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Coconino
National Forest

Coconino National Forest Motor Vehicle Management Monitoring Report



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Table of Contents

Introduction	1
Education	2
Education Measure 1: Field-based contacts.....	2
Education Measure 2: Electronic Aids	3
Motor Vehicle Use Map Improvements	4
Measure 1: Motor Vehicle Use Map public comments	5
Measure 2: Use of Travel Aids	5
Signage.....	7
Measure 1: Signage accomplishments.....	8
Dispersed camping.....	11
Enforcement	13
Measure 1: Tickets and warnings issued before and after implementation of motor vehicle rules on the Coconino	13
Measure 3: Law Enforcement Incident database reporting	16
Measure 4. Law enforcement incident case studies - unauthorized motor vehicle use.....	17
Motorized Big Game Retrieval.....	18
Motorized Trails	20
Forest Plan Compliance	21
Resource Protection.....	22
References	27

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 and current progress 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 36 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 measured through tickets, warnings, and incident reports. Impacts in designated 300-foot corridors for motorized camping are measured 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.

Since the implementation of the Plan three years ago, there have been multiple adaptations based on ongoing monitoring efforts. These changes have come as a result of public input, sustained motorized use in restricted areas, and the need for further communication between forest managers and users through visual and electronic aids. Further changes have been made to MVUM (Motor Vehicle Use Map) to address mapping errors identified from new data or public comments. The Forest has also focused on greater use of signage and physical barriers to discourage unauthorized motor vehicle use on non-designated routes. These changes and others will be discussed in further detail throughout this report.

Education

The implementation of the travel management rule regulations was a long-term process that has required adaptations and continued effort. For example, the Forest regularly solicits input from forest users and employees to receive feedback that has been used to identify and correct errors on the map and for reconsideration of route and area designations. 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 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



Figure 1. Coconino National Forest employee discussing Motor Vehicle Rules along Forest Road 90

This effort was very effective at providing education to Forest visitors about the motor vehicle rules on the Forest. Field-based education efforts are focused at main entrance routes to the Forest on holiday weekends. During these efforts, anyone entering the forest at these main intersections would be given a map and told to stay on the designated routes and areas shown on the map. On-the-ground education efforts also provided an opportunity to answer questions and hand out feedback forms to many forest visitors who would otherwise not have had these opportunities.

In 2013 and 2014, the Coconino National Forest continued to make extra efforts at sharing information about the MVUM and motor vehicle rules through the use of field-based contacts. Forest Service employees interact with forest visitors in a myriad of ways. During the summer season, the agency hires additional seasonal employees to focus on wildfire prevention and suppression. Fire prevention employees patrol the forests on busy summer weekends, and make hundreds of contacts each year. For example, on the Flagstaff Ranger District, employees made 25,724 individual contacts between May through October of 2013, most of which likely included discussion on the motor vehicle rules. The Forest also continued to augment public comments by standing at the entrances of major forest roads on holiday weekends throughout the summer. We've found that these efforts result in an additional 5,000 - 10,000 additional public comments each year.

Table 1. Travel Management Contacts by Ranger District in 2014

District	TMR specific contacts	Total contacts	Comments
2014			
Flagstaff	3,056	11,071	Reported from fire prevention
Mogollon Rim	8,714	27,344	Reported from fire prevention
Red Rock	512	n/a	Reported from OHV Ranger
Additional weekend-based patrols and education efforts	1,569	n/a	Focused on holiday weekends

Education Measure 2: Electronic Aids

In 2014 the Coconino National Forest first made¹ an electronic travel aid available along with the availability of the revised hard-copy MVUM map. The Coconino National Forest Travel Aid is a GPS-active version of the map with color, shaded relief topography, non-motorized hiking trails, and additional landmarks that can be used with Avenza PDF Maps² on smartphones and tablet devices for free.

The Coconino National Forest is the first national Forest in Region 3 to construct and implement a free smartphone enabled travel aid of this type. The Forest has used a broad and varied approach to distribute the electronic color travel aid and the electronic black-and-white MVUM through website postings, making it available in multiple locations on the Avenza PDF Maps store, and through 1-page handouts with instructions on how to install on iPhone and Android phones and tablets. Because of this, there is no clear count on how many times the Coconino MVUM or travel aid has been downloaded; however, there are various sources of information that can be tracked in relation to this.

¹ A Coconino National Forest travel aid was first developed and released in August 2013. The updated 2014 travel aid was the first color MVUM-like map released together with the official MVUM.

² Avenza PDF Maps is a smartphone or tablet app. It is a free, award-winning offline map viewer with a connected iTunes-like map store to find, purchase and download new professionally created maps for a wide variety of uses. Downloaded maps are stored on your device and are always available even when not connected to the Internet.

Table 2. Downloads of Coconino National Forest electronic maps at various locations

Download location	Approx. number of downloads/site visits*
Avenza PDF Map Store- Coconino National Forest Travel Map	180/month
Avenza PDF Map Store –electronic (black-and-white) MVUM	No data available
Regional Office MVUM Website	No data available
Coconino MVUM website	4,200/month
Direct download from DropBox via handout instructions	No data available

* Includes data from May 15 – September 15, to provide average data use during seasons of high forest visitation.

