

Facilitating Travel Management: Motorcycle Race Route Inventory & Assessments

A knowledge-based management tool for the creation of a travel management plan and the management of special recreation permits for races



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introduction : TRAVEL MANAGEMENT

Travel management is a **high priority** in the federal government. This is the process by which agencies –

INVENTORY and map travel route locations [miles, acres, administration boundaries]

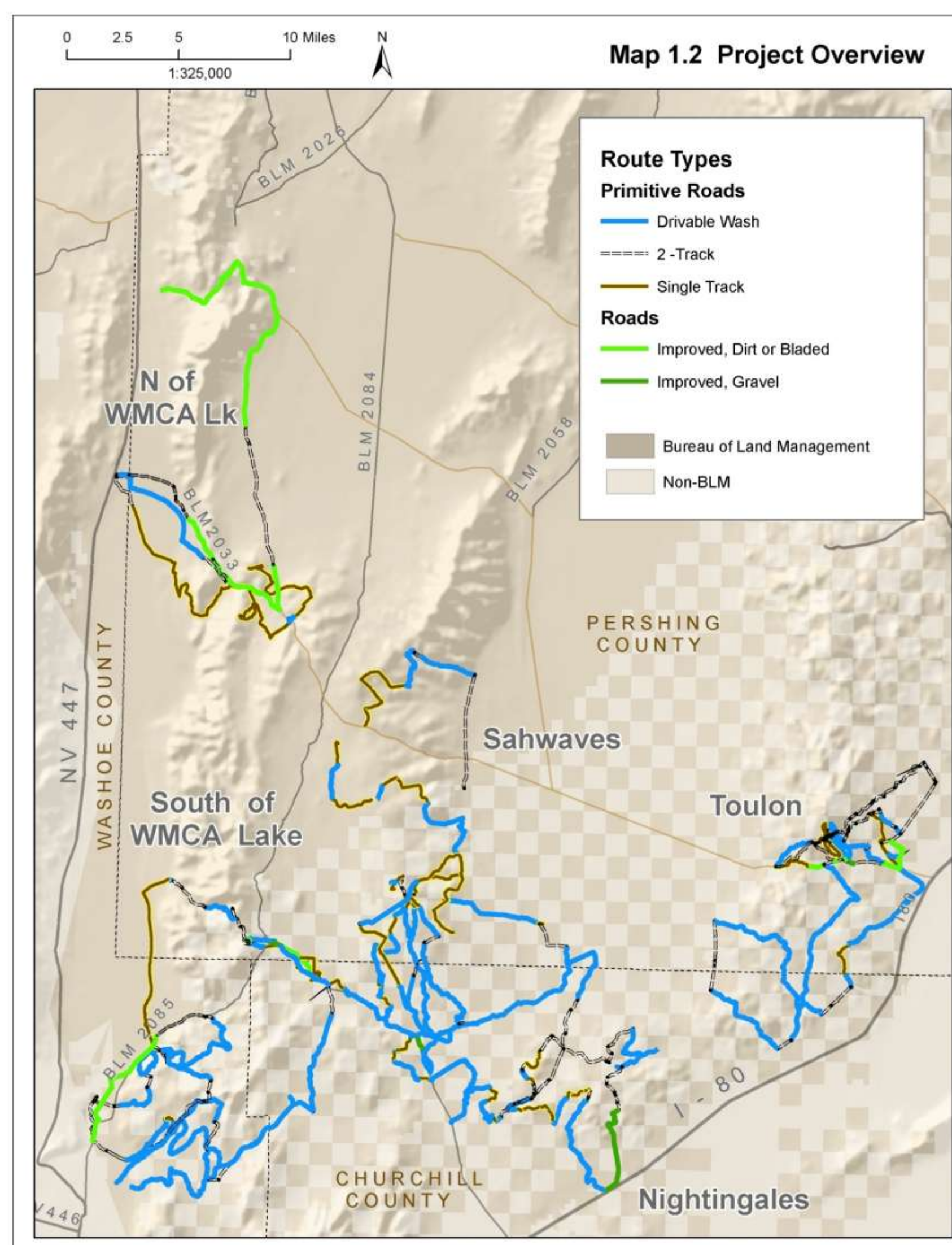
ASSESS route conditions [suitability, soil types, required maintenance]

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

REGULATE multi-use of public lands [signs, maps, permit processes]

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. Data collection by pickup truck and ATV has GPS-captured and photo documented nearly 2,200 miles of routes. As a continuation of those efforts, 2009 efforts focused on routes used for motorcycle races. The field staff was comprised of members of the racing community whom possess **decades of knowledge and experience both riding and designing courses.**



