



Executive Summary - Final Draft

February 27, 2012



ACKNOWLEDGEMENTS



October 28, 2010: Members of the Lakes Basin Special Study community working group celebrate with project partners from the Inyo National Forest, the Town of Mammoth Lakes, Friends of the Inyo, and the Mammoth Lakes Trails and Public Access Foundation at the conclusion of their third and final meeting.

Thanks to a generous grant awarded to the Town of Mammoth Lakes (TOML) by the Sierra Nevada Conservancy that sought to “...build necessary interagency collaborative capacity for the long-term benefit of the Mammoth Lakes Basin by engaging agencies in a collaborative planning effort with specified near-term goals and deliverables,” the TOML partnered with the Inyo National Forest, the Mammoth Lakes Trails and Public Access Foundation (MLTPA), and Friends of the Inyo to study mobility and outdoor-recreation patterns in the Mammoth Lakes Basin. As one of Mammoth Lakes’ most popular amenities, the area sees thousands of visitors every summer who come to experience a wide diversity of recreation experiences. The Mammoth Lakes Basin is also a critical watershed providing water resources to Mammoth Lakes and other downstream communities. Proper planning and management will ensure that the Lakes Basin can continue to provide exceptional recreational experiences while protecting and sustaining the natural resources of the area.



*Special thanks to the Westin Monache Resort for providing meeting space.
All photographs are used by permission of MLTPA unless otherwise noted.*

LAKES BASIN SPECIAL STUDY – EXECUTIVE SUMMARY

CONTEXT:

The Lakes Basin Special Study (LABSS) arose out of the need to better understand management issues in the Mammoth Lakes Basin and to build interagency capacity to address identified solutions. The partners in the LABSS process include the Town of Mammoth Lakes (TOML), the United States Forest Service Inyo National Forest (USFS INF), the Mammoth Lakes Trails and Public Access Foundation (MLTPA), and Friends of the Inyo (FOI). Two of the original project deliverables—an analysis of circulation and transportation in the Mammoth Lakes Basin and data collection and analysis of current recreation activity in the Mammoth Lakes Basin—were presented to the public at a series of three public meetings hosted in the late summer and fall of 2010. In addition to reporting on these two efforts, the project partners provided concerned citizens with opportunities to share their perspectives on how the Lakes Basin should be managed and solicited their ideas for specific projects that would mitigate immediate problems, improve access or user experience, and/or protect natural resources.

Over the long term, the results of this process may eventually inform the development of an official USFS Management Plan for the Lakes Basin that will help establish the long-term character of the area. While the development of an official management plan is likely to be delayed due to staffing and budget constraints faced by the INF, many of the specific improvements articulated at the public meetings may be implemented in the interim using resources available through the TOML and other partners. A subset of these selected improvements has been included in this Executive Summary as they conform to the management preferences gleaned from this process.

SCENES FROM THE THREE LABSS PUBLIC MEETINGS:



Agency presentations



Collaborative breakout meetings



Partner presentations



Live webinar for offsite participants



Facilitated concept development



Capturing participant comments

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PRELIMINARY MANAGEMENT CONCEPTS

The public input provided at the late summer/fall 2010 meetings was recorded, reviewed, and used to develop four potential ongoing management concepts:

- Continuation of Current Management
- Preserve and Enhance Existing Facilities
- Sustainable Access and Natural-Resource Protection
- Expanded Public Access and Amenities

The above management concepts represent different community preferences for balancing the often competing needs of preserving the area’s existing character, protecting natural resources, and accommodating demand for access and recreational opportunities. Concept A is the “No Action” alternative representing no change to existing management and no improvements to existing infrastructure. Concept B contemplates no changes to existing policy or infrastructure, but does recommend changing the level of management oversight, maintenance, and enforcement of existing rules and policies—serving as a baseline for Concepts C and D. Concepts C and D represent divergent paths, with option C providing a greater focus on natural-resource protection and option D providing a greater focus on convenient recreational access.



The “Preliminary Management Concepts” were available for public review between June 1 and August 15, 2011.

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These four alternatives were presented to the public in the summer of 2011 as a report for public comment titled “Preliminary Management Concepts for the Mammoth Lakes Basin,” along with a survey allowing members of the public to select their preferred concept. Respondents were also able to provide comments or caveats related to why they selected their preferred concept. They were also encouraged to offer their own combination of elements that they felt struck the most appropriate balance between preserving the current character of the Lakes Basin, protecting resources, and accommodating demand. As shown in Figure 1 below, respondents tended to favor concepts B and C.