Based on observations during the last year, it appears that the use of the electronic travel aid is gaining popularity and downloads continue to increase. In 2013, there were approximately 50,000 site visits to the Coconino National Forest MVUM webpage. Webpage site visits peaked in May (when the new MVUM was released) and then again in August. Approximately two-thirds of the website visits are from people in the Phoenix metropolitan area. In 2013, one-third of all webpage visitors accessed the site via a smartphone (16%) or tablet (12%).

Updating and releasing the travel aid in tangent with the official MVUM map is a cost-efficient method for sharing updated route data with a broad diversity of forest visitors in a variety of formats. The Coconino National Forest will continue to use these tools to provide free, easily accessible information on motor vehicle rules throughout the Forest.

Motor Vehicle Use Map Improvements

The Forest continues to receive 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, trailheads, and topographical details. Many forest users have called to complain that they cannot effectively navigate with the map despite their best efforts. The Forest has also received many comments regarding perceived errors with routes or annotation. For example, one recent public comment stated:

“The hard copy MVUM shows the camping corridor (road number 92) only on the south side of the road, but the electronic version and the GIS database shows the camping corridor on both sides of the road.”

These comments are extremely beneficial for the forests’ continual update of these maps, and each comment is looked into thoroughly and addressed appropriately (USDA Forest Service 2014).

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 has been concerned with this issue since its initial implementation and has taken steps to make the map more usable in the past three years.

Measure 1: Motor Vehicle Use Map public comments

The Forest continues to receive and solicit public input and comments regarding the motor vehicle rules. Specific forest comments pointing out a problem with the map or requesting a change in route or area designations are catalogued and then reviewed through an inter-disciplinary team discussion at the District level with Arizona Game and Fish involvement. Since the travel management decision in 2011, the Coconino National Forest has received 800 unique comments and suggestions from partners, stakeholders, forest users, and employees. Of these 800 unique comments, 300 site-specific comments were addressed through additional NEPA planning efforts (Kelly Motorized Trails Decision in 2012 and Peaks Hunter Access Roads decision in 2013) or as administrative changes and corrections into the 2013-2015 MVUM updates. The remaining 500 comments are of a substantive nature requiring consideration through the National Environmental Policy Act (NEPA) planning process.

Each of these 500 unique comments were discussed and considered, and based on them the Forest Service has developed a proposal including the addition of 200 segments of routes and areas to the designated system and the removal of 60 route and area segments. When this proposal is released the Forest will post the comment list to the USDA Forest Service website, which includes a review of every unique comment. The Forest has received a number of comments specifically about the restriction on motorized big game retrieval as well and is considering changes to motorized big game retrieval in certain areas of the Forest. This proposal is expected to be released for public scoping under the NEPA process in the winter of 2015.

Measure 2: Use of Travel Aids

The creation and distribution of an electronic color version of the motor vehicle use data has been one of the most effective tools to date in sharing information with forest visitors on the motor vehicle rules. By making the map into a navigable tool, it has created an incentive for forest visitors to take the time to download and learn to use the map. It also reduces the need to provide a printed MVUM map, possibly reducing printing costs in future years. The Coconino National Forest has established version of the GPS active travel aids for smartphone and tablet devices, and has made this information easily accessible through the design of a 1-page instruction sheet for helping forest visitors get started.

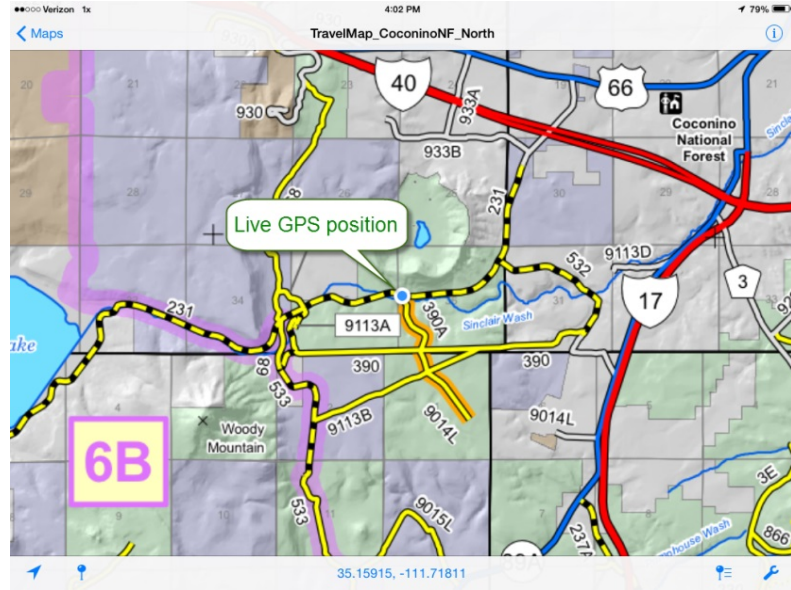
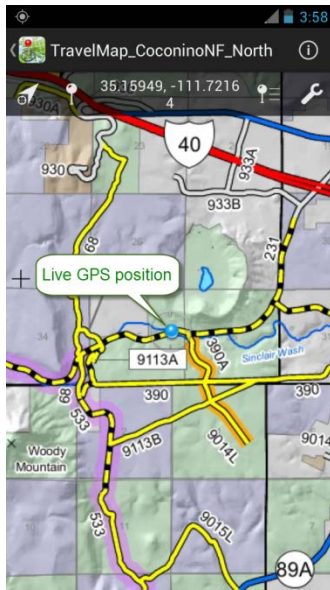


Figure 2. Various types of free electronic maps and travel aids available for Forest visitors. From left to right and top to bottom: Android version of the Travel Aid, iPhone version of the Travel Aid, Official Motor Vehicle Use Map, and Garmin version of the Travel Aid.

