all be pumped out the Basin. This system protects the Basin's fragile water resources but creates challenges for managing human waste in the backcountry as new technologies around backcountry composting toilets are currently not an option in the Tahoe Basin.





New bathroom installed at Watson Lake August 2023



RECOMMENDATIONS

Overnight User Management Recommendations

Below is a list of recommendations and next steps for the Tahoe Rim Trail Association and partners.

Update Dispersed Camping Regulations

 Align HT and LTBMU camping regulations and update LTBMU Forest order 19-21-02 to exclude sections of Genoa Peak Road within 300 feet of the TRT from inclusion for dispersed camping. Numerous instances of campsites established off Genoa Peak Road have been reported to the TRTA and on a few occasions, these campsites were allowed to remain for 14 days based on forest rules.



Car camping site adjacent to the TRT on Genoa Peak Road

 Include language to prohibit camping at trailheads. Parking lots are seeing additional impacts as more people are using trailheads as campgrounds leading to environmental impacts in these areas especially when no bathroom facilities are available.



Implement Showers Lake Designated Campsite Pilot Project

The TRTA recommends initiating a pilot project at Showers Lake to test the efficacy of designated campsites to reduce impacts on alpine lakes by containing the impacts from overnight users to better-suited locations away from shorelines. The report, *Applying Recreation Ecology Science to Sustainably Manage Camping Impacts: A Classification of Camping Management Strategies* by Jeffrey Marion, Johanna Arredondo, Jeremy Wimpey, and Fletcher Meadema, concludes with the following recommendation:

"Recreation ecology research and management experience reveal significant problems with unconfined camping, particularly in popular moderate to high use areas like riparian corridors and lake basins. We suggest that a dispersal strategy with pristine site camping can be a viable option in remote and/or low use areas, though more research and management experimentation are needed. In moderate to high use settings a containment strategy with either established or designated sites is a preferred strategy to concentrate camping on a more sustainable subset of campsites selected to promote improved resource and social conditions. Higher levels of use and impact generally require more intensive and direct visitor management actions such as designated site camping. Constructed and naturally-occurring side-hill campsites offer another option, particularly in popular high-use areas where other strategies and actions have proved ineffective."

The TRTA proposes the construction of sustainable campsites located in well-thought-out and sustainable locations at Showers Lake at least 200ft from water sources. Ideally, approval would be provided by the USFS to create amenities such as level camping pads constructed in well-drained areas and bear boxes. These amenities make camping in the designated camping sites an easy choice for users. New trail leading users to the campsites is needed along with access to the shoreline preferably on durable surfaces so users can access water in one location without impacting a larger swath of vegetation and shoreline. Signage regarding camping regulations will be installed. Restoration of the shoreline and existing unsustainable sites will also need to be implemented. Finally, the TRTA will monitor the campground to evaluate the impact of the designated sites. Specifically, the TRTA will look at:

- How often are all designated camping sites in use
- How many extra sites would be needed to accommodate all overnight users on highest visitation nights
- How many user-establish campsites are created after the restoration
- Measurement of the impacted area from overnight camping in non-designated campsites
- Measurement of shoreline revegetation re-impacted by users
- How many campfire rings are created by users
- Number of instances of garbage or human waste left behind





The TRTA's goal with the designated campsite is that impacts will be consolidated to the designated camping areas. If monitoring shows the creation of user-established campsites and with designated noncompliance camping restrictions or the inability of the designated campsites to keep up with user demand, further restrictions could be put in place, including a reservation system. Tahoe Rim Trail user survey data from 2023, shows that users are interested in ways to protect Tahoe's sensitive ecosystem but are hesitant to see reservation systems implemented. Respondents were also asked about changes in reservations for overnight use. The Tahoe Rim Trail 2023 User Survey Summary, based on surveys with more than 900 TRT users found that the largest proportion (49%) preferred current regulations - no permit requirements or limitations on overnight users when asked about their preference for overnight user regulations. 34% indicated a preference for a reservation system for popular locations requiring users to get a permit in advance and 15% preferred first-come-first-serve camping at designated campsites. Users clearly see the impact they are having at sensitive locations on the Tahoe Rim Trail and many provided comments similar to, "A reservation system makes the most sense, but we need to keep some segments open without reservations so that folks have the option to get out and backpack spontaneously."