The 480 miles of route inventoried in 2009 makes for a total of **2,669 MILES INVENTORIED**

summary : ADAPTIVE MANAGEMENT

This report and the accompanying data, analyses, and metadata 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 race special recreation permits** for motorcycle races. Lessons learned from routes with minimal resource impacts despite high levels of use can be applied in selecting future race courses. When impacts do occur, **indicative conditions** for needed rehabilitation can be tied to route use as described within the report.

mandate : BLM'S COMPREHENSIVE TRAVEL & TRANSPORTATION MANAGEMENT PROGRAM (CTTM)

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

methods: COLLECTED VALUES

STUDY 1

Route Points

Point type (Point type)
Y,T Intersection, 4 Way, 5 Way, 6 Way,
End of Route, Other, End of Day

Route Lines rt_type

Single Track, Drivable Wash, Unimproved 2-Track
Improved Dirt/Blad, Improved Grvl

STUDY 2

Suitability

Motorcycle, ATV, 4WD/High Clearance, 4WD,
2WD/High Clearance, All Vehicles

Overall Condition

Good, Fair, Poor, Impassable, Does not apply

STUDIES 3 and 4

Specific Condition *

Needs Rehab, Good Example, Excellent Example,
Does Not Apply

CONDITIONS

Vertical Variance *

Flat, Gentle Slope, Undulating, Steep, Whoops,
Whooped Out, Downhill Only, Does Not Apply

Braided *

No, Yes

Soil Type *

Rocky & Sandy, Rocky, Sandy, Hardpack, Wash,
Does Not Apply

Condition

Rocky/Rough, Loose Sand/Silt, Does Not Apply

NOTE: The NV BLM route inventory data dictionary served as a minimum standard. Attributes added to meet project-specific goals are indicated by an asterisk. Refer to the report for the complete details of the project data dictionary.

methods : INTEGRATED GPS & GIS TOOLS

Trimble **MAPPING GRADE GPS DEVICES** were used to capture point, line and polygon features and attributes with the established

NEVADA BLM ROUTE INVENTORY DATA DICTIONARY.

Additional information such as trail condition and other assessment data was recorded.



RICOH GPS-CAMERAS

were used to photo-document each intersection and points of interest. These GPS photos support route assessment data

and observations. Photos were processed with **GEOSPATIAL EXPERTS GPS-PHOTO LINK** to watermark photos and display locations in GIS.

completed studies : RESULTS



THE PERFECT ROUTE

see study 4 to see why this is....

study 1 : Route Locations & Types

Every land management project is tied to a location on the ground

Surface Management
63 % of the routes are on the **PUBLIC LANDS**

Route Types
91 % of the routes are **PRIMITIVE ROADS (washes, 1 or 2-tracks)**
9 % of the routes are **ROADS (improved dirt/bladed or gravel)**

study 2 : Route Conditions & Assessments

Provide quality data to make and support route designations

Suitability
62 % of the routes are suited to **MOTORCYCLE or ATV**

Overall Condition
86 % of the routes are in **GOOD CONDITION**

study 3 : Recommended Route Rehabilitation

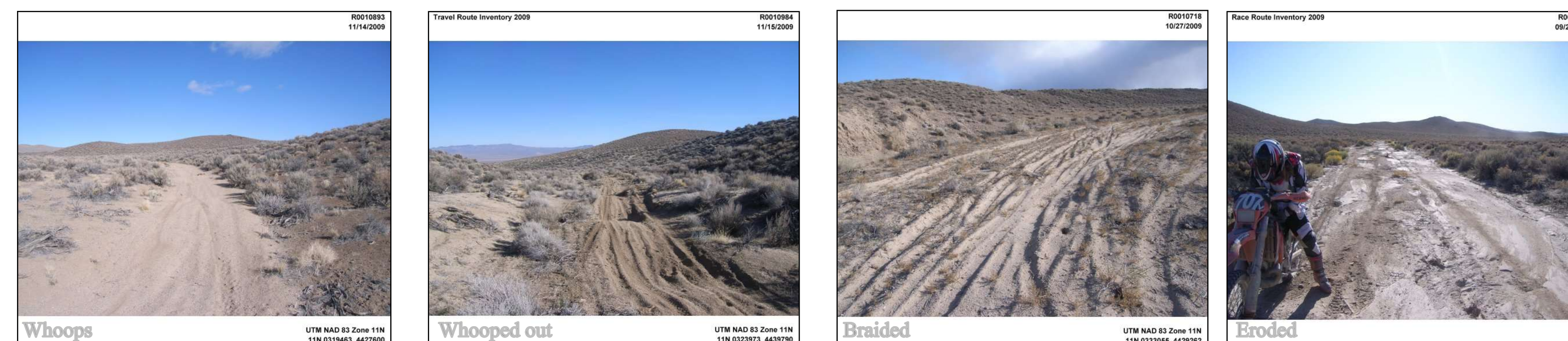
It is the BLM mission to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations

3.7 % of the routes were recommended for **REHABILITATION**

Team observations and recommendations were made from the **professional expertise** and **cumulative experience** of the project team in **storm water management and surface erosion, motorcycle racing and route design, land management and GIS.**

The team noted routes that were candidates for rehabilitation. These areas were : a) 'whooped out', b) braided or c) eroded.