The Forest has also formatted the map to be used on Garmin GPS devices and makes the map data available in formats that can be used with Google Earth and other free spatial mapping software such as ArcExplorer.

The Coconino National Forest regularly receives positive feedback indicating that these tools help people follow the rules. For example, one recent public comment stated, “Thanks for providing the MVUM for Garmin GPS. The downloading instructions worked perfectly for my Garmin Oregon 450. This

GPS version was extremely helpful on my recent explorations of the Anderson Mesa area east of Lake Mary Road and the Cabin Loop areas of the Mogollon Rim. Identifying boundaries for dispersed camping areas and approved roads is much easier with the GPS version than it would be with a printed map.” Providing accurate data on the designated system for motorized use to forest visitor is one of the most important and effective methods we currently have for affecting implementation, and the Forest continues to strive to meet the needs of forest visitors in this area.

Signage



Figure 3. Carsonite sign installed on non-designated road to prevent unauthorized motor vehicle use

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.

One of the primary concerns with implementation has been the lack of signs indicating which roads are designated and which roads are closed. The Forest regularly receives complaints that routes marked with carsonite route marker signs appear to be open and continue to receive motorized use even though they are not “designated” on the MVUM map. However, the preamble to the Travel management Rule regulations included a lengthy discussion regarding on-the-ground signage and concluded, “Requiring each undesignated route and area to be posted as closed would be an unreasonable and unnecessary burden on agency resources and would tend to defeat the purpose of the final rule. Signs have also proven difficult to maintain and subject to vandalism. The final rule places more responsibility on users to get motor vehicle use maps from Forest Service offices or websites and to remain on routes and in areas designated for motor vehicle use.” Fed Reg Vol. 70, p. 68284.

To comply with the intent of the Travel Management Rule regulations, the Coconino National Forest limited the installation of “road closed” signs and decals during the first two years of implementation (2012 and 2013). Unfortunately, the effect of this was substantial frustration from forest visitors, employees and partners such as County Sheriffs who found that without clear signage in some areas to indicate if a road was closed, there was a lack of understanding and very little compliance.

In 2014, the Coconino National Forest made increased efforts to install signage to add additional clarification as to which roads are open for motor vehicle use and which are closed. This additional signage was installed based on the guidance in the “Off-highway Vehicle Program Route and Area Designation Implementation Guide”, which identifies a number of situations when these additional signs or decals may be appropriate:

- In trespass or other problem areas with poor compliance from the public when other methods are ineffective.
- For educational purposes when the prohibition is new to the public.
- When a route has been open historically to motor vehicles.
- To avoid confusion with other prohibitions on non-motorized, mechanized or over snow use.

At least one of the situations above applies to a large number of the non-designated routes on the Forest. So, based on this Forest Service guidance and two years of public input, the Forest installed several hundred decal stickers on route numbers to help clarify which roads are closed to motor vehicle use.

Measure 1: Signage accomplishments

Previously, Forest Service supported limited use of road closure signage in the Off-highway Vehicle Program Route and Area Designation Implementation Guide. It explained (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.”

Recently this year, changes have been made to this policy that condones more signage indicating closed roads. This change came as a result of continual use in locations that are not designated or had been closed for restoration purposes. Some areas within the forest have been labeled with “road closed” stickers to further inform users that are traveling within the area and to increase overall compliance with the regulations. The additions of these “road closed” stickers were placed within these areas to increase visitor compliance as well as knowledge of travel regulations on the forest.

For example, the Wing Mountain Area has a system of non-designated motorized trails that continues to receive unauthorized use and has long been identified as a problem area with poor compliance. Many of the unauthorized trails in the area extend into a nearby northern goshawk nesting areas. In May of 2014, “No Motor Vehicles” stickers were placed on carsonites and installed all throughout the area around the shooting pit where there is the highest concentration of unauthorized motorized trails.

Despite the signs being installed surrounding a regularly used shooting pit, they remained untouched for the remainder of the season. Based on monthly surveys and feedback from agency law enforcement, the signage was effective at reducing but not completely stopping unauthorized motor vehicle use in this area. This tells us that signage can be an effective management tool where it is employed to decrease unauthorized motor vehicle use.

