

Spring | 2016



## Motorized Travel Monitoring on the Shoshone National Forest

This report describes the results of a volunteer-driven effort to document motorized travel concerns on the Shoshone National Forest. To help inform a responsible Travel Management Plan for the Shoshone National Forest, the Wyoming Wilderness Association (WWA) documented where and why off-road illegal use occurs, unauthorized routes that require effective closures, and on-the-ground observations regarding new proposed route additions. Nearly 50 citizens contributed observations resulting in 300 photo-tagged waypoints documenting motorized use concerns on the Wind River Ranger District (WRRD). This document illustrates the most common type of motorized use observations, offers constructive implications, and explains how to interpret the Google Earth and Excel databases accompanying this report. The report concludes that unauthorized routes not effectively closed to motorized use are the greatest source of unauthorized motorized use on the WRRD. The total data provided should help the Shoshone National Forest, the Shoshone Compliance Working Group and the concerned public in the current efforts to design a responsible Travel Management Plan and encourage compliance to the existing designated route system.



## TABLE OF CONTENTS

<b>Acronyms and Abbreviations .....</b>	<b>x</b>
<b>Background .....</b>	<b>1</b>
<b>Methodology .....</b>	<b>2</b>
How to Read this Report .....	3
<b>Results .....</b>	<b>6</b>
Closed Roads (Unauthorized routes).....	6
Closed Roads Not Closed (CRNC) .....	6
Closed Road Continues (CRNC/SRNT) .....	7
Ineffective Closures (CRIC) .....	8
Effective Closures (CREC).....	10
System Roads.....	14
System Road Needs Signage (SRNS).....	14
System roads Need Maintenance (SRNM) .....	16
<b>Off- Road, Illegal Use.....</b>	<b>18</b>
<b>Additional Data .....</b>	<b>19</b>
Check 2016 .....	19
Proposals. ....	19
Dispersed camping. ....	19
Mapping Discrepancies. ....	20
<b>Key Findings .....</b>	<b>21</b>
<b>Discussion .....</b>	<b>22</b>
Compliance Implications .....	23
Travel Planning Implications.....	26

---

## ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

The Wyoming Wilderness Association worked closely with Forest Service personnel to align terminology, but many of our terms and abbreviations evolved throughout data collection. Shorthand developed as common themes emerged through data collection. For example 'IU off UAR' to describe illegal off-road use off of an unauthorized route. Some descriptions and terminology can be used interchangeably and not exclusively; observations of motorized use on "Closed roads not closed" could also be described as "illegal use" or "closed road ineffective closure". The terminology and abbreviations used to describe WWA's motorized use observations is meant only to be a helpful description for readers to navigate the data.

**CR; Closed Road.** Shorthand used in WWA data collection to describe any non-legal motorized route, a route not designated open on the Motor Vehicle Use Map. (**See also UAR**, unauthorized route.)

**CRNC; Closed Road Not Closed.** Unauthorized route that has no closed sign or physical barricade to deter public motorized travel.

**CRIC; Closed Road Ineffective Closure.** Ineffective closure, motorized use continues.

**CREC; Closed Road Effective Closure.** Effective closure that deters motorize use

**Decommission.** Activities that result in restoration of unneeded roads to a more natural state (FSM 7734).

**Designated Route.** (Also **SR, system road**). Road (>50inches) or trail (<50 inches) that is designated for motor vehicle use pursuant to 36 CFR 212.51. Indicated on the official motor vehicle use map (MVUM)

**Infrastructure.** Signs and physical barriers needed on the ground to identify the legal designated route system from unauthorized motorized routes.

**IU; Illegal Use.** (See also Off-Road): Illegal motorized use. Reserved to describe illegal motorized behavior, as differentiated from unauthorized motorized travel on well-established but unmarked unauthorized roads.

**MVUM; Motor Vehicle Use Map.** The official map and enforcement tool reflecting designated roads, trails, and areas on an administrative unit or a Ranger District of the NFS (36 CFR 212.1).

**OR; Off-Road.** Off-road or off-route motorized use. Unauthorized, illegal motorized use. Differentiates from unauthorized motorized use that occurs on unmarked well-established unauthorized routes. (See also IU)

**SR, System Road (or Route).** A legal system road indicated on the existing MVUM. "open road" designated route", MVUM-route, authorized route.

**SRNM; System Road Needs Maintenance.**

**SRNS; System Road Needs Signage.**

**SRNT; System Road Needs Termination.** Motorized use on open system road continues past designated end because there are no signs or barriers to indicate end of route.

**UAR; Unauthorized Route.** A road or route that is not designated as open on the MVUM. Often used to describe well-established non-system roads (CRNC) that were likely old forest service or temporary timber roads.

**UCR; User-created Route.** Description of a non-system route that appears illegally pioneered, no established roadbed, motorized use is clearly illegal. Often maintained with illegal blazes, construction, etc.

---

## BACKGROUND

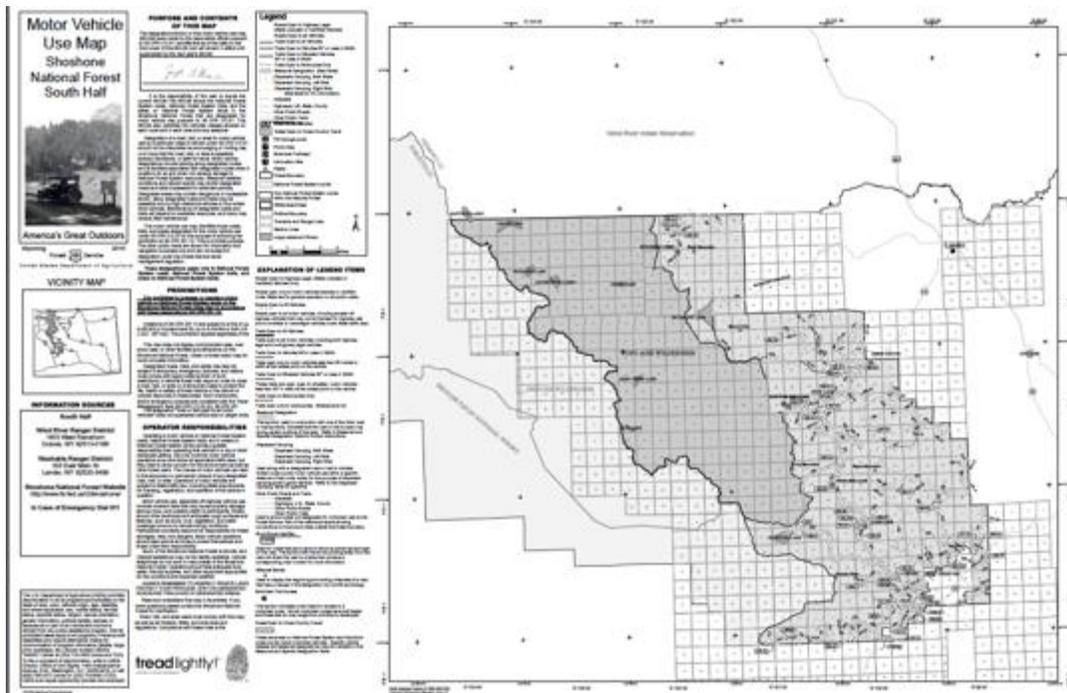
The Shoshone National Forest in Northwest Wyoming is our nation's first and oldest national Forest. This backcountry Forest contains 2.5 million acres of rugged wild country spanning the Beartooth, Wind River and Absaroka mountain ranges. The Shoshone boasts over one million acres of designated wilderness and an additional 750,000 acres of roadless wildlands. Making up the southeastern edge of the Greater Yellowstone Ecosystem, the Shoshone is a critical component of one of the last remaining intact temperate ecosystems in the world. Known also as "the horse forest", neighboring communities have embraced the Shoshone's lasting 'old west' character and rely on its wilderness quality experiences for outfitting, hunting and wildlife-related tourism and quality of life.

