



United States
Department of
Agriculture

Forest
Service

Coconino
National Forest

Coconino National Forest Travel Management Monitoring Report



August 2013

By: Mike Dechter

Executive Summary

Implementation of the 2005 Travel Management regulations is a long-term process that will likely take two or more decades. This report is meant to provide information on progress toward managing motorized use to move toward full compliance with the Motor Vehicle Use Map (MVUM) and management direction in the Coconino National Forest Plan.

Some of the notable information in the report is that the Coconino National Forest was the first national forest in the country to make the MVUM map available on smartphones and Garmin GPS devices. Evidence shows that more and more Forest visitors are choosing to access the MVUM electronically as a result of these tools, but hard copy maps are still the predominant format most forest visitors access the MVUM.

The 300-foot designated motor vehicle camping corridors (or lack thereof) are the most commented upon element of the travel management designations. Based on the observations of forest service field personnel, the camping corridors have had little effect to ground cover and number of new spur roads in monitored areas. The large majority of comments received are to request for the designation of more 300-foot motorized camping corridors to access existing dispersed campsites.

With regards to enforcement, it is unclear if the new motor vehicle rules changed the overall number of tickets/notices issued in relation to motor vehicle use on the Forest. Generally, the new rules have resulted in a change in the *type* of ticket/notice issued, which focuses more on enforcing the appropriate use of motor vehicles instead of the appropriate licensing and registration of these vehicles.

More importantly is that the new rules are seen as having an effect toward reducing off-road driving, and thus reducing the proliferation of new unauthorized roads. The main reason for this is that prior to the Coconino National Forest 2011 decision on the Travel Management Environmental Impact Statement, law enforcement would need to have proof of clear resource damage caused by off-road driving to prevent this use. Under the new rules off-road driving is prohibited and the action in and of itself can be cited.

Motorized game retrieval of elk is allowed on 53% of the Coconino National Forest. However, it is unclear how these rules affected the prevalence of off-road driving for game retrieval in areas where this is not a designated motorized use.

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Introduction

The Coconino National Forest approved a decision to change the designated system of roads, trails and areas in September 2011 to conform to the requirements of the Travel Management Rule regulations. The Forest began implementing the new rules in May 2012 with the publication of the first Coconino National Forest Motor Vehicle Use Map (MVUM)

This report is meant to provide information related to the implementation of the travel management rules on the Coconino National Forest. It focuses on monitoring that has occurred in conjunction with the implementation of motor vehicle rules on the Coconino National Forest under the Travel Management Rule regulations. The regulations specifically call for monitoring under 26 CFR 212.57 by stating, “For each administrative unit of the National Forest System, the responsible official shall monitor the effects of motor vehicle use on designated roads and trails and in designated areas under the jurisdiction of that responsible official, consistent with the applicable land management plan, as appropriate and feasible.”

The Coconino National Forest Plan includes information on monitoring related to motor vehicle use on replacement page 209. This part of the Plan identifies the intent is to monitor the impacts of motor vehicle use in 300-foot corridors for motorized camping and prevalence of motorized use outside of designated areas. Compliance is to be measured through tickets, warnings, and incident reports. Impacts in designated 300-foot corridors for motorized camping are to be measures through field surveys. The frequency of monitoring is to be annual.

In addition to the language in the Forest Plan, the Coconino National Forest issued a monitoring plan with the Travel Management EIS decision in 2011. This plan included a number of monitoring objectives to help inform managers of trends and effectiveness of management efforts. Monitoring elements discussed in the plan are to be monitored on different timeframes. Some elements are monitored once every five years or more. This report focuses on those elements where information is currently available.

This report is organized based on the issues that were first identified during the Travel Management planning process. Monitoring of the issues is expected provide information on the implementation and effectiveness of management decisions made in the Coconino National Forest Travel Management Record of Decision. Information in this report is meant to facilitate a better understanding of implementation effectiveness, identification of forest trends, and provide potential management options to address continued motor vehicle management on the Forest.

Education

Implementation of the travel management rules is a long-term process. It will take several years to help forest users understand the new rules and how they work. Also, it will take some years to identify and correct errors on the map that are brought forward by forest users and employees. Education works both ways, meaning it is a process where forest managers and forest visitors must communicate and learn from each other.

Monitoring measures of how education is working includes a number of sources. Monitoring of the number of field contacts, number of unique MVUM website visits, and number of newspaper articles, and feedback comments received are all measures that give an idea as to the level of forest users being exposed to the new motor vehicle rules.

Education Measure 1: Field-based contacts

In 2012 the Coconino National Forest made extra efforts to make field-based contacts with Forest visitors to share information about the new travel management rules. Every year the Forest supports fire prevention and recreation personnel to patrol popular camping and recreation areas. This included setting up a phone bank to answer any TMR-related questions and also make personnel available at the major entrances to the Forest specifically to discuss new motor vehicle rules with Forest visitors.



Figure 1. Photo of Forest Service employee discussing the new motor vehicle rules with Forest visitor at the entrance of FR 300 and Highway 87 on the Mogollon Rim Ranger District in 2012.

This method resulted in approximately 5,600 contacts, or interactions where Forest visitors were informed of the new motor vehicle rules and provided a motor vehicle use map. This is in addition to the contacts made by law enforcement, fire prevention, and recreation personnel.

Table 1. Public contacts made during Travel Management education ‘blitz’ efforts in 2012.

Date	Total contacts	Location
10/6/2012	375	Stoneman Lake Rd near I-17
10/6/2012	100	Munds Park / FR 240
10/6/2012	159	FR 418 and 151
10/5/2012	84	Munds Park / FR 240
10/5/2012	15	FR 700 / Mountaineer
10/5/2012	9	FR 240 / FR 91
10/5/2012	32	FR 418 and 151
9/1/2012	386	Munds Park / FR 240

9/1/2012	18	Cinder Hills
8/31/2012	107	Stoneman Lake Rd near I-17
8/31/2012	74	Munds Park / FR 240
8/31/2012	0	Cinder Hills
8/30/2012	19	Stoneman Lake Rd near I-17
8/18/2012	19	Stoneman Lake Rd near I-17
8/11/2012	362	Munds Park and surrounding areas
8/11/2012	4	Cinder Hills
8/11/2012	6	FR 124, 92, 683, 135
8/11/2012	6	Ashurst Road to Kinnikinnick
8/11/2012	16	Stoneman Lake Rd near I-17
8/10/2012	60	Munds Park / FR 240
8/10/2012	149	Clints Well
8/10/2012	83	Ashurst Road
8/10/2012	61	Stoneman Lake Rd near I-17
7/29/2012	17	Cinder Hills
7/28/2012	228	Munds Park / FR 240
7/21/2012	94	Munds Park / FR 240
7/20/2012	160	Clints well
7/20/2012	96	Munds Park / FR 240
7/20/2012	52	Ashurst Lake
7/20/2012	58	Hutch Mtn - FR124
7/8/2012	16	Potato Lake / FR 308 / FR 141
7/7/2012	193	Munds Park / FR 240
7/7/2012	72	FR 125
7/7/2012	18	Clints Well
7/6/2012	185	Munds Park / FR 240
7/6/2012	76	SR 87/FR 300
7/6/2012	27	FR 95/96 intersection
7/5/2012	134	Stoneman Lake Rd near I-17
6/30/2012	139	Stoneman Lake Rd near I-17
6/30/2012	165	Munds Park / FR 240
6/30/2012	18	Woody Mountain FR 231/538
6/29/2012	81	SR 87/FR 300
6/29/2012	41	Munds Park / FR 240
6/29/2012	101	Stoneman Lake Rd near I-17
6/28/2012	1	Stoneman Lake Area
6/28/2012	33	Munds Park / FR 240
6/9/2012	56	FR entrances off of Hwy 87
6/9/2012	33	Mormon Lake
6/9/2012	179	Clints Well
6/9/2012	5	Fossil Creek Rd (FR 708)
6/8/2012	90	Clints Well

6/8/2012	123	Munds Park / FR 240
6/8/2012	150	Blue Ridge Reservoir Road
6/8/2012	50	Kelly Canyon
6/8/2012	3	Tissaw Rd
6/8/2012	3	Stoneman Lake Area
5/27/2012	36	Phone bank
5/26/2012	2	Green Gate / Cornville
5/26/2012	1	Turn Table
5/26/2012	1	9202Y
5/26/2012	25	Phone bank
5/25/2012	34	FR 215 / 618
5/24/2012	99	Stoneman Lake Rd near I-17
5/24-26, 2012	300	Unrecorded patrols at Fossil Creek, Mountaineire, Munds, 231
5/6/2012	8	Phone bank
5/5/2012	26	Phone bank
4/27-28, 2012	200	Unrecorded patrols at Fossil Creek, Mountaineire, Munds, Stoneman Lake, etc
4/28/2012	8	Phone bank
4/27/2012	18	Phone bank

This effort was a very effective way at providing education to Forest visitors about the new rules. It meant that anyone entering the forest at these main intersections would be provided a map and told to stay on the designated routes and areas shown on the map. It also gave an opportunity to answer questions and hand out feedback forms to many forest visitors who would otherwise not have these opportunities.

