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UNDESIGNATED TRAIL PROGRAM OVERVIEW

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Contents

Introduction.....	2
Undesignated Trail Components (Wheel of Action).....	3
Types of Undesignated Trails	3
Structural Components	6
Planning Process Complete	7
Restore	8
Designate	9
No Recommendation.....	10
Retain.....	10
Planning Process Scheduled	11
East Area Plan.....	11
Other Areas	11
Next Steps.....	12
Appendix A: Planning Document Guidance Review	13
Appendix B: UDT Public Engagement Decision Tree	18
Appendix C: Past Survey Summaries	19

Introduction

Per the Visitor Master Plan (VMP)(2005), OSMP was tasked to “develop a program to assess undesignated trails and take appropriate actions. These actions include: evaluating needs and options, and perhaps, rerouting, closing, and reclaiming, or retaining and monitoring undesignated trails” (pg 42).

In October 2017 OSMP staff went through a recreational role clarity effort and the Visitor Infrastructure workgroup was identified as the lead workgroup to “develop undesignated trail priorities and work plans”. As the lead for this topic the Visitor Infrastructure Working Group took on the coordination of undesignated trail management. The input of several additional workgroups was recognized as critical to support this effort including Resource Information Services (RIS), Planning and Design, Ranger Services, Ecological Stewardship, and Recreation / Cultural Stewardship. Agriculture/Water/Vegetation Stewardship, Engineering and Project Management, and Project Coordination were identified in the capacity of consultation.

In 2018 a formal project was launched to develop a prioritization methodology or framework to identify which undesignated trails are a higher priority and how to most effectively integrate undesignated trail and pathway management into the overall OSMP workplan. The core team has expanded from its original group and now includes:

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During initial meetings the core team identified some of the complexities surrounding undesignated trails and their management. These include:

1. Trails that have emerged since the approval of a public planning process for some areas;
2. Instances where pathways were identified as undesignated trails but may primarily serve as vehicle access for department operations, property lessees or access permitted through easements and don't see substantial visitor use; and,
3. Navigating the challenge of successfully encouraging and managing visitor travel through our open space when they are, in most cases, legally allowed to go off-trail and where they please.

This effort is both a culmination of previous efforts throughout the years and a push forward to create a holistic, adaptive management process for determining outcomes, workplans, and resources for managing undesignated trails.

Undesignated Trail Components

In order to simplify the complex and interconnected nature of undesignated trails, a visual aid referred to as the “Wheel of Action” was created to highlight different components of undesignated trails in a way that would allow breakout teams to start working on finding appropriate strategies for dealing with said components. While useful in starting to connect classes of undesignated trails with potential management strategies, this graphic has some limitations. For example, it cannot show the interconnectedness between the structural elements and how solutions may require an integrated mix of prescriptions. However, it has been a useful tool for explaining the intricacies of undesignated trail management and for creating a road map forward for the program and core team. Most of this report is a summary of the different components of this graphic starting with the different types of undesignated trails.



Types of Undesignated Trails

During the 2017-2018 monitoring each undesignated trail was assigned one of 14 functions: cattle, climbing access, unserved visitor destination (viewpoint, water), wildlife/livestock, historic, community trail to neighborhood, shortcut, parallel trail, water access, other/unknown, other/unknown road, agricultural road, fire road or ditch road.

The following categorizing of undesignated trails relate to the functions used in the monitoring effort. In addition, a few supplemental categories were identified by the core team as needing further determination before management actions should be taken.

Climbing Access

6.4 miles

Per VMP: Climbing Access Trails: Collaborate with the climbing community to develop a system of climbing access trails that provide sustainable access to desired destinations. This action involves: evaluation of existing undesignated trails with defined criteria; decisions on which trails to designate, close, or improve; and restoration of natural resources damaged by historically unsustainable access. *Estimated timeline: end 2021*

Wildlife/Livestock

10.8 miles

A portion of the trails previously mapped in monitoring efforts may not be used by visitors but rather are used by wildlife or livestock. Staff would not apply restoration efforts to these trails, and therefore these trails are strong candidates to be removed from the inventory. In addition to on-the-ground observations staff could use Strava data to quantify if there is any visitor travel on these paths. If there is an area that is experiencing a high concentration of livestock created trails that are then being used by visitors, staff could potentially work with the agricultural tenet's to relocate those items of interest for the livestock to help cut down on trails that may entice visitors away from the designated trail system. *Estimated timeline: end 2020*

Community/neighborhood access

15.9 miles

Trails that exit from neighborhoods or communities, bypassing official access points, are included in this category. This category is one of the most challenging to navigate. This is an area where community/neighborhood outreach, education and outreach, and other additional tools will likely need to be utilized to successfully manage undesignated trails in this category. *Estimated timeline: not applicable, ongoing*

Roads

49 miles

Close to 30% of undesignated pathways are undesignated roads. Some of these roads are caused by temporary operational access and should be restored or managed as undesignated roads. Other

undesignated roads (driveways, utility access, ditch maintenance, farm access roads, etc) are not managed for visitor access and are currently classified as undesignated roads but may be considered for designation as service roads when there is a permanent need for vehicle access. OSMP staff are currently identifying these permanent non-recreation roads in order to assign management objectives and maintenance cycles. These permanent service roads will not be included in future undesignated trail monitoring which will reduce the reported systemwide mileage. Not all the roads mapped in the survey will be classified as permanent. Some roads mapped in the survey are undesignated and will continue to be classified and managed as undesignated¹. *Estimated timeline: 2021*

Areas of Concentrated Use

166 areas

In addition to total undesignated trail mileage, there were 166 areas of concentrated areas of use identified, which are heavily impacted sites where significant areas of vegetation have been impacted and erosion observed. The core team will work to develop a system for addressing these areas using a similar framework for prioritization as for trails. *Estimated timeline: end 2022*

Shortcuts

11.6 miles

Shortcuts to desired destinations is a system-wide problem that can be addressed with thoughtful trail alignments, education, and physical barriers.