The Shoshone National Forest recently finalized its decade-long revision of its Land Management Plan (Forest Plan) in 2015. The Final Forest Plan designated broad land use prescriptions that will guide the management of the Forest for the next several decades. The Shoshone Forest Plan designated where motorized use **can** occur on the Shoshone, but the Travel Planning process determines where motorized use **will** occur. Through the Forest Planning process Shoshone officials identified a need for more motorized loop opportunities and prioritized Travel Management Planning upon completion of the Forest Plan. Conversely, conservation organizations reported that one of the most pervasive citizen concerns voiced during Forest Planning was unregulated or illegal motorized activity on the Shoshone.

In preparation for the upcoming Travel Plan and at the suggestion of Shoshone officials, the Wyoming Wilderness Association began documenting motorized use observations to determine where and why illegal or unauthorized use was occurring on the Shoshone. We met with Forest Staff to ensure that we were collecting helpful data in a format that the Forest Service could easily access and utilize to inform the Travel Planning process. We used the initiative as a way to engage the public in the Travel Planning process and to inspire citizens in the Shoshone's spectacularly wild front country.

When the Shoshone National Forest began its public Travel Planning pre-scoping efforts, public input at meetings and field trips was notably directed towards the Shoshone's inability to enforce the existing motorized route system. The USFS Travel Planning process is focused on the addition or deletion of MVUM-designated system roads, yet the public noted that the current MVUM does not accurately reflect the reality of motorized use on the ground. (See Figure 1).

In February 2016, in response to the pervasive public concern regarding unregulated motorized use, the Shoshone National Forest assembled the Compliance Working Group to improve the accountability of its existing motorized road and trail systems. The Shoshone Compliance Working Group is charged with identifying ways to encourage and improve compliance on the Shoshone's designated motorized route system through a variety of methods and techniques. The Compliance Working Group effort parallels the Shoshone's continued Travel Planning process. We expect the data from this Travel Monitoring Project to be a helpful resource to both efforts.



**Figure 1.** Example of the Motor Vehicle Use Map (MVUM)- the official map legally designating system routes that are open to public motorized travel. Many law-abiding local residents that sought to document “illegal” motorized use were surprised to learn that commonly driven routes were not legally designated open on the MVUM.

## METHODOLOGY

The Wyoming Wilderness Association set out to gather information regarding three categories of motorized use observations: off-road, illegal use (OR); system roads that need maintenance or signage (SR); and closed roads with effective (CREC) or ineffective closures (CRIC). A new category quickly emerged for one of our most common observations: unauthorized, or “closed”, roads with no indication of closure (CRNC).

Categories of motorized use and abbreviations are outlined in the Data Collection form, Appendix A, but protocol and terminology developed over the course of the project. WWA met with Forest Staff to ensure that we were collecting helpful data in a format that the Forest Service could easily access and utilize. We used the Citizen Input Protocol produced by Bryan Armel and worked with Ken Ostrom to tailor it towards existing motorized use concerns rather than proposed additions. WWA worked with FS staff and other groups to align protocol and terminology, but the nature of the study led to dynamic and possibly overlapping descriptions of motorized use concerns. A list of acronyms, shorthand, and meanings for commonly used terms can be found at the beginning of this report (page x).

The Wyoming Wilderness Association accepted motorized use observations from any person in any format: a photo with a written or described location description, and accepted coordinates in Global Position System (GPS), latitude/longitude, Universal Transverse Mercator (UTM). Motion X GPS was a common smartphone application used to link a photo to a current location. We provided GPS and digital cameras to volunteers that went

out on their own, then downloaded and linked relevant data to the relevant mapping program. If the documentation provided by a citizen was inadequate, WWA staff would return to document the area in question, when possible. On several occasions, WWA staff would accompany a concerned citizen to document motorized use concerns on their behalf. Waypoint labels were generated using the volunteer initials, but this was not a consistent rule. Some citizen-submitted observations had to be re-labeled or better clarified by WWA staff for consistency and to reduce duplication. WWA worked closely with other conservation groups working on the same monitoring goals across the forest, to ensure protocol consistency, but those data have not been incorporated into this analysis. Since the WWA Shoshone Organizer office is based in Dubois, data collection was primarily focused on the Wind River Ranger District. See Figure 2 for a description of the study area. We hosted several public outings to monitor known problem areas, on bike, horseback, ATV, and foot. In this way citizens had the opportunity to experience the diverse spectrum of motorized and non-motorized opportunities in the Shoshone's spectacular frontcountry.

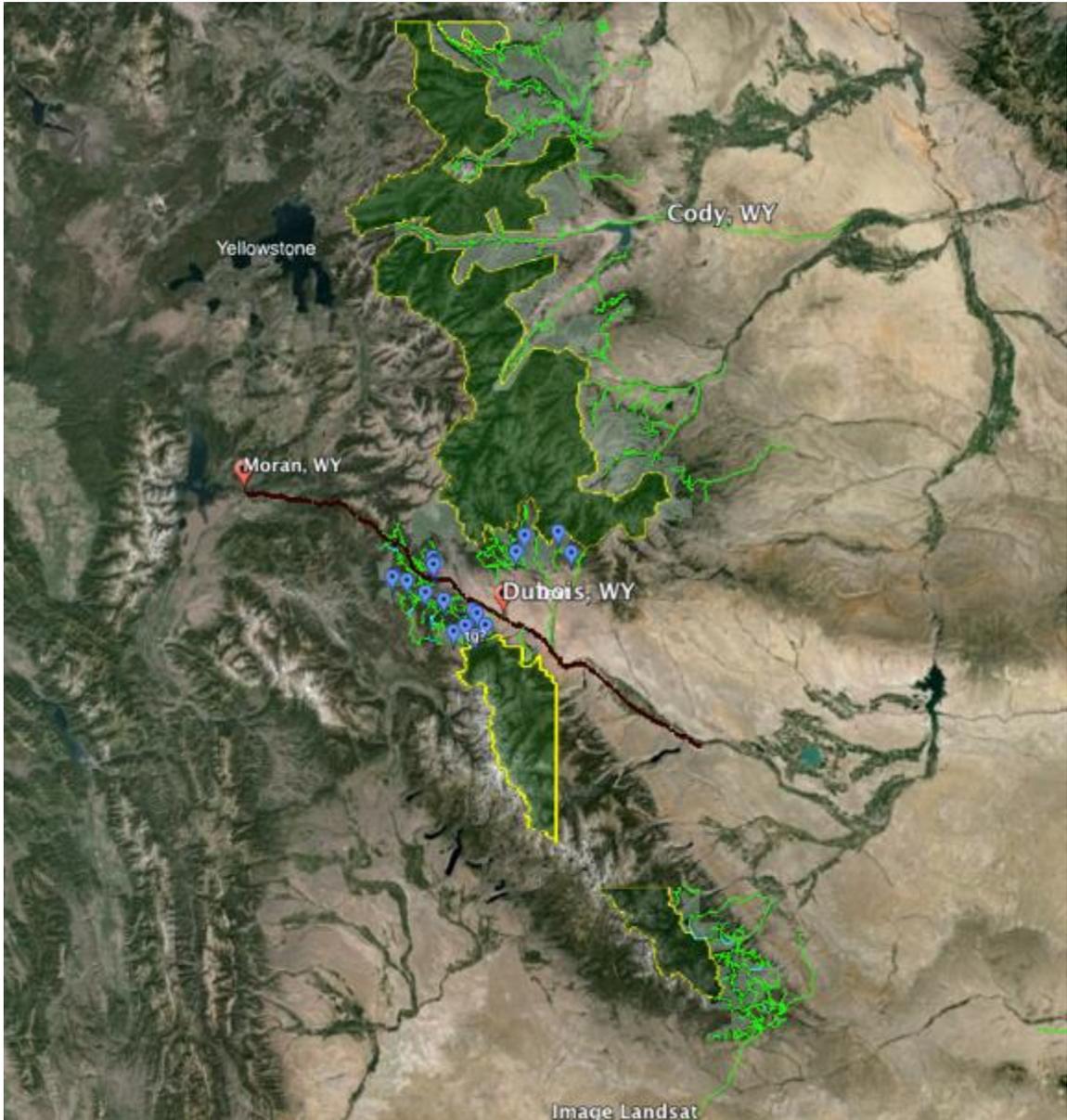
Descriptions of citizen-submitted unauthorized motorized use are anecdotal and should not be considered documentation of verified illegal motorized use. One of WWA's primary roles during data collection was to proof and fact-check data waypoints. This was required on many occasions when citizens were unsure whether they were documenting an unauthorized route until comparing a photo waypoint with an MVUM overlay. We asked observers to remember that off-road motorized travel is allowed 100 yards from system roads for camping, game collection, or firewood harvest, but it is possible that some citizen-submitted observations of off-road travel fall into one of those exceptions.