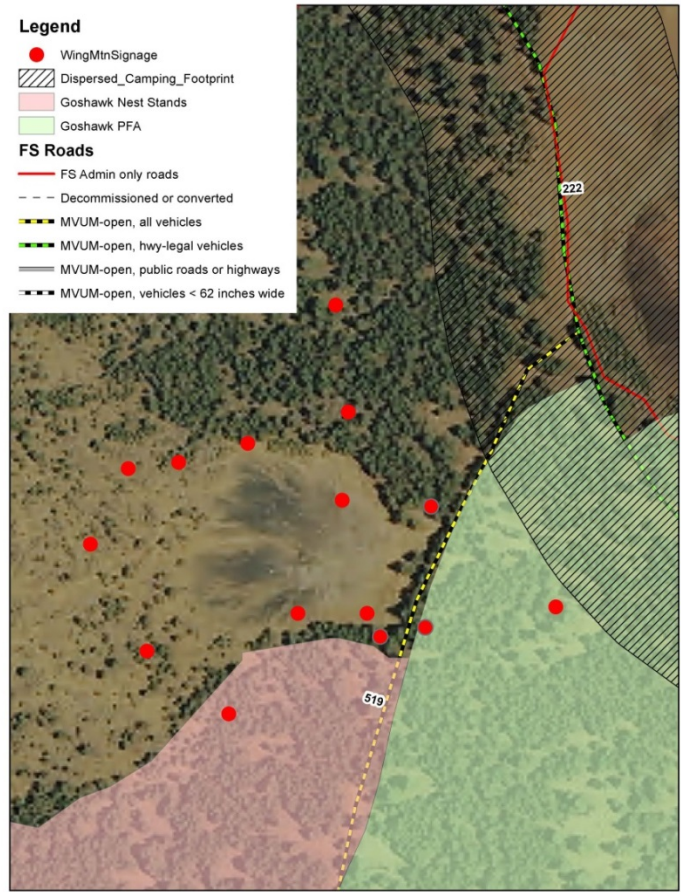


Figure 4. Location of sign installations in the Wing Mountain Area (right), and an example of the ‘decals’ installed in this area (left).

This particular example is just one of over a hundred locations throughout the Coconino National Forest where signage was installed to clarify the motor vehicle rules. During the period from June 2014 through October 2014, the Flagstaff Ranger District tracked the installation of approximately 100 carsonite signs and stickers to improve the clarity of what is closed to motor vehicle use on the Forest.

Based on observations from field-based employees indicating that this signage is very effective at reducing unauthorized motor vehicle use, the Forest expects to continue this strategy throughout all three districts.

Dispersed camping



Figure 5. Off-road motor vehicle use removes vegetation and established new user-created roads

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.

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).

Monitoring of designated motorized dispersed camping corridors occurred in 2012 and 2013 in one area, and showed no changes to impacted areas as a result of designation. In 2014, monitoring of designated motorized camping corridors was expanded to six areas and an established monitoring protocol was identified. We expect this new approach to afford baseline data that can be compared to monitoring in future years to answer whether or not the designation of motorized camping corridors results in increased impacts.

Table 3. Summary of baseline data collected from motorized dispersed camping corridor monitoring

2014 motorized camping corridor monitoring results							
	123 Corridor	132A Corridor	135 Corridor	136A Corridor	700/235K Corridor	Long Valley	Total
Number of campsites with data collected	2	18	10	3	13	19	65
Number of group/large campsites	0	7	4	1	5	6	23
Number of single campsites	2	11	6	2	8	13	42
Average campsite disturbed area to bare ground	<10%	46%	25%	25%	50%	25%	
Average amount of tree damage	None	Minor at some sites	Minor at most sites	None	Minor at most sites	Minor at most sites	
Average amount of litter present	None	Minor litter at some sites	Minor litter at some sites	Minor litter at one site	Minor to moderate at some sites	Minor to moderate at some sites	

This baseline data collection tells us that some high use corridors such as 132A receive regular disturbance because of the flat terrain and access from nearby highways. The presence of group campsites that can accommodate groups of large RVs or motor homes seems to result in an increased disturbance footprint, which can contribute to watershed and wildlife impacts. Though many of the larger corridors like 700/235K and 135 have options for both group and single campsites, the amount of litter, tree damage, and disturbed area to bare ground were minor, except Long Valley which had moderate levels of litter at some sites. Smaller corridors like 123 which only contain two campsites did not have any noticeable effects at all.

Enforcement



Figure 6. Coconino National Forest employee and Coconino county law enforcement discussing motor vehicle rules with Forest visitors.

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 has taken some time. The Forest has focused on education in the initial implementation phase. Enforcement at this phase also focused on impacts to forest resources, social conflicts, and problem areas.

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

These statistics were assembled on October 6, 2014 and only reflect data entered into the LEIMARS database by this date. 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 4. Tickets and notices issued for motor vehicle related incidents, 2012-2013

Time period	Offense Code	Description	Warnings	Incident Report	Court appearance	Collateral	Total
10/7/2013 - 4/4/2014 (Off-season)	36 CFR 212.5	Traffic on forest roads subject to state laws - improper registration, licensing, etc.	38	6	4	54	102
	36 CFR 261.13	Motor vehicle use off of designated roads, trails, areas	25	11	0	2	38
	36 CFR 261.15h	Motor vehicle use in a manner which damages or disturbs wildlife or veg resources	0	3	0	0	3
Time period	Offense Code	Description	Warnings	Incident Report	Court appearance	Collateral	Total
5/1/2013 - 10/6/2014 (Field Season)	36 CFR 212.5	Traffic on forest roads subject to state laws - improper registration, licensing, etc.	26	8	10	24	68
	36 CFR 261.13	Motor vehicle use off of designated roads, trails, areas	72	55	3	8	138

	36 CFR 261.15h	Motor vehicle use in a manner which damages or disturbs wildlife or veg resources	6	5	3	1	15
Time period	Offense Code	Description	Warnings	Incident Report	Court appearance	Collateral	Total
5/1/2014 - 10/6/2014	36 CFR 212.5	Traffic on forest roads subject to state laws - improper registration, licensing, etc.	24	5	15	23	67
	36 CFR 261.13	Motor vehicle use off of designated roads, trails, areas	64	16	0	14	94
	36 CFR 261.15h	Motor vehicle use in a manner which damages or disturbs wildlife or veg resources	53	13	0	11	77

While this data lacks a complete picture of violation notices and other notices overall in 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. While state laws for safety, registration and licensing are still regularly cited, warnings and tickets to discourage motorized use on non-designated routes has been increasing, especially between 2013 and 2014.