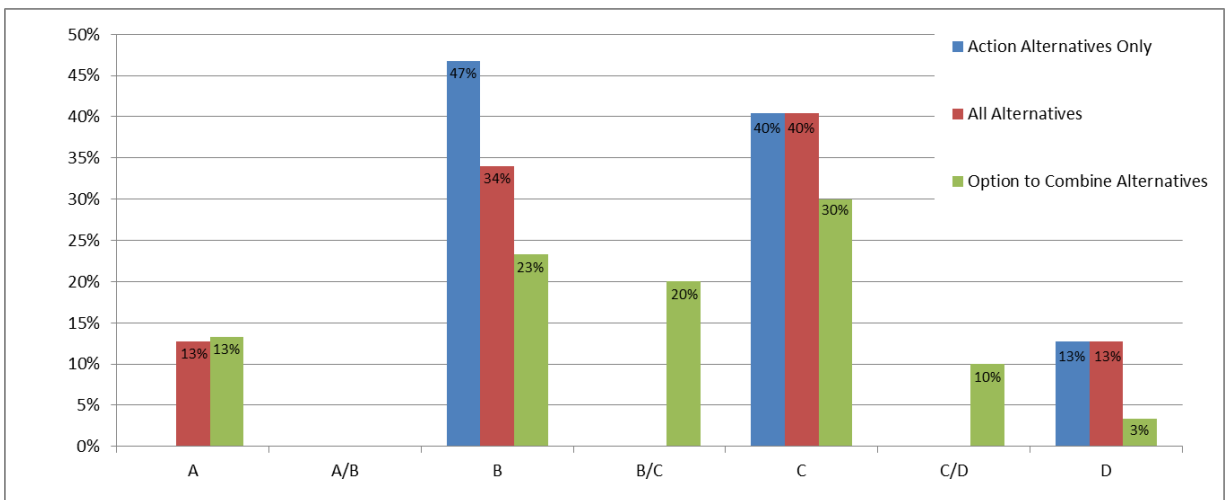


Figure 1: Management Concept Preferences

As illustrated in Figure 2 below, both paths of progress—toward greater resource protection or greater recreational access—go through option B. Therefore, support for either option C or option D implies some degree of support for option B.

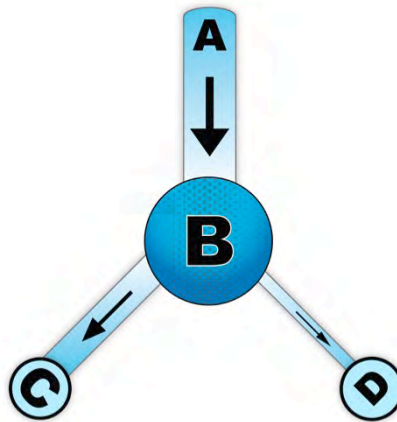


Figure 2: Preferred Path of Progress. Point size and line thickness indicate estimated level of community support for each of the Preliminary Management Concepts. All project recommendations are consistent with the preferred path of progress.

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The improvements and actions described in this Executive Summary flow from the ideas and concerns generated by members of the public during the series of three public meetings held in the late summer/fall of 2010. The recommendations are consistent with the general management direction favored by a majority of participants in this process.¹ The near-term projects described in this document clearly conform to the management intent of *Concept B: Preserve and Enhance Existing Facilities* and *Concept C: Sustainable Access and Natural-Resource Protection*.² The recommendations are preliminary and are intended as a starting point for more-focused discussions of how available resources (including funding and volunteer labor) can be strategically deployed to improve user experience and environmental quality in the Lakes Basin over the next five years.

LABSS NEAR-TERM RECOMMENDATIONS (0- TO 5-YEAR PLAN)

The following 11 recommendations include potential near-term projects and programs to improve overall user experience and to address specific issues raised repeatedly by members of the public. The programs recommended under this management alternative are focused on enhancing existing official infrastructure in the area. It is expected that the following near-term recommendations may not require extensive environmental review, if any at all, and could therefore provide opportunities for tangible and short-term improvements to the Lakes Basin experience.

1) TARGETED SIGNAGE-AND-WAYFINDING IMPROVEMENTS

One of the most common themes arising out of the public meetings hosted in the late summer/fall of 2010 was the need for specific wayfinding, advisory, and regulatory signage to eliminate common conflicts and confusion among users. Examples of site-specific signage recommendations include:

Area	Issue/Recommendation
Lake George	Improve wayfinding to day-use area and exit. This will help to prevent day users or exiting vehicles from unnecessarily entering campground loop, reducing traffic and saving time for users.
Coldwater/ Red Mine	Full lots lead to endless circling and illegal parking. This could possibly be addressed with “full lot” signage in advance of the parking area. Signage is also needed to indicate that overnight parking and camping in the lot is prohibited.
Horseshoe Lake	Put visible “closed” signs on restrooms that are closed due to maintenance constraints and/or CO ₂ hazards, or remove the restrooms if they are unlikely to be reopened. Relocate sign indicating that overnight camping is prohibited to a more visible location. Use signage to highlight the amenities and experiences available at this location in order to increase utilization of the area.

¹ All of the recommendations described in the Executive Summary are consistent with Management Concepts B and/or C, which were cumulatively supported by a significant majority (73–87%) of survey respondents (see Figure 1).