Data collection was opportunistic, sometimes targeted, but in no way comprehensive or systematic. We hope this information may be of some use to the Shoshone National Forest in their Travel Analysis, but in no way should these observations replace a systematic route inventory required from the Shoshone National Forest.

### HOW TO READ THIS REPORT

**This report accompanies** the total compilation of WWA's Travel Monitoring observations, provided in a .kmz format (Google Earth) and an Excel spreadsheet. **All of these resources can be found online at [wildwyo.org/shoshone](http://wildwyo.org/shoshone).** This report outlines the most pervasive and constructive observations from our travel monitoring project, and provides one or two illustrated examples for each. For each observation described, reference waypoints are listed as demonstrative examples. These waypoints can be referenced in the Google Earth attachment as well as the Excel sheet.

The Google Earth data (.kmz) should be self-explanatory: by clicking on any waypoint you should see notes of date, time, elevation and a short description of the observation. See Figure 3. Since the SNF motorized layer is included, *any waypoint that is not on a green line is an observation of some type of unauthorized use.* Right-click on the photo and select "open image" for a larger image of any waypoint. You can expand and select or deselect folders and subfolders on the left-hand sidebar of your Google Earth application. Alternately, you can review the attached Excel spreadsheet to select a type of waypoint of interest (eg 'check 2016') and then locate them in the appropriate Google Earth folder. The Excel spreadsheet data are organized in the same sequence as the Google Earth sidebar for easy reference.



**Figure 2.** Overview of study area- Shoshone National Forest. Green lines represent Shoshone legal motorized routes. Blue markers represent travel monitoring observations (see Figure 3) concentrated in the Wind River District. Dark green areas represent designated wilderness and light green areas show Inventoried Roadless Areas.

Check, uncheck,  
and expand folders  
here

Waypoint Label  
(Referenced in Excel and this report)

Right-click and  
“Open Image” to  
enlarge photo

The screenshot shows the Google Earth Pro interface. On the left is the 'Places' sidebar with a tree view of folders like 'My Places', 'layers', 'Roadless Areas', 'Area polygons', 'Sho\_OpenRoads', 'Sho\_WildernessB...', 'WWADATA', 'Long Ck.', 'Horse Ck.', 'East Fork', 'Sheridan', 'Union Pass', 'WildCat Loop', 'JDWC', 'bald mtn.', 'br(baldmtn)', 'Geyser Creek', 'THgc', 'KWWC (bald an...', 'JTandMH', 'Tg/600', 'WindyMtn. RB', 'Dubois, WY', 'Moran, WY', 'Cody, WY', 'unsortedtracks', 'Temporary Places', and 'TMP unsorted'. The main map area shows a satellite view of a mountainous region with green lines (motorized routes) and blue lines (motorized trails). A red line at the top is labeled '9/11/2015 5:27:41 pm'. A popup window for 'Rb24' is open, displaying the following information:

<b>Date</b>	Oct 13, 2015 12:49 pm
<b>Zone</b>	12T
<b>Easting</b>	602747mE
<b>Northing</b>	4814820mN
<b>Altitude</b>	9,803 ft

Below the popup, there is a photo of a field with trees. Text below the photo reads: 'illegal ATV tracks along first section of horse trail/ WR proposal 11.' and 'Directions: [To here](#) - [From here](#)'. Blue arrows point from the text boxes above to the 'Places' sidebar, the 'Rb24' label on the map, and the photo in the popup.

Green Lines indicate legal motorized route, designated on MVUM

Blue Lines represent legal motorized trail (<50inch vehicles)

Blue Markers for Waypoint of motorized use observation- click to expand

Shaded Green Areas show Inventoried Roadless Area layer

**Figure 3.** Screenshot of Google Earth application with key and navigation tips.

The report concludes with suggestions for the Compliance Working Group on how to encourage compliance to the existing designated route system and conclusions for Travel Planning, the process by which Shoshone officials plan to add or subtract from the existing route system.

## RESULTS

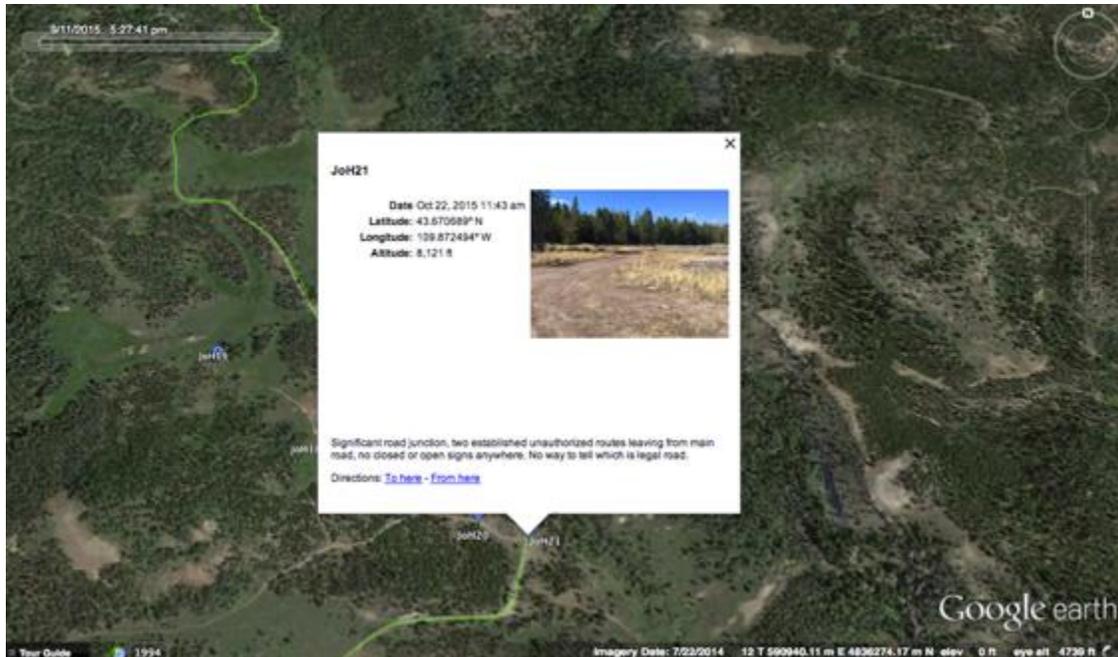
Nearly 50 citizens contributed observations to WWA in 2015, resulting in over 300 photo-tagged waypoints of motorized use concerns on the Wind River Ranger District (WRRD) alone.