Proposed causes for these impacts and prescribed rehabilitation methods are detailed in the report.



Photos from left to right
'Whoops' are the road equivalent of washboard areas or the ski equivalent of moguls
A route is **'whooped out'** when the formation is large enough to cause riders to move to the outside of the trail in evasive action
A trail is considered **'braided'** when there are multiple lines or tracks weaving in and out of each other
'Eroded' conditions are where the desert topsoil is thinned and eventually stripped down to the hardpan by trail usage

study 4 : Route Use Examples of Excellence & Good

The Federal Land Policy and Management Act of 1976 provides the tools the BLM needs to cooperatively and creatively manage the public lands, and in the process, **dispels the notion that a variety of uses and resources cannot co-exist.**

2.7 % of the routes were **EXCELLENT EXAMPLES** and 8.5 % of the routes were **GOOD EXAMPLES**

The team noted travel routes with **MINIMAL resource impacts despite demonstrate heavy use.** These routes a) have blended into the desert environment with low visibility, b) have healthy vegetation, and c) lack severe whoops, braiding and erosion. The nature of these areas was studied to determine the mechanisms that kept these areas healthy. Based on these observations it is recommended that **race course routes and staging areas be varied** to allow the land to rest and self-repair.

WHAT MAKES 'THE PERFECT ROUTE' ?

This stretch **offers riders a challenge while leaving minimal resource impacts.** Despite being raced recently by **hundreds of riders**, only a single track is visible, and then only from the route itself. Looking back uphill, this trace is barely visible. This route is at a higher elevation with **hardier rocky and gravelly surface** that withstands use. There is **little water or runoff** to degrade or erode the route. Novice riders could ride this downhill, but uphill travel would tax beginners.

travel mgmt : RECOMMENDATIONS

Prioritize travel routes with high levels of use, accessibility and visibility

Inventory and Assess travel routes

- Manage all travel route data in the **project geodatabase ***
- Guide future inventories with **collected route points**
- Collect and manage data with **ArcPad**

Designate travel routes

- Support designations with **assessment data** and **GPS-photos**
- Disperse use with **recommended routes** and **tour maps**

Regulate travel by all users

- Distribute **regulations** and **Tread Lightly** information
- Install **road improvements** and **rehabilitate routes**

Monitor travel by all users

- Develop a strategy to monitor travel by **ALL user:**
- Consider a **citizen-assister inventory**
- Address the new **UTVs** in the travel management plan

travel management ACTION ITEM

In the project GDB centrally store -

- 2005 – 09 GPS data
- GPS photos, and
- the GIS 1:100k roads data

special recreation permit : RECOMMENDATIONS

The BLM and race organizers can work together to propose and GPS-capture course locations, monitor travel route use, and rehabilitate routes

Inventory and assess permitted routes

- Manage all race route data in a **race permits geodatabase ***
- Recieve routes proposals by **GeoPDF** or **Trimble GPS data**
- Communicate spatial data via **interactive GeoPDF maps ***

Designate areas for organized races

Apply location and assessment data to create a **programmatic EA**

Regulate via Special Recreation Permits (SRPs)

- GPS-capture **ridden course locations** and compare with permitted route
- Prescribe **rehabilitation methods** and **timelines**
- Implement permit violation penalties **statewide**
- Contract monitoring to an **experienced team ***

special recreation permit ACTION ITEMS

Monitor race routes & events

It is **critical** that the BLM closely **monitor and document** permit compliance

- Manage all race route data in a **Race Permits geodatabase**
- Update 2007 Race Route GeoPDF
- Contract race course monitoring to an experienced team

resources : COMPLETE REPORT

This management tool was compiled by Integrated Mapping Strategies, a GPS/GIS consulting firm devoted to empowering clients by integrating **strategic thinking** and **geospatial tools** to provide **documented, defensible data** as the basis for **informed management decisions.** Download the complete report at www.Spatial-Ed.com. For comments or questions, contact vito_carmosino@nv.blm.gov or laura@spatial-ed.com