Facilitating Travel Management

Motorcycle Race Route
Inventory and Assessments
2009

*'**BLM's Comprehensive Travel & Transportation Management (CTTM) Program** is the proactive management of public access and natural resources in compliance with travel-related regulations and according to the best land use management principles. It involves a comprehensive approach that considers various aspects of road and trail system planning and management, specifically natural resource management; road and trail design and maintenance; and recreation and non-recreation uses of roads and trails. Within this context, travel activities are evaluated as a means of access to public lands. They are also evaluated according to the effects all forms of motorized and non-motorized travel have on public lands and resources and on the people who use them. '*

http://www.blm.gov/wo/st/en/prog/Recreation/recreation_national/travel_management.html

Report prepared for

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PART ONE: EXECUTIVE SUMMARY

A. INTRODUCTION

Travel management planning is a high priority in the federal government. [Ref 1-9] This is the process by which agencies –

1. *INVENTORY* and map travel route locations

    [miles, acres, administration boundaries]

2. *ASSESS* route conditions

    [suitability, soil types, required maintenance]

3. *DESIGNATE* route uses

    [open/closed/seasonal, permitted and non-permitted uses]

4. *REGULATE* multi-use of public lands

    [signs, maps, permit processes]

5. *MONITOR* and document route development and use levels

    [field presence, GPS and photographs]

In preparation for the upcoming Resource Management Plan (RMP), the Winnemucca BLM has devoted field staff to route inventories and assessments every year since 2005. Nearly 2,200 miles of routes were located by GPS and documented with gps-photos. Areas for inventory were prioritized by lands bills proposals and popular areas for recreational use. Data collection had been by pickup truck and ATV. **The 480 miles of route inventoried for this project brings the miles inventoried to a total of <u>2,669 miles</u> in the district.**

Map 0.1 2,669 Total Miles Inventoried
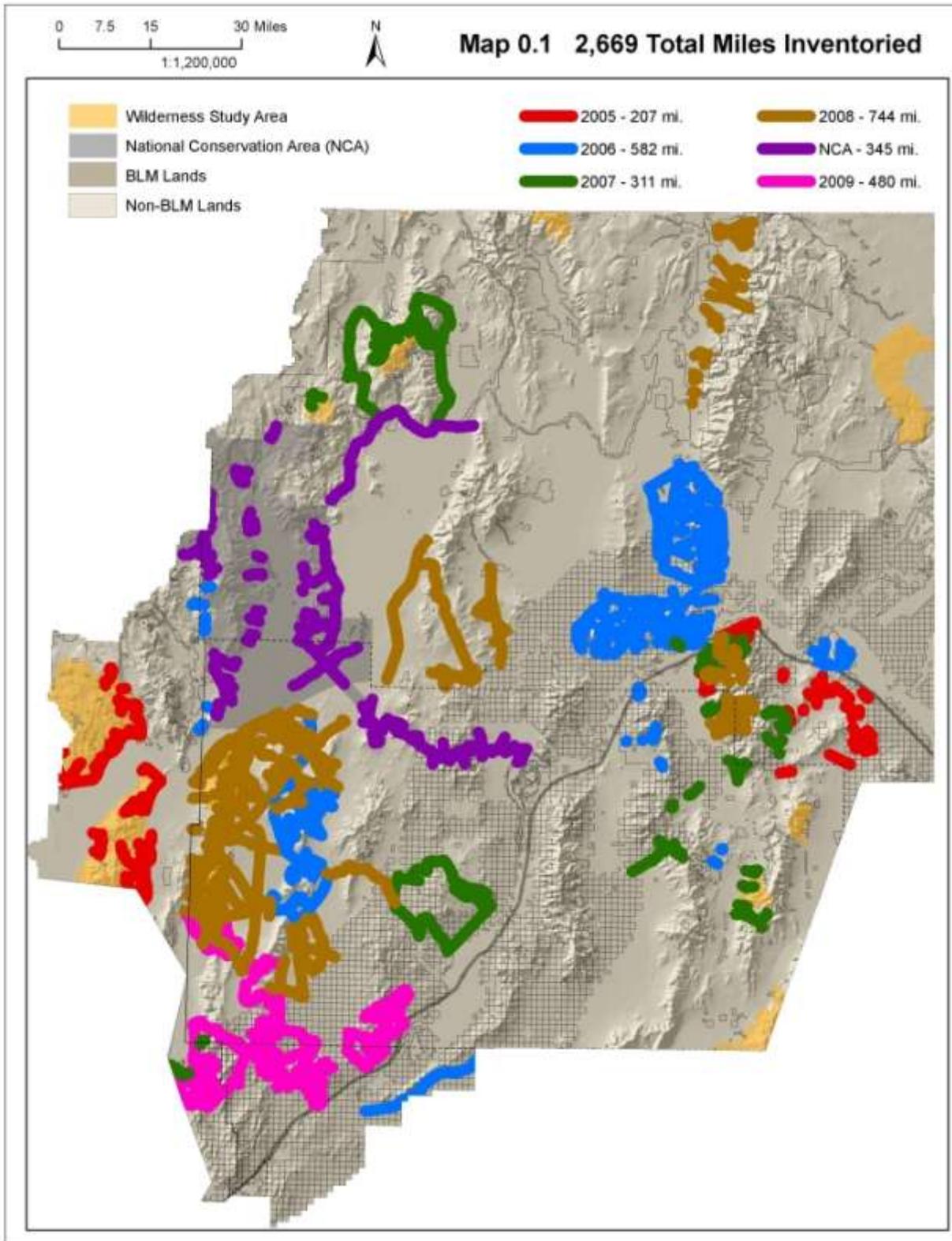
B. PROJECT GOALS