Outdoor Recreation Access Routes (ORARs)

TBD Miles

The United States Access Board, the federal agency that oversees equality efforts for people with disabilities, defines an ORAR as “a continuous, unobstructed path that is intended for pedestrian use and that connects accessible elements, spaces, and facilities within camping and picnic facilities and at viewing areas and trailheads”². There are strict requirements for when an ORAR is required and what the technical specifications those pathways are built to. There is a project in 2020 to map all our ORARs so they can be effectively managed. A small percentage of miles currently classified as undesignated trails may be reclassified and managed as ORARs and would be removed from the undesignated trails inventory. *Estimated timeline: end 2020*

Emerging Trails

Unknown Miles

Trails that emerge on the landscape after the completion of a public planning process are known as emergent trails. Appendix B is an attempt at qualifying when emergent trails need public input for assigning a specific management action.

¹ 2017/2018 Undesignated Trail and Road Survey, pg 33.

² <https://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas/a-summary-of-accessibility-standards-for-federal-outdoor-developed-areas/outdoor-recreation-access-routes>

Structural Components

Ideas, ideals, values, beliefs, community preferences, and technology all play a role in how staff interpret and implement plans, make decisions, and manage resources. The following five areas were identified as being a structural component of OSMP operational work that overlaps significantly with many parts of undesignated trail management.

Asset Management Software

We are utilizing an asset management software system that will allow us to track work completed and view how the conditions on the ground react to different restoration efforts. Staff will also be able to capture work geographically which will highlight areas that are more challenging to manage. This software is scheduled to be operational for undesignated trail by the end of 2019.

Signs

There are 460 sign structures on undesignated trails and roads. 188 of those signs display regulations. By reducing duplicative or unnecessary signage on undesignated trails we may be able to provide clarity around what trails are part of the designated trail systems and which ones are not. Through our asset management software, we will be able to have an up-to-date inventory of where our signs are and when they can be pulled after restoration efforts have been deemed successful.

Mapping Practices

Some OSMP trails are designated but not mapped on official public maps, some undesignated trails are on maps and some trails whether designated or not end up on other organizations maps and in guidebooks and on social media. Collectively, having consensus around our mapping practices will help reduce confusion for visitors.

Education and Outreach

OSMP's education and outreach team can play a key role in helping to bring up the public's consciousness around undesignated trails which will help staff achieve the goals set forth by the various planning documents.

Restoration Treatments

With significant guidance from the ecology staff, a standard order of operations has been developed for applying various treatments to undesignated trails in need of restoration. An escalatory model has been developed where the least resource intensive treatment that may succeed is used and is then informally monitored for compliance. If there is evidence of non-compliance, then increasingly stout treatments are added until visitors are compliant or until staff circle back and see why the treatments are failing and revisit the approach.

Planning Process Complete

The following sections refer to undesignated trails that are in areas that have gone through a public planning process. There are four outcomes identified for undesignated trails in this category: restore, designate, retain, no recommendation. *The following pages outline additional details for each outcome.* Appendix A has specific language from various planning documents.

Restore: to bring back to or put back into a former or original state. The UDT core team, working with the ecology staff, has determined a standard order of operations for closing undesignated trails starting with the least resource intensive but most likely to be successful application and escalating it be more involved should the initial restoration treatment fail. Each restoration project has unique qualifiers for success which are agreed upon with ecology staff before work is started.

Syn: close, revegetate, obliterate, naturalize

Designate: to design and build a sustainable section of trail to replace an undesignated trail. A trail is considered sustainable when principles of ecology and economics have been incorporated into the design in an effort to achieve ecological and biological integrity, a quality visitor experience and persistent performance with a minimum of maintenance and upkeep³.

Syn: reroute, build, construct

No recommendation: no recommendation was offered in the finalized planning document guidance. **NOTE:** Some miles of trails have been created and added to the undesignated trail inventory since the completion of planning document guidance, because those trails were **not physically present** during the planning process, they also may carry no clear recommendation of action. It is possible that through a site-specific review, consideration of plan guidance for the site and through staff decision-making process those emergent trails may default to a specific management action, such as restore/close.

Retain: pathways that are not designed or managed for visitor use but also cannot be restored are to be retained for official use. If a pathway is to be retained and serves a primary function for OSMP or our partners, such as an access road for a ditch company, it may be better served being removed from the undesignated trail inventory and listed in some capacity as a road and a determination can be made around what organization will maintain the asset. Not all infrastructure on our system is visitor infrastructure.

The following documents were referenced (links are active to documents) regarding previous planning efforts:

1. Visitor Master Plan, 2005
2. Marshall Mesa/Southern Grassland Plan, 2005
 - a. Marshall Mesa/Southern Grasslands Inventory Report, 2005
3. Eldorado Mountain/Doudy Draw Trail Study Area, 2006
 - a. Eldorado Mountain/Doudy Draw Inventory Report, 2006
4. West Trail Study Area, 2011
 - a. West Trail Study Area Inventory Report, 2009
5. Grassland Ecosystem Management Plan, 2010
6. North Trail Study Area, 2016
 - a. North Trail Study Area Inventory Report, 2015

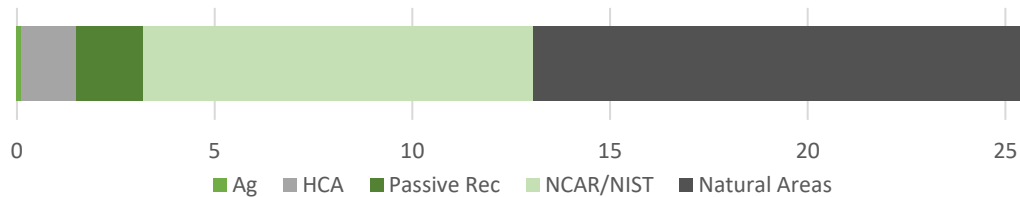
³ North Trail Study Area Inventory Report, pg. 14.