The field-based education efforts began in April 2012 and ended in October 2012. It is apparent that as the year progressed, the percentage of forest visitors aware that new rules for motor vehicles were in place grew tremendously. This was documented on the patrol forms because as the year progressed, the percentage of forest visitors who already had a map increased to over 50% at most sites by the end of the patrols.

Education Measure 2: Motor Vehicle Use Map hard-copy handouts and website visits

The Travel Management Rule established the Motor Vehicle Use Map as the mechanism for recording designated routes and areas for motor vehicle use, thus the availability of the MVUM is essential for proper implementation. The Coconino National Forest made the map available

in hard copy, as well as on the Forest website. The Coconino National Forest was also one of the very first forests to make the map available for Garmin GPS units and on smartphones.



Figure 2. Travel aids on Garmin devices (left) and smartphones (right) help Forest visitors use the MVUM map to navigate on the Forest.

In 2012, the Forest ordered a total of 50,000 MVUM maps to be made available for free to forest visitors. These maps were distributed at all Coconino National Forest Ranger District offices as well as surrounding national forest offices and local municipal and state agencies, outdoor stores, and ATV dealers. Since it was the first year of implementation, it was unclear how many hard copy maps would be needed. Of the 50,000 maps printed, approximately 42,000 were distributed for use. Approximately 8,000 maps remained when the 2013 revised map became available in mid-May 2013. This information was used to adjust the ordering of the 2013 maps (40,000 were ordered instead of 50,000)

In addition to distribution of hard-copy maps, the Coconino National Forest set-up a webpage dedicated to the MVUM. This webpage included Adobe pdf versions of the map in addition to versions of the map that could be used on smartphones or Garmin GPS units. A website with this information was established on 3/12/2012 and given a shortened URL link (<http://go.usa.gov/PEa>). This link was accessed by approximately 4,000 unique visitors in the first year. This measure is likely far less than the total amount of unique visitors to this website as it only registers those who visited this website by using this specific web address and doesn't include visitors that navigate to this page by clicking on other links that lead to the webpage.

Education Measure 3: News and other information sharing efforts

The Coconino National Forest does not advertise in local media outlets. The Forest regularly issues news releases, maintains relations with local media, interacts directly with user groups and communities, and maintains an up-to-date website. However, newspaper articles are one of the most effective means at informing national forest visitors of important changes.

The implementation of the new travel management regulations began making headlines in the papers of northern and central Arizona in 2006, which is when the Forest began planning efforts. Beginning with the Coconino Travel Management EIS decision in 2011, the message changed from solicitation of public input to increasing awareness of the new motor vehicle rules.

Table 2. Number of articles, interviews, and other media sources from the TMR decision to date.

News articles and OpEds	28
Radio broadcasts	5
Stakeholder/community meetings	40
Other misc postings – community newsletters, schedule of proposed action, hunting regulations, websites, etc.	25

Motor Vehicle Use Map Improvements

The Forest continues to receive regular comments on the format and ‘look’ of the Motor Vehicle Use Map. The majority of complaints are that the MVUM shows no detail and lacks important landmarks, hiking trails and trailheads, and topographical details. Many forest users have called to complain that they cannot effectively navigate with the map even despite their best efforts. The Forest has also received many comments regarding perceived errors with routes or annotation.

The Motor Vehicle Use Map is identified in the Travel Management Regulations as a nationally standardized map that is meant to only reflect motor vehicle uses. The Forest Service developed a national standard template for Motor Vehicle Use Maps based on this information in the preamble of the regulations. As a result, the Coconino National Forest has little flexibility to change the ‘look’ or overall content of the map. However, the Forest is concerned with this issue and has taken steps to make the map more usable.

Measure 1: Motor Vehicle Use Map public comments

The Forest regularly requests feedback from public users. The number of forest users providing feedback is a good indicator of the public’s general awareness. The Coconino National Forest

established an online feedback form accessible from the Coconino National Forest website and also made a hard-copy feedback form for contacts made in the field or those who come to an office. On average, the Forest received an average of 10 comments a month on the online feedback form and approximately 30 comments a month from phone calls, written comments, or e-mails. To date, these comments have resulted in 598 unique suggestions for changes to the MVUM. Approximately 165 of these suggestions identified mapping 'errors' and were corrected in the 2013 MVUM map. Many of these changes included removing non-existent roads from the map, making the main roads and highways appear darker, making the symbology for the 300-foot motorized camping corridors darker, adding a few roads back on the map to provide access to existing trailheads, etc.

Measure 2: Use of Travel Aids

The Coconino National Forest was the first national forest in the country to make the MVUM map available on smartphones and Garmin GPS devices. This enables smartphone and Garmin users to have the map in the palm of their hand, with GPS capabilities so that you can track your location. This method resolves navigational issues with the paper map and provides a new, free navigation tool for forest visitors.

The Forest has shared information about these travel aids through press releases, community meetings, stakeholder meetings, information on the website, and by providing handouts. Since the MVUM map was made available on the website on May 1, 2013 238 people downloaded the north half of the MVUM and 232 have downloaded the south half of the MVUM prior to July 1 from the Avenza map store for free onto a smartphone device. We hope to increase the amount of forest visitors who use these travel aids in the future.

Traffic

Engineering is a key element of implementation and includes road maintenance, road usage, and closure efforts. This category includes everything from signage to road maintenance and road use. The use of engineering tools to implement the motor vehicle rules is a long-term effort meant to ensure safe motor vehicle travel and to protect important forest resources while facilitating motor vehicle access and recreation.

Measure 1: Magnitude of Motorized Use

It is helpful to understand the magnitude and type of motor vehicle use patterns occurring on the Forest. The Forest uses traffic counters to get a better idea of the amount of daily traffic throughout the year on key routes. The Forest also collects information on patrol about motor

vehicle use that helps inform forest personnel what type of motorized use is occurring in different areas.

Traffic data have been measured on the Coconino National Forest for many years, but the location and dates of these measurements have not been consistent enough to determine precise traffic patterns. Generally, the information we have can tell us the general magnitude of use, high traffic periods, low traffic periods, and how traffic varies by location.

Traffic counters in 2011 and 2012 measured traffic in areas such as Forest Road 240, 125, 253, 420, 700, and 708. The 240 (from Mormon Lake to Munds Park) received the greatest amount of traffic followed by the 708 road. Labor day appeared to be the most popular weekend for most routes, where there were data during this period. The data do provide information on other patterns such as that traffic on FR420 is about double from Hwy 89 as it is from Hwy 180.