The large majority of violations from driving on non-designated routes resulted in a warning. However, due to the use of additional signage to better indicate “closed roads” in problem areas, it appears there has been an increase in tickets issued for violations specifically tied to violation of travel management regulations.

In summary, there is a general understanding that citations for motor vehicle violations in the forest have increased overall from 2013-2014 seasons. When looking at statistics from previous reports (USDA Forest Service, 2013), it shows that there has been an overall increase in tickets for motor vehicle use off of designated trails, roads, and areas in the offseason and field seasons. The offseason shows a substantial increase from 5 overall incidents of motor vehicle enforcement in early 2013 to 38 incidents through spring of 2014, however, almost all of these incidents were addressed through a warning or report. This tells us that warnings continue to be the primary method for addressing motor vehicle violations, but that the use of fines and tickets is increasing as there is a greater expectation for following the rules given the ongoing education efforts and increased use of ground-based signage and barriers to discourage motor vehicle rule transgressions

Measure 3: Law Enforcement Incident database reporting

The Coconino National Forest fire dispatch center plays 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 Forest Service 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 reporting of each type of call received through this database to better capture and monitor OHV issues and TMR violations. The WildCad tracking and reporting tool has been evolving in the past several years. For example, over the years new categories of calls have been added to enable more detailed tracking of what types of issues are being called in.

Table 5. Report on incidents reported to Coconino National Forest dispatch, 2012-2014

Incident Type	2012	2013	2014
Abandoned Vehicle	n/a	n/a	5
Animal Issue	n/a	n/a	2
Assaults	3	1	0
Property Damage	3	3	3
Vehicle Accident	1	5	3
Illegal Camping	n/a	n/a	28
Illegal Dumping	n/a	7	6
Illegal Parking	n/a	n/a	1
Illegal Wood Cutting	n/a	8	8
Monthly Log*	8	n/a	n/a
OHV	2	5	5
Other Agency Assist	3	9	6

Resource Damage	38	30	16
Search and Rescue	2	1	2
Shooting	40	19	28
TMR Violation	12	4	23

The report above is from all incidents recorded at the Coconino National Forest dispatch center in 2012, 2013 and most of 2014 (report was ran on 11/14/2014). What we see is that the total number of calls seems to be relatively stable to slightly increasing. As new categories have been added, it appears that the type of calls received has changed. Most notably, there are fewer calls identifying “resource damage” and more calls that focus on “illegal camping” and “TMR violation”. This change is likely a result of how the calls are being recorded. In the past when someone was driving off-road it was identified as “resource damage. Now because of the TMR rules restricting where one can car camp and which routes can be driven on, people who drive off of designated routes for camping or other reasons are more likely to be recorded into these new categories. Furthermore, in the past similar calls that occurred on the same day or general time period were combined into one entry and now each call is counted separately. According to the Flagstaff Dispatch Center Manager, Jeff Walther, it is likely that there were a very similar amount of calls between 2012 and 2014, but the way they have been documented has resulted in a slight increase in the reported count for the “illegal camping” and “TMR violation” categories.

Measure 4. Law enforcement incident case studies - 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. During the initial implementation period of these policies, there were claims that the new motor vehicle rules would result in hundreds or thousands of additional violation notices (tickets). Some had even claimed that the new rules would make criminals out of families that choose to visit the Forest. There is also a current misunderstanding by many that the Forest’s focus on education means that none of the rules are being enforced. 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 9/12/14, an LEO contacted the driver of a vehicle traveling along an NFS road near Marshall Lake on the Flagstaff RD. Approximately two months earlier, the driver failed to appear in court for federal offenses related to drugs, alcohol, operating a vehicle off-road, and threatening a forest officer. After further investigation, the LEO placed the man under arrest for four federal warrants. A second LEO responded to assist and arrange for the vehicle to be towed from the area.

On 7/14/14, an LEO investigated information provided by Arizona Game & Fish regarding off-road use and resource damage on the Flagstaff RD. The LEO issued violation notices to an individual for operating a vehicle off-road and spinning “donuts” throughout a saturated meadow. The following day, the LEO arranged for the removal of a vehicle parked along an NFS road for more than a week. The LEO located the owner of the vehicle and issued a violation notice to him for abandoning property on NFS lands.

On 6/6/14, an LEO completed an investigation of motorized trespass in the Kachina Wilderness Area on the Flagstaff RD. A private citizen had observed two individuals operating dirt bikes in the wilderness area, photographed the bikes including the license plates, and provided the information to LEI personnel. The LEO determined the identity of the two individuals who operated the dirt bikes on the Weatherford Trail as well as in the wilderness area, and issued multiple violation notices to them.