7. Master Plan (approved), 2019

Restore

There are approximately 26 miles of undesignated trails that are explicitly identified to be restored through the various planning documents approved by the OBST and council.

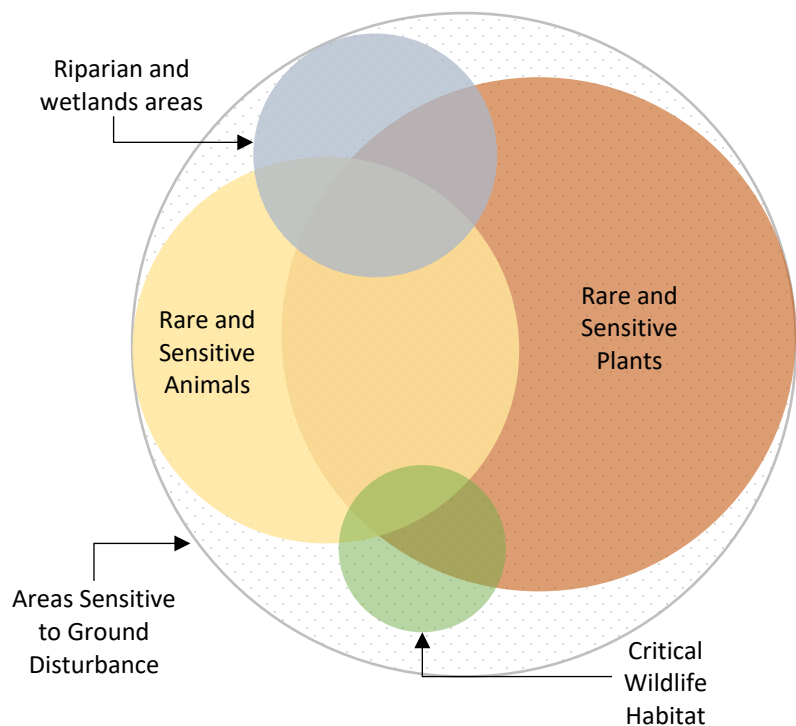
The 26 miles fall across the following management area designations:



There are several inputs for prioritizing the 26 miles to be closed including visitor safety, proximity to other departmental work, cultural resource and ecological concerns. Currently, the priorities analysis for the ecological resource concerns is the most developed. All miles that are called to be restored were analyzed for their proximity to various ecologically significant areas including riparian and wetland areas, rare and sensitive plant communities, critical wildlife habitat, and departmental priority areas for a variety of animal species.

Those areas combined align with the Master Plan definition for Ecosystem Health and Resilience focus area strategies: “sensitive habitat areas can be understood as places with higher levels of significance and vulnerability -- including habitat for rare native plant and wildlife species; regionally imperiled and vulnerable plant communities; and plant communities with high diversity of native species and low abundance of non-native species.”

Using the above definition there are 18 miles of trails that fall into the broadest category of “areas sensitive to ground disturbance”. Nearly 17 of those 18 miles are also in one other category identified by the ecology staff. 9.5 miles are in three ecologically sensitive areas.

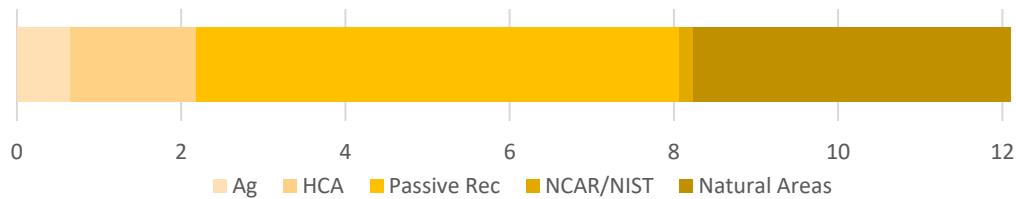


Additional priorities from other departments will be added to this priority analysis as they are completed. These priorities include visitor safety and experience, areas of cultural resource concerns, and work planning priorities from the trails department.

Designate

There are 13 miles of UDTs that are explicitly called for to be designated through the various planning documents approved by the OSBT and council. The East Area Plan process has not been completed and may incur additional miles to be designated. All previously undesignated trails in the South TSA area plans have been designed and designated. There are 7.36 miles in the West TSA that are slated for desinagation and 5.6 miles in the North TSA. The actual mileage of additional designated trail may exceed the above totals once sustainable trail alignments are taken into consideration during the design process which is outlined below.

The approximately 13 miles fall across the following management area designations:



The process for designating a previously undesignated trail will be unique for each instance but in general will follow the procedure:

PUBLIC ENGAGEMENT

Through the process of the trail study areas, ISPs and other planning processes, certain undesignated trails were recognized as important pathways that should be formalized and maintained as part of the designated trail system.

DESIGN

Trails staff works with ecology staff and other department staff to design a physically and environmentally sustainable alignment.

PERMITS

OSMP staff works to secure all necessary permits for the project.

*IF NECESSARY**

ADDITIONAL PUBLIC ENGAGEMENT

Depending on the trail alignment, scope, or other factors, additional public engagement beyond the scope of the trail study area *may* be necessary.

CONSTRUCT

Trails staff coordinates work on the ground to create the designated trail. This trail may not be in the exact location of the undesignated trail.

RESTORE

Trails staff restores any impacts created during the construction process up to and including restoring any sections of the previous undesignated trail that was not incorporated in the new trail alignment.

DESIGNATE

After being built the new designated trail is officially named, signed and added to public facing maps and applications.

MAINTAIN

The new trail is added to the maintenance cycle and any portions of the undesignated trail are monitored and if necessary additional restoration work events are added to facilitate the new visitor use patterns.