The TRTA hopes that monitoring will show that the establishment of designated campsites reduces negative environmental impacts at Showers Lake and improves the user experience. The model can then be utilized at other popular locations where negative environmental impacts are increasing. Priority locations to consider include overnight camping locations highlighted in the 2023 TRT Trail User Survey including Lake Aloha and other lakes within Desolation Wilderness, Star Lake, Round Lake, Dardanelles Lake, Mott Canyon, Richardson Lake, Bear Lake/Creek, and Grey Lake.

Update the TRT Thru-Hike Permit

- The TRTA recommends updating the Thru-hike permit in Desolation Wilderness to incorporate TRT as a quota zone and allowing users to reserve permits through Rec.gov up to six months and one day in advance. Trail users continually call the TRTA office with questions about the permit system because they are accustomed to planning big outdoor endeavors months in advance to get a permit. Even with permit information on the TRTA website defining the two-week window within which users can get a permit, they are still confused and call to confirm.
- The TRTA would like to ensure there is also a set of permits remaining for users to access on a first-come-first-serve basis during the summer.
- The TRTA also recommends extending the permit requirement area from solely Desolation Wilderness to the entire TRT loop to provide additional user engagement and educational opportunities for land managers and the TRT.
- Lastly, the TRTA recommends an update of the Desolation Wilderness Management plan to better inform the number of permits that should be available in the quota system.

Human Waste Management Improvements

Implement Richardson Lake Backcountry Bathroom Pilot Project

demand for Desolation Wilderness camping permits and updating the TRT Thru-hike permit system may result in more users not getting overnight permits and having to pass through the wilderness without overnight camping or shortening their stay. Instead, these users will likely look for camping destinations just beyond the wilderness border on the TRT. Richardson Lake, adjacent to the TRT and just north of Desolation Wilderness is a logical location to see this influx in use. The lake already sees significant overnight users from TRT users and traffic from the nearby Rubicon Trail, a popular 4x4 road/trail, and displays negative environmental impacts near the lake's shoreline. In 2024, the TRTA along with partners from the Pacific Crest Trail Association and Eldorado National Forest will be visiting the site to monitor camping impacts and evaluate installing bear boxes and a Wasted Porta Potty system, designed to manage human waste onsite.



Wasted Backcountry Bathroom

These porta-potty systems have been installed with huge success in remote backcountry areas in British Columbia and highly utilized backcountry areas in Colorado. The TRTA's goal is that the bathroom system is a success and can be the impetus for changing regulations on effluent having to be transported out of the basin from some of the heavily used backcountry camping locations on the TRT where a traditional porta-potty that needs to be pumped out are located.

Enact PACT Outdoors Human Waste Management Education Campaign

The TRTA is also in the nascent stages of creating a campaign with PACT Outdoors to reduce human waste in the backcountry through teaching and encouraging proper bathroom etiquette by backcountry users. The TRTA seeks to bring a coalition of Tahoe Basin agencies and organizations together to educate the public and distribute outdoor bathroom kits that include trowels, mycelium to naturally break down feces faster, and wipes specifically formulated to break down in cat holes. The campaign would be modeled after Colorado's Doo Colorado Right campaign. The TRTA is leaning into this approach as a solution for human waste management for several reasons:

- As mentioned above, the TRTA is seeing an increased incidence of improper human waste disposal in the backcountry.
- Efforts to encourage users to pack out their waste will be a harder step since many users are unfamiliar/uncomfortable with this approach and those that would comply will struggle to find trash cans along the TRT and would be required to carry their waste between trailheads to the next garbage can. For example, users going through Desolation Wilderness on the TRT will go 47 miles before reaching the next garbage can in Tahoe City. Additionally, current waste pack out systems are very plastic intensive and create significant plastic waste.