### CLOSED ROADS (UNAUTHORIZED ROUTES)

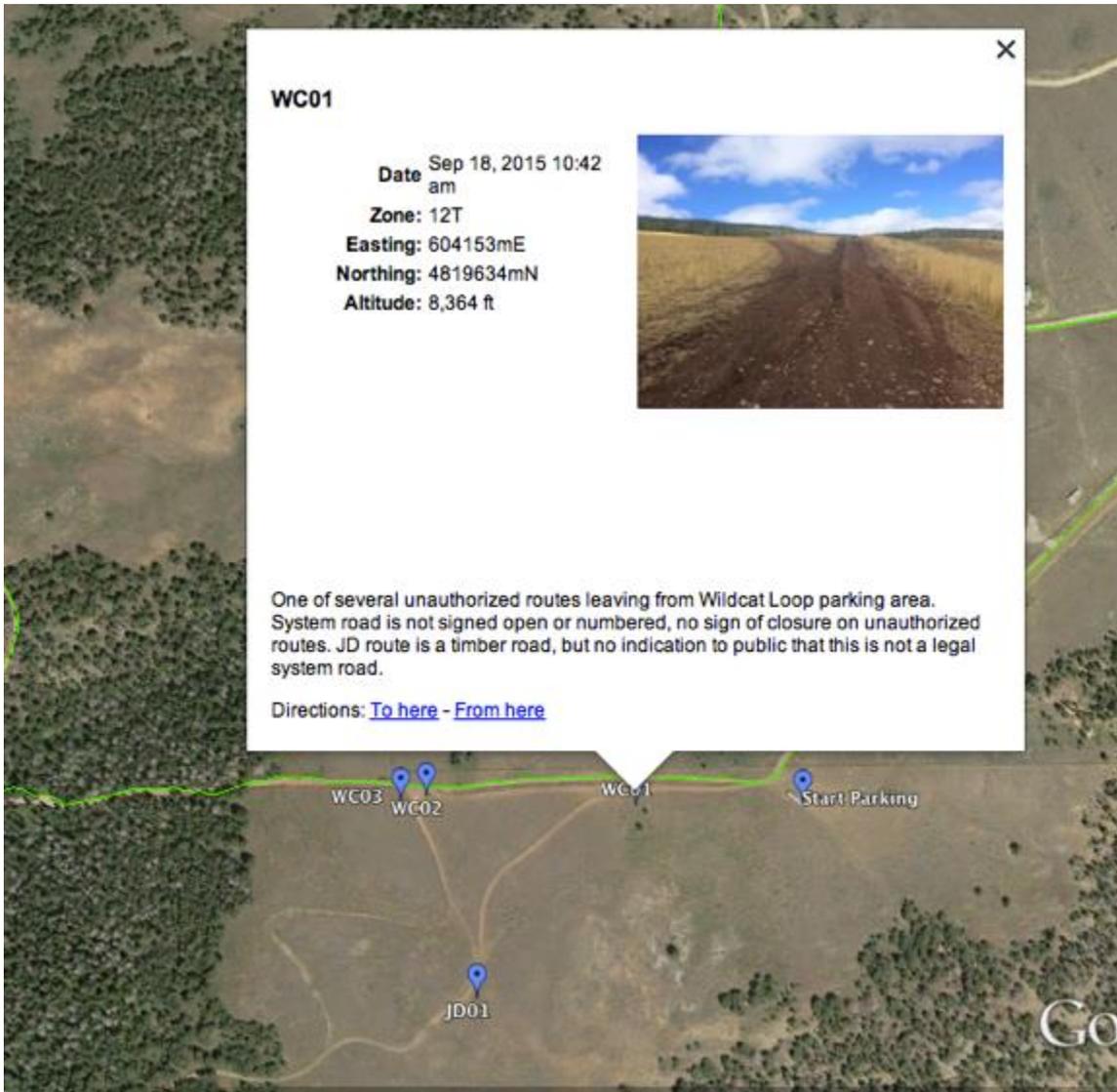
#### CLOSED ROADS NOT CLOSED (CRNC)

The most common observation of unauthorized motorized use on the Wind River Ranger District was motorized travel on non-system routes that lacked closure signs or barricades. Labeled as CRNC, these “closed roads” are more accurately termed “unauthorized routes”: well-established non-system roads that are not designated open on the Motor Vehicle Use Map (MVUM), yet often lacked any indication of closure to the motorized public.

Motorized travel on these non-MVUM routes could accurately be described as ‘illegal motorized use’ but the travel on these well-established, seemingly open roads was more likely the result of lack of adequate education (local knowledge of the MVUM) and engineering (signs and barricades) than defiant illegal behavior. We found it important to differentiate travel on seemingly open unauthorized routes from blatantly illegal or off-road use.



**Picture 1.** Example of unauthorized route with no indication of closure. Legal user would not know well-established road was closed to motorized travel without stopping to carefully examine MVUM.



**Picture 2.** Example of well-established unauthorized route with no indication of closure. System road is not signed open.

*CLOSED ROAD CONTINUES (CRNC/SRNT)*

(Closed Road Not Closed/System Road Needs Termination)

A common and significant source of unauthorized use was observed when system roads are marked open at their beginning but not barricaded or signed closed at their designated end.



**Picture 3.** *Example of motorized use continuing past designated end (SRNT) because there are no signs or barriers to indicate end of route.*

**We documented over two dozen junctions of well-established, well-travelled unauthorized roads that lacked any infrastructure differentiating the unauthorized route from the designated system road.** Exhibit A – Examples of Infrastructure Priorities- highlights examples of unauthorized roads that lack adequate closure infrastructure and should be a priority for Travel Planning and the Compliance Working Group.

### *INEFFECTIVE CLOSURES (CRIC)*

In total, citizens submitted relatively few observations of “ineffective closures”. **In most cases, an ineffective closure appeared far more effective than no closure at all.** Most of our established CRNC observations observed no indication of closure, but probably at one point in time had a carsonite sign that had subsequently been removed. Carsonite signs are easily run over or removed and discarded.

All varieties of closures are expected to be less effective when there is no defensible pinch point. In these cases, infrastructure should strive only to be permanent and largely visible, and incursions should be handled by law enforcement.



**Picture 4.** *Example of ineffective closure with no defensible pinch point.*



**Picture 5.** *Example of closure that may not block all use, but is permanent enough to alert users to “no motorized travel beyond this point.”*



**Picture 6.** Carsonite signs are not effective closures for well-established unauthorized routes. This sign (th17) was erected on October 2015, after at least two seasons of appearing open to travel (compare with GC14). Once one illegal user removes this carsonite sign, many other users will travel this well-established road without fear of enforcement.