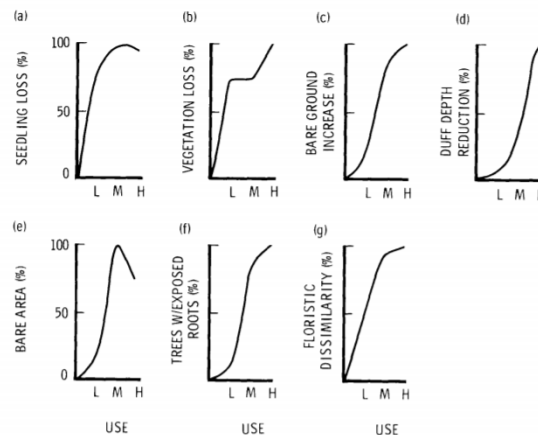
No Recommendation

Undesignated trails that do not carry a recommendation of restore, designate, or retain are included in this subset regardless of when they were created. This portion of trails were identified by the core team in for needing the most additional work to develop management recommendations and action outcomes for the undesignated trails in this category.

Within this subset there are two distinct categories:

1. Undesignated trails that were probably **physically present** during the public planning process but were not included in the final plan for various reasons. There is some debate about whether there is implicit or explicit assumptions that if the trails were not included in the planning process they were to be restored. This is an ongoing matter of discussion within the department and a category of undesignated trails that will need be reckoned with in order to produce timely management recommendations and action outcomes to protect resources and provide our visitors, staff, and partners with the infrastructure they need to navigate our system.
2. Undesignated trails that have **emerged** on the system since the finalization of the public planning process. The standard operating procedure for many workgroups has been to identify emerging trails and try to dissuade their continued use as these routes are not planned, do not take into consideration sensitive resources, and often degrade quickly and lead to additional disturbances. Below is an excerpt from Cole (1982) on the effects of the amount of use:

Figure 19.--The relationship between amount of use and amount of impact for those variables with a statistically significant relationship: (a) percent reduction in seedling density; (b) percent reduction in vegetative cover; (c) absolute increase in bare ground; (d) percent reduction in duff depth; (e) bare area; (f) percent of trees with exposed roots; and (g) floristic dissimilarity. For each use category, the median change is expressed as a percentage of the highest median value for any use category.



Due to changes in monitoring protocol, it is challenging to compare 2002 data with the 2012 and 2017-18 monitoring data to view trends in emerging undesignated trails. We rely heavily on those who are in the field day-in and day-out, including rangers, forest ecology management crew, trail crew, restoration crew, other field staff and the public to bring to our attention emerging undesignated trails. Below is a table breaking down the miles of trail that carry “no recommendation” present in 2012 and how many miles have emerged since and were captured in the 2017/8 survey.

WEST TSA (2011)	Total	HCA	Natural Areas	NCAR/NIST	Passive Rec	Ag Area
*No recommendation	25.17	1.36	10.36	2.28	11.18	0.00
Present in 2012	15.75	0.94	6.24	1.73	6.85	0.00
Emergent since 2012	9.42	0.42	4.12	0.55	4.33	0.00

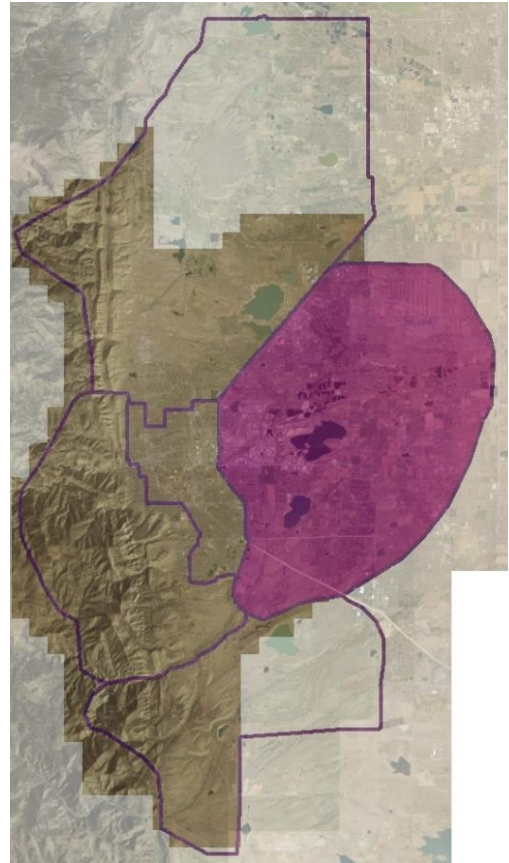
Retain

- ▲ This section is under construction.

Planning Process Scheduled

East Area Plan

The East Area Plan or other planning efforts for that geographic scope will offer guidance on undesignated trail management for trails already on the ground within the scope of the plan. When those processes are complete, having specific and explicit direction for trails already impacting the area as well as management actions for future trails that may be created will be necessary to manage the trail system effectively. There is currently no departmental timeline for completing the East Area Plan.



Other Areas

If OSMP acquires additional properties in areas that have already had a public planning process or are outside the bounds of future planning processes it will be important to include undesignated trail management guidance for those areas.

Next Steps

Asset Management Software

Our asset management software, Beehive, is scheduled to be fully functional by the end of 2019 and will be utilized to coordinate multi-year work plans across several resources including conservation corps, Junior Rangers, volunteer events, and standard OSMP crews. Beehive will also assist in capturing estimated costs associated with materials and time as well as track work done on the OSMP lands.

Cost estimating and budgeting

There has been interest from the board on the estimated cost on restoring undesignated trails. As Beehive becomes fully functional, we will begin to be able to make better estimates. In the interim we can use prior planning documents and work completed to come up with rough estimates if asked. Additionally, these numbers will be useful for securing funding and crew time to complete this work moving forward as this is a tier two strategy for the focus area of Ecosystem Health and Resilience.