On 3/24/14, an LEO continued the investigation of a recent elk poaching incident on the Mogollon Rim RD. Two individuals apparently drove a pick-up truck on a closed snow-covered road and off-road as well. The individuals also operated an OHV on and off the closed road. Charges against the individuals are pending.

Motorized Big Game Retrieval

Motorized Big Game Retrieval was and continues to be a point of contention during the Coconino National Forest travel management planning process and now with implementation. The 2011 Forest decision authorized 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, especially during rifle elk hunting season.

In 2012 we expected compliance with motorized game retrieval to improve over the next years, but we have no evidence that this is the case. 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. Lastly, in 2013 the Coconino National Forest provided additional hunter education and outreach on the motor vehicle rules by handing out maps at major entrances to Forest System roads during the elk rifle hunt.

Despite these efforts, we still have no evidence that there is an increasing compliance with the motor vehicle use rules in game management units where motorized game retrieval is restricted such as in 5BN and 5BS. Also, there is no evidence to show that continued unauthorized motorized big game retrieval in 5BN and 5BS has resulted in any level of resource impacts.

The very nature of these restrictions makes it very difficult to enforce since motorized big game retrieval occurs very occasionally and across such a large area. This activity occurs in the off-season when the agency lacks seasonal employees that are present during the busy summer months. Instead of increased compliance with the rules, we have observed that the motorized big game retrieval restrictions in certain areas such as 5BN and 5BS have resulted in a backlash. Sentiment about motorized big game retrieval restrictions on the Coconino National Forest was cited as a factor that led to the recent passage of house bill 2551 by the Arizona legislature and passage into law on 6/19/2013. This law effectively removed authorization for state agencies, such as Arizona Game and Fish Department, to enforce motorized restrictions on Federal Lands. Furthermore the Coconino National Forest continues to receive feedback from hunters, primarily regarding restrictions in game management units 5BN and 5BS:

"I would request that the retrieval rules be changed to reflect motorized retrieval of big game be permitted...It is my opinion that most true sportsmen do their best to preserve and maintain animal habitat, and I believe that the majority should not be overly burdened just because the results of the few." – July 14, 2012 public comment

"Whoever had anything to do with the retrieval of the elk in area 5B is crazy. I have been hunting in Arizona for 50 years and it is a difficult task to pack an animal out the size of an elk. Not all elk hunters are young and in good shape. Please revise the retrieval to match the Kaibab area." – November 15, 2012 public comment.

"The fact that the travel restrictions apply only to hunter and not to others utilizing our national forests, makes it clear that the aim of the Forest Service is to eventually eliminate hunting in our national forests..." – November 20, 2012 public comment

"This law will create a large amount of waste, because hunters will not be able to get their animals out of the field fast enough, where they can be processed and/or cooled properly to prevent spoilage." – November 29, 2012 public comment

I want to thank you for effectively ending my ability to elk hunt in Arizona. I am 67 years old and have been hunting in Arizona off and on for over 50 years. By not letting me leave the road to retrieve animals such as elk at my age, you are relegating me to road hunt." – September 9, 2013 public comment

"If hunting a 500-600 pound animal young folks find it relatively easy to quarter and remove. All that changes once you age. It becomes nearly impossible. In fact if this exception is not allowed, then I and most every hunter in my age group will have to forgo hunting large game or risk getting caught and violate the rule. Both would be a shame." – June 23, 2014 public comment

These comments illustrate many of the sentiments regarding motorized big game retrieval restrictions on the Coconino National Forest remain and they particularly apply to game management units 5BN and 5BS – two of the heaviest permitted elk hunting units in the state. The Coconino National Forest is committed to reviewing public input and reconsidering management decisions when monitoring shows a change in circumstances.

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.

In 2013 and 2014 the Kelly Motorized Trails decision was implemented through both volunteer work from organizations such as the Coconino Trail Riders and through the use of OHV sticker fund grants funding. In 2013, the Forest also received grant funds to initiate planning on a single track trail system adjacent to the Community of Cornville on the Red Rock Ranger District. 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. This funding is typically rewarded for certain activities and large scale projects that deal with restoration, provision of motorized recreation opportunities, and education. Therefore, our management and motor vehicle regulations in the Forest have been geared toward these ideas. In Figure 12, grant funding is accounted for based on the year it was awarded, but is actually spent over several years.

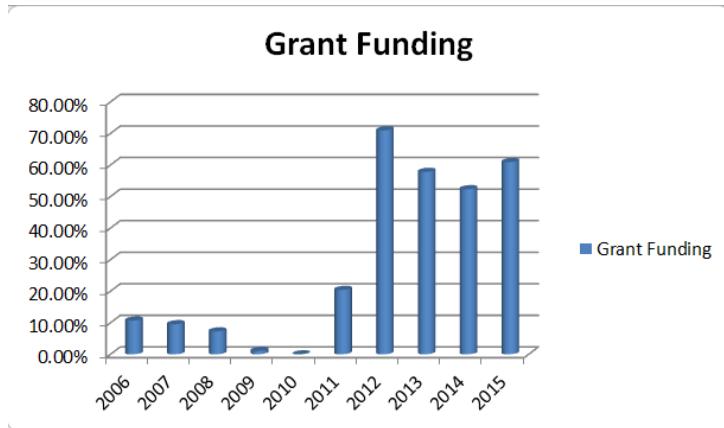


Figure 7. Grant funding as a percentage of total motor vehicle management funding on the Coconino National Forest, 2006-2015.