² The one exception would be the Horseshoe to Lake George Multi-Use Path concept, where in order to conform with the management zoning shown in Preliminary Management Concepts B and C the proposed Frontcountry Zone may need to be expanded to include the west side of Lake Mamie.

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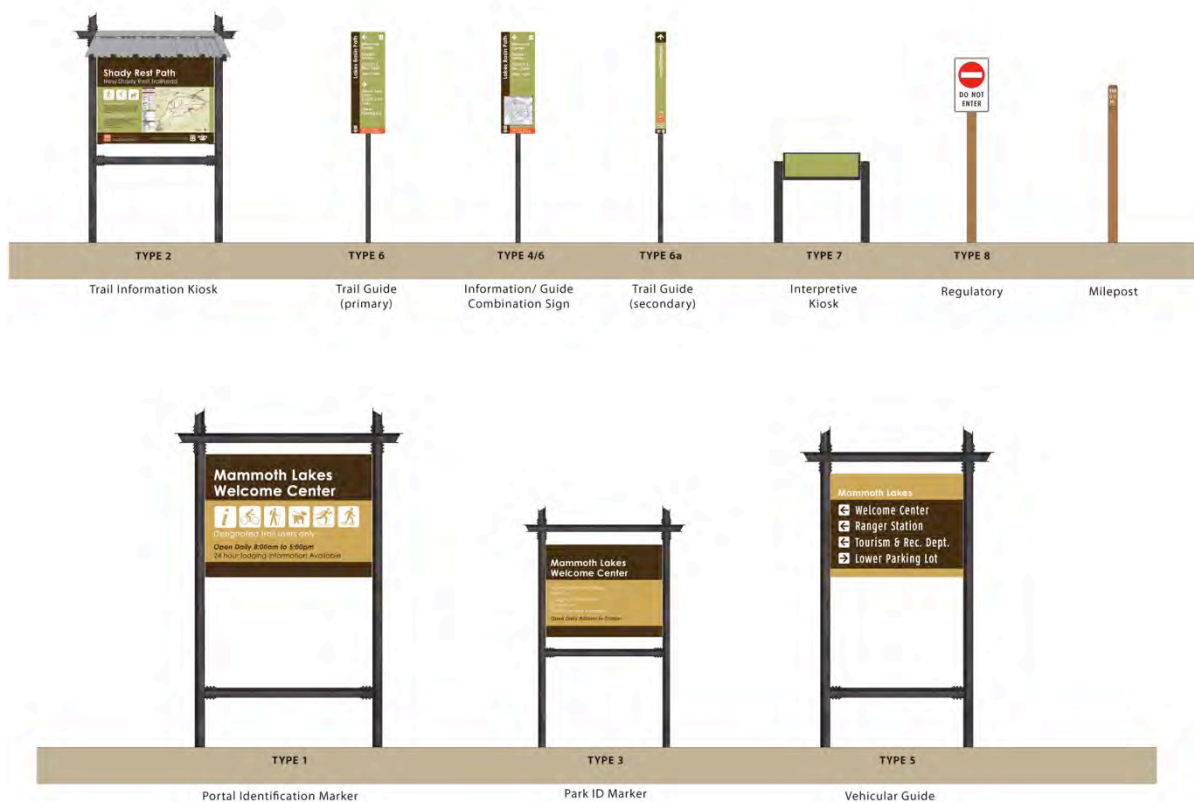
All targeted signage-and-wayfinding improvements will conform to Mammoth Lakes Trail System (MLTS) signage standards and remain relevant within the Basin-wide signage-and-wayfinding program.

Focus Areas: See table above.

Potential Performance Metric(s): Number of signs deployed. More-specific measures could be developed for each message to determine the degree to which behavior has been modified.

2) COMPREHENSIVE BASIN-WIDE SIGNAGE-AND-WAYFINDING PROGRAM

Coordinate with the INF, the TOML Municipal Wayfinding and Community Messaging Program, and the Tamarack Cross Country Ski Center to implement a comprehensive signage-and-wayfinding system in the Lakes Basin. This should include upgrading existing signs with more-weather-resistant versions consistent with the MLTS Design Standards as well as installing new signage that builds upon the signage already in place along the Lakes Basin Path. The program should focus first on official recreation nodes and INF system trails.



Full array of MLTS signage

Focus Area: Basin wide

Potential Performance Metric(s): Number of new signs installed and replaced. Number of miles of trails served by new signage.

3) FURTHER ENHANCE HORSESHOE LAKE AS A SUMMER STAGING AREA

In spite of its accessibility (via trolley, Lakes Basin Path, or private motor vehicle) and capacity (restrooms, day-use area, and 105 parking spaces), the Horseshoe Lake area remains largely underutilized and has the shortest average length of stay of any major recreation node in the Lakes Basin (1 hour and 15 minutes). In order to make better use of existing capacity at Horseshoe Lake and relieve summer congestion at the Lake George and Coldwater trailheads, additional amenities at Horseshoe Lake should be developed to accommodate existing demand and attract longer stays. Educational and informational strategies should include signage, maps, trolley ads, and Web materials highlighting the area's amenities and proximity to high-quality recreational experiences. Longer-term strategies would include improvement of amenities and services at Horseshoe Lake (more restrooms, parking improvements, etc.) and the development of direct trail connections between Horseshoe Lake and areas that are currently more popular, such as Lake George and Coldwater.