Table 3. Traffic counts on selected roads in 2011 and 2012 by month

Route	Description	Month/year	MaxDailyTraffic	MinDailyTraffic	AvgDailyTraffic	Comments
240	1 mile east of private land boundary at Munds Park	Aug-11	504	82	223.4	Only includes traffic from 8/18/2011 to 8/31/2011
240	1 mile east of private land boundary at Munds Park	Sep-11	1149	57	286.9	Labor Day weekend traffic was extremely high on this route
240	1 mile east of private land boundary at Munds Park	Oct-11	433	30	172.4	
240	1 mile east of private land boundary at Munds Park	Nov-11	137	15	53	Only includes traffic from 11/1/2011 to 11/16/2011
240	1 mile east of private land boundary at Munds Park	Jun-12	499	106	262.3	Only includes traffic from 6/22 to 6/30/2012

Route	Description	Month/year	MaxDailyTraffic	MinDailyTraffic	AvgDailyTraffic	Comments
240	1 mile east of private land boundary at Munds Park	Jul-12	672	82	294.3	
240	1 mile east of private land boundary at Munds Park	Aug-12	624	65	232	
240	1 mile east of private land boundary at Munds Park	Sep-12	1014	58	274.1	Very high labor day weekend traffic
240	1 mile east of private land boundary at Munds Park	Oct-12	442	38	165.7	
240	Directly west of intersection with County Road 90, near Mormon Lake	Aug-11	397	56	165.3	Only includes traffic from 8/18/2011 to 8/31/2011
240	Directly west of intersection with County Road 90, near Mormon Lake	Sep-11	720	57	196.7	
240	Directly west of intersection with County Road 90, near Mormon Lake	Oct-11	304	28	110.2	
240	Directly west of intersection with County Road 90, near Mormon Lake	Nov-11	83	3	36	Only includes traffic from 11/1/2011 to 11/20/2011
240	Directly west of intersection with County Road 90, near Mormon Lake	Jun-12	273	56	146.6	Only includes traffic from 6/21/2012 to 6/30/2012

Route	Description	Month/year	MaxDailyTraffic	MinDailyTraffic	AvgDailyTraffic	Comments
240	Directly west of intersection with County Road 90, near Mormon Lake	Jul-12	681	39	203	
240	Directly west of intersection with County Road 90, near Mormon Lake	Aug-12	520	35	141.7	
240	Directly west of intersection with County Road 90, near Mormon Lake	Sep-12	518	30	131.4	
240	Directly west of intersection with County Road 90, near Mormon Lake	Oct-12	246	23	111.9	Only includes traffic from 10/1/2012 to 10/27/2012
125	0.25mi east of intersection with Lake Mary Road (FH3)	Aug-11	271	51	126.4	Only includes traffic from 8/18/2011 to 8/31/2011
125	0.25mi east of intersection with Lake Mary Road (FH3)	Sep-11	460	48	174.4	
125	0.25mi east of intersection with Lake Mary Road (FH3)	Oct-11	449	21	128	Only includes traffic from 10/1/2011 to 10/24/2011
153	0.1 mile from exit off of Interstate 17	Jul-11	303	72	159.4	Only includes traffic from 7/15/2011 to 7/31/2011

Route	Description	Month/year	MaxDailyTraffic	MinDailyTraffic	AvgDailyTraffic	Comments
153	0.1 mile from exit off of Interstate 17	Aug-11	256	70	128.3	Only includes traffic from 8/1/2011 to 8/15/2011
420	0.8 miles from Hwy 180 intersection, after split with 557 (Elden lookout road)	Jun-12	88	33	56.56	Only includes traffic from 6/22/2012 to 6/30/2012
420	0.8 miles from Hwy 180 intersection, after split with 557 (Elden lookout road)	Jul-12	108	42	73.13	
420	0.8 miles from Hwy 180 intersection, after split with 557 (Elden lookout road)	Aug-12	258	37	94.32	
420	0.8 miles from Hwy 180 intersection, after split with 557 (Elden lookout road)	Sep-12	198	47	98.37	
420	0.8 miles from Hwy 180 intersection, after split with 557 (Elden lookout road)	Oct-12	220	32	102.14	Only includes traffic from 10/1/2012 to 10/28/2012
420	0.6 miles west of turn-off with Hwy 89	Jun-12	397	82	199.4	Only includes traffic from 6/22/2012 to 6/30/2012
420	0.6 miles west of turn-off with Hwy 89	Jul-12	335	109	184.29	

Route	Description	Month/year	MaxDailyTraffic	MinDailyTraffic	AvgDailyTraffic	Comments
420	0.6 miles west of turn-off with Hwy 89	Aug-12	399	100	185.58	
420	0.6 miles west of turn-off with Hwy 89	Sep-12	384	83	193.1	
420	0.6 miles west of turn-off with Hwy 89	Oct-12	584	72	201.96	Only includes traffic from 10/1/2012 to 10/28/2012
700	North end, 0.25 miles from I-17 off-ramp	Jun-12	171	79	122.89	Only includes traffic from 6/22/2012 to 6/30/2012
700	North end, 0.25 miles from I-17 off-ramp	Jul-12	220	70	117.8	
700	North end, 0.25 miles from I-17 off-ramp	Aug-12	202	74	134.48	
700	North end, 0.25 miles from I-17 off-ramp	Sep-12	281	81	142.63	
700	North end, 0.25 miles from I-17 off-ramp	Oct-12	179	54	98.89	Only includes traffic from 10/1/2012 to 10/28/2012
708	North end, 0.5 miles south of Hwy 260	Jul-11	379	74	187.42	Only includes traffic from 7/14/2011 - 8/1/2011
708	East side of rd, 2 miles from Strawberry and 0.5 miles	Jul-11	856	176	377.37	Only includes traffic from 7/14/2011

Route	Description	Month/year	MaxDailyTraffic	MinDailyTraffic	AvgDailyTraffic	Comments
	from Fossil Springs Trailhead					- 8/1/2011

Measure 2: Patterns of OHV use

While there needs to be more data collected on traffic patterns, we can use traffic data combined with the documentation of public contacts completed in 2012 to estimate that on roads such as Forest Road 240, approximately 30% of the vehicles were either an off-highway vehicle (OHV), or were travelling with an OHV. This seems to apply generally on roads in the forest that provide access to areas with many dispersed camping opportunities such as Stoneman Lake, Forest Road 418, and portions of Forest Road 700.

Signage

Signage of forest routes and areas is a continuing management need. While the Forest continues to receive comments from forest visitors and employees that only designated roads should be signed with a route marker, direction for signage is identified in the Forest Service Manual and Handbook as well as the Off-highway Vehicle Program Route and Area Designation Implementation Guide (updated April 2012). According to this guide (pp. 57-58):

“Route markers should be installed on ***all NFS roads and trails regardless of whether they are shown on the MVUM*** [emphasis added]. There may be authorized routes that are open to administrative or permitted use that also require route markers even though they will not be displayed on the MVUM. Route markers also communicate the difference between closed system roads and unauthorized or decommissioned roads. First priority should be given to identifying routes shown on the MVUM. Route markers on other routes should then be installed as resources and needs allow.”

The Coconino National Forest followed this direction and between 2009 and 2011, the Forest installed route markers on all National Forest System routes on the Forest.

At the beginning of June 2012, the Coconino National Forest had hired and trained two seasonal, temporary employees to install additional route markers and approximately 100 portal signs (see figure 6) at the entrances of main forest roads. As part of this process, we also asked them to check all of the signs they installed two weeks after installation work began and report any damaged signs.

In addition to this effort, the Forest handed out approximately 8,000 “Motorized Use Comment Forms” during Memorial Day weekend and the weekend of June 8th-10th to solicit public feedback with regard to travel management designations and road/trail signage.

The Forest has also recently completed a 3-year grant to place over 800 place feature signs throughout the Forest to identify prominent landmarks such as tanks, canyons, meadows, and other features.

Measure 1: Signage accomplishments

Via efforts in 2009-2011 the Forest is in conformance with Forest Service policy to sign all national forest system roads with a route marker. Between 6/8/2009 and 8/1/2011 the forest checked, fixed, or installed route marker signage on approximately 6,324 routes. This included all national forest system routes, both designated and undesignated. The forest also installed approximately 100 portal signs (see figure 6) in 2012 to facilitate more effective enforcement of those not travelling on designated routes.



Figure 3. Example of sign located at Forest Road 141 and Highway 87. This is an example of a portal sign installed at main forest entrances to inform visitors that there is a designated route system.

In addition to these aforementioned signage accomplishments, the Forest has also completed additional signage projects. In early June 2012, the Forest completed a 3-year grant to install 865 feature signs (See Figures 4, 5, 6) throughout the Forest. This grant was originally awarded on January 2009 and included a total project cost of \$264,460.

The most recent information from the National Use Visitor Monitoring Survey (FY2010) illustrates that signage in undeveloped areas “signage adequacy” is the element most rated by visitors as “Somewhat dissatisfied”, and is rated the third highest in the category of “very

dissatisfied.” Identifying prominent features on the Forest is expected to address this issue, but also to facilitate Forest visitors being able to better navigate the Forest. The effort to identify prominent features on the Forest was an effort to help users navigate the Forest successfully, which is expected to improve compliance with the new travel management rules.