As a continuation of those efforts, this project focuses on routes used by **special recreation permit for motorcycle races**. The biggest challenge in inventorying these routes is the high level of skill that is needed to access these areas. The project field staff is comprised of members of the racing community whom possess **decades of knowledge and experience both riding and designing courses** in Northern Nevada. They offer an opportunity to collect data that **the BLM could not** otherwise access for lack of riding skill and equipment. Furthermore, the collected location and the assessment data could not be sensed remotely by plane or satellite.

This report and the accompanying data, analyses, and metadata builds on the 2005-8 data. This knowledge-based management tool expands upon and enhances existing route data and will **assist the BLM** in confidently proceeding with the next route designation, regulation and monitoring steps in **creating a travel management plan**. It will also assist in **managing special recreation permits for motorcycle races.**

C. RESULTS

Route locations, assessment data and photographs were captured, analyzed and stored in the project geodatabase.

- 480 miles (1.2 million acres) of routes were **GPS-captured** with the **standard NV BLM route data dictionary**

- 301 of those miles are on **BLM-managed lands** (the remainder are alternating private sections within the "Checkerboard") in the areas of Winnemucca Lake, the Sahwaves, Nightingales, and Toulon

- Data was **analyzed** by collected attributes such as route type, surface and suitability as well as reference data such as administrative boundaries

- Over **1,000 gps-located photos** support collected route assessment data

- The project geodatabase was also designed to serve as a **central storage location** in which to integrate the **previous 2,200 miles** of route inventory data

- Recommendations were made to facilitate the development of a **travel management plan** and the management of **special recreation permits (SRPs)**

D. TRAVEL MANAGEMENT PLANNING RECOMMENDATIONS

The following recommendations build upon this report for the expansion and enhancement of the existing travel route data.

STEPS 1 & 2: Inventory and assess travel routes
i. Manage all travel route data in the project geodatabase

A single travel management database will allow for the visualization of a district-wide travel and serve as a baseline for monitoring the appearance or disappearance of routes over time.

To date, previously route inventory data is not accessible in a **central 'one-stop' location.** Rather it remains in the older shapefile format in multiple directories and has yet to be compiled into a single dataset. This makes it highly susceptible to being lost or marginalized. A district-wide transportation geodatabase was recently created to combine route inventory data with the GIS roads layers, but only route type was imported from past inventories. Key assessment and condition data (route condition, suitability, soil types etc) *were not included* despite meticulous field efforts to capture this **vital information for making route designations.**

Roads from the GIS layer could also be incorporated into the project geodatabase. In cases where GPS-captured data differs from the GIS layer, recent 2006 imagery can be cross-referenced. Both c**urrent and historical locations** can be noted in the dataset.

> **ACTION ITEM**
>
> The project GDB should be used to centrally store
> - Project GPS data and photos,
> - 2005-2008 route inventory GPS data and photos, and
> - The GIS 1:100k roads layer.

ii. Continue to expand travel route data

As discussed in Study 1, use **route points** to guide future inventories and integrate existing data. To prioritize areas, create Travel Management Areas (TMAs).

iii. Collect future data with ESRI ArcPad

ArcPad is designed to capitalize on the many advantages offered by the **geodatabase** format. Data collection and management is significantly improved over the current Trimble TerraSync and Pathfinder Office workflow.