Family biking at the Horseshoe Lake trailhead Family biking at the Horseshoe Lake trailhead

Horseshoe Lake currently offers more parking than any other node, yet is underutilized due to a high number of drive-through vehicles and very short-duration visits, while Lake George and Coldwater/Duck Pass experience high levels of use and longer-duration visits. Add amenities, potentially including a concession at Horseshoe Lake, in order to support increased use of that area as a major recreation node:

- Add restrooms/trash receptacles/picnic tables
- Reconfigure day-use areas
- Add equestrian parking, if necessary
- Develop borrow pit as unpaved overflow parking
- Add a concession (general store, bike rentals, etc.)

Focus Areas: Horseshoe Lake (primary), Lake George/Coldwater (secondary)

Potential Performance Metric(s): Existing and future trail-user counts and parking counts (including duration of stay)

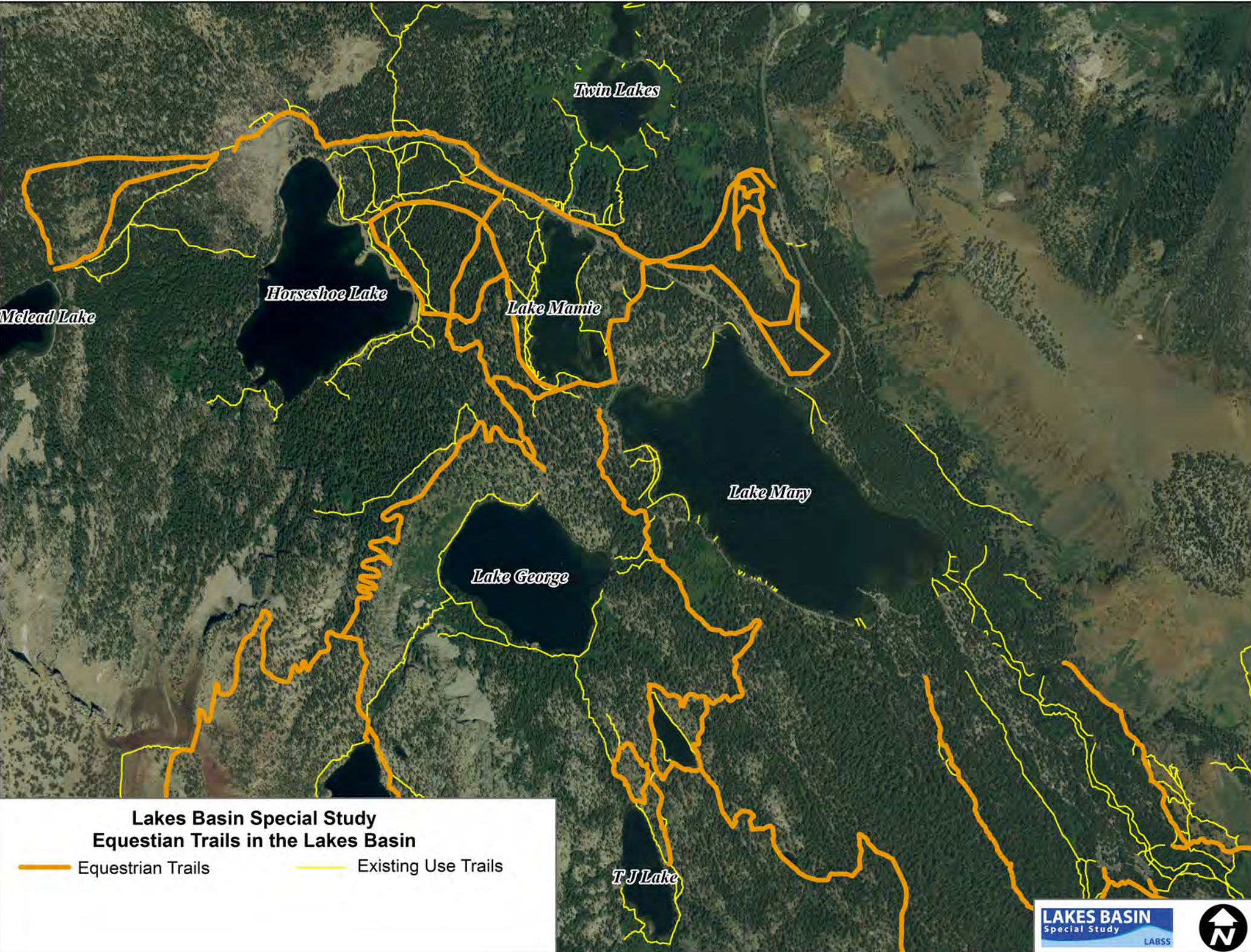
4) REHABILITATE EXISTING PERMITTED EQUESTRIAN TRAILS