The source of named points were Geographic Names Information Service points within 50 meters of designated roads (excluding I-40 and I-17), as well as points where those roads crossed a named watercourse. Signs within a half mile of roads maintained for passenger vehicles and signs along the main roads were installed with reflective signs. All other signs were designated as routed wood signs.



Figure 4. Photo of AZ Well feature sign with the well in the background.



Figure 5. Chavez Pass feature sign



Figure 6. Clover Canyon feature sign

In 2013 the Forest also completed a 2011 grant from the Arizona State Parks OHV “Sticker Fund” grant program by installing five graveled pull-outs with 3-panel kiosks at main entrances to the Forest. These pull-outs were designed to allow enough room for one to three RVs to pull-off the road to learn of current information on fire restrictions, motorized travel rules, and other relevant information for the area. These kiosks are meant to facilitate education of the new motor vehicle rules to those visiting the Coconino National Forest.



Figure 7. Kiosk and pull-out installed in 2013 to facilitate information sharing on motor vehicle rules.

Lastly, the Forest has also forged a partnership with the Friends of the Northern Arizona Forests and received \$10,000 in grant funding for improved signage in and adjacent to motorized

recreation areas. So far, this funding has been used for signage in and for the boundary of the Cinder Hills OHV Area, in areas along the 237 road near the Kelly Canyon Motorized Trails, and in areas near communities on the Red Rock Ranger District. This grant funding was spent on signage to improve compliance with motorized use rules and to promote ethical behavior by motor vehicle users on the national forest.

Measure 2: Public feedback regarding road and motorized trail signage

The Coconino National Forest has received approximately 600 hundred comments since announcement of the decision on the Travel Management EIS in November 2011. These comments have been submitted via the hard copy feedback forms, on the Coconino National Forest website feedback form (<http://go.usa.gov/Qww>) or via phone calls, walk-ins, or at public meetings. Of these comments, approximately 2 percent were about sign problems. This feedback is shown below.

Table 4. Comments received from the public regarding signage issues.

Date comment received	Route / Area	Comment	District
5/14/2012	9002F	This route is marked incorrectly as 9237U on the ground. This is important because 9002F is a designated route with a 300-foot motorized camping corridor and 9237U doesn't exist on the ground.	Flagstaff
5/8/2012	372	Road number needs to be changed to 715E to match the Kaibab	Flagstaff
5/8/2012	191	Road number needs to be changed to 736 to match the Kaibab	Flagstaff
5/14/2012	191C	A few of the side roads connecting to this road are not marked, such as 9007F, 9111X	Flagstaff

5/6/2012	Cinder Hills OHV Area	<p>Generally people are aware of the New Rules but they think this whole area is the OHV area. I pointed out on the map that the boundary is to the north of here but they still argue that I am wrong. It seems some people know about the rules but don't bother to check the map. Also, none of the roads in this area are marked at all, which only adds confusion.</p> <p>Can I suggest putting up some informative "Road Closed" signs? I realize the Coconino is vast and I am focusing on just one part. But I think since the OHV Cinder Hills area is so close by that there needs to be some physical indication of where the boundary is and where it is not. There are those purplish carsonite markers along the boundary but they don't say what they are. Can you at least mark them as the boundary? This is a heavily used area by both visitors and the people that live out here.</p>	Flagstaff
7/23/2011	9398V	Mismarked as 9398Y on the ground	Mogollon Rim
5/2/2012	235	Missing route marker signs	Flagstaff
5/2/2012	235A	Missing route marker signs	Flagstaff
5/2/2012	9489X	Missing route marker signs	Flagstaff
5/14/2012	9008G	Not signed.	Flagstaff
5/31/2012	9363H	Not signed.	Mogollon Rim
5/11/2012	9254J	Road sign says 9252D, but there is no 9252D on the system. This road leads to a campsite he has camped at for	Mogollon Rim

		40 years. It is unclear if the road is 9254J or a road not on our system.	
5/4/2012	80	This road is missing a sign at the intersection with Stoneman Lake Road	Red Rock
5/11/2012	124	Very few of the side roads are signed, and this can be a heavily used camping area.	Flagstaff
6/1/2012	235K	Sign was knocked down and needs to be replaced	Flagstaff
6/4/2012	224 and 221	These trails aren't marked? They are not roads, but he says they are on the map for Iron Springs.	Flagstaff
4/23/2012	234D	This road is shown opposite 229. Says this road is shown on the MVUM, but he doesn't think it exists, at least there are no signs.	Mogollon Rim

These comments were provided to the Coconino National Forest Engineering staff on 6/7/2012. They were addressed by early October 2012. The Forest continues to solicit public feedback on signage and address signage issues the season they are identified.

Measure 3: Sign damage

On June 11, 2012 the sign crew surveyed the signs they placed over the past two weeks in addition to any other road signs on the route. They saw one damaged sign located at Forest Road 82 near Interstate 40 (Figure 8).



Figure 8. Damaged portal sign.

It appears from the photograph that someone backed their vehicle into one of the sign posts, which bent the sign. The sign crew replaced the sign the following week.

Anecdotal evidence from Kaibab National Forest (where all non-designated roads are signed as closed) Forest Protection Officers and Arizona Game and Fish law enforcement officers tells us that there is a much greater occurrence of sign damage and sign removal where ‘road closed’ stickers are used. This seems to make sense in that there is no incentive to rip out signs that simply mark a road, whereas signs that indicate a road is closed were used in the past to justify violation notices in court. On the other hand, many Forest employees, Arizona Game and Fish Department employees, and publics feel that having a route marker sign on non-designated routes encourages continued motorized use on these closed roads. It is Forest Service policy that all roads whether designated open or closed include a route marker sign.

Forest Service in the Off-highway Vehicle Program Route and Area Designation Implementation Guide also supports limited use of road closure signage. It explains (p. 55):

“Signing all routes as either open or closed is not consistent with current sign policy or guidelines and is unnecessary to fulfill the requirements of the Travel Management Rule. Units are not to use such signing. Although some units have used this sign strategy to manage access in the past, enforcing travel management decisions with this type of signing could be

problematic. In most cases, experience has shown this practice to be ineffective in preventing the proliferation of unauthorized routes and results in additional sign procurement, installation and maintenance costs... Use of travel management signs to supplement the MVUM is optional and should be well thought out in a sign plan that considers long term sign maintenance costs and consistency within and across unit boundaries.”

The Coconino National Forest has interpreted this language to mean that road closure signs are only used in special situations such as problem areas (see figure 10) where signage can facilitate more effective enforcement and maintenance costs can be realistically managed. Still, this is an area of great debate within the agency and among forest users. This is an area where future monitoring of the effect of road closure signs may be valuable.

Dispersed camping

The 300-foot designated motor vehicle camping corridors (or lack thereof) are the most commented upon element of the travel management designations. We receive regular comments from forest visitors who complain that a campsite they have driven to with established campfire rings for the past several years is no longer accessible by car. They express frustration that existing campsites with campfire rings and bare ground are often not in designated 300-foot corridors. Over the past two decades the number of dispersed campsites on the forest has steadily grown. Many of these campsites have encroached into threatened and endangered species habitat, areas affecting water quality, and areas with archeological sites. This is a conflict that makes it difficult to meet forest user demands and the agency mandate to protect valuable forest resources.



Figure 9. RVs parked along the tree-line near a meadow with restrictions of off-road motorized use near Mormon Lake

During the EIS process, one of the main concerns related to the designated 300-foot motorized camping corridors was potential on-the-ground impacts that could be caused as a result of the designation. The designation allows for off-road driving for the purpose of camping within 300 feet of a designated road. Many felt that this would result in a major increase in spur roads and off-road driving in these areas. This concern is based on research that shows dispersed camping can result in disturbance (to wildlife) and loss of ground vegetation, soil compaction, and elimination of surrounding vegetation (Cole 2004, Leung and Marion 1999).

Based on the observations of forest service field personnel, the 300-foot designated camping corridors have had little effect to ground cover and number of new spur roads in these areas. Monitoring of an area around the community of Mountaineer was conducted in 2012 and 2013 to document changes resulting from the designation of a number of 300-foot corridors. This report can be found in Appendix 1, and shows little evidence of impacts resulting from 300-foot corridor designation. While this report is not statistically significant evidence that no impacts are occurring in any designated 300-foot corridors on the Forest, it provides evidence that the 300-foot corridor designations have not resulted in major effects.