Generally this graph tells us that we continue to work with State and local partners through the competitive grant process to meet our multiple objectives of both improving motorized recreation and access while closing and rehabilitating roads that result in unsustainable impacts to forest resources. Having a system of designated routes and areas in place has enabled us to be more effective at securing grant funding and strategically improve motorized recreational opportunities in a sustainable manner.

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. Forest Service employees continue to make efforts to discuss the new travel management rules and potential damage resulting from unauthorized motor vehicle use on the Forest. New efforts to restore and protect important forest resources through signage, closures, and route decommissioning focus on Forest Plan goals and objectives to reduce impacts from motor vehicle use on the forest.

Currently, the Coconino National Forest is currently revising the Forest Plan, which will provide direction for the Forest for the next 10-15 years. This plan will include a review of the current progress made by the regulations and enforcement, the impacts of use in designated camping corridors, and the prevalence of use in these areas despite regulations. This information will be used to help guide future direction and educational planning for the Forest. For more information about the current Forest Plan, visit USDA Forest Revision Plan Site:

<http://www.fs.usda.gov/detail/coconino/landmanagement/planning/?cid=stelprdb5334653>

Resource Protection



Figure 8. Evidence of off-road motor vehicle use near the community of Munds Park.

The Forest has taken a number of coordinated actions to restore and rehabilitate areas damaged by unauthorized motor vehicle use and motor vehicle access. Since the Travel Management decision in 2011, NEPA analysis has been completed on 6 additional NEPA projects, which all included the decommissioning of approximately 250 segments of non-designated roads.

In the 2013 Motor Vehicle Management Monitoring Report the Forest described a number of areas identified as problem areas. Problem areas primarily occur adjacent to communities of private lands that are within or along National Forest System lands where there are multiple backyard access points. In these situations the noise, dust, and sometimes trash from unauthorized motor vehicle use results in intra-community conflict and the establishment of a network of roads that cannot be easily monitored or closed without an expensive and enduring effort.

Other problem areas include trails and open terrain that was heavily used prior to the implementation of the Coconino National Forest Travel Management decision, which began in 2012. For example, on the east flank of Wing Mountain, there is a cinder pit that has been used for shooting for several decades. In the past decade this easily accessible area has been used as the primary access point for a single track motorized trail that circumnavigates the cinder hill and has been used for other motorized activities such as riding in the pit and hill climbing the steep slopes of the mined area. While none of this area was designated for motor vehicle use, it continues to receive regular motor vehicle use. The lack of signage and clearly observable heavy use of the area seem to tacitly support continued unauthorized motor vehicle use in and around Wing Mountain Pit.

In response to these problem areas, the Coconino National Forest took steps to increase signage and “soft closure” efforts in 2014. Soft closures include efforts to physically block roads by installing low-profile log fences, pulling brush on to the road, or in some cases installing a gate. The goal is to decrease unauthorized motor vehicle use by making it clear that the area is closed to motor vehicle, and in some cases, physically blocking access to further discourage unwanted motor vehicle impacts. These tools were applied strategically by focusing on areas where unauthorized motor vehicle use results in conflict, impacts to sensitive wildlife, or watershed damage. Since forest resources are very limited, each District chooses and prioritized resource protection and rehabilitation projects with which to apply these efforts. The following are some example of resource protection and rehabilitation efforts taken in 2014.

Table 6. Mileage of road closures and decommission efforts to protect forest resources*

Resource Protection Action	Miles
Roads decommissioned	11.75
Maintenance of decommissioned roads (blocking roads already identified as decommissioned)	3.77
Maintenance of closed roads with “ soft closures ”	11.45

*This is likely an underestimate of actual mileage due to reporting issues

Below are some site-specific examples of efforts take to reduce unauthorized motor vehicle use and protect forest wildlife, water quality, archaeological, non-motorized recreation, and scenic resources.

Wing Mountain Pit Sign Installation

In early June 2014, the Coconino National Forest installed 16 carsonite³ signs around the Wing Mountain Pit and along the single track trail that courses into the surroundings. The area southeast of the pit is identified as a northern goshawk protected area and nest area. The northern goshawk is identified as a Forest Service Region 3 Sensitive Species. The noise and copious trash associated with single track motorized trail through both these areas likely results in disturbance to the owl, preventing nesting and affecting reproduction.

While, the signs are unlikely to effectively stop all unauthorized motor vehicle use, their purpose is to inform Forest visitors of the rules and to better facilitate enforcement during patrol of the area. During follow-up monitoring of the area later in the summer and fall, it was observed that the signs remained (despite being in and around the shooting area) and that there were signs (tracks) of occasional motor vehicle use on both the single track trail and the pit. This tells us that carsonite signs by themselves are not likely to be completely effective in areas that have been traditionally heavily used for motorized recreation. However, they are also useful in that all the carsonite signs did stay in place throughout the entire season and definitely decreased the amount of unauthorized motor vehicle use. This shows that low-cost efforts that do not take up too much personnel time can help reduce unauthorized uses and protect forest resources.

Hart Prairie Unauthorized Road Rehabilitation

³ A carsonite is a four to ten foot tall fiberglass stake that can be pounded into the ground as a fast, inexpensive way to mark roads, monuments, or provide information on unauthorized uses.