Appendix A: Planning Document Guidance Review

Five public planning process documents were reviewed to create this summary⁴. Throughout the five documents, the term “undesigned trails” is mentioned over 600 times. Each instance was reviewed and the vast majority of them were put into one of six categories: baseline information, program development and implementation, general management actions and strategies, actions by management area designation, challenges and site-specific management actions. In this review, site specific management actions have been omitted for brevity. Some text has been edited for clarity.

Baseline Information

The Visitor Master Plan eloquently lays out what undesignated trails are and why they are of concern to OSMP. “Undesignated trails have been created or worn into the landscape by visitors repeatedly walking off of designated trails. [These] trails can significantly damage a landscape. Repeated trampling, soil compaction or destabilization, and loss of litter, humus, and topsoil pose severe threats to plants and plant communities. Since vegetation is the primary stabilizing influence in a landscape, vegetation loss can result in serious erosion. The undesignated trails on Open Space and Mountain Parks lands are among the greatest contributors to vegetation loss and soil erosion. In several areas, extensive networks of undesignated trails have formed, ranging from single paths to undesignated trails that resemble "spider webs" of interconnecting trails” (VMP, pg 9-10). The West Trail Study Area adds that undesignated trails “are not shown on public trail maps and are not maintained” (WTSA, pg 68.)

“While designated trails are shown on trail maps and are maintained, management of undesignated trails is less clear. This can lead to visitor and staff confusion, resource damage, and the creation of more undesignated trails. The Trail Study Area planning process provides an opportunity to decide how to manage undesignated trails to both enhance visitor opportunities and protect resources” (EMDD, pg 44.)

Program Development and Implementation

Most of the planning documents reviewed call for some amount of program development and implementation of an undesignated trail program. The VMP directs Open Space and Mountain Park to “[d]evelop a program to assess undesignated trails and take appropriate actions. These actions include: evaluating needs, and options, and perhaps, rerouting, closing, and reclaiming, or retaining and monitoring undesignated trails” (VMP, pg 42.) Additionally, the VMP directs staff to “[d]evelop criteria, evaluate, and determine the status of undesignated trails” (VMP pg 46, 61.)

The Marshall Mesa/Southern Grassland plan further develops the idea of a program by suggesting “[i]mplementing tiered priorities for management of undesignated trails for the passive recreation area, natural areas, and habitat conservation areas” (MMSG, pg 13.) The MMSG also elaborates on the importance of having clearly defined methods and approaches saying, “this triage approach is recommended because of the large number of undesignated trails that have resulted from the large number of visitors and dogs, drawn to multiple destinations and interesting features. The goal is to eliminate and reclaim all undesignated trails [in the area of the MMSG]. This goal will be difficult to reach unless a significant amount of staff resources are directed at physical improvements and barriers, visitor education, and enforcement in certain areas. Given competing infrastructure needs in this Trail Study Area and in other parts of the OSMP system, undesignated trail priorities are essential. They will help address the most important needs first and provide impetus to complete the task of both eliminating harmful and unneeded social trails and appropriately designating sustainable social trails to become part of the OSMP trail system” (MMSG, pg 13.)

In order to have a successful program, there needs to be a way to know where the undesignated trails are located. Mapping undesignated trails is the primary method for collecting information to inform the undesignated trail priorities. The WSTA states that “[u]ndesignated trail mapping is scheduled to be

⁴ The five planning documents and their acronyms referenced are: Visitor Master Plan, 2005 (VMP); Marshall Mesa/Southern Grassland Plan, 2005 (MMSG); Eldorado Mountain/Doudy Draw Trail Study Area, 2006 (EMDD); West Trail Study Area, 2011 (WTSA); and the Grassland Ecosystem Management Plan, 2010 (GEMP).

completed on a five to ten-year cycle. Undesignated trail mapping is OSMP's primary tool to assess the success of undesignated trail closure efforts" (WTSA, pg 63.) Additionally, "[p]eriodic surveys by OSMP staff will establish the location and extent of undesignated trail development" (EMDD pg 22, MMSG pg 21) and staff will "monitor the creation of undesignated trails and take appropriate management actions" (EMDD pg 40, MMSG pg 44).

In determining what "appropriate management actions" are for a given trail, both the Eldorado Mountain/Doudy Draw and Marshall Mesa/Southern Grassland plan created criteria to evaluate undesignated trails and their management. These plans each place importance on assessing the quality of visitor experience, physical sustainability, environmental sustainability, and cultural/ paleontological resources. These criteria can be adapted for use in evaluating alternatives for social trail management where there is a complicated situation of multiple destinations and social trails (EMDD, pg 22, 44; MMSG, pg 15).

General management actions and strategies

In general, planning goals for these documents focus on how existing trails can be modified to improve the quality of the visitor experience, the protection and restoration of natural and cultural resources, visitor access opportunities, and the physical sustainability of the trails system (WTSA pg 2). "One of the essential components of TSA plans is a set of recommendations about how undesignated trails (UDTs) will be managed. The management decision about UDTs typically determines that an UDT should either be designated by incorporation into new or existing designated trails or closed and restored" (Grassland Ecosystem Management Plan, pg L23).

Some planning documents offer more specific but still general recommendations per the area they cover. For instance, in the Marshall Mesa/Southern Grassland plan the resource protection goals include "[c]los[ing] inappropriate undesignated trails and restore the natural habitat values" (MMSG, pg 8.) Some plans even go so far as to suggest actions that can occur prior to the completion of more specific planning processes. The Grassland Ecosystem Management plan asks us to "[c]onsider closing, restoring and discouraging the (re)establishment of [...] undesignated trails in areas of special conservation value or sensitivity as "high" as part of the TSA planning process, and if necessary, prior to TSA planning" (GEMP, pg 114.) The EMDD also speaks to the order of operations for effectively managing project worksites to decrease the incidence of undesignated trails. It states that "[c]losure and restoration of undesignated trails will be scheduled before or simultaneously with development of new trails. Monitoring activities will occur to detect the creation of newly forming undesignated trails early so they can be closed and restored effectively" (EMDD pg 19.)