STEP 3: Designate travel routes

Support travel route designations with **assessment data and GPS-photos**. Create maps of recommended routes and tours to **disperse use.**

STEP 4: Regulate travel by all users

Distribute printed and online maps with route designations, regulations and Tread Lightly ethics need to be made available to the district's diverse user base. Install road improvements and initiate rehabilitation efforts where needed. Post signs and kiosks at heavily used areas to inform users on methods to **lessen impacts to natural resources.**

STEP 5: Monitor travel by all users

i. Collaborate with local users groups to inventory routes

Develop a strategy to monitor travel by all users despite the challenges in both the size of the district (12 million acres district – two-thirds of which are managed by the BLM) and a large base of users. The Winnemucca 4WD club and the Northern Nevada Recreation Coalition have volunteered to inventory routes with Trimble GPS. This possibility merits further exploration as various federal agencies have successfully completed **citizen-assisted inventory programs**. [Ref 10-12]

ii. Incorporate new UTVs in travel management plan

A typical travel route might begin as an animal trail followed by a motorcycle or ATV. As the route gains more use, it may expand to accommodate larger vehicles. While inventorying routes, the team observed the proliferation of new distinctive footprint. These tracks which are wider than an ATV but less so than a Jeep or pickup truck were created by the new Rhino-like vehicles. The presence of UTVs is **expanding in the number and range.** They represent the largest growing sector of off-road vehicles sales and demand consideration in the travel management plan.

E. SPECIAL RECREATION PERMITS (SRP) RECOMMENDATIONS

The team draws from its combined decades of experience in course design, race riding, soil and erosion control, land management GIS in making the following recommendations to facilitate the management of race SRPs.

STEPS 1 & 2: Inventory and assess permitted routes

i. Manage all race route data and monitoring photos in a Race Permits geodatabase

Past race course routes are still in the older shapefile format across many directories and have yet to be compiled into a single dataset. Race data from 2007 to date has not been compiled with previous data. All data also remains in the older shapefile format. It would be beneficial to migrate existing route data and monitoring photographs into a **single geodatabase.** Environmental Assessments (EAs), and other race documents could be scanned and linked to race records.

ii. Establish standard methods to communicate geospatial data

The biggest difficulty in managing race course data lies is that no one standard method exists by which route proposals are submitted. Most permit applications are accompanied by paper maps which require time-consuming digitizing. Some permitees have submitted recreational grade GPS data, or routes from commercial map software. Both methods can require multiple conversion steps to integrate the data into GIS for analysis.

Race organizers should submit proposed routes by the GeoPDF software described below, Trimble GPS, or recreational GPS data that can be converted by the DNR Garmin software already adopted by NV BLM. **These methods will assist in keeping the race database current and facilitate GIS analysis.**

ACTION ITEMS

- Manage all race route data in a Race Permits geodatabase

- Update 2007 Race Routes GeoPDF

- Contract race course monitoring to an experienced team

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iii. Update 2007 Race Routes GeoPDF

The GeoPDF format **distributes data** via an interactive map containing not only documented, approved race routes but reference data such as land status and USGS maps. Unlike a static image of a map, the interactive map allows users to zoom, pan, and toggle layer display.

GeoPDF is also a sophisticated markup tool for **communicating map data**. A race route can be proposed by drawing onscreen. Comments can be attached to routes. The locations and comments are exported to a small file distributed by e-mail. That file is imported to the recipient's copy of the map to review the marked locations and comments and to add their responses. These abilities to read and markup maps are offered to map users at no cost. The BLM can convert the file of marked locations and comments directly to shapefiles to GIS. The GeoPDF format has been widely adopted by the public as most USGS topo maps are now available in this format.

In 2007, Winnemucca BLM published a GeoPDF of approved race courses. [App E] It should be updated with project data and race routes from the last 3 years. Slope, soil type and other information that can be used to plan routes could be added. **This will assist in reducing potential resource impacts while offering courses that are sustainable, diverse and challenging.**

STEP 3: Designate areas for organized races

i. Permit by areas

Efforts were begun in the early 2000's to create a **programmatic EA** to designate areas for motorcycle races. Due to personnel changes, these efforts were never completed. It is recommended that BLM return to this endeavor.

ii. Assign route designations

Project location and assessment data can assist in making route designations. Making these assignments by areas rather than individual route segments would eliminate the time-consuming construction and analysis of proposed routes against previously approved routes. This would also mute any uncertainties about the exact past locations and is in line

with all other travel route designations which are made by areas rather than linear routes. [App F]

STEP 4: Regulate Special Recreation Permits (SRPs)

Races, like many other recreation events on the public lands, are managed under a Special Recreation Permit (SRP). The potential impacts of the event are analyzed and an Environmental Assessment (EA) is issued with stipulated terms to ensure both visitor safety and resource protection [App I]. Permit stipulations address: 1) operating plan, b) resource protection, and c) public safety. The BLM must demonstrate that race organizers ensure participants comply with all permit stipulations such as -

- Trash removal
- Course marking
- Riders travel only on permitted route course
- Route rehabilitation
- Post-event inspections

Motorcycle Racing Association of Northern Nevada (MRANN) hosts a dozen motorcycle races per calendar year [App G]. Half of these races are in the Winnemucca BLM district. Event weekends are a family-event filled with riding, camping and camaraderie. Races are held on both days with the Sunday race usually the larger, more competitive course of a 50-mile loop ridden twice by each of the 250 riders. [App H].