There are currently approximately 21 miles of permitted equestrian trails in the Lakes Basin. In some areas these trails may require rehabilitation or rerouting. The TOML and the INF should work with equestrian groups/permittees (e.g., Mammoth Lakes Pack Outfit) to determine a prioritized order for trail rehabilitation based on condition and level of use. The TOML should also work with the INF to have permitted equestrian trails included as INF system trails and/or as official MLTS trails. Work with equestrian groups to increase maintenance activities along permitted trails in order to mitigate rutting and remove accumulated manure on or adjacent to the trail tread.

Focus Areas: Poorly maintained sections of permitted equestrian trail

Potential Performance Metric(s): Volunteer hours deployed. Linear feet of rehabilitated trail. Weight/volume of manure removed.

(SEE EQUESTRIAN TRAIL MAP ON FOLLOWING PAGE.)



Lakes Basin Special Study
Equestrian Trails in the Lakes Basin

— Equestrian Trails — Existing Use Trails



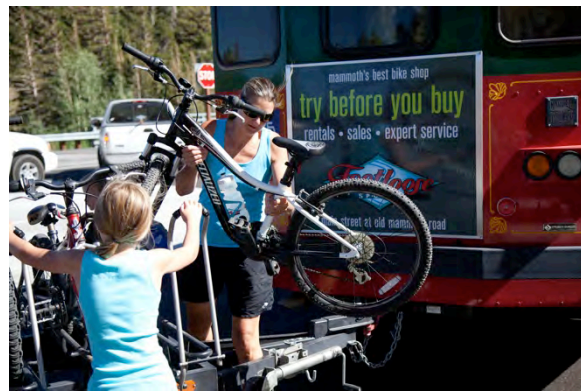
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5) USE TROLLEY AS “VEHICLE” FOR EDUCATIONAL MESSAGING

Work with Eastern Sierra Transit Authority (ESTA) to identify opportunities to deploy educational messaging on TOML transit vehicles entering the Lakes Basin. This may be achieved using any combination of the methods described in the table below:

Method	Advantages	Disadvantages	Potential Target Groups
Exterior bus ads (side)	Greatest visibility. Can be seen by boarding passengers and motorists.	Aesthetics	Hikers, bicyclists
Exterior bus ads (rear)	Greatest potential to capture attention of motorists entering/exiting the Lakes Basin	Aesthetics	Fishermen, equestrians, motorists
Exterior bus ads (on bike racks)	Appropriate for delivery of bike-specific messaging. Could be as small as a sticker or as large as a trailer-length display.	Aesthetics	Bicyclists (smaller ads), general public (larger displays)
Interior bus ads	Transit riders are a captive audience.	May not be seen by all passengers, depending on placement	Hikers, bicyclists, other activity groups likely to use trolley
On-board video/PSAs	Ability to capture attention of passengers	Aesthetics, cost of installing equipment and producing video	Hikers, bicyclists, other activity groups likely to use trolley
On-board docents	Ability to capture the attention of, and engage, passengers	Labor intensive, less institutional control of messaging	Hikers, bicyclists, other activity groups likely to use trolley

On-board survey data (new or existing) should be used to determine which user/activity groups are most likely to use the trolley system at different times of year. A prioritized list of appropriate educational messages will be developed and assigned with logical launch dates and delivery methods based on seasonal relevance and the target audience for each message. Craft the content and graphic elements of each message for deployment on all Lakes Basin-bound trolley vehicles.



The Mammoth Lakes trolley currently features exterior ads.

Focus Area: Basin wide

Potential Performance Metric(s): Number of ads deployed, number of docent trips, and estimated ridership on lines with ads will provide metrics for estimating the number of

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trail users reached. More-specific measures will be developed for each message to determine the degree to which behavior has been modified.

6) ENCOURAGE BEHAVIORS THAT REDUCE USER CONFLICTS

Develop specific messages to encourage safe and courteous interactions between bicyclists and equestrians on trails where both uses are permitted. Messages can be placed along trails, on trolleys, and at locations where bicyclists and equestrians congregate (Mammoth Mountain Bike Park, bike-rental locations, equestrian stables/outfitters). The program should reinforce the yielding procedures already in place on multi-user trail segments and encourage use of appropriate audible cues (vocal, bells, etc.) by bicyclists when passing equestrians and hikers. The messaging should also consider the full inventory of regulatory and advisory signage related to safe interactions among trail users and ensure that messaging is consistent with these regulations as well as with MLTS signage standards.



Use of educational materials such as bells should reinforce messaging displayed on trail-system signage.

Focus Area: Horseshoe Lake Loop and along other shared-use trails in the Lakes Basin

Potential Performance Metric(s): Objective, observation-based data on bicyclist/equestrian interactions should be collected before implementation of this program (baseline) and then on a regular (e.g., annual) basis to track the effectiveness of

implementation. The number of official complaints or positive testimonials received may also be useful in measuring progress.