Overarching plans, like the VMP "[e]ncourage[s] visitors to limit their use to designated trails (involves placing signs at undesignated trails and providing education and outreach contacts)" (VMP, pg 36.) The West TSA also suggests signing intersections as "[i]t is often difficult to distinguish between designated and undesignated trails. [By signing intersections] visitors wanting to remain on the designated trail system will be better able to do so. Undesignated trails often cause ecological impacts such as reduced habitat effectiveness and habitat connectivity, vegetation loss, and spread of weeds (WTSA pg 52.) Therefore, protecting resources, whether cultural, ecological, or some other category, is a main cause for closing and restoring an undesignated trail (EMDD pg 9, 14).

Other suggestions in geographically specific plans can be applied throughout the system. For example, in the MMSG plan it states "[f]encing will be installed as a way to encourage on-trail travel. OSMP will install fencing in specific places to prevent or reduce off-trail travel and the creation or persistence of undesignated trails" (MMSG pg 31.)

Actions by Management Area Designations

Many of the plans also refer to the management area designations as an import piece of information when determining the scale and scope of projects related to undesignated trail management.

The below table from the VMP is the most comprehensive and explicit about desired management actions associated with undesignated trails:

Table 4.1: Management Strategies for Open Space and Mountain Parks Management Areas				
Management Issue	Passive Recreation Area Strategies	Natural Area Strategies	Agricultural Area Strategies	Habitat Conservation Area Strategies
Undesignated Trails	<p>Lower priority for management of undesignated trails. Minimize new undesignated trails. Management actions for existing undesignated trails include:</p> <ul style="list-style-type: none"> • Evaluate best management actions • Designate • Re-route • Close and reclaim • Retain undesignated trails • Monitor newly established or developing undesignated trails 	<p>Variable priority for management of undesignated trails. Minimize new undesignated trails. Management actions for existing undesignated trails include:</p> <ul style="list-style-type: none"> • Evaluate best management actions • Designate • Re-route • Close and reclaim • Retain undesignated trails • Monitor newly established or developing undesignated trails 	<p>Variable priority for management of undesignated trails. Minimize new undesignated trails. Management actions for existing undesignated trails include:</p> <ul style="list-style-type: none"> • Evaluate best management actions • Designate • Re-route • Close and reclaim • Retain undesignated trails 	<p>High priority for management of undesignated trails. Minimize new undesignated trails. Management actions for existing undesignated trails include:</p> <ul style="list-style-type: none"> • Evaluate best management actions • Designate • Re-route • Close and reclaim

There are three additional specific actions also referred to in the VMP with regards to undesignated trail management by management area designation (VMP pgs 48-50):

1. Minimize the number of undesignated or “social trails” (Passive Recreation Area ONLY)
2. Eliminate all undesignated trails, unless they are made part of the designated trails system or provide specialized access to appropriate low-use destinations (HCAs ONLY)
3. Eliminate undesignated trails when they are redundant or damaging resources (ALL management area designations)

Challenges

Some of the challenges involved with managing undesignated trails are highlighted in this section, including having a porous boundary, high visitation, multiple land uses, and realistic targets for measuring success.

“Unlike a state or national park, where most visitors enter through formal access points, much of the 340 mile perimeter of Open Space and Mountain Parks is open to pedestrian access. Undesignated trails arise more easily in this "open" land system. Although Open Space and Mountain Parks strongly discourages use of undesignated access points and undesignated trails, they are convenient to use and many people do not recognize the impact caused by such use” (VMP pg 9-10). Additionally, the OSMP system receives a

significant amount of visitation each year. “As growth in visitation occurs, concentrated impacts often happen because of the limited number of locations where certain activities can occur (as in the case of rock climbing or bouldering) or because increased visitation tends to occur more often in the “front-country”, where the most accessible trails and trail heads are available. Some of the concentrated impacts include trail crowding, trail head parking congestion, trampled vegetation and soil, and networks of undesignated trails” (VMP pg 20.)

“While designated trails are designed to mitigate impact and may be necessary to accomplish other OSMP goals, undesignated trails are typically not designed” (GEMP, pg 71.) When it comes to assigning a desired outcome for undesignated trails, the OSMP staff is not always in agreement. “Differences in opinion exist on which undesignated trails should be designated or closed and restored. Some feel that undesignated trails are very damaging and should be eliminated in almost all cases; others feel that many or most of these social trails should be designated for continued visitor use” (MMSG pg 10).

Natural Resources

“Jointed goatgrass was recently discovered along Douby Draw Trail south of the trailhead and along the Fowler Trail. Weed management began in these areas in 2006. However, current methods for controlling jointed goatgrass in heavily used recreational areas on OSMP have not been successful. To control and prevent the spread of jointed goatgrass, visitors will be asked to cooperate by staying on designated trails and complying with a possible dog on-leash requirement in goatgrass infested areas. In addition, temporary trailside fencing may be installed, undesignated trails in the area may be closed, appropriate herbicides may be applied, native grasses will be seeded, and Best Management Practices for trail construction will be followed. Pre-treatment and post-treatment monitoring will guide ongoing jointed goatgrass control activities” (EMDD pg 20.) Additionally, undesignated trails are used in some cases as a metric for determining the quality of a habitat as is the case for northern leopard frogs in the Grassland Ecosystem Management Plan, “[u]ndesignated trail density in northern leopard frog blocks is the third indicator of connectivity. Amphibians, especially northern leopard frogs forage at some distance from open water.

Dogs

“OSMP inventoried existing dog walking activities and assessed the potential for both new dog walking opportunities and new “no-dog” opportunities. Given the high concentration of dog walking activities on Marshall Mesa, the observed and potential for conflict between dogs and other trail users, and the creation and use of a myriad of undesignated trails by dogs, the TSA Plan recommends a focused education and regulation enforcement effort as a way to reduce visitor conflicts and the number of undesignated trails” (MMSG pg 11.)