In summer 2014, the Flagstaff Ranger District installed low-profile log fencing along Road 151 to block unauthorized motor vehicle access in a high-elevation meadow and aspen stands. This area was receiving regular motor vehicle use from hunters and from motorized camping in the summer and fall. While most of this use appears to stay on an existing unauthorized road approximately 0.75 miles in length, there are several areas where tire tracks can be seen driving off of the road into the surrounding meadow, leading to new established campsites.

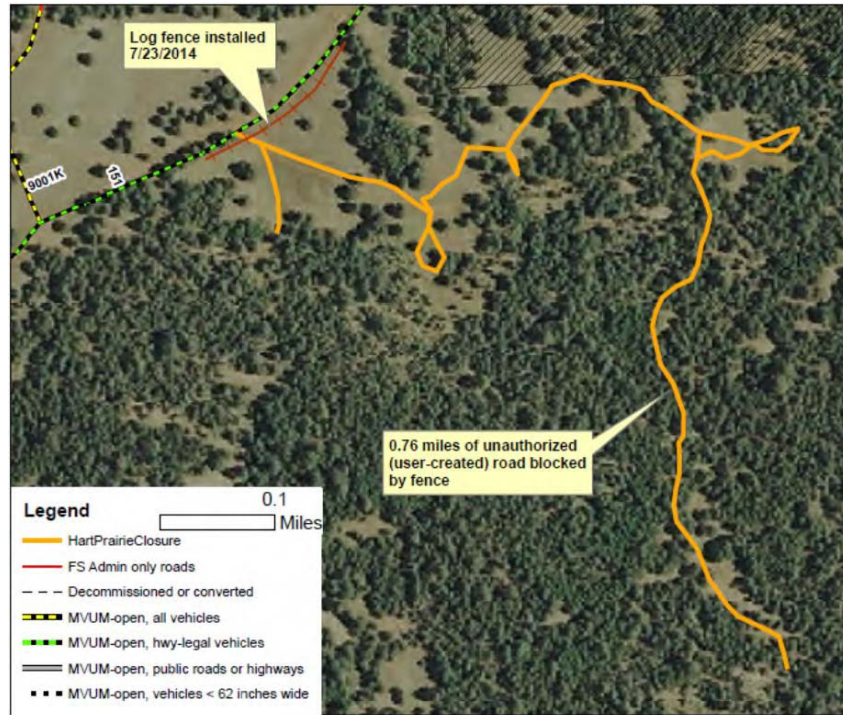


Figure 9. Map of unauthorized roads used for motorized dispersed camping in the Hart Prairie area.

This unauthorized road has been identified from public comments as a ‘problem area’ where fences or signage is needed to discourage regular unauthorized motor vehicle use, and has been requested for route designation to allow access to motorized campsites along the road. Currently this road is not designated for motor vehicle use and occurs in rare high elevation meadow and aspen habitat types.

Due to the importance of this habitat, ongoing unauthorized motor vehicle use, and evidence of increasing impacts from motor vehicle use, the District prioritized this area for the installation of a fence to eliminate unauthorized motor vehicle use and promote rehabilitation of the unauthorized road to grassland habitat.



Figure 10. Completed log fence blocking vehicular access to unauthorized road through meadow area

Poverty Flat Meadow Protection

In early August 2014, Mogollon Rim Ranger District employees led a group of volunteers to install log pole fencing along Forest Road 147 to restrict motorized access to a series of meadows known as Poverty Flat on the Mogollon Rim Ranger District. Despite numerous signs along the road that borders these meadows identifying no off-road travel, there has been occasional motorized intrusion into these meadows resulting in damage to the meadows, visual scarring and the establishment of new roads going through the middle of the meadows. This area includes important sensitive habitat for a number of threatened and endangered species and makes up a portion of the headwaters for East Clear Creek. The log fencing is an effective way to prevent unauthorized motor vehicle use in this area to protect wildlife, water quality, soils, and vegetation.



Figure 11. Completed log fence blocking vehicular access to meadows in Poverty Flat

Dry Beaver Creek Gate Installation

Much of Dry Beaver Creek runs along County Route 30, which goes from Hwy 179 to Cornville. Due to the maintenance needs associated with this and surrounding roads, the County maintains a staging area along the road, and near Beaver Creek. Over time, this has become a major access point to a network of unauthorized roads that occur along Dry Beaver Creek. A survey in the fall of 2013 showed that there was clear regular motor vehicle use on roads paralleling the creek, across the creek, and in the dry, sandy creek bed.

While Dry Beaver Creek only includes water during or shortly after storm events, it supports a robust stretch of riparian vegetation. Riparian vegetation makes up less than 1% of the southwestern landscape, but supports a majority of its biodiversity. Thus, the regular unauthorized motor vehicle use in the area likely impacts wildlife through disturbance and damage to vegetation.

In 2014, the Red Rock Ranger District worked together with Yavapai County to install a gate and pass through fence for hikers on Forest Road 9203T behind the staging area. Several unauthorized roads in the area were also blocked with barbed wire fence. While this is not the only unauthorized access point to Dry Beaver Creek, it is expected to reduce the unauthorized motor vehicle use in the area by removing easy access from the main highway.



Figure 12. Gate and pass-through installed on FR 9203T. This road leads directly to Dry Beaver Creek.

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