7) REDUCE LITTER

There are a total of five trash receptacles, five Dumpsters, three recycling bins, and two monofilament collectors serving the trailheads, day-use areas, and marinas of the Lakes Basin. Litter has been reported as a problem primarily in the areas surrounding the lakes, but also at some day-use areas and trailheads. In order to reduce litter, employ various strategies, including:

- (1) Strategic deployment of existing resources (e.g., sending existing staff resources to areas with greatest problems with litter and relocating underutilized trash and recycling receptacles, if any exist, to areas with higher foot traffic)
- (2) Purchase and install new trash, recycling, and monofilament receptacles.
- (3) Recruit and deploy volunteer labor to remove litter via the existing multi-partnered Summer of Stewardship program.
- (4) Recruit local businesses or organizations to participate in an Adopt-a-Lake/Day-Use Area/Trailhead/Trail program.



Existing Dumpsters at Twin Lakes

The California Coastal Commission provides information on monofilament collection and recycling: <http://www.coastal.ca.gov/ccbn/trashdebris.html>.



Existing monofilament collector

Focus Area: Areas around lakes

Potential Performance Metric(s): Volume/weight of additional litter removed through increased efforts. Before and after photos.

8) LAKES BASIN TRAIL DEVELOPMENT

Develop trail projects in the Lakes Basin based on public input and collaborative efforts realized through the LABSS process. High levels of visitation and inadequate official trail connections have resulted in the degradation of official trails and a proliferation of informal user-created trails in the Lakes Basin. The strategic development of sustainably designed and routed trails serving the most common desire lines and destinations in the area will help to mitigate the proliferation of user trails and their associated environmental impacts while also improving user experience and connectivity.

The following trail-development concepts arose from the public meetings convened as part of the LABSS process in the summer/fall of 2010. The trail-development concepts

represented below are based on the documented input from the LABSS public meetings and are listed in no specific order. Please note that specific trail types and trail usage has yet to be determined.

- (1) Dike Wall Trail: Develop an official trail from the Lake George staging area to the “Dike Wall” rock-climbing area to discourage the development of multiple user-created trails.
- (2) Horseshoe Piles Trail: Connect the Lake George staging area to the “Horseshoe Piles” rock-climbing area.
- (3) Campground to Lake George Trail: Develop a trail connecting the campground to the lake that respects the slope and protects the lake from erosion caused by poorly aligned user trails.
- (4) Lake George Loop: Officialize the user trail around Lake George, rerouting where necessary to ensure sustainability.
- (5) Mammoth Crest and Crystal Lake Trail: Rehabilitate and repair segments with braiding and erosion.
- (6) Horseshoe to Lake George Path: Increase the attractiveness of Horseshoe Lake as a staging area and reduce pressure on available parking and other resources in the Lake George area by developing a multi-use path connecting Horseshoe Lake to Lake George. The multi-use path should use a paved or crusher fines (decomposed granite) surface.
- (7) Lake Mary Path: Create a multi-use path branching off the Lakes Basin Path and looping around Lake Mary.