Enforcement

The ability to effectively enforce the new motor vehicle rules was a common concern voiced during the EIS planning process. The Coconino National Forest established an enforcement plan in 2011, which includes a goal to:

Work with our internal and external partners to prepare the public for the implementation of the TMR by:

- Use Forest Service employees to inform and enforce existing motor vehicle laws.
- Use concentrated patrols to inform and enforce existing motor vehicle laws.

This plan takes into account that there is an important need to work towards educating forest visitors on the new rules in order to effectively use enforcement. In other words, implementation of the Coconino National Forest motor vehicle rules is a very big change that will take some time. The Forest plans to focus on education in initial implementation phase. Enforcement at this phase focuses on impacts to forest resources, social conflicts, and problem areas.

Education and enforcement were combined extensively in 2012 through concentrated patrols to educate the majority of users on the new motor vehicle rules, while enforcing motor vehicle abuses that impacted forest resources.



Figure 10. Forest Service, Arizona Game and Fish Department, and County Sherriff’s departments gather for a briefing prior to completing an enforcement blitz at Stoneman Lake area in 2012.

Measure 1: Tickets and warnings issued before and after implementation of motor vehicle rules on the Coconino

These statistics were assembled on April 4, 2013 and only reflect data entered into the LEIMARS database by this date. It is known that there are still dozens of warnings and incident reports completed by FS employees that have still yet to be entered since 5/1/2012. Furthermore, this data does not reflect warnings, or tickets issued by other agency law enforcement such as the Arizona Game and Fish Department or the Coconino or Yavapai County Sheriffs' Departments.

Table 5. Tickets and notices issued for motor vehicle related incidents, 2012-2013

Time period	Offense Code	Description	Warnings	Incident Report	Court appearance	Collateral	Total
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10/7/2012 - 4/4/2013 (Off-season)	36 CFR 212.5	Traffic on forest roads subject to state laws - improper registration, licensing, etc.	26	0	0	14	40
	36 CFR 261.13	Motor vehicle use off of designated roads, trails, areas	1	0	0	4	5
	36 CFR 261.15h	Motor vehicle use in a manner which damages or disturbs wildlife or veg resources	0	0	0	0	0
Time period	Offense Code	Description	Warnings	Incident Report	Court appearance	Collateral	Total
5/1/2012 - 10/6/2012 (Field Season)	36 CFR 212.5	Traffic on forest roads subject to state laws - improper registration, licensing, etc.	28	0	0	10	38
	36 CFR 261.13	Motor vehicle use off of designated roads, trails, areas	68	17	2	22	109
	36 CFR 261.15h	Motor vehicle use in a manner which damages or disturbs wildlife or veg resources	1	0	2	1	4
Time period	Offense Code	Description	Warnings	Incident Report	Court appearance	Collateral	Total
5/1/2011 - 5/1/2012	36 CFR 212.5	Traffic on forest roads subject to state laws - improper registration, licensing, etc.	104	18	0	135	257
	36 CFR 261.13	Motor vehicle use off of designated	0	0	0	1	1

		roads, trails, areas					
	36 CFR 261.15h	Motor vehicle use in a manner which damages or disturbs wildlife or veg resources	6	5	1	3	15

While these data lack a complete picture of violation notices and other notices issued in the first year of TMR implementation on the Coconino National Forest, they identify a clear effect in the *type* of citations being issued. Prior to the new motor vehicle use rules, the large majority of tickets/notices were issued under federal regulations regarding requirements to follow state laws for registration, licensing, etc. This substantially changed in 2012. Since the new motor vehicle rules were in place, agency law enforcement began using regulations under 36 CFR 261.13, which focus on requirements to stay on the designated system of roads, trails, and areas.

In summary, it is unclear if the new motor vehicle rules changed the overall number of tickets/notices issued in relation to motor vehicle use on the Forest. Generally, the new rules have resulted in a change in the *type* of ticket/notice issued, which focuses more on enforcing the appropriate use of motor vehicles instead of the appropriate licensing and registration of these vehicles.

Measure 2: Problem Areas

Problem areas are defined as locations in or adjacent to the national forest where repeated violation of the motor vehicle use rules results in re-occurring damage to forest resources or re-occurring user conflict. These areas are generally identified through public comments or Forest Service employee reporting.

As discussed in the Coconino National Forest Travel Management EIS, unrestricted motorized use near communities within or adjacent to the national forest continues to be a source of user conflict (Coconino National Forest Travel Management EIS, p. 51). In many communities that abut against national forest boundaries, there are many landowners who prefer to access the forest using OHVs from the convenience of their own property, which results in the establishment and persistence of unauthorized routes. Other landowners find this to be obtrusive and are upset by the establishment of new roads and trails, motor vehicle noise, and dust associated with OHV use.

We've received complaints from various sources or observed unauthorized routes in areas near private lands including the Camp Verde/Airstrip area, Blue Ridge Subdivisions, and the Airport area near Ponderosa Trails. Similar areas where public complaints were of greatest magnitude include:

Cinder Hills / Doney Park Interface – Regular complaints regarding unauthorized off-road driving by adjacent landowners as well as encroachment from the Cinder Hills OHV Area. This area is very open and difficult to physically restrict motor vehicle use. The Flagstaff Ranger District has installed road closed signage, signed the Cinder Hills OHV boundary, and enforced motor vehicle restrictions through several patrols in this area. Unauthorized motor vehicle use and damage to private property still occasionally occurs in this area, but the efforts of FS employees and community members have made a big difference. An e-mail from a resident after the 2013 Memorial Day Weekend states, “On a scale of 1-10 I would say it was a 8.5 a vast improvement from last year and I want to say thank you!”



Figure 11. Signage installed on an unauthorized road near the Cinder Hills OHV Area

McGuireville / Rimrock Interface – There have been several complaints of unauthorized off-road driving, vegetation clearing, trail building. This area is likely accessed from nearby private lands and includes use of closed roads, two-track trail establishment, and continued use of existing single track trails. The Red Rock District has increased signage and enforcement efforts in this area. The District is in the process of gating several closed roads that appear to receive the most unauthorized use.

Cornville / Green Gate Interface – This area has a number of unauthorized roads that have been used for several years by local residents. Many of the roads are user-created and occur in or across ephemeral washes in the area. There is also evidence of constructed jumps and berms in some localized areas near the boundary with private lands. The area includes desert scrub and desert grassland and is very open, making it difficult to physically block motor vehicle use. Increased signage and enforcement is being used in this area.

There are also problem areas that aren't adjacent to communities. Two in particular include:

Wing Mountain Pit – An old borrow pit located at the base of Wing Mountain was regularly used in the past by single track motorcycle riders, especially family groups. This area continues to receive occasional motorized use despite not being designated. Those who use this area cite the fact that it includes compressed cinders good for beginner single track motorcycle riding, which is not available elsewhere on the Forest. The Coconino National Forest implemented several enforcement and education patrols at this location in 2012.

A-1 Mountain Area – The A-1 Mountain area is easily accessible from Interstate 40 and the area is regularly used by RV campers. This area is often used by those who have no permanent place of residence who are looking for a place to live on the Forest. While some stay on the designated road system, others try to find out-of-the-way spots to avoid the regular law enforcement presence in the area.

Measure 3: Law Enforcement Incident database reporting

In 2012, the Coconino National Forest fire dispatch center played an important role in implementation of the Travel Management Rule on the Forest. The forest dispatch acts as the communication nerve center for the Forest and maintains radio contact with FS law enforcement and other field-going personnel to report incidences on the Forest. The Motor Vehicle Use Map includes the phone number of the dispatch center and is identified for reporting motor vehicle infractions on the Forest.

To better track the number and types of phone calls related to motor vehicle use, the Coconino National Forest dispatch center has been using a database named WildCAD. In 2012, the

dispatch center began increasing reporting through this database to better capture and monitor OHV issues and TMR violations.

Table 6. Report on incidents reported to Coconino National Forest dispatch, 2012

WildCAD Report
1/1/2012 - 12/31/2012

Incident Type	Count
Assaults	3
Property Damage	3
Vehicle Accident	1
Monthly Log*	8
OHV	2
Other Agency Assist	3
Resource Damage	38
Search and Rescue	2
Shooting	40
TMR Violation	12

* This is a miscellaneous category that is used for other incidents that don't fit a category

The report above is from all incidents recorded at the Coconino National Forest dispatch center in 2012. Since the Forest began implementation of the travel management rules in May 2012, this report provides a good baseline of dispatch activity for OHV issues and TMR violations.