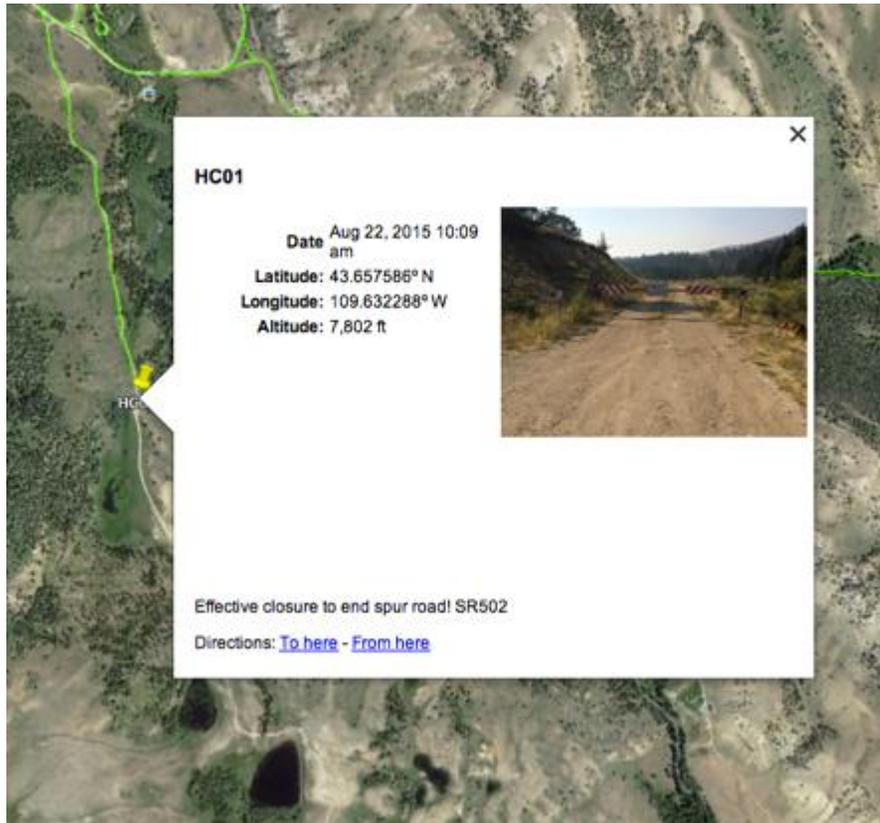
### EFFECTIVE CLOSURES (CREC)

Many areas along the Wind River District boast effectively closed unauthorized routes. Old buck and rail fences in the Horse Creek area indicate closures of many routes that have since re-vegetated. Buck and rail fences appear most effective in a variety of terrains, especially when bounded by defensible pinch points. Natural barriers including logs and boulders are also notably effective, especially for less established routes.



**Picture 7.** Effective closure (natural barrier) with defensible pinch points.

Locked gates are most effective and appropriate for well-established routes, especially those that the Forest will need for future use.



**Picture 8.** *Effective closure, locked gate for well-established FS maintenance road.*

The following photo illustrates an effective strategy for hanging carsonite signs so that closure information is still available to legal riders. While carsonite signs are known to be ineffective closures because they can be easily driven over or removed (above), keeping carsonite signs in place ensures that illegal removal of a posted closure does not encourage unauthorized travel for the following legal motorized users.



**Picture 9.** *Effective method for hanging carsonite signs so they are not removed and closure notice is available to all users.*



**Picture 10.** *Example of effective closure for visible route in indefensible area. Although this barrier would not physically prevent all illegal use, it ensures that law enforcement would be able to prosecute illegal motorized trespass. It gives a clear message to all users that motorized use is illegal and ticket-able beyond this point.*



**Picture 11.** *Example of effective closure for established route. Great non-motorized hunting opportunity beyond gate.*

American Flags are reported to reduce the likelihood of vandalism of carsonite signs.



**Picture 12.** *Example of effective signage on carsonite sign on an older user-created route. Carsonite signs were observed to be effective on several older or user-created routes, but should not be considered an effective closure or signing method for well-established unauthorized roads.*

## SYSTEM ROADS

Clearly marking and maintaining the designated route system is an effective means to encourage compliance. Lack of maintenance or signage on system roads can encourage unauthorized use.

### SYSTEM ROAD NEEDS SIGNAGE (SRNS)

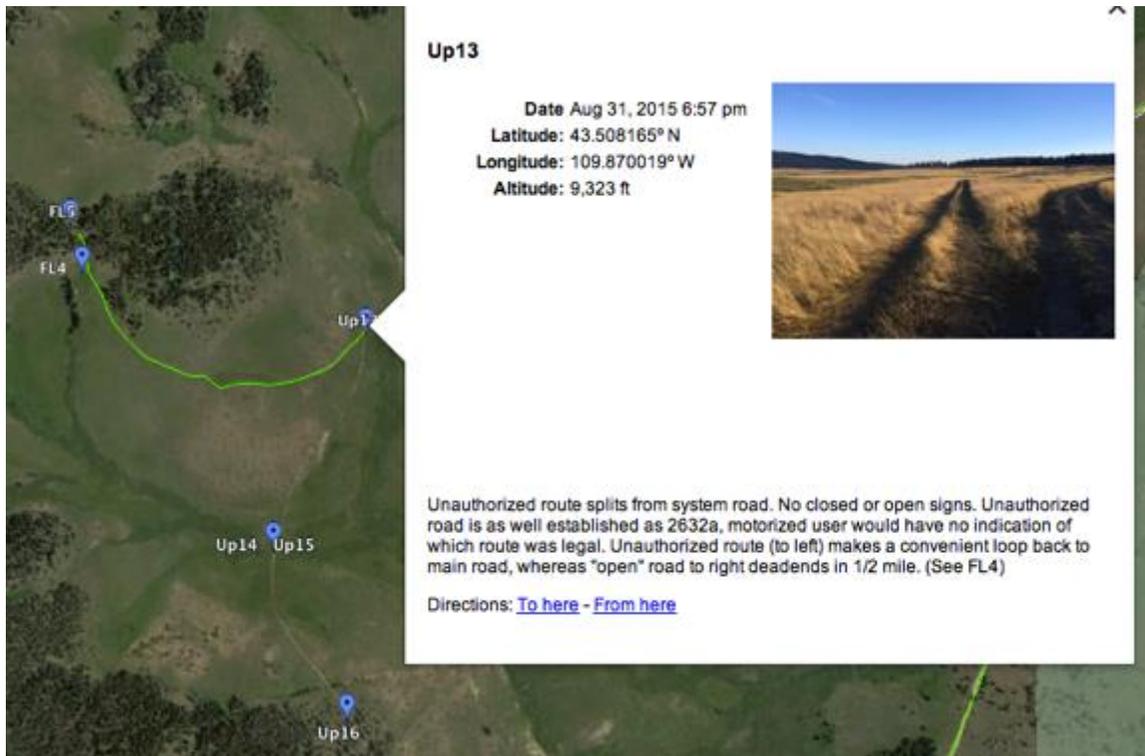
System roads should be signed open at their beginning, end, and at junctions with unauthorized routes. Picture 3 and all 'SRNT' spreadsheet observations illustrate the importance of signing system roads closed at their designated end.

System roads must also be accurately signed open and numbered at their beginning. In accordance with the 'closed unless posted open' policy implemented in 2005, it is critical that the Shoshone National Forest maintain their open system road signs. Accurate, numbered road signs are critical to enable users to correctly orient themselves on the MVUM.



**Picture 13.** Example of system road (605) not signed open or numbered. This makes it nearly impossible for users to tell where they are on the MVUM or distinguish system routes from unauthorized routes.

Signing system roads open is especially important when legal system roads appear less established and less legitimate than many unsigned authorized routes. In many of our CRNC observations, we note that an established unauthorized route has no indication of closure, but the system road also lacks any marking to help riders determine which is the legal route. (CRNC/SRNS [System Road Needs Signage]). ‘Open’ signs are less likely to be removed or vandalized compared to ‘closed’ signs. Signing system roads open at these junctions could be an effective way to offer extra assurance or confidence markers for the majority of riders who *want* to do the right thing.



**Picture 14.** Example of unauthorized route leaving system road with no infrastructure to help user distinguish legally designated route.

### SYSTEM ROADS NEED MAINTENANCE (SRNM)

Maintaining system roads is an important consideration for making designated routes identifiable and desirable to motorized users when compared to non-system or user-created routes. Our SRNM observations were primarily directed towards obvious resource damage or maintenance needs that encouraged off-road use. Parallel routes were commonly observed on steep or rutted routes in open, indefensible areas. Drainage ruts and parallel routes on steep system roads cause resource damage and safety concerns.