Incorporate report recommendations to permit stipulations
- GPS-capture course during race or event clean-up to record locations as ridden
- Prescribe rehabilitation methods and timelines from Studies 3 and 4
- Add to permit fees the cost of contracting an experienced monitoring team
- Modify penalties for permit violations to be statewide rather than within a single district

BLM and MRANN should **partner to** develop race course routes and permit stipulations

STEP 5: Monitor race course routes and events

All events on the public lands command the visibility and attention of the general public, environmental, wilderness and other watchdog groups. It is **critical** that BLM closely **monitor and document permit compliance.**

i. Monitoring benefits both the BLM and permitees

It is recommended that race organizers GPS-capture the race course during the race or clean-up to record ridden locations. This will record race courses as ridden and make it easier to enter these locations in GIS for post-race inspections, record keeping and proposing future race planning.

Race course routes are commonly traveled by casual riders, hunters and other users by variety of vehicle types. To clearly define which resource impacts, if any, are directly accountable to race events, course conditions must be documented before, during and after the event. This documentation holds the race organizer accountable for the event and limits their liability for damage by other users of these commonly traveled routes. Monitoring allows the BLM to justify decisions to allow or deny race events to be held on the public land.

ii. Foster collaboration between the BLM and MRANN

Since the BLM lacks the required the riding equipment and skill level. The BLM and race organizers should work together to capture course locations, monitor travel route use levels, and determine rehabilitation needs. MRANN could purchase a Trimble GPS device and Ricoh GPS-camera and train a few members in each club. Race course proposals could then be submitted by Trimble GPS. The GPS and GPS-camera could also be used during event clean-up to show course locations and conditions. This ongoing relationship would mutually benefit both the racers and the BLM.

iii. Contract race course monitoring to an experienced team

Since permitees cannot perform their own compliance inspections, an experienced team devoted to monitoring race events should be contracted. The cost of these contracts could be included in permit fees.

F. COMPLETED STUDIES

	Study	Results	Discussion	Benefits and Applications
1	**Route Locations & Types** Continue efforts towards developing a travel management plan	91 % of project routes were primitive roads (wash, single-track, or two - track)	Collected data meets established and proposed BLM standards	1. Manage all travel route data in project geodatabase 2. Capitalize on route points to continue inventories and assessments 3. Utilize route locations for NEPA and wilderness characteristic analysis for all office projects
2	**Route Conditions & Assessments** Provide quality data to make and support route designations	62 % of project routes were suited for motorcycle or ATV travel The majority of routes were in good condition	GPS-collected data offers the ability to - 1. Detect primitive roads 2. Assess route quality 3. Submeter accuracy 4. Maintain a presence on the public lands	1. Manage all race course data in a Race Permit geodatabase 2. Designate areas for races and other permits 3. Assign travel route designations

	Study	Results	Discussion	Benefits and Applications
3	**Route Rehabilitation Recommend-ations** Facilitate enjoyment of the public lands while protecting the resources	3 % of project routes were recommended for rehabilitation based on - 1. Whoops/ Whooped Out 2. Braiding 3. Erosion	Adaptive management to identify the point at which rehabilitation is required Recommend rehabilitation methods	1. Minimize impacts through route choice and rehab efforts 2. Incorporate report recommendations into permit stipulations 3. Address route travel by all users
4	**Route Use Examples of Excellence & Good** Demonstrate use of public lands with minimal impact	11 % of project routes were recorded as examples of route usage with minimal resource impacts based on the recommendations of the erosion specialist on the field team	1. Choose routes that support sustainable use 2. Vary race course routes to allow the land to rest and self-repair 3. Rotate use of staging areas to minimize Impacts	1. Choose routes with demonstrated minimal impacts 2. Encourage dispersed and responsible use

NOTE: Team observations and recommendations were made from the professional expertise and cumulative experience of the team regarding storm water management and surface erosion, motorcycle course design and riding, land management processes and GIS. It is not the intention of this report to offer a comprehensive discussion to impacts to all resources (i.e. wildlife, cultural, minerals etc).