Measure 4. Law enforcement incident case studies focusing on unauthorized motor vehicle use

There is a general lack of public understanding as to if and how the motor vehicle rules were established through the Travel Management regulations. There have been claims that the new motor vehicle rules would result in hundreds or thousands of additional violation notices (tickets). Some have even claimed that the new rules would make criminals out of families that choose to visit the Forest. There is also a misunderstanding by many that the Forest’s focus on education means that none of the rules are being enforced and that there is currently a “grace period” in effect for the rules. None of this is accurate. Rather, enforcement efforts are focused in the most important areas – where motorized use is causing resource damage, safety concerns, or is in violation of multiple State and Federal regulations. Examples of law enforcement efforts related to motor vehicle use on the Coconino National Forest are described below:

On 1/26, two LEOs conducted a patrol on the **Red Rock RD**. The LEOs stopped to contact two men attempting to push a dirt bike off a muddy two-track NFS road and onto the shoulder of Highway 260. The officers issued a citation to the owner of the bike for not having current registration and a warning to him for not displaying the required OHV indicators on his bike. The LEO also issued a warning to the men regarding damage caused by operating dirt bikes on wet and muddy NFS roads.

On 3/15, two LEOs conducted a patrol on an NFS road known as Woody Mountain Road on the **Flagstaff RD**. The road is currently closed to motor vehicle use. A man operating a dirt bike without a license plate traveled past by the LEOs' vehicle. The LEOs initiated a traffic stop but the man attempted to flee. After the man eventually stopped, the LEOs determined he did not have a driver's license, was in possession of marijuana/drug paraphernalia, and had not obtained registration/insurance for the dirt bike. In addition, the man caused damage to the closed road and natural resources while riding the bike in the area. The LEOs issued multiple violation notices and written warnings to the man.

On 3/17, two LEOs made contact with two drivers who had been mud bogging in a large watery pit on the **Flagstaff RD**. One of their vehicles became stuck in the pit. The two individuals were able to remove the vehicle from the pit after two hours of digging and utilizing the other vehicle to pull it out of the mud. Their efforts resulted in significant damage to an NFS road adjacent to the mud pit. The LEOs issued violation notices to the individuals for damaging an NFS road and being in possession of marijuana.

On 3/30, an LEO responded to a report of illegal OHV activity on the **Flagstaff RD** adjacent to a residential neighborhood. While the LEO was in route, a Coconino County SD deputy initiated contact with three individuals operating dirt bikes in a closed area. The individuals fled on their dirt bikes at a high rate of speed and traveled off-road multiple times. The LEO and additional officers searched the area and eventually located the three individuals as they were returning to their nearby residence. The LEOs issued violation notices to them for operating their dirt bikes off-road in a closed area.

On 3/31, two LEOs conducted a traffic stop on a vehicle traveling in a closed area near an NFS road on the **Flagstaff RD**. The LEOs determined the driver had a suspended license, did not have his child in a proper safety restraint, and was in possession of marijuana and an open container of alcohol. The LEOs issued five violation notices to the man.

On 4/4, two LEOs on the **Flagstaff RD** initiated a traffic stop on an OHV but the operator fled at a high rate of speed along a dirt road. The operator travelled off-road but eventually stopped when he turned the OHV onto a roadway in front of the officers. The LEOs issued violation notices to the operator for not having his driver's license in possession and no vehicle registration/insurance.

On 4/7, two LEOs on the **Flagstaff RD** issued warning notices to several individuals operating unregistered OHVs on closed roads.

On 4/13-14, two LEOs on the **Flagstaff RD** issued written warnings to the operators of three OHVs for not having proper OHV registration and traveling off established roads. The LEOs also assisted Coconino County SD in locating a man who called 911 to report his vehicle was stuck on the Forest. The LEOs transported the man and his dogs to a nearby highway where the man's wife was waiting for him.

On 5/7/2013, a man pleaded guilty to driving off-road and causing resource damage near Stoneman Lake Road on the **Red Rock RD**. The man was sentenced to pay a \$200 fine and \$2,000 restitution towards the cost of rehabilitating the resource damage.

Motorized Big Game Retrieval

Motorized Big Game Retrieval was one of the main points of contention during the Coconino National Forest travel management planning process. The Forest ended up approving off-road driving for retrieval of elk in approximately 53% of the Forest, and restricted motorized big game retrieval in the remaining portions of the Forest. The majority of comments received from Forest users include concern and complaints about the restrictions as making it unnecessarily difficult to elderly and disabled hunters. This sentiment has also been reflected by the Arizona Game and Fish Department.

The Coconino National Forest recognizes there is disagreement regarding the motorized big game retrieval restrictions. It is unclear how these rules affected the prevalence of off-road driving for game retrieval. Anecdotal evidence tells us that in some areas, there is limited compliance with these restrictions during rifle elk hunting season.

We expect compliance with motorized game retrieval to improve over the next years for two reasons. First, in 2012 those hunting in units with game retrieval restrictions for elk did not know of these restrictions at the time they applied for their elk permit because no decision had been made on the Coconino National Forest Travel Management EIS. The Arizona Game and Fish Department hunting proclamations were updated for the 2013 printing so that it is now clearly written that there are motorized big game retrieval restrictions for elk and deer in game management units 5A, 5BN, and 5BS. Second, the Forest has worked together with Arizona Game and Fish Department to address issues such as a project to approve additional road access during the hunting season for the special Peaks Hunt Unit. We feel these changes will improve compliance with the motorized big game retrieval restrictions in the coming years.

Motorized Trails

Another major issue that was involved in the 2011 Travel Management Environmental Impact Statement (EIS) was that the decision lacked opportunities for those who preferred motorized recreation on designated motorized trails. The 2011 Travel Management EIS reviewed approximately 120 miles of unauthorized (user-created) trails that were not approved because it was found they were in areas with sensitive wildlife habitat, important cultural resource areas, or crossed into city lands where motorized use was not an authorized activity. As a result, the Coconino National Forest Travel Management decision approved a combined total of approximately 39 miles of motorized trails, but also explained,

“I fully commit to additional motorized route planning and making changes to motorized use management through the National Environmental Policy Act to continue improvement of forest access, motorized recreation, and the protection of forest resources for current and future generations.”

This commitment written into the Record of Decision to address the concerns of many motorized recreation users has been followed by action such as a decision to approve approximately 93 miles of motorized trails through the December 2012 Kelly Motorized Trails Project. Since this decision the Forest has applied for and been rewarded with state OHV sticker fund grant funding to implement the project over the next several years. This is an example of an area where the Forest has worked with users and partners to follow-up on commitments to ensure for a more sustainable, fun, and safe motorized experience.

Funding

Implementation of new motor vehicle rules throughout the Forest; including the design, printing, and distribution of the Motor Vehicle Use Map every year, has been a costly endeavor.

Funding considered here for the management of motor vehicles on the forest includes funding put aside for signage and gates, route construction and decommissioning, map costs, and OHV-related patrol and public contact. It does not include funds used for general road maintenance activities, non-motorized trail management activities, or many of the planning efforts to mitigate the effects of motorized use. The Forest has also actively pursued grant funding to implement these same categories of actions.

Between 2007 and 2011 the Forest received additional appropriated funds specifically for implementation of the Travel Management Regulations to complete the NEPA process to designate a system of roads, trails, and areas for motor vehicle use.

Grant funding is often awarded in one fiscal year but can be implemented over a number of years, depending on the project. In Figure 12, grant funding is accounted for based on the year it was awarded, but is actually spent over several years.