Poorly maintained system roads that do not appear established or maintained reinforces the need for adequate signage to identify system routes from non-system routes or user-created routes.



**Picture 15.** Comparing system road (left) with illegal non-system road (right), signage needed to differentiate.



**Picture 16.** Example of SRNM, maintenance needs results in unauthorized parallel routes.

## OFF- ROAD, ILLEGAL USE

We documented where and when illegal or off-road use occurs on the Shoshone. Unauthorized travel on unauthorized non-system routes is illegal by definition, but in many cases unauthorized route travel could easily be attributed to the lack of adequate education (local knowledge of the MVUM) and engineering (signs and barricades). Here we use the 'Illegal or off-road' classification to more specifically reference illegal motorized use observations where the rider disregarded adequate information and violated rules by travelling off-road cross-country travel or illegally trespassing beyond closure notices.

- Illegal off-road use was most commonly documented in open, unenforceable landscapes. This was true for cross-country travel as well as ineffective route closures (CRIC).
  - See "IU- Alpine" in attached spreadsheet.
- Unauthorized routes not effectively closed, or even signed closed, beget more illegal use. Many to most illegal off-road documentations occurred off unauthorized routes that were not effectively closed (CRNC /UAR). It's possible that riders feel less visible and less accountable once they are "off the system".
  - See "IU off UAR". Most of these document off-road travel in open meadows, off the unauthorized non-system routes.
  - Some of the worst illegal use- specifically illegally constructed user-created routes- was found in an area with the highest density of unauthorized routes. (See Exhibit A6 thru A9).
- Illegal use was observed trespassing behind adequate informational or physical closures on the Wind River District (CRIC). Infrastructure is an important part of encouraging compliance and enabling enforcement actions but sometimes is just not enough. These areas should be a focus for law enforcement actions.



**Picture 17.** Example of adequate infrastructure closing unauthorized route, but still sees illegal use. See GC02. The road to Windy Mtn. is adequately gated but illegal use occurs on both sides. Upper Warm Springs subdivision residents regularly maintain these barriers.

## **ADDITIONAL DATA**

### “CHECK 2016”

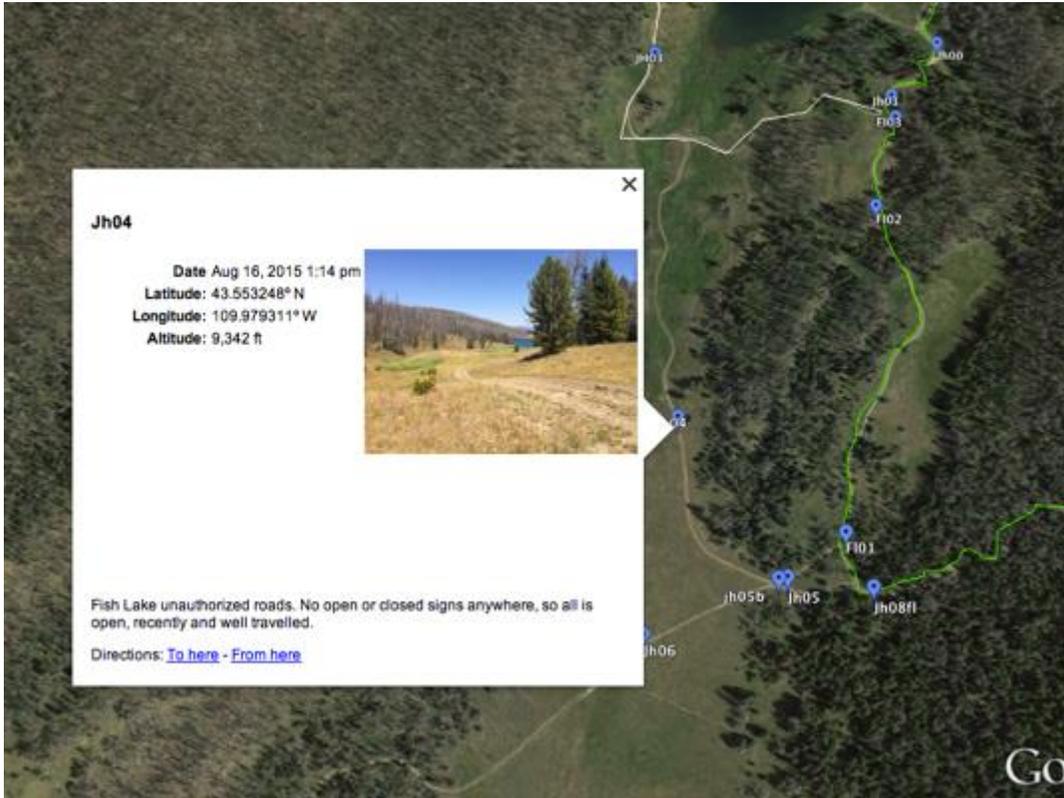
Future investigation and monitoring points. Need to be checked next summer, high probability of illegal use and not enough time for volunteers to investigate all.

### PROPOSALS

On the ground observations of proposed route additions. Reference waypoints RB3 thru RB24 or P4.1 thru P4.14. These observations could help inform the maintenance needs of proposed trails or whether those trails are in a landscape that might encourage off-trail use. Additionally, some conclusions can be drawn from on the ground information could help inform where or how new trails are constructed on the Shoshone. See Travel Management Implications.

### DISPERSED CAMPING

Some unauthorized routes may be related to dispersed camping issues. For example, some well-established unauthorized routes may not be closed because they lead to quality dispersed camping. If the routes leading to those campsites are more than 300 from the system road, they should be legitimized by being added to the MVUM marked to designate dispersed camping route.



**Figure 18.** Example of multiple well-established CRNCs greater than 300 ft that may be the result of dispersed camping.

*MAPPING DISCREPANCIES.*

Current discrepancies exist between Shoshone public proposal maps, the MVUM, and the on-the-ground situation. If the MVUM is to be the primary enforcement tool, it must accurately reflect on the ground enforcement and infrastructure.

- Reference waypoints sc10, sl21, JT11, TC01, GR8 for motorized use that is allowed on the ground that conflicts with the MVUM.



**Picture 19.** Example of differences between travel maps and on-the-ground situation.

## KEY FINDINGS:

- Most illegal, off-road motorized use was observed
  - in wide-open alpine meadows, or
  - off of unauthorized routes not effectively closed (CRNC).
- Most unauthorized motorized use was observed on well-established, unauthorized routes that were not effectively closed: where the route had no closure signs, physical barriers, or infrastructure identifying the legal route from the unauthorized route.
- We documented at least two dozen well-established, well-travelled unauthorized roads where the junction with the system road lacked any infrastructure – signs or physical barriers- to discourage motorized use.
- We documented almost a dozen signed-open system roads where motorized use continued past the designated end because there were no signs or barriers to mark its end.
- Ineffective closures are more effective than no closures.
- Carsonite signs are an ineffective closure method for well-established roads.
- Many unauthorized routes on the WRRD look more established and legitimate to a motorized user than many system roads (often unsigned) so maintaining signage and barriers is especially important.
- Repeated trespass around adequate closure notices or barricades was only noted at a few known problem routes. Namely the Windy Mtn. trail and Warm Springs Mtn. These spots should be prioritized for enforcement and FS presence.

- More roads did not result in more motorized compliance. The higher the road density the more unauthorized motorized use observed. (Compare Horse Creek to Wild Cat, or North Zone to South Zone).
- Loop routes did not encourage compliance. See Bald Mtn, Wild Cat loop. Comparatively, very little unauthorized use was observed off destination trails like SR531 to Moon Lake.
- There are many more miles of unauthorized routes that could not be inventoried by volunteers on foot and many more system roads that were not visited by volunteers; monitoring and inventory should continue in 2016.