Cattle

“Cattle grazing in many parts of the Trail Study Area create undesignated trails, many of which are damaging to the natural resources. The existence of these cattle-created undesignated trails creates the situation where visitors sometimes travel on these undesignated trails, which can further embed these trails and cause additional resource damage. OSMP is committed to explore ways of minimizing cattle

trails and allowing re-vegetation of them, as a way of reducing resource impacts and visitor use of cattle trails. Some of these strategies involve rotation of grazing in ways that allow grasses to rebound sufficiently to the trampling impacts of cattle so that undesignated trails can be minimized” (MMSG pg 15, VMP pg 9.) “Since these trails often dead-end at salt licks, stock tanks and other destinations of little interest to humans, people find themselves cutting crosscountry to return to their origin or the designated trail system-sometimes creating new undesignated trails (GEMP pg 92.) “Concerns about the impacts of grazing on the health of plant communities and wetlands, soil erosion, and undesignated trails should be addressed. An issue concerning the “fairness” of allowing cattle grazing on the grasslands while restricting visitor use should also be addressed” (MMSG 9.)

Specifically, the EMDD offers a set of potential actions that can be taken to change the trails cattle create that could be replicated in most areas where there is cattle grazing. The EMDD states “OSMP will implement ways of minimizing cattle trails and allow re-vegetation to occur to reduce resource impacts and visitor use of cattle trails. Some of these strategies may include: 1) develop a multi-year grazing rotation that provides adequate rest periods (both duration and seasonality) to allow the vegetation to recover; 2) reduce cattle trailing by moving salt supplements; and 3) redevelop the well on the mesa top near S.H. 93 (south edge of the Matterhorn open space property) for cattle and remove the existing water tank on the steep hillside on the West Rudd property west of S.H. 93 (EMDD pg 19.)

Success

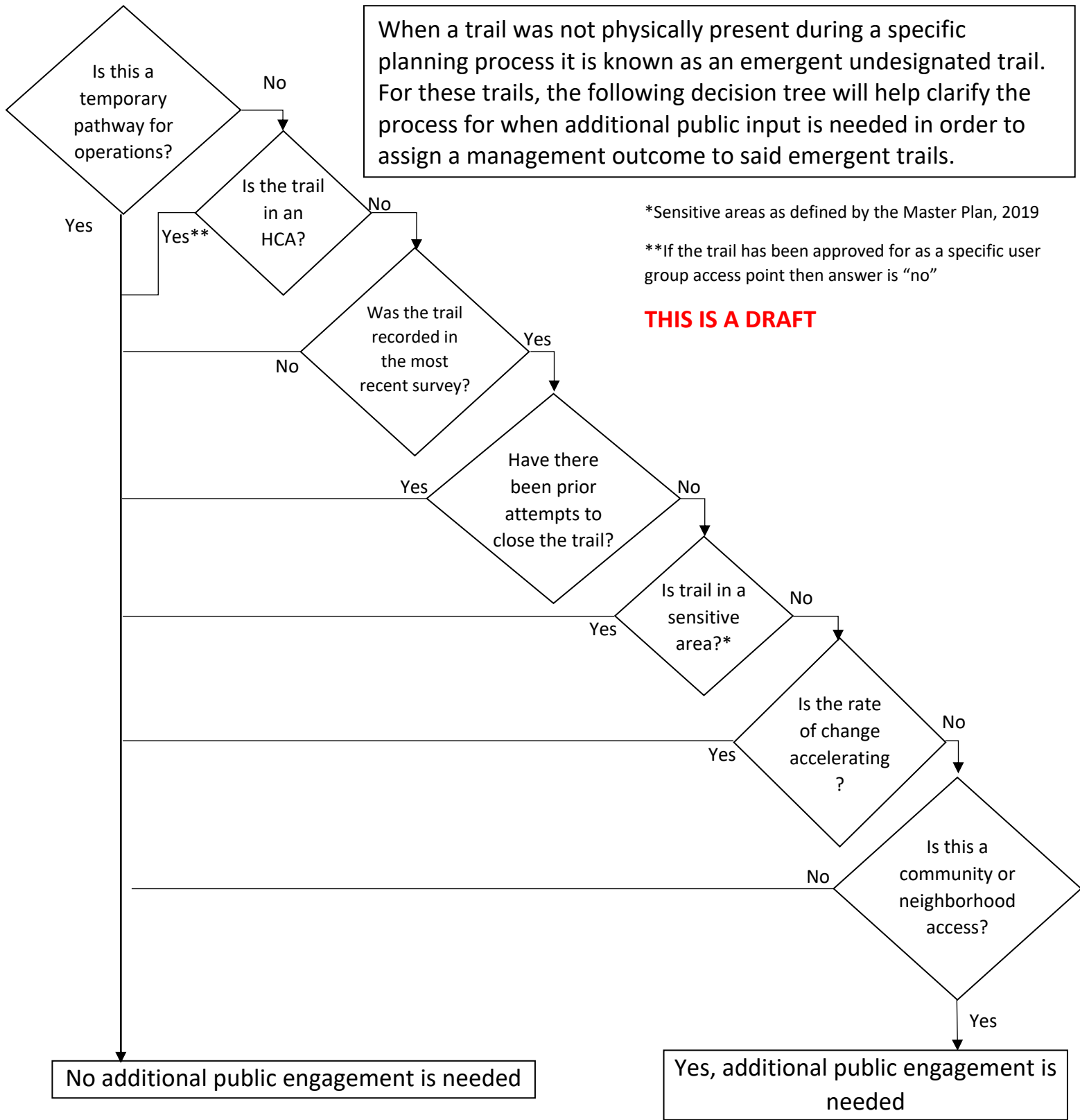
Measuring success looks different for each undesignated trail. In some cases, success might mean the “reclamation of undesignated trails and restoration of other disturbed areas will be assessed by measuring changes in vegetative cover and composition (EMDD, pg 22.) In other cases success may be the change of visitor use patterns or a reduction in visits on that particular trail. The VMP target for new miles of undesignated trails is 0 miles per year.