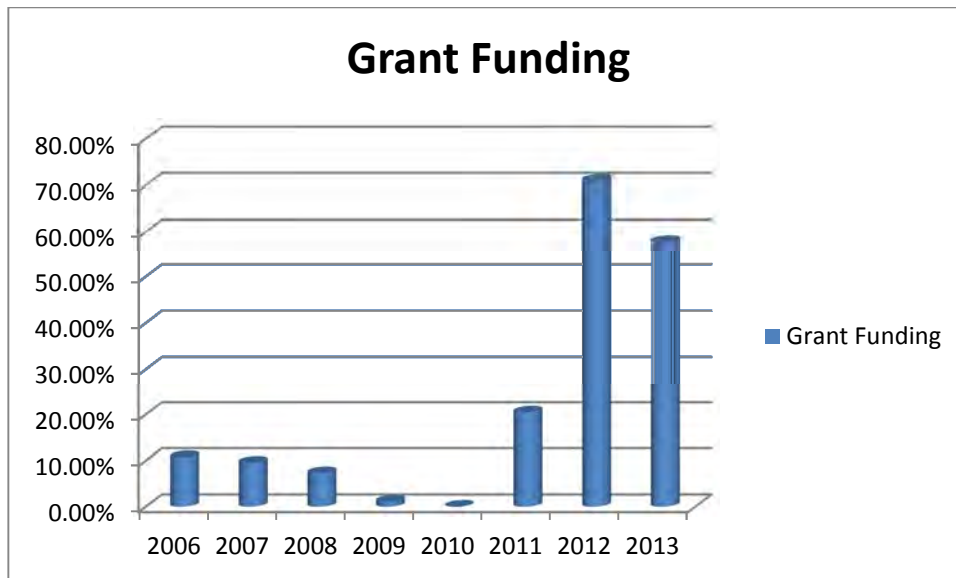


Figure 12. Grant funding as a percentage of total motor vehicle management funding on the Coconino National Forest, 2006-2013.

Overall, the completion of the NEPA process for implementation of the Travel Management regulations has made the Forest more competitive and more focused on grant funding. Grant funding is a growing part of the motorized use management program on the Coconino National Forest.

Forest Plan Compliance

The Coconino National Forest Plan includes a great amount of direction related to motor vehicle use. The plan includes direction to guide management actions for future motor vehicle-related planning, but also provides direction for monitoring and for focusing media attention on motorized use. While Forest Service employees made dozens of efforts to discuss the new travel management rules and potential damage resulting from unauthorized motor vehicle use on the Forest, the following table includes examples of relevant forest plan direction and specific accomplishments related to this language.

Table 7. Forest Plan direction and accomplishments

Page	Direction	Accomplishment
Replacement page 89	Focus media attention on road management at least twice annually.	On July 25, 2012 forest employees were interviewed on KAFF radio and discussed the importance of staying on designated roads and trails with vehicles to protect water, soil, and wildlife in the Forest.
Replacement Page 91	Focus media attention on road obliteration and closures biannually. Emphasize road management and resource/wildlife protection as the	

	overriding Forest policy.	<p>On August 28, 2012 the Coconino National Forest issued a press release entitled, “Cross-country travel causing resource damage on the national forest with several photos of motor vehicle damage in wet meadows and information regarding the importance of following the MVUM (Figure 13).</p> <p>On 3/15/2013 there was an article in the Arizona Daily Sun urging readers to stay on designated roads and trails to prevent damage to the Forest during the muddy conditions in the spring.</p> <p>On May 23, 2013 employees from the Flagstaff ranger district repaired and added fencing to the astronaut training ground to prevent unauthorized motor vehicle access to this area (Figure 14).</p>
Replacement Page 159	Make a special effort through the schools and the media to focus public attention on the importance of complying with the motorized closure for all areas.	
Replacement page 199	Make a special effort through the schools and the media to focus public attention on the importance of complying with the motorized closure for all areas.	
Replacement page 182	Close the astronaut training ground by adding a fence to exclude OHV's	



Figure 13. One of three photos showing resource damage caused by unauthorized motor vehicle use in an August 28, 2012 press release focusing media attention on motorized management.



Figure 14. Enclosure fencing repair on May 23, 2013 at the astronaut training ground to prevent unauthorized motor vehicle use.

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Appendix 1. Coconino National Forest Motorized Use Camping Corridor Monitoring Report

5/17/2013

By Mike Dechter

Purpose

The purpose of this report is to monitor a sample of areas with designated camping corridors shown on the 2012 and 2013 Motor Vehicle Use Maps. Areas with designated camping corridors allow Forest visitors to drive up to 300 feet off the road for the purpose of camping.

Monitoring designated camping corridors is important to address comments and concerns from the 2011 Travel Management Environmental Impact Statement that designating dispersed camping corridors will result in major impacts such as soil compaction, loss of vegetation, and increased hardening of land in these corridors.

Sampling and Monitoring Method

The area chosen for baseline monitoring is easily accessible from a main, paved county road (Lake Mary Road) and directly adjacent to private lands. The staff of the Coconino National Forest believes this is a representative area for monitoring baseline conditions for the following reasons:

- 1) The area is easily accessible from paved roads, has good forest road access by all vehicle types – from trucks to RVs.
- 2) The area is adjacent to private lands and main roads, and has been regularly used for car camping in the past.
- 3) Approximately half of the area was recently treated with thinning and prescribed fire, which may be representative of much of the area in Ponderosa pine given ongoing landscape-wide restoration efforts such as the Four Forest Restoration Initiative.
- 4) The area includes non-contiguous corridors due to sensitive wildlife habitat and archeological concerns. Non-contiguous camping corridors without on-the-ground signage is a concern, because it is unclear if the public will be able to follow the rules in these areas due to lack of clarity with the map.

Monitoring methods included two strategies: (1) photo documentation of existing and potential dispersed camping sites from designated routes with designated dispersed camping corridors; (2) Recording of observations at each site.

The route where baseline conditions were monitored included Lake Mary Road to Forest Road 3E, to route 762, to 867, and back to Lake Mary Road. This route is a loop accessible to all vehicle types. The photos are presented below in the order they were taken along the route (see Figure 1).

Note: In December 2012, the Kelly Motorized Trails Project was approved, which authorized a 97-mile motorized trail system for single track vehicles and ATV use between Munds Park and Flagstaff. A portion of the single track trail goes through the monitoring route. The 97-mile trail system is expected to be implemented over the next 5 years. This provides for a valuable monitoring opportunity of the impacts of motorized trails on nearby designated 300-foot corridors for camping.