## DISCUSSION

The Shoshone National Forest is currently undergoing Travel Management Planning with an objective of adding motorized loop routes to the existing Motor Vehicle Use Map. Concurrently, the Forest Supervisor has assembled a Compliance Working Group to improve the accountability of its existing designated route system. We hope that our Travel Monitoring observations will be considered in both efforts.

Our findings suggest that unauthorized routes that are not effectively signed or barricaded closed are the greatest source of unauthorized use on the WRRD and present the greatest opportunity to improve designated route compliance. These seemingly open unauthorized routes can lead to unauthorized motorized use from the vast majority of OHV users, since few users carry, reference, or know how to read the MVUM. We documented significantly more illegal off-road use from unauthorized routes than from designated system roads. By effectively closing unauthorized routes the Shoshone can greatly reduce the amount of unauthorized motorized use and reduce the area that requires patrol or policing.

**The Compliance Working Group is a step in the right direction, but leadership, secured funding and resources are needed from the Shoshone National Forest** to address a multitude of unauthorized routes. This will include determining which routes need physical barriers vs. closed signs, which can and should be decommissioned entirely, how to keep closed signs in place throughout the OHV season, and how to prioritize problem areas or drainages. Based on many examples of effective closures and maintained signage in certain areas on the Wind River District and across the Forest, we believe that this is a problem that can be significantly mitigated with committed effort and resources.

The data provided in this report is meant to illustrate the problem at hand and also serves as a tool for addressing it. This data may be a helpful start to assessing the problem and prioritizing unauthorized route closures. The Travel Analysis Plan calls for prioritizing roads for decommissioning ((36 CFR Sec. 212.55 ) and Final Forest Plan advises that unauthorized routes should be decommissioned as soon as possible (RDTD-GOAL-02; RDTD-GOAL-09). **Our data does not reflect a complete or systematic inventory**, but should highlight the need to inventory and monitor unauthorized routes in order to comply with the Forest Plan and reduce unauthorized use.

Our Monitoring observations are focused on the Wind River District primarily because WWA's Shoshone office is located in that district. It is worth noting, though, that our

members and partner organizations investing illegal motorized use on the North Zone of the Forest reported comparatively few illegal motorized observations, and no evidence of obvious CRNCs. Due to the difference in terrain and the history of logging in the Dubois area, the North Zone has significantly fewer legal motorized routes and significantly fewer unauthorized routes and old road beds than the North Zone. This likely makes it easier for the North Zone Ranger Districts to maintain and enforce its existing designated road system. The difference between each districts system and non-system road density should be considered during Travel Planning and Compliance Working Group discussions. It is possible that some districts may already have more legal and illegal roads than they currently have the resources to manage.

Finally, on the ground efforts to identify and enforce the existing designated route system, as identified in the current MVUM, should begin as soon as possible. Clearly identifying unauthorized routes as closed to public travel will highlight the importance of the MVUM in designating system routes and provide the opportunity for users to propose additions to the system. Waiting to close unauthorized routes until after Travel Plan decisions prevents the public from meaningful participation in the planning process.

## COMPLIANCE IMPLICATIONS

*(Enforcing the existing designated route system)*

The Compliance Working Group was formed by the Shoshone National Forest in March 2016. The Compliance Working Group is made up of a diverse group of invested stakeholders including local state and federal employees, non-profit organizations, subject experts and invested citizens from the North and South Zones of the Forest. The Group is tasked with identifying ways to encourage and improve compliance on the designated motorized route system. The Working Group is addressing the three common categories used to implement Travel Management: Infrastructure (aka Engineering), Education, and Enforcement. Our recommendations for each, relevant to our project findings, are outlined below.

### **Infrastructure (Engineering)**

The Infrastructure aspect of Travel Management, sometimes called the ‘engineering’ aspect, refers to the signs, physical barriers, and structural resources needed to identify and (encourage compliance to) the designated route system on the ground. **Infrastructure** is an essential piece of **education** and critical to enabling law **enforcement** to successfully prosecute violators.

Our findings suggest that effectively closing unauthorized routes is the greatest opportunity to reduce unauthorized motorized use on the Wind River Ranger District. **We found that the absence of adequate infrastructure identifying the legal designated routes on the WRRD encourages non-compliance from the majority of motorized users.** Effectively closing unauthorized roads requires signing closed roads closed, implementing physical barriers wherever possible, and signing system roads open in a consistent manner.

Directional infrastructure must be permanently in place to help the vast majority of motorized users comply to the designated route system. **The goal for physical barriers or route closure notices should be permanence, not impassability.** (See Picture 9 or 10).

Enforcement, not infrastructure, is the only solution for the small percentage of users who wish to violate clearly posted regulations. The danger of impermanent infrastructure like carsonite signs, without a routine monitoring/maintenance plan, is that it only takes one illegal user to remove a sign and subsequently encourage non-compliance from ALL users for the rest of the season (see Picture 6). Both the ATV Ranger and Law Enforcement personnel on the South Zone have stated that they could not successfully prosecute a motorized user travelling down a road without adequate closure notification. To encourage compliance and facilitate enforcement and education efforts, **the compliance initiative should prioritize permanent infrastructure (signs and barriers) clearly distinguishing the designated route system from illegal unauthorized routes.**

- Every effort to identify the legal system routes from unauthorized illegal routes on the ground- barriers, non-motorized signs, or open road signs- should be made as soon as possible.
- The Shoshone National Forest should produce a preliminary inventory of known unauthorized routes and current closure infrastructure as soon as practical. This data could be a starting point. Involve all staff in monitoring and maintaining identified closure signs and barricades, especially in known problem areas.
- Through Travel Analysis the Shoshone should produce a comprehensive, detailed route inventory of unauthorized routes, closure efforts, and a systematic monitoring schedule to determine where closures are effective and where enforcement is needed. Review annually as part of the Working Group Action Plan.
- Make sturdy physical barriers (e.g. buck and rail fence) a priority for well-established, regularly travelled unauthorized routes as soon as possible.
- Make sturdy physical barriers (e.g. buck and rail fence) a priority for terminating system spur roads as soon as possible.
- If carsonite signs must be used in place of physical barriers, signs should be routinely monitored and maintained. Carsonite signs are an inappropriate closure for established routes. Carsonite signs may be more appropriate in less established or user-created unauthorized routes.
- When installing new infrastructure, include an official notice alerting riders/readers to the ongoing Travel Planning Process and the increased Compliance effort (see below).
- Prioritize maintaining system road signs, make sure all system roads signed open at their inception, use accurate route number to help riders orient themselves on the MVUM.
- The Working Group and FS should further consider the use of “confidence markers” where system roads intersect with well-established unauthorized roads. WWA documented many observations of unauthorized routes with no indication of closure, where a legal user would have no way of determining the legal road from the illegal road without a GPS. Many “CRNC” unauthorized routes may have had a carsonite sign that was removed at some point in time, which encourages non-compliance from the vast majority of users that have no informational infrastructure to identify the legal designated route system. Ideally, these well-established roads would receive a permanent physical barrier or closed signs would be carefully maintained and replaced. If the Shoshone is unable to keep route closure notices permanently erected, a more sustainable solution could be signing system roads open at junctions with known problem routes. Open signs are less likely to be removed or vandalized compared to closed signs.

## **Education**

The Working Group is also tasked with identifying educational strategies to encourage compliance. This refers more specifically to consistency and messaging on educational materials like signs or pamphlets. This is an important topic of discussion with room for the Working Group to offer creative suggestions and improvement. Our results suggest, however, that any type of sign distinguishing legal system routes from unauthorized routes is more effective than no sign at all. Our observations suggest that Forest users, both locals and visitors, are currently uneducated on the importance of the Motor Vehicle Use Map in designating open legal routes. On the Wind River Ranger District some residents have been driving seemingly open roads for years, unaware that they are not designated open on the MVUM.