Rock climbing at Dike Wall

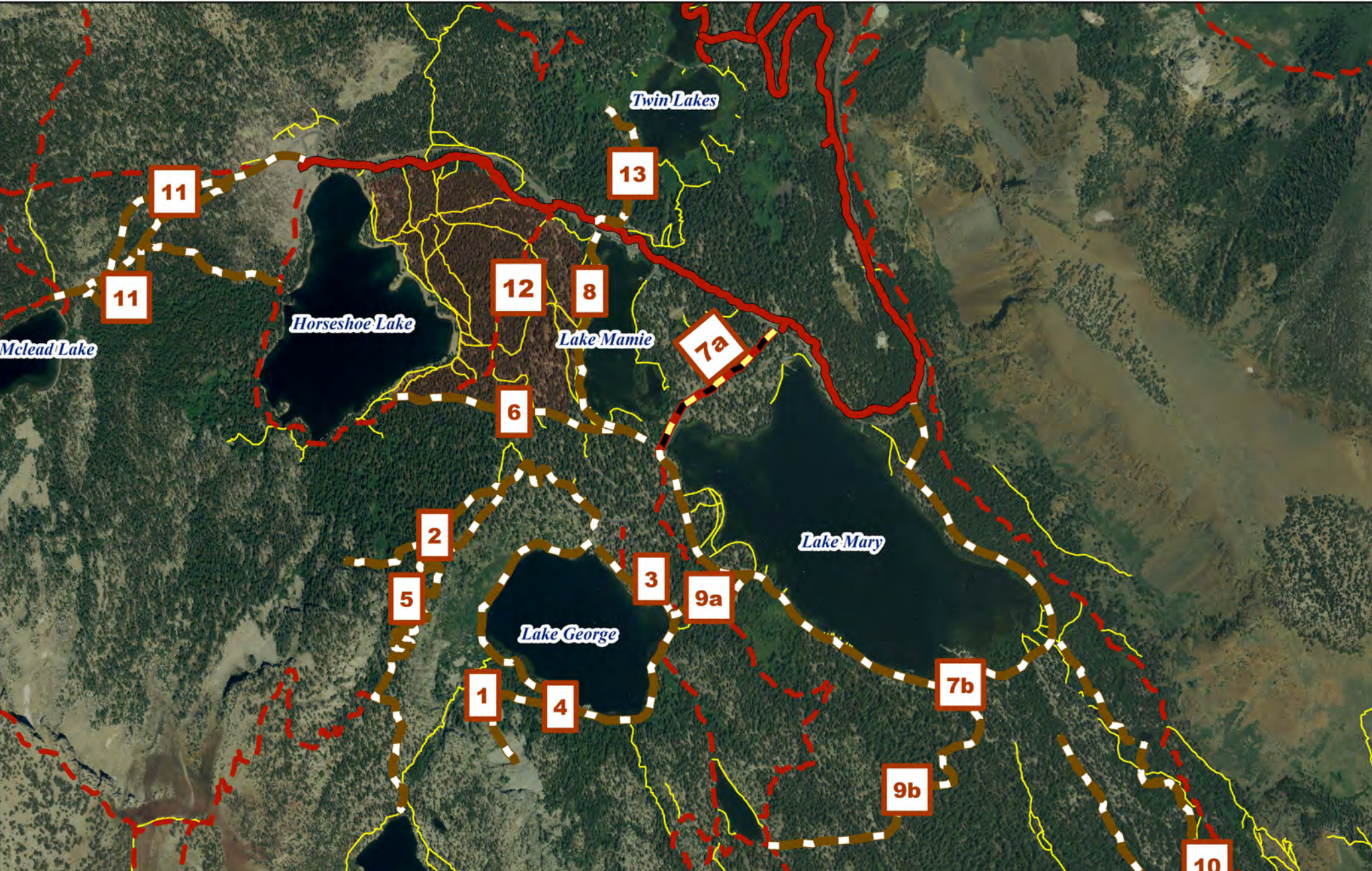
a) Funded segment: The TOML and the INF received a Paul S. Sarbanes Transit in Parks grant from the Federal Transit Administration to complete the segment between Pokonobe Lodge and Lake George Road. It is planned for the west side of the street and would include a bridge over the outlet from Lake Mary into Lake Mamie.

b) Unfunded segment: The remaining unfunded alignment begins at Lake George Road and follows the shoreline to the Coldwater Campground service road, Lake Mary Road, and reconnects to the Lakes Basin Path.

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- (8) Lake Mamie Trail: Create a trail along the western shoreline of Lake Mamie.
- (9) Four Lakes Loop: Create a loop trail connecting lakes Mary, George, Barrett, and TJ, building off existing soft-surface trails in the area.
 - a) Lake Mary to Lake George
 - b) Lake Mary to Barrett Lake
- (10) Coldwater to Lake Mary: Evaluate trail from Coldwater Trailhead to Lake Mary Loop Road for officialization, reconstruction, or closure.
- (11) McLeod Lake Trail: Improve erosion-control measures on the McLeod Lake Trail and consolidate any braided or user-created trails in between Horseshoe and McLeod lakes.
- (12) Lake Mamie–Area User Trails: Officialize or remove user-created trails between Horseshoe Lake and Lake Mamie.
- (13) Twin Falls Trail: Create a trail along Twin Falls between the Twin Falls overlook and Upper Twin Lake (equestrian and pedestrian only).

(SEE TRAIL-CONCEPTS SUMMARY MAP ON FOLLOWING PAGE.)



Lakes Basin Special Study
Trail Concepts Summary - 02/26/12

 LABSS Trail Concepts	 Existing Use Trails
 LABSS Concept #12	 TOML Planned/Funded
 Existing MUPS	
 Existing Soft-Surface	

9) REHABILITATE, REROUTE, OR CLOSE INFORMAL TRAILS

Management experience indicates that informal user-created trails are often poorly designed, degrading the user experience and creating resource-management problems that are compounded by the lack of budget for regular maintenance. While the trail-development recommendations in the previous section give priority to the rehabilitation or closure of user trails between Lake Horseshoe and Lake Mamie, the issue of user trails must be addressed throughout the Lakes Basin. There are approximately 22 miles of informal user-created trails in the Lakes Basin, which should be broken into discrete segments and considered for rehabilitation, rerouting, or closure. Wherever possible, informal trails providing access to experiences not available on the system of official INF trails should be rehabilitated (if necessary) and officialized in their current location, if sustainable, or be rerouted to sustainably meet demand. Trails that are unsustainable and/or duplicative of other trails should be considered for closure and restored to a natural state.