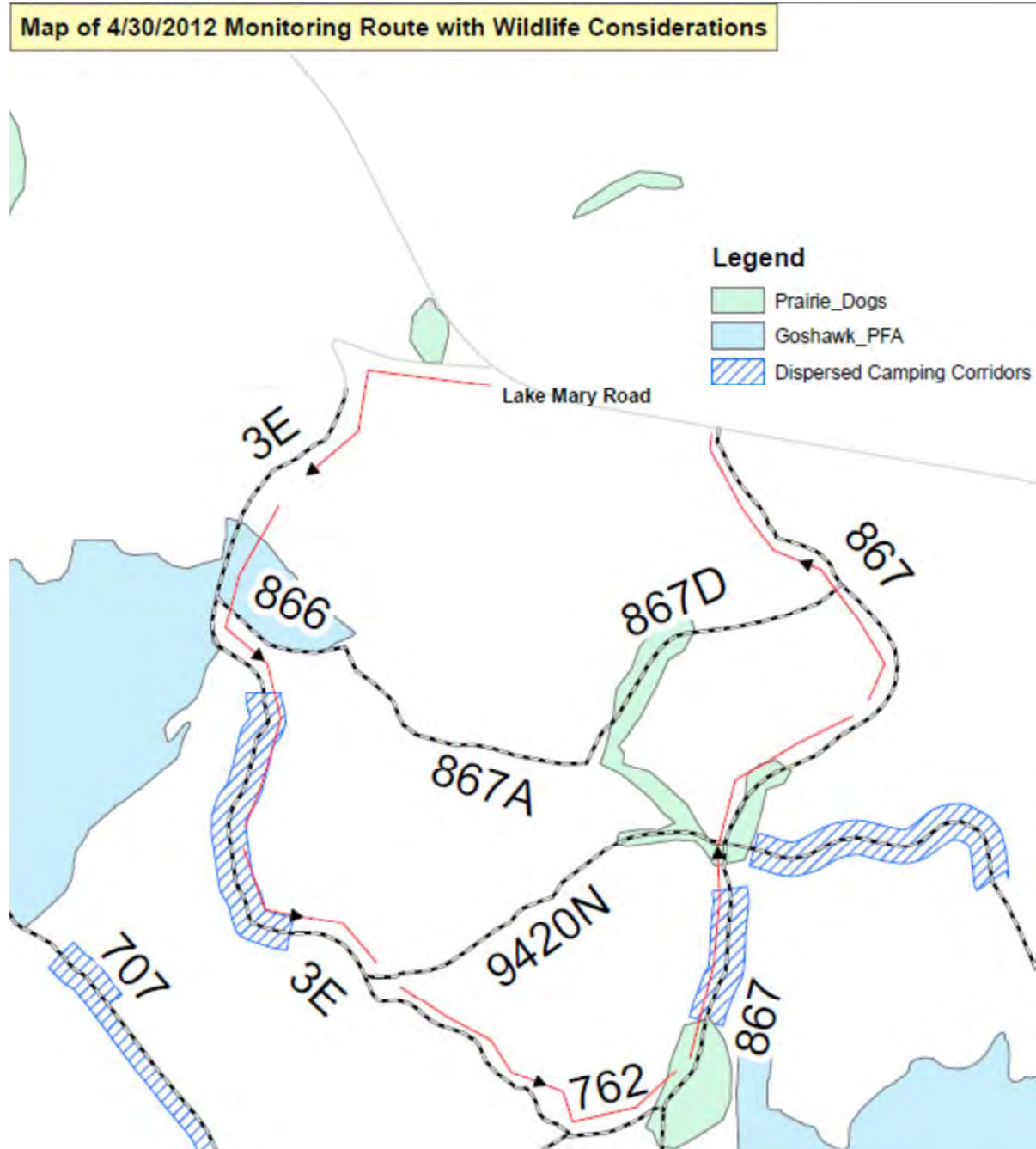


Figure 1. Map of the monitoring route used in 2012 and 2013 with sensitive wildlife habitat (the location of archeological sites were not included to protect these sites).

Baseline Conditions

This monitoring effort occurred the day before the Memorial Day weekend, approximately one year after the implementation of forest-wide motor vehicle rules, which require Forest visitors to limit motor vehicle use to designated roads, trails, and areas. Roads in this area have been open since approximately April 15th of the year, and grass and forbs had already begun to germinate and grow to a length of between 1 and 8 inches in height. Approximately 6 vehicles and campsites were observed along or off of the Forest roads. The area appears to have received little use from dispersed car camping and a moderate use of travelling on designated roads and trails.



Photo 1. Photo of non-designated route 9113J, from its intersection with Forest Road 3E.

Photo 1 shows that 9113J is regularly travelled with some areas lacking vegetation on the side of the road that were likely used as campsites at one time, but have since become new trails for trucks and ATV use. This area appears to look exactly the same as in 2012, and appears to continue to receive regular use by motor vehicles despite being a non-designated road. One area just past the rocks on the left-hand side of the road appears to have more ground cover resulting from decreased motor vehicle use.



Photo 2. Forest Road 3E approximately 0.3 miles from intersection with 9113J

Photo 2 shows a well-maintained road that could provide access for all vehicle types. This area is just prior to an area designated with a dispersed camping corridor and would not allow for off-road driving for dispersed camping. Observations show that it is clearly possible to pull-off the road here to camp or to walk to a campsite. The area has clearly recovered from prescribed burning activities, and despite showing promise for off-road camping shows no signs of unauthorized off-road motorized use.



Photo 3. Beginning of camping corridor on Forest Road 3E.

Photo 3 shows the area just after where the camping corridor starts on the north end of Forest Road 3E. This area is open ponderosa pine vegetation due to recent thinning and prescribed fire treatments. As a result of these treatments, grass growth has been very vigorous. The area appears open with a great number of tree clumps where car camping may be highly desirable. Driving off-road for car camping purposes can occur almost anywhere along the length of the road due to relatively flat and open terrain. There is very little evidence of off-road driving for motorized camping despite being in a designated 300-foot corridor.



Photo 4. Photo of dispersed camp site in area with camping corridor on south side of 3E. Photo taken from edge of road.

Photo 4 shows a 'hardened' dispersed campsite located in the 300-foot camping corridor on FR 3E. Despite allowing for driving up to 300-foot distance from the road, the camp site is located alongside the road. With vehicle tracks showing that vehicles remained alongside the road.



Photo 5. Another photo of the area with a designated camping corridor along Forest Road 3E.



Photo 6. Another photo of the area with a designated camping corridor along Forest Road 3E.



Photo 7. Another photo of the area with a designated camping corridor along Forest Road 3E.

Photo 5, 6 and 7 shows open Ponderosa pine with easy off-road access and good ground cover by grasses. While some of the area in the designated camping corridor includes tree stumps, which would discourage use by RVs or other vehicles, much of the area includes clumps of pine trees that provide for a shady and pleasant motorized campsite. Despite being located 300-foot corridor for motorized camping, there is little off-road driving occurring in this area.



Photo 8. Single track motorized trail (left) and un-designated road leading to a water tank (right), located at the South end of dispersed camping corridor on FR 3E. This photo was taken from the side of Forest Road 3E.



Photo 9. Un-designated road leading to earthen stock tank.

Photo 8 photo shows the southern boundary of the designated dispersed camping corridor. The road on the right shows a road that leads to a stock tank, which is sometimes used for camping, but also shows evidence that it is receiving use from dirt bikes. The trail on the left has been adopted as a single track motorized trail and is on the 2013 Motor Vehicle Use Map. Without signage it is difficult to see what is designated and what is not designated in this area.

Photo 9 Shows that the un-designated road leading to the stock tank is receiving use, but that the tank itself is not being used as a “play area” by the dirt bikes. This use on the un-designated road may be a result of the fact the two routes are adjacent to each other and neither is signed, making it unclear as to which one is designated.



Photo 10. Designated single-track motorized trail where it connects to FR 3E, facing north.

Photo 10 shows a designated single track trail where it connects to FR 3E on the north side. There is little evidence of off-road vehicle use in this area.



Photo 11. Area outside of designated dispersed camping corridor along 3E near intersection with 762.

Photo 11 shows that the area within the dispersed camping corridor is very similar in appearance to the area outside of the dispersed camping corridor along Forest Road 3E.



Photo 12. Spur road from 867 leading to several campfire rings.

Photo 12 shows an uninventoried spur road from 867 just south of the intersection with 762, leading to two large campfire rings in an area without a designated camping corridor. Note several tire tracks indicating recent use. Also note gullying on the left hand side indicating erosion and increased storm flows resulting from lack of vegetation where road has been created. Despite being un-designated this road continues to receive use and is in exactly the same condition as in 2012.



Photo 13. Forest Road 867 where the road transition from meadow to pine stands. The pine stands is where the designated dispersed camping corridor starts on the Motor Vehicle Use Map.

Photo 13 shows the transition between meadow and forested areas along Forest Road 867. Generally, meadows were excluded from designated dispersed camping corridors because (a) motor vehicle use in meadows has greater impacts to soils, scenery, and hydrology, and (b) meadows have little or no shade and are thus less desirable camp sites. The meadow surround much of 867 generally lacks visible tire tracks.



Photo 14. Photo of FR 867 near the north end of the designated camping corridor.

Photo 14 shows an uneven-aged stand of Ponderosa pine with car camping opportunities. This area shows similar conditions as in 2012.



Photo 15. Looking east at 714 from intersection with 867.

Photo 15 shows area with designated camping corridor along 714. Rutting and lack of vegetation in the foreground that was pictured in 2012 (as a result of thinning operations) is now less noticeable and include more vegetative ground cover.



Photo 16. Looking down road 9420N (867A) from 867.

Photo 16 shows Forest Road 9420N (867A), which leads to private property and does not include a designated camping corridor. The damaged route marker pictured in 2012 has since been replaced and clearly marks the road. The Motor Vehicle Use Map only shows this road as 9420N and does not show the portion of the road east of private land as 867A, even though it is signed on-the-ground this way.

Monitoring Results

Monitoring in 2013 shows remarkably similar conditions than those recorded in 2012. This is likely a result of the fact that only one year has passed; however, this result does address the concerns of many who felt that by identifying 300-foot corridors for motorized dispersed camping, it would result in immediate impacts to these areas. While this area does not adequately reflect all areas on the Coconino National Forest, it does provide evidence that the designation of 300-foot corridors does not necessarily result in immediate impacts in these areas. Even where campsites were observed in the designated 300-foot corridors, they seemed to be located alongside the road.

In addition to little change in the 300-foot designated motorized camping corridors the un-designated roads also showed little evidence of change. Despite the change in rules beginning in 2012 that restricted motor vehicle use on un-designated roads, the un-designated roads in the project area still appears to be receiving fairly regular use. While these roads do not appear to be deteriorating in conditions, there is no evidence that these roads are re-vegetating and recovering. In fact, they appear almost exactly the same as in 2012.