- Prioritize educational outreach on the importance of the MVUM in identifying the designated route system. One efficient method to do this would be to produce an informational flyer to be posted at trailhead kiosks, on driver windshields, and on newly constructed barriers. Pamphlet or official notice could read:  
*“The Shoshone National Forest is committed to enforcing compliance to its designated route system identified by the official Motor Vehicle Use Map. (Insert Picture of MVUM). Motorized users should expect increased education and enforcement efforts as part of the designated route Compliance Initiative. Changes to the designated route system are currently being considered under the current Travel Management Planning process. Contact .... or visit fs.fed.us to get involved and stay informed.”*
- Issue statewide Press release with above message.
- All Forest Protection Officers (FPO) and field staff should undergo a short training course at the beginning of the season – as soon as possible - to help understand and articulate the importance of the designated route system. Staff should be able to articulate how the roads currently designated open were designated as such. Any new infrastructure on currently travelled unauthorized roads could be perceived as new “closures”, it will be important for staff to be able to explain that said routes have been closed to motorized travel since the white arrow program was implemented.
- Host a wildlife biology lecture in local communities (Cody, Lander, Dubois) to speak to the impact of roads on wildlife. Some users have suggested that road closures should include a reason for closing an existing road, indicating that some users may be unaware of the well-documented negative effects road density has on wildlife and hunter success rates. Informational presentations hosted by the FS, Wyoming Game and Fish and conservation partners with a focus on big game could shift the conversation from “why is this road closed?” to “is this road needed?”
- Visit local school *classrooms* with RideOn materials, announcing the Compliance Initiative, have students teach their parents about the MVUM and designated route system.
- Work to engage and enable one or two local *youth* in the effort, especially in Dubois. Dubois no longer has a voting ATV membership, and there is an obvious lack of community ethics and culture. Is there an opportunity to work with the local Boys and Girls Club or Dubois Area Recreation and Trails to create a Junior ATV Ranger internship?

## Enforcement

- Focus enforcement in known problem areas. Two well-known ineffective closures identified by the WRRD staff have admitted repeated violations around posted closures are at main portal areas. (Crooked Creek and Windy Mountain Access road, Picture 17). These portal areas are easily accessible by FS staff and would be sensible trailhead locations to increase FS presence and focus enforcement and education efforts.
- Determine baseline data. How many tickets are being given in which areas? How many tickets are written by FPOs or law enforcement? Which are successfully prosecuted in court versus written warnings?
- Use enforcement violations as an educational tool. Publicize tickets or confiscations in local papers to announce Shoshone National Forest's renewed commitment to enforcing the designated route system.
- We documented significantly more illegal off-road use from unauthorized routes than from designated system roads. By effectively closing unauthorized routes, the Shoshone can reduce the total area of motorized routes that require patrol or policing.

## Evaluation

The fourth E often referenced in Travel Planning Implementation is evaluation. The White River National Forest Implementation Action Plan offers a strong model for evaluating implementation and compliance to the designated route system. The White River Action Plan notes: "While the TMP decision and conclusion of appeals procedures completes the road and trail designation process, it is well understood that without on-the-ground actions, the designations alone will not solve travel management challenges." Outlining timelines, concrete goals, secured funding and responsible staff provides a strong evaluation tool and public accountability. The recommendations provided by the Working Group should be included in a Shoshone National Forest Compliance Implementation Plan to be reviewed annually by the Working Group. Implementation outcomes will focus on direction found in the Forest Service Travel Management Rule (36 CFR Parts 212, 251, 261, and 295)." The Working Group may consider conducting annual field trips to known problem routes (highlighted in Exhibit A) to evaluate on the ground efforts. As part of the Compliance Working Group and Travel Planning **the Shoshone National Forest should produce their own Implementation Action Plan with set timelines, secured resources and measures of success.**

## TRAVEL PLANNING IMPLICATIONS

(Proposed changes to the existing designated route system)

The Working Group Effort to encourage compliance to designated routes is separate from the Shoshone's Travel Planning process, which is focused solely on adding or deleting routes from the MVUM. Enforcing the existing MVUM as soon as possible, though, is necessary to engage the public in the public participation process and get accurate feedback. Making the MVUM an accurate reflection of motorized use on the ground will support public buy-in to the Travel Plan process. Making sure unauthorized routes are clearly identified as closed to motorized use will give motorized users, who may not have realized those were non-system routes, the opportunity to propose adding those routes to the legal road system during the Travel Planning Process. For some users well aware that the MVUM does not represent on-the-ground motorized travel, enforcement or infrastructure, actions to enforce the existing

MVUM *now* will add much-needed validity to an MVUM-focused planning process. We believe that the Shoshone's effort to encourage motorized compliance to the designated route system as soon as possible, with adequate infrastructure and education outlined above, is critical to a successful Travel Planning process.

- The amount of infrastructure and maintenance that is currently needed to improve compliance to the existing designated system should be seriously considered before creating new routes. ATV use has tripled over the last few decades while enforcement resources have stayed the same. That disparity will only grow further in the coming decades the new Travel Plan will be in place. Additional routes should not be approved until the Shoshone National Forest has demonstrated that it has the resources, ability and commitment to enforcing its existing designated route system. (See Action Plan on previous page)
- 'Once a road, always a road'. As the situation now stands "closed roads" are not effectively closed to motorized travel. "Closed roads" are simply motorized routes that are not designated on the MVUM, but pose a greater impact than some system roads for just that reason. They are no longer patrolled, maintained, and non-motorized hunters and recreationalists are not alerted to regular motorized travel in the area. Illegal, off-road use occurs more often on these non-system, unpatrolled, less-visible routes. While a proposed action plan may suggest closing roads to open new ones, the current situation suggests closing a road offers more potential for negative impact than an existing open system road. Proposed road closures should not be considered an adequate counterbalance to road additions until the Shoshone National Forest demonstrates its ability to effectively close unauthorized routes to public motorized use.
- The Shoshone has identified the need for more motorized loop opportunities. Our observations on the Wind River District do not support the notion that loop opportunities reduce illegal motorized use, but suggested just the opposite. See Wild Cat or Sheridan Loop for examples.
- Destination trails can encourage compliance to designated routes. See the Moon Lake Road.
- New motorized routes should only be considered where the majority of the landscape offers defensible space. Alpine meadows are repeatedly proven to be indefensible and encourage off-road travel. Steep grades lead to erosion and parallel user-created routes.
- The multitude of existing old roadbeds and unauthorized routes on the Wind River District should preclude any need for new road construction.
- System roads that lead to more unauthorized use, because unauthorized routes or termination points can not be effectively closed, should be considered for removal in the Final Travel Plan.
- More roads lead to more unauthorized use.
- An Action Plan and concrete measures of success for enforcing the designated route system are needed before approving route additions through the Final Travel Plan. An adaptive management approach should be taken for any system route additions. If it is determined that an additional system route is leading to more unauthorized use, instead of reducing unauthorized use, that route should be closed to public motorized travel.

## ACKNOWLEDGEMENTS

The Wyoming Wilderness Association would like to thank the 50 invested citizens who took the time to carefully document motorized use concerns in the interest of informing a responsible Travel Management Plan for the Shoshone National Forest.

The Wyoming Wilderness Association would like to thank the Shoshone National Forest for their commitment to enforcing the designated route system.

Compiled by Sarah Walker, Shoshone Wildlands Coordinator, June 2016.

Citation: Travel Monitoring on the Shoshone National Forest. Wyoming Wilderness Association (WWA), Dubois, WY, 2016.