Jeff Marion, United States Geological Survey (USGS) research scientist, provides detailed guidance for the management of informal use-trails through the following article and presentation:

Article:

<http://www.americantrails.org/resources/ManageMaintain/MarionInformal08.html>

Presentation: <http://atfiles.org/files/pdf/ManagingInformalTrailsLR.pdf>



Informal trails are closed and restored through the use of signage, low fencing, or constructed barriers. Source: Jeff Marion/American Trails.

Focus Areas: Basin wide, though user trails are heavily concentrated in the upper Lakes Basin and Lake Mamie areas.

Potential Performance Metric(s): Mileage of closed, rerouted, or rehabilitated sections. Before and after images. Hours of manpower (hired and volunteer) deployed to correct damaged trail segments.

10) EVALUATE AND MANAGE UNOFFICIAL PARKING

Currently, there are approximately 665 parking spaces in the Lakes Basin, most of which are paved; however, approximately 33% of these spaces are user-created off-road spaces. These unofficial spaces are, in most cases, in the shoulder areas of roadways, particularly along Lake Mary Loop Road. These user-created spaces contribute to resource damage and negative impacts to water quality.



Typical Lakes Basin unofficial parking spaces on a busy holiday weekend

The TOML and INF should consider overall parking management in the Lakes Basin and consider formalizing or eliminating unofficial parking spaces based on resource protection, safety, and demand. Work to implement necessary design changes to formalize or eliminate spaces, which may include paving existing unofficial spaces or blocking access to those spaces. The TOML and INF should also work together to improve parking enforcement, including the potential assessment of parking fines that could be used to make parking or other improvements in the Basin.


Focus Areas: Basin wide along roadway shoulder

Potential Performance Metric(s): Number of spaces eliminated or formalized

(SEE OFF-PAVEMENT PARKING MAP ON FOLLOWING PAGE.)



**Lakes Basin Special Study
Off Pavement Parking**

 Off-Pavement Parking

11) IMPROVE MULTIMODAL TRANSPORTATION AND SAFETY

Over the last several years, the INF and the TOML have implemented a number of multimodal improvements to provide greater transportation access to, and to reduce automobile use in, the Lakes Basin. Adding additional transportation options encourages visitors to get out of their cars, which reduces air pollution, negative water-quality impacts from erosion, and noise and improves safety for all users of the Basin, including wildlife.

11A. IMPROVE PEDESTRIAN AND BICYCLE SAFETY AND ACCESS

The most significant recent multimodal improvement is the construction of the Lakes Basin Path by the TOML and the INF. The 5.3-mile multi-use non-motorized paved path travels from town to the Lakes Basin and continues through the Basin to Horseshoe Lake, generally along Lake Mary Road. The separated paved path has seen a high level of use by both pedestrians and bicyclists since Phase I was completed in the summer of 2010. Construction of the path has reduced the number of vehicles on the road and improved safety by providing a separate facility for pedestrians and bicyclists so that they are not sharing the road with vehicles.

The TOML and the INF should continue to pursue additional funding in order to improve multimodal access throughout the Basin, particularly for pedestrians and bicyclists. A particular area of focus should be the Lake Mary Loop Road, for which the TOML and the INF received a Paul S. Sarbanes Transit in Parks grant to further evaluate multimodal improvement alternatives for the loop road. The grant funds will allow the planning partners to complete detailed analysis of potential one-way traffic alternatives for the road, which may provide additional space within the existing narrow cross-section of the road to accommodate pedestrians and bicyclists more safely. Grant funds were also awarded for the construction of a multi-use paved path along a portion of the Lake Mary Loop Road between Pokonobe Lodge and Lake George Road. See the trail-development concepts numbered 7a and 7b under the “Lakes Basin Trail Development” section for more information on these trail concepts.

The TOML and the INF also should consider additional measures to reduce vehicle speed within the Basin, particularly along Lake Mary Road near the pack station and the Twin Falls overlook. Measures may include traffic-calming treatments and/or improved enforcement.

11B. IMPROVE TRANSIT CAPACITY AND ACCESS

In 2007, the TOML started a free trolley service from town to and within the Lakes Basin. The route, which is served by two trolleys per hour, stops at 12 stops within the Basin. Each trolley is equipped with a bike trailer that carries 12 bikes. The TOML, through a dedicated percentage of the local transient-occupancy tax, provides funding for this service.

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While the existing trolley service provides access to most locations within the Basin, there are still a number of locations that remain unserved, including the popular Twin Lakes Campground area, the Coldwater recreation area and campground, and the Lake George recreation area and campground.

The TOML and the INF should continue to evaluate transit capacity and service improvements and pursue funding to implement improvements. Current funding levels are not sufficient to expand service to currently unserved areas or to add additional trolleys.

DOCUMENT LIBRARY:

For a complete library of all documents referenced in this Executive Summary, as well as resource documents used by the LABSS partners, recordings and documentation of public meetings, results of surveys and data collection efforts, please visit http://www.mltpa.org/projects/current/SOS_2010/LABSS/.