PACT Outdoors Colorado Initiative and Bathroom Kit



Advocate for and Assist with Brockway Summit Trailhead Improvements



Water and water cache garbage at the current Brockway Summit Trailhead

The most recent version of the Tahoe Basin's forthcoming, Basin Wide Trails Analysis includes creating a new trailhead at Brockway Summit. The TRTA has several ideas for improvements and amenities in this area that will improve the user experience and safety. To reduce user impacts on the landscape, the TRTA provided comments on the recommend document to bathroom, water, and garbage cans to be included in the final trailhead design. When the Basin Wide Trails Analysis is approved, the TRTA will work with the USFS to create plans and raise funds to ensure these amenities can be installed at the new trailhead.

Increase Education and Enforcement Efforts

The TRTA recommends increased enforcement efforts around the Tahoe Rim Trail with new regulations going into effect. The TRTA is incredibly supportive of the Basin's new bear canister requirements. The Association has promoted the use of bear canisters throughout the trail system for many years after seeing bag methods fail either due to user error or specially dedicated bears. A larger presence of rangers/enforcement officers on the TRT to discuss this regulation along with camping requirements and fire regulations will help with compliance.



Ursack bear bag destroyed in Desolation Wilderness

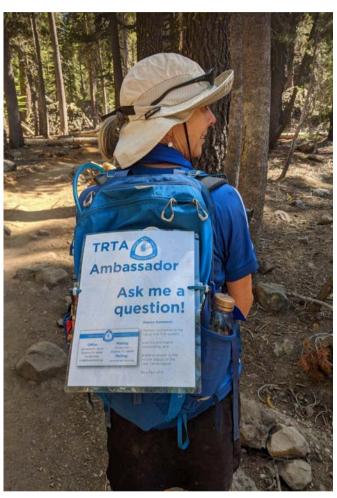


Expand TRTA Trail Ambassador Program

The TRTA will also continue and expand its Trail Ambassador Program. Not only will these ambassadors be the eyes and ears on the trail, but they can also assist with educating users on sustainable recreation, including camping regulations, campfire restrictions, and Leave No Trace Practices.







TRT Ambassadors educate users on the trail and at trailheads

Continued Monitoring Efforts

Trail counter and user survey data have been incredibly useful for the TRTA and its partners for trail project prioritization, visitor use management recommendations and environmental impact assessment. The TRTA will continue with annual trail counts as detailed in the most recent Visitor Use Monitoring Report as well as occasional Trail User Surveys to better inform the TRTA and partners of the needs and opinions of trail users.



In conclusion, the Tahoe Rim Trail Association has created this report as a road map for the organization and our partners to implement a proactive approach to address the challenges posed by increasing recreational use of the iconic Tahoe Rim Trail System. With hundreds of thousands of users annually, managing the impacts on the landscape and user experience has become paramount. The recommendations outlined in this report encompass various aspects of visitor management, focusing on dispersed camping updates, human waste management improvements, increased education and enforcement, and continued monitoring efforts.

By updating dispersed camping regulations and implementing designated campsite pilot projects, such as the proposed initiative at Showers Lake, the TRTA aims to concentrate impacts in sustainable areas while preserving sensitive ecosystems. Moreover, efforts to enhance human waste management through pilot projects like the Richardson Lake Backcountry Bathroom and educational campaigns with PACT Outdoors reflect a commitment to environmental stewardship and user education.

Furthermore, the report emphasizes the importance of increased education and enforcement, advocating for measures such as expanding the Trail Ambassador Program and promoting compliance with regulations, including the use of bear canisters.

Continued monitoring efforts, including trail counts and user surveys, will provide valuable insights to inform future management decisions and ensure the sustainability of the TRT for generations to come.

Overall, the recommendations presented in this report underscore the Tahoe Rim Trail Association's dedication to balancing the enjoyment of outdoor recreation with the preservation of natural resources, fostering stewardship, and maintaining the integrity of this cherished trail system. Through collaborative efforts with partners and stakeholders, the TRTA endeavors to uphold its mission of maintaining and enhancing the Tahoe Rim Trail system, practicing and inspiring stewardship, and preserving access to the natural beauty of the Lake Tahoe Region.