Appendix B: UDT Public Engagement Decision Tree

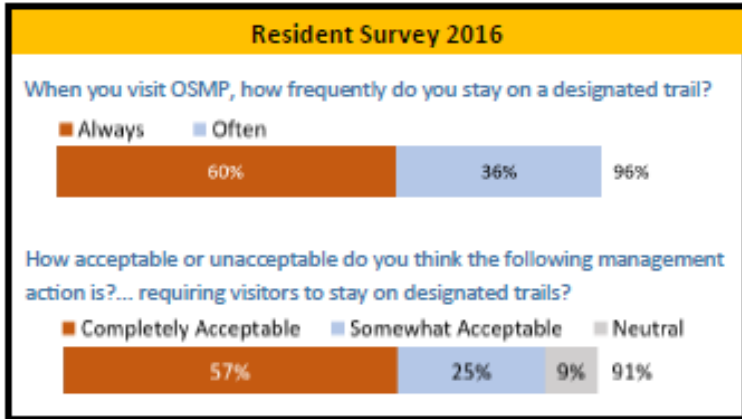
When a trail was not physically present during a specific planning process it is known as an emergent undesignated trail. For these trails, the following decision tree will help clarify the process for when additional public input is needed in order to assign a management outcome to said emergent trails.

*Sensitive areas as defined by the Master Plan, 2019
 **If the trail has been approved for as a specific user group access point then answer is "no"

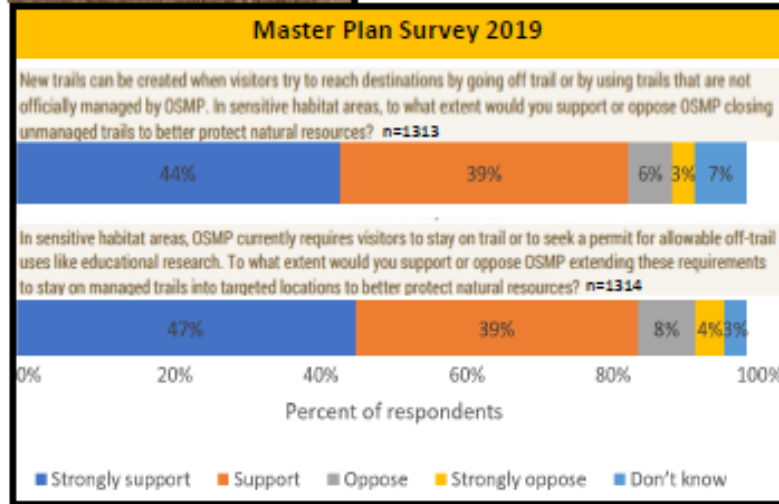
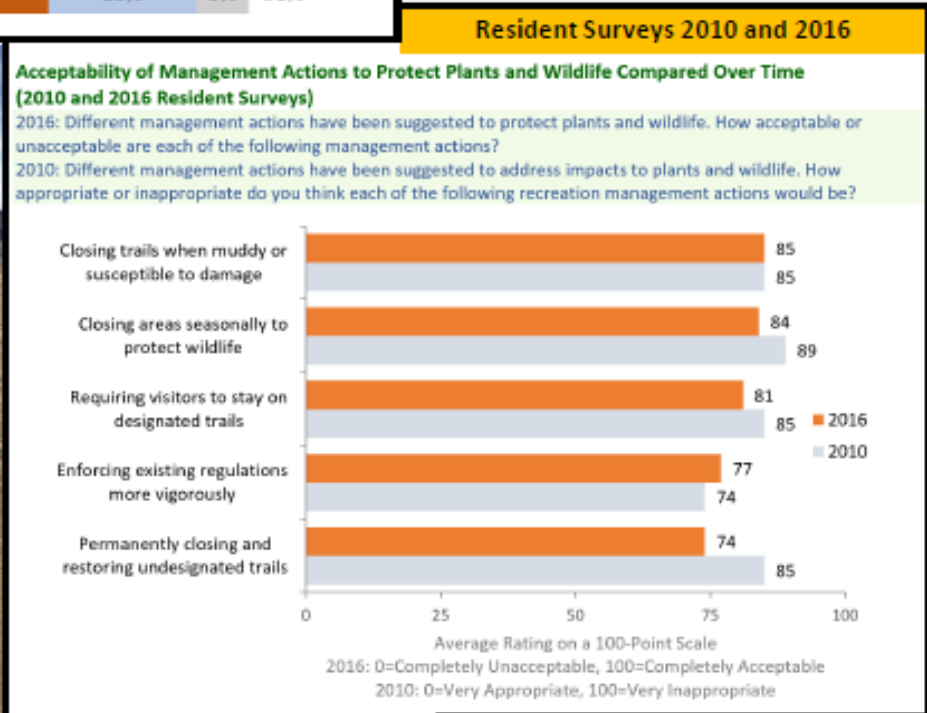
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Appendix C: Past Survey Summaries



SUMMARY OF PAST SURVEY RESULTS ABOUT ACCEPTABILITY AND EFFECTIVENESS OF MANAGEMENT ACTIONS FOR UNDESIGNATED TRAILS



Leave No Trace Study 2015

42% of survey respondents were unaware that undesignated trails existed on the OSMP system.

Frequent visitors reported being the least likely to stay on designated trails.

Combined physical barrier and sign was the most effective at mitigating undesignated trail use. This method was approximately 97% effective at directing visitors to proceed onto the designated trail rather than traveling on the undesignated trail.

Over 40% of visitors who were observed/surveyed while using an undesignated trail reported they "Always" use designated trails. This suggests that these visitors did not know they were in fact traveling on undesignated trails.